ENVIRONMENTAL SCAN

Collaboration in Health Technology Assessment in Canada
Authors: Teo Quay, Camille Dulong, Chantelle C. Lachance, Leigh-Ann Topfer

Cite as: (To be completed by publishing)

Acknowledgements: The authors thank Humaira Nakhuda for her assistance in identifying the HTA agencies and in helping to draft the survey questions. Many thanks also to the representatives of the HTA agencies who kindly took the time to respond to the survey and participate in the consultations.
# Table of Contents

Abbreviations.......................................................................................................................... 5  
Summary .................................................................................................................................. 7  
Introduction ............................................................................................................................... 7  
Context ..................................................................................................................................... 8  
Objectives ................................................................................................................................. 9  
Methods .................................................................................................................................... 9  
Survey ....................................................................................................................................... 9  
Consultations ............................................................................................................................ 9  
Literature Search ....................................................................................................................... 10  
  Search Methods ....................................................................................................................... 10  
  Screening and Study Selection ................................................................................................. 10  
  Synthesis Approach ................................................................................................................. 10  
Findings .................................................................................................................................... 10  
  Rationale for Collaboration .................................................................................................... 11  
  Connecting on Common Goals ............................................................................................... 11  
  Benefiting from Work on Similar Topics ............................................................................... 11  
  Sharing Expertise and Educational Benefits ......................................................................... 11  
  Capacity and Efficiency ......................................................................................................... 11  
  Improving Quality ................................................................................................................ 11  
  Relationship Building ............................................................................................................ 12  
Objective 1: Identify Canadian organizations and research groups actively involved in producing health technology assessments (HTAs) for public health care decision making about non-drug health technologies .................................................................................. 12  
Objective 2: Gain insight about HTA producers’ organizational mandates, types of HTA work conducted, and production capacities ................................................................................. 13  
  Organizational Mandates ........................................................................................................ 13  
  Types of HTA work conducted ............................................................................................ 14  
  Topic Prioritization ............................................................................................................... 15  
  Recommendations ................................................................................................................ 15  
  HTA Production Capacity ..................................................................................................... 15  
Objective 3: Identify overlaps and gaps in services, and available HTA resources across Canada ................................................................................................................................. 17  
Objective 4: Determine how HTA producers operate and interact with each other in local, regional, provincial, and national jurisdictions or networks ........................................................................ 19
Abbreviations

AARC = Canadian Centre for Applied Research in Cancer Control
AGENAS = Italian National Agency for Regional Healthcare Services
ARCHE = Alberta Research Centre for Health Evidence
AUnETS = Agencias y Unidades de Evaluacion de las Tecnologias Sanitarias
BC-HTAO = British Columbia Health Technology Assessment Office
C2E2 = Centre for Clinical Epidemiology and Evaluation
CADTH = Canadian Agency for Drugs and Technologies in Health
CCOHTA = Canadian Coordinating Office for Health Technology Assessment
CDR = Common Drug Review
CEP = Centre for Effective Practice
CHÉOS = Centre for Health Evaluation & Outcome Sciences
CHEPA = Centre for Health Economics and Policy Analysis
CHRSP = Contextualized Health Research Synthesis Program
CHSPR = Centre for Health Services and Policy Research
CHU = Centre hospitalier universitaire
CHUM = Unité d’évaluation des technologies et des modes d'intervention en santé du Centre hospitalier de l’Université de Montréal (CHUM)
CHUQ = Unité d’évaluation des technologies et des modes d’intervention en santé du CHU de Québec-Université Laval
CHUS = Centre hospitalier universitaire de l’université de Sherbrooke
CIUSSS = Centre intégré universitaire de santé et de services sociaux (network of teaching hospital/university HTA agencies in Quebec)
DEANS = Drug Evaluation Alliance of Nova Scotia
ETMIS = évaluation des technologies et des modes d’intervention en santé
EuroScan = EuroScan International Information Network on New and Emerging Technologies in Health
EZcollab = Regional Network of HTA in the Middle East and Mediterranean
HITEC = High Impact Technology Evaluation Centre
HQO = Health Quality Ontario
HTA = Health Technology Assessment
HTPU = Health Technology and Policy Unit
IHE = Institute of Health Economics
INAHTA = International Network of Agencies for Health Technology Assessment
INESSS = Institut national d’excellence en santé et en services sociaux
ISTAHC = International Society for Technology Assessment in Health Care
IUCPQ-UL = Institut universitaire de cardiologie et de pneumologie de Québec-Université Laval
IWH = Institute for Work and Health
MEDICI = Centre for Medical Evidence, Decision Integrity & Clinical Impact
PATH = Programs for Assessment of Technology in Health
PCHO = pan-Canadian health organizations
pCODR = pan-Canadian Oncology Drug Review
POP = Planned and Ongoing Projects database
REA = relative effectiveness assessment
RedETS = Spanish Network for Health Technology Assessment of the National Health System
RiHTA = Rete Italiana HTA
SPOR = Strategy for Patient Oriented Research
TASK = Technology Assessment at Sick Kids
TAU = Health Technology Assessment Unit of the McGill University Health Centre
THETA = Toronto Health Economics and Technology Assessment Collaborative
TI = Therapeutics Initiative
UETMIS = les Unité d'évaluation des technologies et modes d'intervention en santé et services sociaux (see CIUSSS above)
UETMISM = Unité d’évaluation des technologies et des modes d’intervention en santé mentale de l'Institut universitaire en santé mentale
WHO = World Health Organization
Summary

• This environmental scan surveyed and consulted with Canadian health technology assessment (HTA) organizations for information about their current HTA capacities, areas of expertise, and involvement in collaborations with other HTA agencies.

• A total of 43 Canadian HTA organizations were identified (see Appendix 4: List of Organizations Involved in HTA in Canada). Although several organizations fall within multiple categories, these can generally be categorized as: 3 national, 15 provincial, 17 academic, and 8 hospital-based.

• The survey responses, one-on-one follow-up consultations, and the literature search that form the basis for this scan identified many advantages and barriers to collaboration.

• Advantages to collaboration include: reducing duplication of work, more efficient use of limited HTA resources, increasing access to expertise, and adding credibility to the assessment.

• Barriers to collaboration include: different priorities, methods and processes, timelines, context, working languages, and scope of assessments needed across jurisdictions.

• While there is already collaboration between some agencies, most agencies expressed a general desire for more.

• Suggestions for furthering collaborations in future include:
  o ensuring that collaborative networks have a formal organizational structure, defined vision and objectives, and terms of reference
  o a platform for sharing information (including a database or website repository of ongoing and completed HTAs, and topics under consideration)
  o the development of standardized methods for HTAs
  o more inclusive networks that engage agencies and individuals not yet involved in collaborations, and
  o a regularly updated directory of HTA agencies and expertise in Canada.

Introduction

Canada’s decentralized health care system means that decisions about health technologies are made in different jurisdictions and at various levels of the health care system (national, provincial, regional or hospital, as well as at the clinician (or other caregiver) and patient level). Increasing collaboration and coordination between HTA producers at all levels, and both nationally and internationally, can offer advantages, such as:

• avoiding duplication of effort, costs, and waste of resources;

• sharing expertise;

• improving the timeliness of HTAs; and

• producing more HTAs on a wider range of technologies – thereby increasing the availability of HTA information for decision makers.

In 2011, CADTH established the pan-Canadian Health Technology Assessment (HTA) Collaborative (the Collaborative) to share information among CADTH and four provincial HTA organizations. More recently, CADTH’s 2018-2021 strategic plan for advancing from health technology assessment to health technology management called for “increased collaboration and engagement”. The plan notes that:
“To achieve our strategic goals, CADTH will lead, convene, connect, and collaborate to act on the shared priorities of our funders and partners. We will be the central hub that coordinates priority-setting, [and] efficiently produces assessments in partnership with other health technology assessment producers…”10

With the development of HTA collaborative networks (such as, INAHTA, EUnetHTA, and local HTA networks) the risk of duplication has been reduced.11,12 However, with increasing and varied demands on HTA agencies, continued collaboration and greater coordination is needed.11,12 In 2004, Lehoux et al identified four main areas for collaboration amongst HTA producers in Canada:

- development of common guidance for short and full HTA reports
- creation of a network of HTA and knowledge transfer experts who can share their expertise for contextualizing HTA reports from other jurisdictions for local decision makers
- contacts with experts in sociology, ethics, and law to contribute to HTAs (as many agencies lack inhouse expertise in these areas), and
- promotion of HTA through capacity-building workshops for decision makers across Canada.11

Health care systems in Canada and in similar countries often all need assessments of the same technologies. Collaborating on assessments, with additional local contextualization of evidence may help meet the increasing demands for information on new technologies within the timelines needed by decision makers.4,5,8 Sharing work between agencies, and contextualizing HTAs for the local environment could also improve access to and use of assessment information.11 A further benefit to collaboration would be in harmonizing HTA methods to ensure the quality of assessments is consistent across Canadian HTA products and producers.8

Context

The pan-Canadian HTA Collaborative currently includes five Canadian members:

- CADTH (the Canadian Agency for Drugs and Technologies in Health)
- Health Quality Ontario (HQO)
- Quebec’s Institut national d’excellence en santé et en services sociaux (INESSS)
- British Columbia’s Ministry of Health Technology Assessment Office (BC-HTAO)
- Alberta’s Institute of Health Economics (IHE).

The Collaborative exists to build relationships among HTA producers, share best practices, minimize duplication of effort, and to identify and contribute to joint initiatives in the assessment of health technologies.

A 2018 review of pan-Canadian health organizations (PCHO) reinforced the importance of coordinating HTA work on non-drug technologies across Canada.13 The authors of the PCHO report stated:

… we see CADTH’s role with respect to non-drug technology evaluation being shifted to that of coordinating a national health technology assessment (HTA) network. In this perspective, existing and possibly new provincial HTA bodies would conduct assessments within a common framework and in accordance with a common set of priorities, to avoid duplication and build overall capacity, with the active support of CADTH. Success would depend on agencies agreeing to work in a coordinated way as well as on the willingness of jurisdictions currently without HTA bodies to work with such a network, so that all provinces and territories benefit from its outputs. We believe there is an appetite for such collaboration.13

In 2018, members of the pan-Canadian HTA Collaborative proposed an Environmental Scan of Canadian agencies (e.g., government-funded, non-profit agencies, including hospital-based and academic research groups) involved in
HTA work with a focus on agencies that conduct non-drug assessments. The goal was to collect information that will provide a foundation for further collaborative HTA work across Canada.

Objectives

The five objectives of this Environmental Scan were to:

1. Identify Canadian organizations and research groups actively involved in producing health technology assessments (HTAs) for public health care decision making about non-drug health technologies
2. Gain insight about HTA producers’ organizational mandates, types of HTA work conducted, and production capacities
3. Identify overlaps and gaps in services, and available HTA resources across Canada
4. Determine how HTA producers operate and interact with each other in local, regional, provincial, and national jurisdictions or networks, and
5. Identify barriers and facilitators to collaboration.

This Environmental Scan focuses on non-drug HTAs and does not cover pharmaceutical collaborations, such as the Common Drug Review and pan-Canadian Oncology Drug Review.

Methods

This Environmental Scan is based on three sources of information:

- responses to an online survey questionnaire (Appendix 1: Collaboration in HTA in Canada – Survey Questionnaire)
- follow-up teleconference consultations with individual survey respondents (Appendix 3: Consultation Questions), and
- publications on HTA networks and collaborations identified through a literature search (see page 23, Examples of Canadian and International HTA Collaborations and Networks).

Survey

The survey questionnaire focused on identifying the characteristics of HTA producers across Canada and current collaborative efforts in HTA. The questionnaire included 18 questions (Appendix 1: Collaboration in HTA in Canada – Survey Questionnaire). The draft survey was tested internally by CADTH staff, reviewed by members of the pan-Canadian HTA Collaborative, and revised accordingly. The survey used the Survey Monkey platform. Survey invitations were sent via email to key contacts. The contacts were identified through an earlier (2013) list of HTA agencies in Canada, by CADTH Liaison Officers across Canada, and by members of the pan-Canadian HTA Collaborative. Social media was also used to promote the survey more broadly. The survey invitation was distributed to HTA agencies in British Columbia, Alberta, and Quebec by their province’s representative in the pan-Canadian HTA Collaborative (i.e., BC-HTAO, IHE, and INESSS). The survey questionnaire was provided in both French and English to Quebec HTA agencies. The survey opened on November 30, 2018 and responses were received until February 8, 2019. Email reminders were sent to non-responders.

Consultations
The second part of the project involved follow-up teleconference consultations with individual survey respondents who had noted in their survey response that they were willing to participate. Consultations were conducted from December 2018 to February 2019. The consultations were led by one author (TQ) with one or two other authors (CD and LAT) taking notes. Interviews were also recorded. The questions posed during the consultations are shown in Appendix 3: Consultation Questions.

Literature Search

The literature search aimed to address the following questions:

- What information is available about the development of HTA in Canada, and Canadian HTA networks and collaborations?
- What information is available about international HTA networks and collaborations?

Search Methods

A limited literature search was performed on November 21, 2018, using PubMed and the HTA database (Centre for Reviews and Dissemination). Search terms included Medical Subject Heading (MeSH) terms, such as Technology Assessment, Biomedical/Organization and Administration combined with International Cooperation or Cooperative Behavior, and additional non-MeSH keywords. No date or other limits were applied to the search. A monthly PubMed update search was run throughout the project. The grey literature search included a Google search and the following websites: CADTH, EUenetHTA, INAHTA, HTAi, and AdHopHTA.

Screening and Study Selection

One author (LAT) screened the 320 references identified through the database search results and selected papers that discussed collaborations or networks in HTA for full text review, along with additional sources found through the grey literature search of web sites. The reference lists of relevant papers were also checked to identify further sources.

Synthesis Approach

All respondents gave consent for the use of the information they provided. Survey responses were tabulated. Themes from the consultations were identified from recordings and notes taken during the sessions.

Information from survey responses and consultations is summarized and presented in the Findings section below under the headings for the five objectives, followed by a summary of additional information identified through the literature search.

Findings

Provinces and Territories where there was an identified HTA agency, either at the national, provincial, regional health authority, or hospital service provision level, were sent the survey. Several provinces and territories were not identified as having HTA agencies and consequently, surveys were not sent to those jurisdictions. Because we used secondary distribution of the survey questionnaire in some provinces, we do not know the total number of agencies that received the invitation to participate in the survey. Ultimately, we received 21 survey responses and conducted 16 one-on-one telephone consultations. Appendix 4: List of Organizations Involved in HTA in Canada lists a total of 43 HTA organizations across Canada. Several organizations fall within multiple categories, but these can generally be categorized as: 3 national, 15 provincial, 17 academic, and 8 hospital-based.
Rationale for Collaboration

Collaboration is rather a broad term with the main premise being working together to achieve a shared goal or produce something together. The survey responses and consultations identified many benefits to HTA collaboration.

Connecting on Common Goals

Most consultation participants felt that collaboration was an opportunity to connect with other groups producing work in specialized topic areas (e.g., child health) or with specific methodological expertise (e.g., in health economics) in alignment with that of their own group. In some cases, different groups may be working for the same stakeholder, or may have different end-users seeking the same information. In cases where the work may meet multiple stakeholders’ needs, combining efforts may help to reduce the risk of duplication. These opportunities to build strategic relationships were seen as an added value to collaboration.

Benefiting from Work on Similar Topics

When work on the same topic has already commenced, collaborating offers the chance to share information on timelines, and insight on content and recommendations as they develop. This may allow an opportunity to prepare for any potential differences in conclusions and to obtain a better understanding of the reasons for the differences.

Sharing Expertise and Educational Benefits

Many cited the opportunity to learn, both from an organizational (e.g., process, structure) and methodological perspective, as a reason for collaborating. The opportunity for insight into lessons learned not just within but also across organizations, and on areas for improvement was noted to be of value. Best practices from other groups could be adapted to other organizations. Opportunities for education or training through collaboration either formally (e.g., through joint courses) or informally (e.g., through mentorship or guidance provided on collaborative projects), was seen as beneficial for capacity building. The opportunity to identify where areas of specific expertise are concentrated and allocate work according to expertise rather than capacity was also seen as a potential benefit of collaborating.

Capacity and Efficiency

Some respondents commented that sharing human resources or splitting up the work could reduce the cost of conducting an HTA. One member of the pan-Canadian HTA Collaborative estimated leveraging the completed HTA of another jurisdiction resulted in cost savings of 40% (Manik Saini, BC Ministry of Health, Victoria, BC: personal communication, 2019 May 30). Splitting up components of the work, particularly for broad and complex topics, may allow the work to be completed faster. Collaborating may also increase overall capacity within the HTA community when key resources are distributed across groups. There may be an opportunity to cover a wider array of topics if different groups have experience or expertise in specific areas. Working together may also enable groups to identify work in progress that may meet the objectives and needs of planned projects, allowing a reduction in duplication or the opportunity to reprioritize workload. Clinical systematic reviews on effectiveness and safety were seen as the main component of an HTA where sharing work and reducing duplication could be pursued, as was the sharing of economic models. Participants were interested in the opportunity to broker high-quality work and save costs and capacity by doing so. While no tangible examples were given, sharing information on the organizational costs of producing HTAs was seen as a way for all organizations to optimize resource allocation.

Improving Quality

Drawing on some of the earlier comments on educational benefits, capacity, and efficiency, participants noted that working together ultimately improves the quality of work. Striving to adopt best practices demonstrated by others, and holding each other to standards and expectations for high quality assessments was seen as a motivation for producing better work with the potential for greater impact.
Pan-Canadian HTA Perspectives

There was general recognition of the benefits of collaborating on assessments of interest to multiple jurisdictions. In addition, a pan-Canadian approach would also be useful for expensive technologies that serve small populations, for example, for treatments for rare diseases, or where patients from across Canada access regional centres for high cost technologies. For other technologies, it may be necessary to understand the local contexts across the country, and not just in a single jurisdiction. For environmental scans, pan-Canadian collaboration may facilitate identification of contacts and gathering information. In the case of controversial topics with significant policy implications, a pan-Canadian effort may add credibility to the work. Where real world data is required, opportunities to share data sets or develop common datasets or registries to inform decision making on a broader scale was also seen as a benefit to collaboration.

Relationship Building

Beyond practical reasons, multiple respondents commented that collaboration with other groups is interesting and enjoyable. The chance to develop and maintain relationships with colleagues across the country is viewed as an added benefit. The concept of community building, opportunities for sharing ideas, and collegiality were seen as ancillary benefits of working together.

Objective 1: Identify Canadian organizations and research groups actively involved in producing health technology assessments (HTAs) for public health care decision making about non-drug health technologies

A list of the 43 HTA organizations identified for this report is provided in Appendix 4: List of Organizations Involved in HTA in Canada. Of these, the survey questionnaire respondents represented 21 different organizations actively involved in the production of HTAs – two national organizations, and organizations in five Canadian provinces. These survey responses and follow-up consultations inform this environmental scan:

**National** (two respondents)
- CADTH
- the Canadian Centre for Applied Research in Cancer Control [ARCC]

**Alberta** (four respondents):
- Alberta Health Services
- the HTA Unit at the University of Calgary
- the Institute of Health Economics, and,
- the Health Technology and Policy Unit at the University of Alberta

**British Columbia**: (three respondents)
- the BC Ministry of Health, Health Technology Assessment Office
- the Centre for Clinical Epidemiology and Evaluation at the University of British Columbia, and,
- WorkSafeBC

**Nova Scotia** (one respondent)
• Nova Scotia Health – Drug Evaluation Unit

Ontario (five respondents)
• Health Quality Ontario
• Programs for Assessment of Technology in Health [PATH] at McMaster University
• the SPOR Evidence Alliance at St. Michael’s Hospital
• the Technology Assessment at Sick Kids unit [TASK]; and,
• the Toronto Health Economics and Technology Assessment [THETA] Collaborative at the University of Toronto

Quebec (six respondents):
• Centre Intégré Universitaire en Santé et Services Sociaux [CIUSSS] de l’Est-de-l’Île de Montréal
• CIUSSS du Nord-de-l’Île-de-Montréal
• HTA Unit of the McGill University Health Centre
• Institut national d’excellence en santé et services sociaux [INESSS]
• Institut universitaire de cardiologie et de pneumologie de Québec-Université Laval [UICPQ-UL], and,
• Unité d’évaluation des technologies et des modes d’intervention en santé du CHU de Québec-Université Laval.

Most of the smaller provinces and the territories do not have HTA agencies (but, as with other jurisdictions, these are served by CADTH). Perspectives from Manitoba, New Brunswick, Newfoundland and Labrador, Prince Edward Island, Saskatchewan, and the three territories (Northwest Territories, Nunavut, and the Yukon) are not represented in this Environmental Scan. Agencies in Manitoba and Newfoundland and Labrador are included in the list of Canadian HTA agencies (see Appendix 4: List of Organizations Involved in HTA in Canada), but survey responses were not received from these organizations. See Appendix 2, Table 2. Information on Survey Respondents for a summary of responses by province, city, and name of organization.

Most of the survey respondents (85%) represented a hospital-based, academic, or provincial organization (see Appendix 2, Table 3. Organization Demographics). Three organizations had a wide mandate, serving federal decision makers as well as provincial and territorial jurisdictions. To obtain further insight, survey respondents were prompted to select all the jurisdictions for which their organization produces HTA work. The jurisdictions served by the most HTA organizations were Quebec (nine organizations), Alberta (eight organizations), British Columbia (eight organizations), and Canada (federal; eight organizations). Seven respondents also reported assisting other jurisdictions, which broadly includes pan-Canadian or international health organizations, societies, and universities. Most of the respondents’ organizations are formally integrated within the hospital system (eight respondents), an independent organization (eight respondents), and/or a provincial Ministry of Health (eight respondents).

Objective 2: Gain insight about HTA producers’ organizational mandates, types of HTA work conducted, and production capacities

Organizational Mandates
Most survey respondents (17 respondents, 81%) identified their role as HTA producers (i.e., they undertake assessments inhouse). The remaining respondents identified their role as HTA commissioners (i.e., they contract other agencies to undertake assessments for them; 2 respondents, 9.5%), or as both producers and commissioners of HTAs (2 respondents, 9.5%). See Appendix 2, Table 4 for a list of the organizations that produce and or commission HTAs.

**Types of HTA work conducted**

**Scope of Topics**

Respondents noted the growing complexity of topics being submitted for HTA. Decision makers are also demanding a wider scope of work, for example, more patient engagement, and consideration of contextual factors — all of which require additional resources. Some HTA questions may address broad concerns that span beyond health care and clinical medicine. For example, INESSS’s mandate includes assessment of social services. It can be challenging to work with unfamiliar types of data or information, or with non-traditional stakeholders when addressing these types of topics.

Respondents indicated that much of their HTA work involves clinical interventions (e.g., medical interventions or surgical procedures; 19, 90.5%), medical devices (18, 85.7%), diagnostic tests and procedures (18, 85.7%), preventative health and screening interventions (16, 76.2%), and mental health care (15, 71.4%).

In response to the question regarding the type of assessments produced, most respondents reported that their organization publishes HTAs (18, 85.7%) with full HTAs being the most common (17, 94.4%), followed by rapid reviews (14, 77.8%) and mini-HTAs (13, 72.2%); (Appendix 2, Table 5). Other common products were standalone economic reviews (14, 66.7%), scoping reviews (12, 57.1%), and recommendations (10, 47.6%).

Consultation participants commented on the scope of technologies typically addressed in HTAs conducted by their organizations. Resoundingly, respondents noted that there has been a recent emphasis on moving beyond single technology reviews to address more complex topics. While there is still a need for assessments of single technologies and technology classes, many agencies are also beginning to address care pathways and other complex topics. Examples provided included screening interventions, precision genomics, broad clinical areas, such as palliative care and bariatric surgery, digital and home care technologies, software and artificial intelligence, and approaches to providing care for aging-in-place.

One contact noted that different stakeholders request different types of topics. Topics may be more focused when requested by frontline clinical staff, whereas policy makers looking to implement broad policy change may request work on less defined topics. Some suggested that HTAs that include fewer components or that use rapid review methodology may be better suited to assessing individual technologies. It was noted that the trend towards topics of increased complexity reflects the growing preference to consider a technology in the context of the broader health care ecosystem, and alongside other steps and options in the treatment pathway.

**Components of the HTAs**

Most survey respondents and those who participated in the consultations noted the following components were typically included in their assessments (though this also depended on the topic and type of assessment):

- clinical review
- economic or budget analysis
- ethical, legal and social implications.

A few agencies were not required to include economic analyses in their HTAs. Other elements, such as environmental or implementation considerations, and patient and public engagement, were less frequently included in assessments.
Evidence Requirements

Some topics may be best assessed only after additional primary research, whether through randomized trials or observational studies. It was noted that primary data is more challenging to collect and analyze than the usual secondary research sources. Further, organizations may not have the infrastructure, funds, expertise, or partnerships necessary to collect this type of information.

Topic Prioritization

The frequency of topic prioritization varied. Seven respondents stated topic prioritization occurred on an ad hoc basis, six reported annually, one reported biannually, three reported quarterly, two reported never, and three respondents reported ‘other’ (i.e., prioritization set by clients, available grant funding, or student research). One agency that schedules priorities on an annual basis includes determining whether updates to earlier assessments are needed. One province that uses an annual process for prioritizing topics, also provides funding for assessments that are needed in between the topic prioritization schedule.

Not all prioritized topics proceed, and six respondents stated their processes may involve an additional level of topic selection (Appendix 2, Table 5. Scope of Work).

In the consultations, several organizations noted they did not have or need formal processes for prioritizing topics for review. For example, they may work with key stakeholders or the requestor of the HTA to determine which assessments should take priority. Alternately, they may be assigned topics by a Ministry of Health. In some cases, there may be negotiations to see what aspects of the assessment should be covered by the HTA agency and what will be covered by the requestor inhouse. Often, an advisory committee ultimately determines the priorities. Academic units may have more freedom to choose the HTA work they take on, for example, those corresponding to their areas of research interest.

Recommendations

Most respondents’ agencies do not include recommendations as part of their assessment reports. In some cases, recommendations are made by the requestor, such as a ministry of health, or by an expert advisory committee. One hospital-based HTA unit makes three kinds of recommendations to their hospital administration (yes, fund or retain funding; no, do not fund; or recommended for restricted use to allow further evaluation). Another hospital-based HTA unit noted that their recommendations may be more of a recommendation whether or not to purchase the technology, or regarding its use in clinical practice. In the case of organizations that commission HTAs, the recommendations are generally to fund or not to fund, but appropriate use may also be considered.

HTA Production Capacity

When considering the publication of HTA work, the survey data revealed assessment reports are usually published in English (15, 71.4%). Five (23.8%) of the survey respondents reported that their agencies publish their reports only in French, and one agency (4.8%) publishes in both languages. Most reports are publicly and freely available. (Appendix 2, Table 6. Production and Publishing).

The number of HTAs produced annually varied between the organizations surveyed. Most respondents indicated that their agency conducted from one to five HTAs annually (11, 52.4%; the smallest listed option in the survey). One organization (4.8%) reported producing more than 50 HTAs annually (the highest listed option in the survey).

Factors Impacting Capacity to Conduct HTAs

The survey and consultations identified various factors that can impact the ability to conduct HTAs. These factors affect capacity, but are not barriers to collaboration (these barriers are discussed under Objective 5). Some of the factors that impact the capacity to produce HTAs could be addressed through the sharing of resources and expertise. Further factors affecting HTA capacity are noted in
Table 1.

**Funding**

Many groups (particularly academic groups) cited funding as a limitation, noting that certain funding structures and the reliance on grant funding models with finite terms can limit the ability to hire and retain trained individuals. A lack of core funding can introduce instability and limit proactive planning. Some respondents noted changes in the availability of core funding has particularly affected academic units involved in HTA work.

**Staffing and Expertise**

The survey respondents highlighted the many areas of HTA expertise their organization has in-house or has access to through external services. This affects their capacity to conduct HTA. For example, 15 agencies had access to expertise in the following areas: clinical epidemiology, clinical experts, health economics, patient and public engagement, qualitative research, and knowledge transfer (Appendix 2, Table 5. Scope of Work). Of the survey options, access to expertise in environmental impact assessments was least common (four respondents, 19.0%).

The consultations provided mixed feedback about human resources capacity. Some groups did not see it as a factor influencing their ability to do HTA work, whereas others noted lack of staff was a limitation. In some cases, this may limit the ability to do systematic review work (i.e., when multiple reviewers are not available) or other analyses. In other cases, the specific expertise required is not available. In particular, participants noted that there is a shortage of health economists. Other areas where it can be difficult to find expertise include staff who can contribute to the contextual components of an HTA, such as bioethicists, qualitative researchers, and staff trained in implementation science. Expertise in policy translation and knowledge dissemination was also noted to be important but not always available. This is addressed further in the section on gaps in HTA services. Achieving the right balance of expertise and staff is also challenging as the needs may shift from project to project.

During the consultations, responses varied when participants were asked to comment on whether or not their group has access to non-scientific staff such as project management, editorial and publishing services, and communications and knowledge translation. Some organizations either have access to multiple staff members serving non-scientific functions or a single staff member, typically in project management. Many of the academic and hospital-based organizations commented that these services were available through the academic research unit or health care facility housing or affiliated with the HTA unit. Others noted that there were no dedicated staff members in these areas and that the scientific staff shared responsibility for fulfilling these functions. Where publishing services were not available, some respondents commented that they rely on peer-reviewed journals and other external publications to disseminate their work.

Others respondents mentioned the challenge of engaging and collaborating with external stakeholders, particularly clinicians and health service providers. Their perspectives are important for informing the work, but their time and ability to participate in HTAs may be limited. Further gaps in staffing and expertise are also noted in

Table 1.
Subcontracting

When asked about contracting models and the dispersion of HTA work outside of organizations, various approaches were described during the consultations. Areas of expertise sought from outside the HTA organization included health economics, biostatistics, experience with administrative and registry data, and clinical expertise. Contractors included graduate students, academic colleagues, contract research fellows, and independent consultants, as well as other organizations (including other HTA agencies). Some individuals, particularly those in academic-based agencies, noted that while work may be done outside of their organization, it is often achieved through less formal ways of collaboration.

Time Constraints

The time required to produce HTAs may not meet the timelines of the decision maker; thus, time constraints can impact the ability to produce work. The ability to predict the scope and size of a project at its outset is also difficult. Further, the timing of the project work may not line up with either decision making timelines or diffusion of the technology. If adoption decisions have been made prior to the release of the HTA the work may be of no value.

Political Environment

Changes in the political environment and jurisdictional priorities, can influence which projects are selected and how they are handled. With political and organizational changes, the need for work on certain topics may shift. Technologies that otherwise might not be considered appropriate for HTA may require assessment or reassessment for political reasons. Consequently, work on technologies deemed appropriate for HTA may need to be deferred or reconsidered.

Relevance and Impact

The ability to identify appropriate, relevant, and timely topics was noted to be a challenge for some organizations. This may be because of a lack of clarity around jurisdictional priorities and needs. There is also limited capacity to scope and develop topics, which reduces the number of topics that can be considered. Further, it can be hard to understand the potential for subsequent impact given the complexity of measuring the impact of HTA work. Lack of evidence on impact could be detrimental to all HTA agencies, and would be a potential area for collaboration.

Competing Priorities

It was observed that there can be tension between the needs of end-users and internal priorities and perceptions. In cases where multiple stakeholders or decision makers are involved, there may be tension regarding whose needs come first, or how to ensure that the scope of the work meets diverse needs. Aligning the views of different stakeholders and encouraging them to work together is also a challenge. Internally, prioritizing topics can be challenging and requires an in-depth understanding of decision makers’ evidence needs. Participants working in academic HTA units communicated that parallel academic agendas and requirements, and expectations of the university may take precedence over the production of HTA work.

Objective 3: Identify overlaps and gaps in services, and available HTA resources across Canada

The consultations were used to identify information on duplication and gaps in HTA services across Canada. Perceived gaps in HTA services (including the availability of staff trained in specific methodologies) noted by participants are summarized in
Table 1. Identified Gaps in HTA Services. Regarding perceptions or actual knowledge of duplication, responses varied. Many of those consulted noted that duplication still exists to some extent.

The most common observation was that of partial duplication, where the same topics are covered by multiple groups, but because either the scope of the topic, or the needs of the decision maker were not in alignment, collaboration was more difficult. These cases were not necessarily perceived as duplication of effort as the need for local contextualization was seen as outweighing the risk of duplication. Examples of duplication of effort internationally were also noted, with reference to many topics that are reviewed by multiple international jurisdictions without attempts to coordinate efforts or share work. There may be a need to look at collaboration with groups outside of Canada where warranted, and where work would be transferrable. In general, most participants perceived that the risk of duplication has decreased over time. However, timelines and demands in different jurisdictions, as well as different nuances in the scope of topics make overlap a persistent risk.

Table 1. Identified Gaps in HTA Services

<table>
<thead>
<tr>
<th>Methodological Expertise</th>
<th>Capacity</th>
<th>Access and Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Primary research (e.g., clinical trials)</td>
<td>• Dedicated graduate programs for HTA methodology</td>
<td>• Funding</td>
</tr>
<tr>
<td>• Field evaluations, use of real-world evidence, and administrative and registry data</td>
<td>• People and resources available to conduct HTA work</td>
<td>• Appropriate decision frameworks (explicit and theoretically grounded)</td>
</tr>
<tr>
<td>• Health economics</td>
<td>• Ability to address and triage the volume of medical devices entering the market</td>
<td></td>
</tr>
<tr>
<td>• Bayesian methods</td>
<td>• Dedicated HTA organizations and service in certain provinces and regions (e.g., northern territories, Atlantic Canada, prairie provinces)</td>
<td></td>
</tr>
<tr>
<td>• Meta-analysis of diagnostic test accuracy</td>
<td>• Tools for identifying the risk of duplication of effort and opportunities for collaboration</td>
<td></td>
</tr>
<tr>
<td>• Qualitative methods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Patient engagement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Bioethics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Health equity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Mixed-methods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Environmental scanning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Advanced biostatistics and modelling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Implementation science</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Environmental impact assessment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Policy analysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Methods for evaluating information technology interventions, software, and other emerging technology types</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Methods for conducting modular or tailored HTA work</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Development of Canadian policy models (beyond single-use models) for major diseases (such as diabetes, cardiovascular diseases)
Access to local data for contextualization
Access to appropriate contacts within the HTA community
Access to appropriate contacts for surveys and Environmental Scans for collecting information on local context
A connection with Health Canada
Staff dedicated to linking HTA groups with external stakeholders
A more comprehensive Canadian network of all HTA organizations and institutions or individuals producing HTA work
Centres of excellence in methodology and subject area expertise
Mechanisms to reduce the risk of duplication in a structured and meaningful way
Opportunities to interact with innovation management processes

While there is interest in growing capacity locally, certain gaps may be addressed by looking to partners and resources outside of Canada. When organizations were asked whether they look to international HTA groups for services or expertise not available locally, most noted that they maintain a general awareness of work and developments happening outside of Canada. For the most part, international organizations provide a source of methodological expertise and models for best practice in HTA. Some participants cited looking outside of Canada for examples of how to approach the use of real-world evidence, methods for health technology reassessment, and methods for qualitative rapid reviews. Most interaction with international groups was noted to be academic in nature (e.g., methods development), or in the context of academic meetings or interest groups, and not with the intention of actively collaborating on the production of HTAs. In some cases, information sharing or brokering, such as sharing economic model structures, has occurred. However, only one group mentioned a formal partnership with a group outside of Canada (ECRI Institute services).

Objective 4: Determine how HTA producers operate and interact with each other in local, regional, provincial, and national jurisdictions or networks

HTA Collaborations

The survey results and consultations indicate that some interagency collaboration is already occurring (Appendix 2, Table 6. Production and Publishing). Of the 21 agencies represented by the survey, four produce work for other HTA organizations, two commission HTAs, 12 conduct assessments with other organizations, and four reported no collaborations with other agencies (note that respondents could select multiple options). Many relationships and points of interaction are already established; however, there are also connections both within jurisdictions and across Canada that may not yet have been explored.

Objective 5: Identify barriers and facilitators to collaboration

Barriers or Challenges to Collaboration

Despite the opportunities for collaboration, most respondents noted that collaboration is complicated. Examining the barriers or challenges may offer opportunities to determine best approaches to collaboration.

Alignment

Many respondents noted that different organizations serve different audiences, and work in very different contexts — for example, hospital-based HTA groups or those serving provincial or pan-Canadian decision makers. The ability to
collaborate hinges on the ability to create work that meets the needs of multiple stakeholders. This can be a challenge where jurisdictional needs and priorities differ. The chance to understand competing priorities and scope requirements at an early stage may not always present itself, which can affect the downstream alignment of an assessment.

Further, where systematic and standardized methodology is used, there is still the possibility for differences in the approach organizations and individuals take to reviewing the same studies. Differences in methodological views and contextual considerations may affect the direction of an evaluation. Thus, trusting that another organization reached the same conclusion — when considering brokering or adapting work — relies on some assumptions, which individual agencies may or may not be comfortable with.

The lack of common methodology or standards for the conduct of HTA in Canada was also seen as a limitation. Many organizations produce a range of HTA products, which may be appropriate in different circumstances. Where these rely on tailored approaches that deviate from common methodological standards, consensus on the appropriate approach for a particular assessment may be needed. This is particularly important in the case of contributing to a joint review, or when considering the brokering of others’ work. Beyond the methodology, differences in editorial processes, branding, publishing, and dissemination are factors to consider. Respondents indicated that when working together, it may be hard to agree on the format or approach to presentation and publication in a manner that meets diverse audience needs. The format for content shared with and presented to different expert committees is also a consideration. Expert committees may have different expectations on the output of work (e.g., level of depth, level of guidance), and the timing of their meetings varies. Addressing diverse needs and timelines can present challenges.

Lack of alignment of interests can also hinder the ability to collaborate. Individual organizations have unique areas of focus and expertise, which may impact the topics and initiatives that resonate broadly.

Context and Relevance

It was noted that components of the HTA that rely heavily on context might be harder to work together on or adapt. This could apply to assessment components that address implementation issues and feasibility, and the budget impact or cost-effectiveness of a technology. Clarity on the policy relationships and audience for the assessment is also important. Where the receptor is not clear to all parties involved in producing the HTA, it can be hard to understand and align the purpose and vision. Adaptation of work that is not contextualized to an individual decision maker can also be challenging. When models or evaluations are shared, the adaptation may not be straightforward if there is insight into how the work was conducted is not available. Given some of these challenges, adapting the work of others may not always save time and resources.

Awareness and Representation

Collaboration relies on knowing who else is working in the field. Consultation comments indicated that there are many groups interested in and conducting HTA-related work in different disciplines that may not have had the opportunity to engage with the HTA community. Approaches to collaboration that are exclusive and do not allow opportunities for diverse voices to participate were seen to be detrimental. Further efforts may be needed to engage people working in HTA-related areas within the ministries of health, those in “think tank” organizations, and academics involved in related areas of research (such as, health technologies innovation and procurement).

Awareness of who else is working on similar topics can also be a challenge. In addition, the lack of a centralized and up-to-date list of organizations working in HTA in Canada was seen as an important gap.

Numerous Opportunities for Collaboration

One participant commented on the number of scientific meetings, networks, and societies in the HTA space, noting that time considerations make it difficult to engage with every group. Given overlapping mandates and objectives of various HTA-related initiatives, some consolidation of efforts could reduce the risk of organizations missing out if they do not engage in all of these networking opportunities.
Technical and Logistical Considerations

From a practical perspective, the lack of a virtual space for collaboration can make working together challenging. Not having access to a secure cloud or virtual venue for collaboration and file sharing was seen as a hurdle to effective collaboration. Organizing large groups can be challenging when scheduling and holding meetings, and coordinating timelines and milestones. Geographical barriers were also noted. Despite advances in technological and conceptual supports for virtual collaboration, in-person collaboration was perceived to be easier.

Differences in timelines and timeline pressures can impact the ability to collaborate. Further, the level of responsiveness can also affect working relationships. It may be challenging to identify and engage people in a timely manner. Some respondents suggested dividing work rather than working in an integrated way (i.e., multiple organizations working on the same component of work), was generally preferable and easier to do. Language barriers may affect the ability to collaborate (e.g., if resources for translation are required). Time constraints may prevent the development of shareable economic models that various jurisdictions could use.

Many emphasized the need for a central database of HTA topics that includes information on work that is under consideration, work in progress, and completed assessments. Expansion of this database to provide contact information and a way to connect with different HTA groups across the country was also seen as a key feature.

Funding and Resources

Financial resources were seen as a potential barrier to collaborating, particularly for groups that rely on grant funding. The level of priority assigned for an assessment may also differ amongst those contributing to joint work, which can influence the resources allocated to a project.

Relationships and Commitment

Level of commitment may also be a factor in the success of collaborations. Many respondents acknowledged that it takes time, dedication, and hard work to build relationships. Trust was seen as the integral ingredient in working together. If relational barriers are present, other barriers may be seen as greater challenges than they actually are.

Relationships with respective decision makers were also seen as an important consideration. In many cases, trust with the groups receiving and using the work has been developed over a long period of time. The ability to effectively liaise with the decision maker may hinge on their familiarity and trust in the credibility of the work produced. Opening up HTA teams to include other groups may reduce clarity and increase uncertainty regarding the local context or quality of the work. Without common methods (as mentioned earlier) decision makers may be less comfortable in using collaborative assessments.

Structural Barriers

There may be structural barriers impeding collaboration. These could include funding and contribution agreements, which may limit the ability to share resources. Contracting barriers that dictate the model of shared work could also affect the ability to work together. Where legal or contractual agreements are required, developing these arrangements could take time.

In addition, certain structural barriers may limit the ability to share data across groups. For example, restrictions on sharing confidential information across jurisdictions could impede the ability to work together. The lack of a straightforward way to share data across groups and lack of consistency in access to data was seen as a big limitation, particularly with the interest and move towards using more real-world evidence to support HTA.

Changing Political Landscape

Where groups are collaborating across jurisdictions, changes in government or health care organizations that affect funding, resources, or the ability to communicate could impact timelines and the feasibility of collaborating.
Facilitators of Collaboration

In 2004, Canada’s Health Technology Strategy 1.0 outlined the following characteristics of successful networks:

- voluntary participation;
- transparent governance and operations;
- a clearly stated common vision and goal;
- sufficient resources to support the network; and
- time to develop trust and relationships, and the processes needed to run the network effectively.

Many facilitators or enablers of collaboration were proposed, including concrete solutions to address barriers. Generally, the attitude was that the experiences gained through engaging in collaborative work, regardless of the challenges, may drive further collaboration. One agency commented that collaboration may occur at various levels and in different forms, which may each need different kinds of agreements or facilitators, or face different barriers. The Triple Aim (i.e., better health, better patient experience, and better value health care for all Canadians) could form a basis from which shared processes and methods could be developed. The INESSS evaluation framework, for example, could be used to initiate a pan-Canadian discussion of methods and how to align these with the different mandates of each organization.

Building Strong Relationships

Many individuals emphasized that building the underlying relationships and trust necessary to collaborate was an important factor for success. This includes taking emphasis off the work objectives of collaborating and ensuring there is space for engagement, informal interactions, and networking. Opportunities to connect people and enhance the connectivity of the community, such as in-person meetings and directories of HTA contacts were also suggested.

Concrete Rationale

It was suggested that a concrete reason for engaging in collaboration is needed. As all organizations serve different decision makers, ensuring that any joint efforts will be of value to individual audiences is paramount. For instance, contributing to collaborative work on a topic that is not of interest to an organization’s stakeholders or that does not provide any ancillary benefits may not be a judicious use of resources. To ensure that collaboration is worthwhile, some suggested ensuring that there are formal mechanisms of measuring impact. Understanding of the impact of collaborating on the rates of duplication, resource expenditure, the timing of projects, and utility of work may help to inform future approaches and provide evidence to support further collaboration.

Early Engagement and Maintained Dialogue

Efforts to engage early, share topics under consideration that have not yet commenced, and maintain consistent dialogue to promote awareness of work ongoing external to individual organizations was suggested as a mechanism to enable more alignment on potential collaborative topics. Specifically, consultation participants suggested the use of pan-Canadian surveys to inquire about interest during the topic development stage. When working together, initiating systems for regular communication and information exchange would help to promote alignment on the actual conduct of work. Support of project management staff or coordinating staff was seen as a potential mechanism to promote both early and ongoing engagement between collaborative partners.

Defined Expectations and Standards

Defined expectations for the conduct of collaboration, roles and responsibilities, and commitment to a shared vision at the outset of collaborative relationships were seen as necessary components. Developing a taxonomy of different products and templates and common methods to subscribe to when conducting collaborative work, which still allows
flexibility may also help. In addition, clarifying the appropriate degree of methodological rigor required to meet the diverse expectations and needs of stakeholders was suggested to be useful. Work to develop guides for collaboration is underway, beginning with the Guidance on Review Design Selection by the pan-Canadian HTA Collaborative.

Broad Topics with High Impact

Many groups have noticed a need for products with a less traditional HTA structure that address broader health system topics, in addition to traditional assessments of new technologies. A few examples some groups have encountered include: what the structure and implementation of home and community care should look like, the best approach to implementing care in rural and remote settings, and how to design accommodation for people with complex medical needs (e.g., dementia patients). With the assumption that there are multiple groups facing these same challenges, there is an interest in determining what approaches have been taken and what others have done.

Appointing Champions

Many suggested that a central coordinating body or assigned champions are needed to manage memberships, and drive collaborative work and relationships. One participant referred to this concept as a “control tower” and suggested that centralizing certain aspects of collaboration, such as topic identification and prioritization, could provide clarity and organization. It was suggested that larger organizations like CADTH and INESSS could lead and leverage existing networks to bring the different HTA producers and commissioners in Canada together.

Literature on Collaboration in HTA

The literature search identified additional information on the barriers and facilitators to HTA collaboration, to supplement the information from the survey and consultations.

Barriers and Facilitators to HTA collaboration

A report on initial experiences with the EUnetHTA Core model for HTA found several issues that arose in the production of the first two joint assessments. Problems included language barriers, underestimation of the work involved in some tasks (such as literature screening), turnover of research staff and loss of expertise, difficulties in using the online Core HTA tool, differences of approaches to steps in the assessment process (such as the literature search), and processes for prioritization and selection of technologies for assessment that were too complex. However, these issues were all considered to be resolvable. One of the benefits to the collaboration was the mentorship and training available to smaller HTA agencies.

A 2015 survey of members of the EuroScan horizon scanning network found that, while most agencies supported further collaboration in the identification of new and emerging health technologies, there were several barriers, including:

- changing personnel (which affects continuity and understanding of the goals of collaborative HTA work)
- time, and
- funding.

The EuroScan database of information on new and emerging health technologies — which was intended to be a key way to share information between members — was also found to be under utilized.

Similarly, a review of the development of the HTAsiaLink network found barriers to collaboration were the lack of stable funding, and the difficulties inherent in managing a large network.

The AdHopHTA handbook identified the following barriers to collaboration between hospital-based HTA units and others:
• lack of knowledge about HTA;
• lack of legal or policy requirements to promote the use of HTA;
• physicians’ concerns about professional autonomy; and
• high methodological standards and complex language for HTAs that may not be practical for hospital-based units.¹⁹

Conversely, collaborations were facilitated through informal contact between individuals, mutual respect and trust, and making HTA information "easy to access".¹⁹

A 2001 survey of collaborations between INAHTA members noted the main barriers to collaboration were:

• staff
• resources
• time
• language differences
• lack of leadership, and
• issues with confidentiality.⁶

Language barriers were also identified as an issue in a recent paper on HTA duplication in Europe.⁸

Examples of Canadian and International HTA Collaborations and Networks

Canada

Pan-Canadian HTA Collaborative
The Pan-Canadian HTA Collaborative was established in 2011 to reduce duplication through sharing information, and facilitating joint assessments and other initiatives.¹,²⁰ The Collaborative currently involves one national and four provincial HTA groups.

Alberta

Alberta Health, under the direction of the Alberta Advisory Committee on Health Technologies, coordinates Health Evidence Reviews produced by three provincial HTA units at the University of Alberta, University of Calgary, and Institute of Health Economics.²¹

Quebec

The provincial HTA agency, Institut national d’excellence en santé et en services sociaux (INESSS), collaborates with a network of HTA units in Quebec teaching hospitals.¹⁹ A web site for the network of hospital-based HTA units — Bottin des UETMISSS du Québec — is under construction.

Hospital-based HTA in Canada

Hospital-based HTA units are well established in several Canadian hospital systems.²² In addition to providing assessments, these units have a key role in knowledge transfer — linking clinical researchers across disciplines to HTA and health policy researchers, and ensuring the evidence is available to decision makers.²² A 2013 symposium, sponsored by MEDICI, CADTH, and the Ottawa Health Research Unit, discussed interest in a Canadian hospital-based HTA network, but such a network has not been developed.²² (The European AdHopHTA hospital HTA network is discussed below.)
International

Cochrane

Formerly known as the Cochrane Collaboration, Cochrane is an international network of research centres, individual researchers, patients, caregivers, and volunteers who contribute to systematic reviews, methods guides, and other evidence syntheses of health care interventions. The intent is to inform health care decisions at all levels of health care worldwide.

International Network of Agencies for Health Technology Assessment (INAHTA)

The INAHTA collaboration currently involves 50 publicly-funded HTA agencies in 31 countries worldwide. INAHTA’s main purpose is to cooperate and share expertise in producing and disseminating HTA information, and, more generally, to advance the field of HTA. In addition to annual and regional meetings, INAHTA supports the HTA database of assessments, a listserv for members to share questions and information, and the INAHTA Product Types (IPT) for categorizing types of HTAs. INAHTA has also facilitated several joint assessments by members.

Health Technology Assessment international (HTAi)

HTAi is the international association for individuals and agencies involved in health technology assessment. Formerly known as the International Society for Technology Assessment in Health Care (ISTAHC), collaborative HTA work is promoted through the associations annual and regional conferences, policy forum, and the work of special interest groups, and also through the association’s official journal - the International Journal of Technology Assessment in Health Care.

European Collaborations

AdHopHTA

The Adopting Hospital Based Health Technology Assessment (AdHopHTA) project was funded by the European Union to improve the use of hospital-based HTA in Europe. Outputs from the project included a toolkit for developing a hospital HTA unit, the AdHopHTA handbook on assessing and adopting new technologies in hospitals, and a database of assessments produced by the eight member agencies. The handbook includes descriptions of hospital-based HTA collaborations in Europe and elsewhere (including in Quebec).

EUnetHTA

In Europe, collaborative HTA efforts have been formalized through a progression of agreements, the most current of which is EUnetHTA (the European network for Health Technology Assessment) joint actions and work packages. EUnetHTA is a voluntary collaboration that has involved over 70 European agencies in 32 countries. The collaboration aimed to enable sharing of information, reduce duplication of effort (and the associated costs), and improve the quality, transparency, and increase the uptake of HTAs in European health systems.

One key EUnetHTA initiative was the HTA Core Model for comprehensive HTAs which includes the following components:

- a standard set of HTA questions to aid in defining the research questions
- methodological guidance to help determine how to address these questions
- a common report format for presenting findings in a question and answer format.

EUnetHTA also produced a procedure manual for rapid reviews or relative effectiveness assessments (REAs). Collaboration was further advanced through practical tools, including methods guides, templates, definitions, procedures and project management. Other network initiatives focussed on processes to facilitate collaborative
identification and prioritization of topics for assessment. This included a Planned and Ongoing Projects (POP) database that allows members to identify and share information on upcoming, current and recently completed projects.\cite{12} Another EUnetHTA database, Evidence Database on New Technologies (EVIDENT) includes information on reimbursement and coverage decisions, and evidence gaps on new and emerging technologies to encourage further post-market studies.\cite{12} (Note that the web site for the EVIDENT database is currently unavailable.)

Information exchange between EUnetHTA members also extends to sharing literature search strategies, search results, and data extraction tables, further reducing duplication of work.\cite{12} Scientific expertise is exchanged through the EUnetHTA Forum.\cite{12} Additional benefits from the EUnetHTA collaboration have been in helping new HTA agencies to build capacity, and in allowing smaller jurisdictions access to a broader range of HTA resources.\cite{12}

The EUnetHTA has faced some barriers to collaboration, including some ongoing duplication, difficulties due to the multiple languages used across Europe, and the different timelines, methods and types of assessments needed by the jurisdictions.\cite{12,29} Financial sustainability of the collaboration was also identified as an issue in the 2018 proposal to regulate HTA in Europe.\cite{29} The European Commission has proposed various options for continued collaboration in joint assessments and other aspects of HTA beyond 2020 - including joint horizon scanning work.\cite{12,29,31} In the interim, discussions are ongoing concerning proposed regulatory changes to make the use of EUnetHTA Joint Clinical Assessments mandatory for member states.\cite{7,32}

**EuroScan International Network**

EuroScan (the International Information Network on New and Emerging Health Technologies) was was run for almost 20 years by the UK National Institute for Health Research Horizon Scanning Research and Intelligence Centre, at the University of Birmingham.\cite{17} this network of HTA agencies The network linked HTA agencies involved in horizon scanning (or early awareness and alert), for new, emerging, and obsolete health technologies. The network was established to promote the exchange of information and provided training and support for agencies establishing a horizon scanning service. It also published and updated a methods handbook for horizon scanning, and established a database on new and emerging health technologies identified by member agencies.\cite{17} In 2017, following changes at several of the member agencies, a new EuroScan secretariat formed, based in Germany.

**Italy**

The Italian National Agency for Regional Healthcare Services (AGENAS) coordinates Italy’s inter-regional network for health technology assessment — Rete Italiana HTA (RiHTA). In particular, AGENAS assists in prioritizing which technologies should be assessed; coordinates the national collaborative network for HTA of medical devices; supports the Interregional HTA Network to share HTA expertise and reduce duplication in assessments, and aids in the identification of significant new technologies.\cite{33}

**Spain**

The Spanish national ministry of health coordinates the Spanish network of HTA agencies from the autonomous regions of Spain.\cite{34} This network, formerly known as AUneTS, was recently re-named Red Española de Agencias de Evaluación de Tecnologías Sanitarias y Prestaciones del Sistema Nacional de Salud (RedETS).\cite{35} The presidency of the network rotates annually between the member agencies. Members of the network prioritize technologies for assessment annually, along with a work plan for the year, according to the needs of the regional health authorities and national health service. RedETS focusses on non-drug health technology assessments and informs decisions of the benefits portfolio of the Spanish national health system. In addition to full HTAs, the network has produced methods guides, relative effectiveness assessments, decision making tools for patients and clinicians, and a guide for patient engagement in HTA. A guide for industry involvement in HTA is in development. The network also contributes to the EUnetHTA POP database and identifies new and emerging health technologies for possible prioritization. In 2017, the network developed a framework for good practices and quality assurance in the network. The 12 criteria in the framework covered four areas: responsibility, clients and stakeholders, production processes, and resources.\cite{35} An impact assessment of RedETS work was recently submitted for publication. In addition, RedETS participates in other HTA networks, such as INAHTA through representation by its members. The review of the first 10 years of RedETS collaboration identified further areas for work in the future, among which were: expanded efforts on
disinvestment, horizon scanning, and patient engagement, training researchers in the use of real world evidence in HTAs, and improving the dissemination and measurement of impact of their work.\textsuperscript{35}

**United Kingdom**

In December 2018, four health technology agencies involved in non-drug technology assessments within the United Kingdom (Health Technology Wales, the Scottish Health Technologies Group, and two Irish agencies: Health Technology Assessment Group and Health Information Quality Authority) signed a memorandum of agreement to improve inter-agency collaborations.\textsuperscript{36} Many of the objectives of the memorandum of agreement are similar to those of the pan-Canadian HTA Collaborative, in particular, they are seeking to:

- formalize partnerships and improve understanding of each others programs and processes
- identify opportunities to collaborate on or co-produce evidence reviews on technologies of mutual interest
- use scarce HTA resources more efficiently by realizing “economies of scale and scope in non-medicine HTA efforts”, including increasing the number and extent of assessment advice developed in each country
- facilitating knowledge exchange, and
- enhancing staff professional development opportunities.\textsuperscript{36}

Examples of ways the network plans to operationalize the memorandum of agreement include:

- having observer members at each others HTA meetings
- sharing horizon scanning work, work programmes, and calls for assessments
- co-production of evidence assessments
- contextualization of other agencies assessments for local decision making (using the EUnetHTA adaptation framework)
- annual events to highlight the work of member agencies, and
- opportunities for staff training and secondment.\textsuperscript{36}

The effectiveness of the collaboration will assessed by considering whether the objectives have been met. For example, the evaluation could consider: increased communications between agencies, improved understanding of other agencies work programs and processes, collaboration or co-production of evidence reviews, and expanded professional development opportunities for staff.\textsuperscript{36}

**Middle East and Mediterranean**

The WHO has supported the Regional Network of HTA in the Middle East and Mediterranean (EZcollab) to further HTA collaboration in this region.\textsuperscript{18} The network is intended to allow HTA researchers to share information and expertise.

**The Americas**

The HealthTechnology Assessment Network of the Americas or Red de Evaluación de Tecnologías en Salud de las Américas (RedETSA) includes HTA agencies, government ministries of health, regulatory authorities, Pan American Health and WHO representatives from 14 countries (including two Canadian members). The network is intended to increase the exchange of information and promotion of HTA evidence to support decision making.\textsuperscript{37} One of the main products of the collaboration is the Regional Database of Health Technology Assessment Reports in Americas (BRISA), launched in 2017, which contains over 1,000 HTA reports by member organizations.

**Australasia**
The Network to Strengthen Collaboration Among HTA Agencies in Asia (HTAsiaLink) was established in 2011. This regional network includes 30 members from Asian countries, as well as Australia and New Zealand. The network is intended to reduce duplication, share HTA information and expertise, facilitate joint initiatives, increase awareness of HTA, and build HTA capacity within Asia. Excluding commercial interests from the network was seen as one way to foster trust – an important component of collaboration.

The network’s initial platform to share information had the additional benefit of improving awareness of the value of HTA evidence, particularly in countries where HTA had not yet been introduced. Network communications take place via email, teleconferences, regional meetings, a biannual newsletter, and through the web site. One of HTAsiaLink’s ongoing projects is the Guide for Economic Analysis and Research (GEAR) database of resources for conducting economic evaluations of health technologies in low and middle income countries. The network hosts an annual HTA conference to promote regional HTA capacity and enable junior researchers to participate. Beyond the network members, HTAsiaLink has developed formal memoranda of understanding with other networks, such as INAHTA.

Limitations

Although they are served by CADTH, most of the smaller Canadian provinces and the territories were not identified as having HTA agencies and are not represented by the survey results. Several agencies did not respond to the survey request, and a few responded to the survey but did not participate in the follow-up consultations (which limited the level of information obtained from these groups). Although we attempted to identify HTA agencies throughout Canada through various avenues, it is possible that some HTA groups within health ministries and hospitals may have been missed.

A limited literature search was conducted, and this included English language publications, so some potentially relevant information published in other languages may not have been identified. It is possible additional information from Quebec agencies or in grey literature sources was not captured by the search. In addition, HTA operates within constantly changing political environments and some of the literature on HTA collaborations may no longer reflect current situations.

Future Considerations

Making Connections

The respondents indicated that a national network is a platform to bring together organizations to build and sustain connections. One means to promote connections would be for a network to take the lead on a central database or website that lists all the ongoing Canadian HTA projects, completed assessments, and topics under consideration (whether or not they proceed). The concept of a comprehensive database is not new. International databases and other local efforts have been developed, yet there is the perception that a Canadian database would be of value. This tool could also be used to make connections with HTA groups or individuals with particular expertise. There was interest from some participants in having one organization take the lead on coordinating such a resource.

There was interest in a pan-Canadian agenda-setting function to enable central prioritization and allocation of topics. There was also interest in having a forum for discussing topics in the pipeline, and for early identification of potential topics (i.e., horizon scanning). The database of HTA projects could include, or be supplemented by, a horizon scanning database of information on new and emerging health technologies.

In cases where one organization has started work on a project but has not been able to complete it due to challenges or for logistical reasons, providing this information through the network could be a mechanism for discussion and shared lessons learned.
A comprehensive, regularly updated website directory of HTA agencies in Canada could be part of the national network initiative. [An initial list of agencies, shown in Appendix 4, will be posted on the CADTH website as part of this Environmental Scan.]

Having a network act as the main connector between the HTA community and the regulatory agency (i.e., Health Canada) was also suggested.

**Addressing Complex Issues and Challenges**

A network was seen as a way to convene different groups to discuss complex and challenging issues facing health care organizations. This could include the methods required to assess these emerging issues and topics.

**Venues for Leveraging Expertise and Connections**

Having a network as a venue for methods development and alignment of methods was seen as potentially valuable. This group could also hold forums and coordinate with other methodological working groups and initiatives outside of Canada. Many organizations have established expertise in specific methods or clinical specialty areas and could provide leadership on specific topics.

Typically, each organization has a direct line to their respective stakeholders. Ensuring the needs and interests of these groups is communicated across HTA organizations may allow for a broader perspective on current issues and challenges facing the health care system. Having a pool of HTA experts, particularly in areas where expertise is scarce (as outlined in the section on gaps in HTA services) could help to more effectively share resources. The network could also link to other initiatives that have been established to share methodological expertise in key areas, such as, real world evidence, reassessment, and health economics.

There is considerable HTA capacity in Canada. Furthering collaboration in HTA in Canada will require more comprehensive inclusion of agencies that are not currently engaged in existing networks - perhaps either through expansion of existing networks or creation of new opportunities for collaboration. Although small networks are more flexible, these risk excluding key partners. A central network hub could be linked to smaller, specialized networks or pan-Canadian interest groups, for example, of hospital-based HTA agencies, or agencies with expertise in health economics, qualitative research, or knowledge transfer. These could be connected as virtual communities (for example, through email listservs or website dashboards), and through annual meetings.

**Ambassadors for HTA in Canada**

While each organization actively participates in the promotion of HTA across the country, there may be opportunities to come together to communicate externally about the role of HTA in health care decision making. Partnering on joint training and education sessions on HTA topics and methods to build capacity could be another role for a network.

**Final Remarks**

The pan-Canadian HTA collaborative is just one example of a network of HTA organizations, though it is currently the only group with a pan-Canadian lens that focuses on non-drug assessments. Other formal and informal networks exist across the country within and across jurisdictions. When asked what role a national network of producers could play in coordinating and facilitating collaboration, the consultation participants shared several opinions and suggestions. Most were interested in participating in further collaborations.

This Environmental Scan provides an overview of the current “ecosystem” of HTA in Canada. One clear message is that, for any network to succeed, there needs to be a clear vision and mandate, formal terms of reference, and transparent criteria for membership. Having a consensus on roles and responsibilities is also important, as is ways to assess whether the network has met its objectives.
The diversity of perspectives in the HTA community was acknowledged, suggesting that representation of all types of organizations is critical. In particular, academic, hospital-based and independent groups serving the public system may not be adequately represented within existing networks. The views of those both producing and commissioning work are important, and without both groups at the table important perspectives may be lost. Future collaborations should also recognize the needs of decision makers, rather than those of HTA producers. There is a need to identify all of the HTA producers and commissioners in Canada and to engage those that are not already connected.

The pan-Canadian HTA Collaborative has recently started producing collaborative work, thereby reducing duplication and sharing resources and expertise. The Collaborative discusses sharing of work and collaborative topic identification, as well as learnings from past and current collaborative projects to apply to future work. The Collaborative currently includes five member organizations. Considering the number of HTA organizations in Canada, expansion of the Collaborative in future may be an option. However, any discussions concerning expansion will need to proceed cautiously, as each HTA organization has different mandates, priorities, and operational contexts. Additionally, the careful and thoughtful coordination of large networks is required in order to facilitate successful collaboration.

The findings of this Environmental Scan are aligned with the experiences of the Pan-Canadian HTA Collaborative. There is a large capacity for HTA in Canada, with many jurisdictions and organizations producing work to help inform decision-making around similar health care and health system challenges. Most organizations are interested in further collaborations to reduce duplication of effort and share information and expertise.

Complementing this Environmental Scan, CADTH is preparing Guidance on Review Design Selection by the pan-Canadian HTA Collaborative. This report is expected to be completed in December 2019.

A map of HTA organizations in Canada, based on the list of HTA organizations shown in Appendix 4, will be published on the CADTH web site and updated regularly.
References

3. Resources for health technology assessment. [Edmonton, AB] [n.d.].
10. CADTH 2018-2021 strategic plan. Transforming how we manage health technologies in support of better health, better patient experience, and better value. Ottawa 2018.


36. Scotland. HI, Scottish Health Technologies Group, Health Technology Assessment Group, Health Information Quality Authority. *Memorandum of understanding (MoU)*. [n.s.]: Healthcare Improvement Scotland, Scottish Health Technology Group, Health Technology Assessment Group, Health Information Quality Authority; December 2018 2018.

Appendix 1: Collaboration in HTA in Canada – Survey Questionnaire

A. Organization Demographics

1. [Multiple choice (one option)] Which of the following categories best describes your organization type?
   ☐ National (pan-Canadian) organization
   ☐ Provincial organization
   ☐ Regional organization
   ☐ Academic-based (e.g., university research group)
   ☐ Hospital-based
   ☐ Other (Free text: please specify):

2. [Multiple Choice] Which jurisdiction(s) does your organization produce HTA work for? (Select all that apply.)
   ☐ Canada (federal)
   ☐ British Columbia
   ☐ Alberta
   ☐ Saskatchewan
   ☐ Manitoba
   ☐ Ontario
   ☐ Quebec
   ☐ New Brunswick
   ☐ Nova Scotia
   ☐ PEI
   ☐ Newfoundland and Labrador
   ☐ Yukon
   ☐ Nunavut
   ☐ Northwest Territories
   ☐ Other (e.g., hospital-based, region within a province, international) (Free text: please specify):

3. [Multiple choice] Which of the following entities is your organization formally integrated within? (Please check all that apply.)
   ☐ The federal government
☐ A provincial or territorial ministry of health
☐ A regional health authority
☐ A hospital system
☐ None (i.e., independent organization)
☐ Other [Free text: please specify]:

B. Organizational Mandate and Scope of Work

4. [Free text] What is your organization’s current mandate (for instance, assigned purpose, objectives, and scope of work)?

5. [Multiple choice] Does your organization produce or commission HTAs? [Select one option.]
   ☐ Produce
   ☐ Commission
   ☐ Both produce and commission
   ☐ Not applicable (our organization does not produce HTAs) [Option to leave the survey]

6. [Multiple choice (more than one option)] What areas of HTA expertise does your organization have in-house, or have access to external services for? (Please select all that apply.)
   ☐ Clinical epidemiology (e.g., expertise in systematic review methodology and knowledge synthesis)
   ☐ Clinical experts (e.g., physicians or other health care providers)
   ☐ Health economics (e.g., expertise in economic evaluation, costing, and modelling)
   ☐ Bioethics (including ethical, legal, and social implications)
   ☐ Patient and public engagement
   ☐ Qualitative research (e.g., qualitative reviews of patient preferences and experiences)
   ☐ Environmental impact assessment
   ☐ Knowledge translation, transfer, and mobilization
   ☐ Implementation support
   ☐ Other [Free text: please specify]:

7. [Multiple choice (more than one option)] What is the scope of HTA work conducted by your organization? (Please select all that apply.)
   ☐ Medical devices
   ☐ Diagnostic tests and procedures
   ☐ Clinical interventions (medical interventions or surgical procedures)
   ☐ Dental procedures
   ☐ Health program evaluation
   ☐ Pharmaceuticals
   ☐ Vaccines
   ☐ Preventive health and screening interventions
   ☐ Mental health care
   ☐ Alternative or complementary health care
   ☐ Clinical or organizational practice
8. [Multiple choice (more than one option)] What types of HTA products does your organization produce? Please click on the links provided for a description of what each category represents. (Please select all that apply.)
   - Health technology assessments
   - Scoping reviews
   - Standalone economic reviews (e.g., economic evaluations or budget impact analyses)
   - Environmental scanning reports
   - Horizon scanning reports
   - Quality standards
   - Guidelines
   - Recommendations
   - Information intended for patients or the public (such as plain language summaries or patient tools)
   - Other (Free text: please specify)

9. If yes, please specify the types of HTA reports produced.
   - HTA
   - Mini-HTA
   - Rapid Review

10. [Multiple choice] How frequently does your organization prioritize topics?
    - Ad hoc
    - Annually
    - Quarterly
    - Monthly
    - Other (Free text: please specify)

11. Do all prioritized topics proceed or is there an additional level of topic selection?
    - No (Free text: please describe)
    - Yes

C. Production and Publishing

12. [Multiple choice] Which language(s) does your organization produce publications in?
    - English only
    - French only
    - Both English and French
    - Other (Free text: please specify)
13. [Multiple choice] Approximately how many HTAs (full and mini) does your organization produce annually?
☐ 1 to 5
☐ 6 to 10
☐ 11 to 20
☐ 21 to 50
☐ More than 50

14. [Multiple choice] Are your HTA products public and freely available? (Select all that apply.)
☐ Yes, all products
☐ Yes, some products (i.e., select work is confidential)
☐ No
If no, are they:
☐ Available to subscribers (or funders/customers) only
☐ Disseminated to the requestor only or to a select audience
☐ Other [Free text: please specify]:

15. [Multiple choice] Do you currently produce HTAs with other HTA organizations? (Select all that apply.)
☐ Yes, we produce work for other HTA organizations
   Which HTA organizations do you work with? [Free text]
☐ Yes, other HTA organizations produce work for us
   Which HTA organizations do you work with? [Free text]
☐ Yes, we conduct collaborative HTA work with other HTA organizations (i.e., contribute jointly to the same projects, share information on topics of mutual interest, broker the work of other organizations)
   Which HTA organizations do you work with? [Free text]
☐ No

16. Do you have any suggestions for improving collaboration in HTA in Canada or examples of effective collaborative practices elsewhere? [Free text]

17. Do you have any further comments on HTA in Canada? [Free text]

18. Subsequent to this survey, CADTH will be conducting formal consultations. Are you willing to participate in a follow-up consultation to discuss further aspects of HTA collaboration in Canada?
☐ Yes
☐ No

End of Survey — Thank you for your time.
# Appendix 2: Information on Survey Respondents

Table 2. Information on Survey Respondents

<table>
<thead>
<tr>
<th>Province / Territory (Number of Survey Respondents)</th>
<th>City (Number of Survey Respondents)</th>
<th>Organizations Represented by Survey Respondents (Number of Survey Respondents)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alberta (4)</td>
<td>Calgary (1)</td>
<td>• Alberta Health Services (1)</td>
</tr>
<tr>
<td></td>
<td>Edmonton (3)</td>
<td>• Health Technology Assessment Unit, University of Calgary (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Institute of Health Economics (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• University of Alberta (1)</td>
</tr>
<tr>
<td>British Columbia (4)</td>
<td>Richmond (1)</td>
<td>• BC Health Technology Assessment (1)</td>
</tr>
<tr>
<td></td>
<td>Vancouver (2)</td>
<td>• Canadian Centre for Applied Research in Cancer Control (ARCC) (1)</td>
</tr>
<tr>
<td></td>
<td>Victoria (1)</td>
<td>• Centre for Clinical Epidemiology and Evaluation – University of British Columbia (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• WorkSafeBC (1)</td>
</tr>
<tr>
<td>Nova Scotia (1)</td>
<td>Halifax (1)</td>
<td>• Nova Scotia Health (1)</td>
</tr>
<tr>
<td>Ontario (6)</td>
<td>Hamilton (1)</td>
<td>• Canadian Agency for Drugs and Technologies in Health (CADTH) (1)</td>
</tr>
<tr>
<td></td>
<td>Ottawa (1)</td>
<td>• Health Quality Ontario (1)</td>
</tr>
<tr>
<td></td>
<td>Toronto (4)</td>
<td>• Programs for Assessment of Technology in Health (PATH) and McMaster University (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• St. Michael's Hospital (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Technology Assessment at Sick Kids (TASK) (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Toronto Health Economics and Technology Assessment (THETA) Collaborative, University of Toronto (1)</td>
</tr>
<tr>
<td>Quebec (6)</td>
<td>Montreal (4)</td>
<td>• Centre Intégré Universitaire en Santé et Services Sociaux (CIUSSS) de l’Est-de-l’Île de Montréal (1)</td>
</tr>
<tr>
<td></td>
<td>Quebec (2)</td>
<td>• CIUSSS du Nord-de-l’Île-de-Montréal (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Health Technology Assessment Unit of the McGill University Health Centre (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Institut national d’excellence en santé et services sociaux (INESSS) (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Institut universitaire de cardiologie et de pneumologie de Québec-Université Laval (IUCPQ-UL) (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Unité d’évaluation des technologies et des modes d’intervention en santé du CHU de Québec-Université Laval (1)</td>
</tr>
</tbody>
</table>

Note: No responses were received from the provinces and territories not listed.
### Appendix 2: Information on Survey Respondents: Organization Demographics

#### Table 3. Organization Demographics

<table>
<thead>
<tr>
<th>Organization Demographics</th>
<th>Number of Respondents (% of 21)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of Organization</strong></td>
<td></td>
</tr>
<tr>
<td>National</td>
<td>2 (9.5%)</td>
</tr>
<tr>
<td>Provincial</td>
<td>6 (28.6%)</td>
</tr>
<tr>
<td>Regional</td>
<td>1 (4.8%)</td>
</tr>
<tr>
<td>Academic</td>
<td>6 (28.6%)</td>
</tr>
<tr>
<td>Hospital-based</td>
<td>7 (33.3%)</td>
</tr>
<tr>
<td><strong>Jurisdiction(s) Served</strong></td>
<td></td>
</tr>
<tr>
<td>Canada (federal)</td>
<td>8 (38.1%)</td>
</tr>
<tr>
<td>Alberta</td>
<td>8 (38.1%)</td>
</tr>
<tr>
<td>British Columbia</td>
<td>8 (38.1%)</td>
</tr>
<tr>
<td>Manitoba</td>
<td>4 (19.0%)</td>
</tr>
<tr>
<td>New Brunswick</td>
<td>5 (23.8%)</td>
</tr>
<tr>
<td>Newfoundland and Labrador</td>
<td>5 (23.8%)</td>
</tr>
<tr>
<td>Northwest Territories</td>
<td>3 (14.3%)</td>
</tr>
<tr>
<td>Nova Scotia</td>
<td>5 (23.8%)</td>
</tr>
<tr>
<td>Nunavut</td>
<td>3 (14.3%)</td>
</tr>
<tr>
<td>Ontario</td>
<td>7 (33.3%)</td>
</tr>
<tr>
<td>Prince Edward Island</td>
<td>5 (23.8%)</td>
</tr>
<tr>
<td>Quebec</td>
<td>9 (42.9%)</td>
</tr>
<tr>
<td>Saskatchewan</td>
<td>4 (19.0%)</td>
</tr>
<tr>
<td>Yukon</td>
<td>3 (14.3%)</td>
</tr>
<tr>
<td>Other</td>
<td>7 (33.3%)</td>
</tr>
<tr>
<td><strong>Organizational Funders and/or Customers</strong></td>
<td></td>
</tr>
<tr>
<td>Federal government</td>
<td>1 (4.8%)</td>
</tr>
<tr>
<td>Provincial/territory Ministry of Health</td>
<td>5 (23.8%)</td>
</tr>
<tr>
<td>Regional Health Authority</td>
<td>2 (9.5%)</td>
</tr>
<tr>
<td>Hospital system</td>
<td>8 (38.1%)</td>
</tr>
<tr>
<td>None (independent organization)</td>
<td>6 (28.6%)</td>
</tr>
<tr>
<td>Other</td>
<td>3 (14.3%)</td>
</tr>
</tbody>
</table>

---

*a* Original survey question: *Which of the following categories best describes your organization type?*;  
*b* One respondent identified the organization type as both academic and hospital-based;  
*c* One respondent identified the organization as hospital-based, but noted that they also produce work for other purposes;  
*d* Original survey question: *Which jurisdiction(s) does your organization produce HTA work for?*;  
*e* Respondents could select multiple options;  
*f* Includes other pan-Canadian or international health organizations/societies/universities;  
*g* Original survey question: *Which of the following entities is your organization formally integrated within?*;  
*h* Includes university, research institution, and a provincial health services delivery organization.
### Appendix 2: Information on Survey Respondents: Role in HTA

#### Table 4. Role in Health Technology Assessment

<table>
<thead>
<tr>
<th>Role (Number of Respondents, % of 21)</th>
<th>Organizations</th>
</tr>
</thead>
</table>
| **Produce (17, 81.0%)**              | - Health Technology Assessment Unit, University of Calgary  
- Institute of Health Economics  
- University of Alberta  
- Centre for Clinical Epidemiology and Evaluation – University of British Columbia  
- Canadian Centre for Applied Research in Cancer Control (ARCC)  
- Nova Scotia Health  
- Programs for Assessment of Technology in Health (PATH) and McMaster University  
- Canadian Agency for Drugs and Technologies in Health (CADTH)  
- Technology Assessment at Sick Kids (TASK)  
- Health Quality Ontario  
- Toronto Health Economics and Technology Assessment (THETA) Collaborative, University of Toronto  
- Institut universitaire de cardiologie et de pneumologie de Québec-Université Laval (IUCPQ-UL)  
- Institut national d'excellence en santé et services sociaux (INESSS)  
- Unité d'évaluation des technologies et des modes d'intervention en santé du CHU de Québec-Université Laval  
- Health Technology Assessment Unit of the McGill University Health Centre  
- Centre Intégré Universitaire en Santé et Services Sociaux (CIUSSS) de l'Est-de-l'Île de Montréal  
- CIUSSS du Nord-de-l'Île-de-Montréal |
| **Commission (2, 9.5%)**             | - Alberta Health Services  
- BC Health Technology Assessment Office |
| **Both produce and commission (2, 9.5%)** | - St. Michael's Hospital  
- WorkSafeBC |

*Original survey question: Does your organization produce or commission HTAs?*
### Table 5. Scope of Work

<table>
<thead>
<tr>
<th>Scope of Work</th>
<th>Number of Respondents (% of 21)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Accessible areas of HTA expertise</strong> &lt;sup&gt;a,b&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Clinical Epidemiology</td>
<td>20 (95.2%)</td>
</tr>
<tr>
<td>Clinical Experts</td>
<td>21 (100.0%)</td>
</tr>
<tr>
<td>Health Economics</td>
<td>15 (71.4%)</td>
</tr>
<tr>
<td>Bioethics</td>
<td>13 (61.9%)</td>
</tr>
<tr>
<td>Patient and Public Engagement</td>
<td>16 (76.2%)</td>
</tr>
<tr>
<td>Qualitative Research</td>
<td>15 (71.4%)</td>
</tr>
<tr>
<td>Environmental Impact Assessment</td>
<td>4 (19.0%)</td>
</tr>
<tr>
<td>Knowledge transfer</td>
<td>18 (85.7%)</td>
</tr>
<tr>
<td>Implementation support</td>
<td>13 (61.9%)</td>
</tr>
<tr>
<td>Other &lt;sup&gt;c&lt;/sup&gt;</td>
<td>3 (14.3%)</td>
</tr>
<tr>
<td><strong>Scope of HTA work conducted by organization</strong> &lt;sup&gt;b,d&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Medical devices</td>
<td>18 (85.7%)</td>
</tr>
<tr>
<td>Diagnostic tests and procedures</td>
<td>18 (85.7%)</td>
</tr>
<tr>
<td>Clinical interventions (medical interventions or surgical procedures)</td>
<td>19 (90.5%)</td>
</tr>
<tr>
<td>Dental procedures</td>
<td>7 (33.3%)</td>
</tr>
<tr>
<td>Health program evaluation</td>
<td>11 (52.4%)</td>
</tr>
<tr>
<td>Pharmaceuticals</td>
<td>14 (66.7%)</td>
</tr>
<tr>
<td>Vaccines</td>
<td>6 (28.6%)</td>
</tr>
<tr>
<td>Preventive health and screening interventions</td>
<td>16 (76.2%)</td>
</tr>
<tr>
<td>Mental health care</td>
<td>15 (71.4%)</td>
</tr>
<tr>
<td>Alternative or complementary health care</td>
<td>6 (28.6%)</td>
</tr>
<tr>
<td>Clinical or organizational practice</td>
<td>13 (61.9%)</td>
</tr>
<tr>
<td>Care or service pathway or continuum</td>
<td>14 (66.7%)</td>
</tr>
<tr>
<td>Social services</td>
<td>6 (28.6%)</td>
</tr>
<tr>
<td>Disinvestment of health technologies</td>
<td>9 (42.9%)</td>
</tr>
<tr>
<td>Reassessment of health technologies</td>
<td>14 (66.7%)</td>
</tr>
<tr>
<td>Topics related to children’s health</td>
<td>1 (4.8%)</td>
</tr>
<tr>
<td><strong>Types of HTA products produced by organization</strong> &lt;sup&gt;b,e&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Health technology assessments</td>
<td>18 (85.7%)</td>
</tr>
<tr>
<td><em>If yes, what types of HTA reports produced?</em></td>
<td></td>
</tr>
<tr>
<td>HTA</td>
<td>17 (94.4%)</td>
</tr>
<tr>
<td>Mini-HTA</td>
<td>13 (72.2%)</td>
</tr>
<tr>
<td>Rapid Review</td>
<td>14 (77.8%)</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Scoping reviews</td>
<td>12 (57.1%)</td>
</tr>
<tr>
<td>Standalone economic reviews</td>
<td>14 (66.7%)</td>
</tr>
<tr>
<td>Environmental scanning reports</td>
<td>8 (38.1%)</td>
</tr>
<tr>
<td>Horizon scanning reports</td>
<td>3 (14.3%)</td>
</tr>
<tr>
<td>Quality standards</td>
<td>5 (23.8%)</td>
</tr>
<tr>
<td>Guidelines</td>
<td>5 (23.8%)</td>
</tr>
<tr>
<td>Recommendations</td>
<td>10 (47.6%)</td>
</tr>
<tr>
<td>Information intended for patients or the public</td>
<td>7 (33.3%)</td>
</tr>
<tr>
<td>Policy analysis and other policy products</td>
<td>2 (9.5%)</td>
</tr>
<tr>
<td>Tailored or customized products with HTA components</td>
<td>1 (4.8%)</td>
</tr>
<tr>
<td>Field evaluations</td>
<td>1 (4.8%)</td>
</tr>
<tr>
<td>Primary research</td>
<td>1 (4.8%)</td>
</tr>
<tr>
<td>Trial-based economic evaluations</td>
<td>2 (9.5%)</td>
</tr>
</tbody>
</table>

**Frequency of topic prioritization**

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Count (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ad hoc</td>
<td>7 (33.3%)</td>
</tr>
<tr>
<td>Annually</td>
<td>6 (28.6%)</td>
</tr>
<tr>
<td>Biannually</td>
<td>1 (4.8%)</td>
</tr>
<tr>
<td>Quarterly</td>
<td>3 (14.3%)</td>
</tr>
<tr>
<td>Monthly</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>Never</td>
<td>2 (9.5%)</td>
</tr>
<tr>
<td>Other</td>
<td>3 (14.3%)</td>
</tr>
</tbody>
</table>

**Do all prioritized topics proceed?**

<table>
<thead>
<tr>
<th>Answer</th>
<th>Count (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>12 (57.1%)</td>
</tr>
<tr>
<td>No</td>
<td>6 (28.6%)</td>
</tr>
<tr>
<td>Not applicable</td>
<td>2 (9.5%)</td>
</tr>
<tr>
<td>Unknown/missing data</td>
<td>1 (4.8%)</td>
</tr>
</tbody>
</table>

---

*a* Original survey question: *What areas of Health Technology Assessments expertise does your organization have in-house, or have access to external services for?*  
b Respondents could select multiple options;  
c Includes strategic clinical networks, health policy analysis, and critical appraisal;  
d Original survey question: *What is the scope of Health Technology Assessments work conducted by your organization?*  
e Original survey question: *What types of Health Technology Assessments products does your organization produce?*  
f Original survey question: *How frequently does your organization prioritize topics?*  
g Includes “never” (2), twice a year (1), set by clients (2), based on grant funding or student dissertations (1);  
h Original survey question: *Do all prioritized topics proceed or is there an additional level of topic selection?*  
i 2 (of 6) “no” respondents provided additional context: (i) “topic selection also determined by resources available”; (ii) “sometimes, when refining the research questions the topic was dropped due feasibility issues, or the scope changed.”  
HTA = Health Technology Assessment
Appendix 2: Information on Survey Respondents: Production and Publishing

Table 6. Production and Publishing

<table>
<thead>
<tr>
<th>Language of publication</th>
<th>Number of Respondents (% of 21)</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>15 (71.4%)</td>
</tr>
<tr>
<td>French</td>
<td>5 (23.8%)</td>
</tr>
<tr>
<td>Both</td>
<td>1 (4.8%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of HTAs produced annually</th>
<th>Number of Respondents (% of 21)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 5</td>
<td>11 (52.4%)</td>
</tr>
<tr>
<td>6 to 10</td>
<td>5 (23.8%)</td>
</tr>
<tr>
<td>11 to 20</td>
<td>2 (9.5%)</td>
</tr>
<tr>
<td>21 to 50</td>
<td>2 (9.5%)</td>
</tr>
<tr>
<td>More than 50</td>
<td>1 (4.8%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HTA products public and freely available?</th>
<th>Number of Respondents (% of 21)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, all products</td>
<td>12 (57.1%)</td>
</tr>
<tr>
<td>Yes, some products</td>
<td>8 (38.1%)</td>
</tr>
<tr>
<td>No</td>
<td>1 (4.8%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Currently produce HTAs with other HTA organizations?</th>
<th>Number of Respondents (% of 21)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, produce work for other HTA organization(s)</td>
<td>4 (19.0%)</td>
</tr>
<tr>
<td>Yes, other HTA organization(s) produce work for us</td>
<td>2 (9.5%)</td>
</tr>
<tr>
<td>Yes, we conduct collaborative HTA work with other organization(s)</td>
<td>12 (57.1%)</td>
</tr>
<tr>
<td>No</td>
<td>4 (19.0%)</td>
</tr>
</tbody>
</table>

---

*Original survey question:* Which language(s) does your organization produce publications in?; *Original survey question:* Approximately how many HTAs (full and mini) does your organization produce annually?; *Original survey question:* Are your HTA products public and freely available?; *Respondents could select multiple options;* *Original survey question:* Do you currently produce HTAs with other HTA organizations?

HTA = Health Technology Assessment
Appendix 3: Consultation Questions

Preamble

The 2018 review of pan-Canadian health organizations (PCHOs) reinforced the importance of coordinating non-drug health technology assessment (HTA) work in Canada.  

CADTH is currently the secretariat for the pan-Canadian HTA Collaborative, a network created in 2011 that includes five of Canada’s HTA producers (Health Quality Ontario [HQO], Quebec’s Institut national d’excellence en santé et en services sociaux [INESSS], the British Columbia Ministry of Health’s Health Technology Assessment Office [BC-HTAO], and the Alberta Institute of Health Economics [IHE]). Members of the Collaborative proposed an Environmental Scan of Canadian agencies, hospital-based and academic research groups involved in HTA work, with a focus on non-drug assessments. The goal of this consultation is to build on the survey questionnaire to gather more robust information on organizational approaches, experiences and perspectives regarding collaboration, and opinions on needs and direction for HTA in Canada and for the pan-Canadian HTA Collaborative.

Draft Consultation Questions

As noted in the methods, a flexible and semi-structured approach to questioning will be used – preambles for each section of questions will be developed to frame the discussion.

Mandate, Capacity, and Expertise

Follow-up on survey question re integration of organization within a Federal/Provincial/Territorial ministry of health, regional health authority, or hospital system, or whether the organization is independent to capture nuances

What are the main factors that affect your organization’s ability to produce HTA work?

Please describe the process for and timing of identification and prioritization of topics for HTA work

Follow-up questions:

Is the process F/P/T ministry or other government/governance body-led or are decisions made by your organization?

Are explicit criteria used to prioritize topics; for example, a multicriteria decision analysis tool, ranking system, expert deliberation?

Are the topics under consideration made public and at what stage of topic development <probe re: format>

<Follow-up on timing of identification and prioritization if unclear from survey>

What review components does your organization include in your HTA products?

Clinical review

Economic or budgetary analyses (please specify type)
Environmental considerations

Ethical considerations

Legal considerations

Social considerations

Implementation considerations

Patient engagement

Public engagement

Stakeholder engagement

Psychological considerations

Social considerations

Other (please specify):

What types of recommendations does your organization make in your HTA assessments? (e.g., funding, policy, appropriate use, etc.)

Does your organization produce multiple technology or single health technology assessments, or both?

Does your organization have organizational capacity for non-research project management or other non-research project support (e.g., project management staff, publishing staff)? If so, please describe.

Do you subcontract HTA or other assessment work to other groups or organizations?

- Yes

- No

If yes, which groups do you work with and what model(s) do you use for subcontracting (e.g., standing offers, contract bids)?

Collaboration

Has your organization collaborated with other HTA producers locally or nationally? Why or why not?

If you answered yes to the previous question, what are the intended outcomes of collaborating with other organizations?
May reframe the questions below based on participant’s stated collaborative approach

What barriers or challenges has your organization experienced or would your organization expect to experience in initiating collaborations with other HTA producers?

What barriers or challenges has your organization experienced or would your organization expect to experience in conducting collaborative work with other HTA producers?

In your experience or opinion, what factors would facilitate or enable collaboration with other HTA producers?

What strategies or resources do you think would facilitate coordination and collaboration between HTA producers in Canada?

Needs and Direction

What gaps in HTA services do you see amongst national and local HTA producers?

What duplication or overlap in HTA production services do you see amongst Canadian HTA producers?

Does your organization look to other international HTA agencies for services not offered by Canadian HTA producers? (If they say yes, ask to elaborate on which international agencies and which services requested)

Involvement in Pan-Canadian HTA Collaborative

What role could a national network of producers (give example of Pan-Canadian HTA Collaborative) play in coordinating and facilitating collaboration between Canadian HTA producers?

Do you see a role for your organization as part of a national network of producers? (If they say yes, ask them to explain their rationale)
Appendix 4: List of Organizations Involved in HTA in Canada

National

**CADTH**
Location: Ottawa & Toronto, ON
Type of Organization: National (pan-Canadian)
Canadian Jurisdictions Served: All (with the exception of Quebec)
Website: [www.cadth.ca](http://www.cadth.ca)

**Newfoundland and Labrador**

*Newfoundland and Labrador Centre for Applied Health Research, Contextualized Health Research Synthesis Program (CHRSP)*
Location: St. John's, NL
Type of Organization: Provincial
Canadian Jurisdictions Served: Newfoundland and Labrador
Website: [https://www.nlcahr.mun.ca/CHRSP/](https://www.nlcahr.mun.ca/CHRSP/)

**Nova Scotia**

Nova Scotia Health Authority Drug Evaluation Unit / Drug Evaluation Alliance of Nova Scotia (DEANS)
Location: Halifax, NS
Type of Organization: Hospital-based / Provincial
Canadian Jurisdictions Served: New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland and Labrador
Website: n/a

**Quebec**

*Centre intégré universitaire de santé et de services sociaux de la Capitale-Nationale (CIUSSS de la Capitale-Nationale)*
Location: Quebec, QC
Type of Organization: Academic
Canadian Jurisdictions Served: Quebec
Website: [https://www.ciuuss-capitaleenationale.gouv.qc.ca/evaluation-des-technologies-et-des-modes-d-intervention](https://www.ciuuss-capitaleenationale.gouv.qc.ca/evaluation-des-technologies-et-des-modes-d-intervention)

*Centre intégré universitaire en santé et services sociaux de l'Est de l'île de Montréal (CIUSSS de l'Est de l'île de Montréal)*
Location: Montreal, QC
Type of Organization: Academic
Canadian Jurisdictions Served: Quebec
Website: https://ciusss-estmtl.gouv.qc.ca/

Centre intégré universitaire de santé et de services sociaux du Nord-de-l’île de Montréal (CIUSSS du Nord-de-l’île de Montréal)
Location: Montreal, QC
Type of Organization: Academic
Canadian Jurisdictions Served: Quebec
Website: https://ciusss-nordmtl.gouv.qc.ca/accueil/

Centre intégré universitaire de santé et de services sociaux du Centre-Sud-de-l’île de Montréal (CIUSSS du Centre-Sud-de-l’île de Montréal)
Location: Montreal, QC
Type of Organization: Academic
Canadian Jurisdictions Served: Quebec
Website: https://ciusss-centresudmtl.gouv.qc.ca/

Centre intégré universitaire de santé et de services sociaux de Centre-Ouest de-l’île de Montréal
Location: Montreal, QC
Type of Organization: Academic
Canadian Jurisdictions Served: Quebec
Website: https://www.ciussscentreouest.ca/

Centre intégré universitaire de santé et de services sociaux de l’Estrie – Centre hospitalier universitaire de Sherbrooke (CHUS)
Location: Sherbrooke, QC
Type of Organization: Academic
Canadian Jurisdictions Served: Quebec
Website: https://www.santeestrie.qc.ca/index.php?id=1621

Health Technology Assessment Unit of the McGill University Health Centre (TAU)
Location: Montreal, QC
Type of Organization: Hospital-based
Canadian Jurisdictions Served: Quebec - McGill University Health Centre
Website: https://muhc.ca/tau/profile/mission-overview

Institut national d’excellence en santé et en services sociaux (INESSS)
Location: Montreal, QC
Type of Organization: Provincial
Canadian Jurisdictions Served: Quebec
Website: https://www.inesss.qc.ca/

Institut universitaire de cardiologie et de pneumologie de Québec-Université Laval (IUCPQ-UL)
Location: Quebec, QC
Type of Organization: Hospital-based
Canadian Jurisdictions Served: Quebec

Unité d’évaluation des technologies et des modes d’intervention - Institut universitaire en déficience intellectuelle et en trouble du spectre de l’autisme
Location: Trois-Rivières, QC
Type of Organization: Provincial
Canadian Jurisdictions Served: Quebec
Website: http://institutditsa.ca/projets/uetmi

Unité d’évaluation des technologies et des modes d’intervention en santé du Centre hospitalier universitaire mère-enfant – CHU Sainte Justine
Location: Montreal, QC
Type of Organization: Provincial
Canadian Jurisdictions Served: Quebec
Website: https://www.chusj.org/fr/Professionnels-de-la-sante/Evaluation-des-technologies-(UETMIS)

Unité d’évaluation des technologies et des modes d’intervention en santé de la Mauricie-et-du-Centre-du-Québec (CIUSSS MCQ)
Location: Shawinigan, QC
Type of Organization: Provincial
Canadian Jurisdictions Served: Quebec
Website: https://ciusssmcq.ca/

Unité d’évaluation des technologies et des modes d’intervention en santé du Centre hospitalier de l’Université de Montréal (CHUM)
Location: Montreal, QC
Type of Organization: Hospital-based
Canadian Jurisdictions Served: Quebec
Website: https://www.chumontreal.qc.ca/a-propos

Unité d’évaluation des technologies et des modes d’intervention en santé du CHU de Québec-Université Laval (CHUQ)
Location: Quebec, QC
Type of Organization: Hospital-based
Canadian Jurisdictions Served: Quebec – the Hôpital de la ville de Québec
Website: https://www.chudequebec.ca/professionnels-de-la-sante/evaluation/evaluation.aspx

Unité d’évaluation des technologies et des modes d’intervention en santé et services sociaux du Centre intégré universitaire de santé et de services sociaux de l’Estrie – Centre hospitalier de l’Université de Sherbrooke (CHUS)
Location: Sherbrooke, QC
Type of Organization: Hospital-based
Canadian Jurisdictions Served: Quebec
Website: https://www.santeestrie.qc.ca/index.php?id=1621

Unité d’évaluation des technologies et des modes d’intervention en santé mentale de l’Institut universitaire en santé mentale (UETMISM)
Location: Montreal, QC
Type of Organization: Provincial
Canadian Jurisdictions Served: Quebec
Website: http://www.iusmm.ca/institut/soins-et-services/evaluation-des-technologies-et-moyens-dinterventionhtml.html
Ontario

Centre for Effective Practice (CEP)
Location: Toronto, ON
Type of Organization: Academic
Canadian Jurisdictions Served: n/a
Website: https://effectivepractice.org/

Centre for Health Economics and Policy Analysis (CHEPA)
McMaster University
Location: Hamilton, ON
Type of Organization: Hospital-based and Academic
Canadian Jurisdictions Served: Canada (Federal), Ontario
Website: http://www.chepa.org/home

Health Quality Ontario (HQO)
Location: Toronto, ON
Type of Organization: Provincial
Canadian Jurisdictions Served: Ontario
Website: https://www.hqontario.ca/Evidence-to-Improve-Care/Health-Technology-Assessment

High Impact Technology Evaluation Centre (HiTEC) / Centre for Medical Evidence, Decision Integrity & Clinical Impact (MEDICI)
London Health Sciences Centre
Location: London, ON
Type of Organization: Hospital-based
Canadian Jurisdictions Served: Ontario
Website: https://www.schulich.uwo.ca/anesthesia/research/medici/index.html

Institute for Work and Health (IWH)
Location: Toronto, ON
Type of Organization: Provincial
Canadian Jurisdictions Served: Ontario
Website: https://www.iwh.on.ca/

**Ottawa Hospital Research Institute – Knowledge Synthesis Group**

Location: Ottawa, ON
Type of Organization: Hospital-based
Canadian Jurisdictions Served: All
Website: http://www.ohri.ca/ksgroup/Default.aspx

**PATH (Programs for Assessment of Technology in Health)**

McMaster University
Location: Hamilton, ON
Type of Organization: Hospital-based and Academic
Canadian Jurisdictions Served: All
Website: https://www.path-hta.ca/

**SPOR Evidence Alliance (Strategy for Patient Oriented Research)**

Li Ka Shing Knowledge Institute of St. Michael’s Hospital
Location: Toronto, ON
Type of Organization: Hospital-based
Canadian Jurisdictions Served: All
Website: https://sporevidencealliance.ca/

**Technology Assessment at Sick Kids (TASK)**

The Hospital for Sick Children
Location: Toronto, ON
Type of Organization: Academic
Canadian Jurisdictions Served: All
Website: https://lab.research.sickkids.ca/task/

**THETA (Toronto Health Economics and Technology Assessment Collaborative)**

Toronto General Hospital
Location: Toronto, ON
Type of Organization: Academic
Canadian Jurisdictions Served: All
Website: https://theta.utoronto.ca/HomePage/Home

**Manitoba**

*George & Fay Yee Centre for Healthcare Innovation*

University of Manitoba
Location: Winnipeg, MB
Type of Organization: Academic
Canadian Jurisdictions Served: n/a
Website: https://chimb.ca/

**Alberta**

*Alberta Health – Alberta Health Evidence and Policy Unit*

Location: Edmonton, AB
Type of Organization: Provincial
Canadian Jurisdictions Served: Alberta
Website: https://www.alberta.ca/health-evidence-reviews.aspx

*Alberta Health Services – Health Innovation, Evidence and Impact*

Location: Edmonton, AB
Type of Organization: Provincial
Canadian Jurisdictions Served: Alberta
Website: https://www.albertahealthservices.ca/research/Page4143.aspx

*Alberta Research Centre for Health Evidence (ARCH) / University of Alberta Evidence-based Practice Centre*

Location: Edmonton, AB
Type of Organization: National (pan-Canadian)
Canadian Jurisdictions Served: All
Website: https://www.ualberta.ca/pediatrics/pediatric-research/affiliated-research-units/Alberta-research-centre-for-health-evidence-arche

*Institute of Health Economics (IHE)*
Location: Edmonton, AB
Type of Organization: Provincial
Canadian Jurisdictions Served: All
Website: www.ihe.ca

Health Technology and Policy Unit (HTPU), University of Alberta
Location: Edmonton, AB
Type of Organization: Provincial
Canadian Jurisdictions Served: Alberta
Website: n/a

Health Technology Assessment Unit, University of Calgary
Location: Calgary, AB
Type of Organization: Academic
Canadian Jurisdictions Served: Alberta, British Columbia, Other
Website: https://obrieniph.ucalgary.ca/hta_unit

British Columbia
British Columbia Health Technology Assessment Office (BC-HTAO)
Location: Victoria, BC
Type of Organization: Provincial
Canadian Jurisdictions Served: British Columbia
Website: https://www2.gov.bc.ca/gov/content/health/about-bc-s-health-care-system/partners/health-authorities/bc-health-technology-assessment/health-technology-assessments#current

Canadian Centre for Applied Research in Cancer Control (ARCC)
Location: Vancouver, BC and Toronto, ON
Type of Organization: National (pan-Canadian)
Canadian Jurisdictions Served: All
Website: https://cc-arcc.ca/

Centre for Clinical Epidemiology and Evaluation (C2E2)
University of British Columbia
Location: Vancouver, BC
Type of Organization: Academic
Canadian Jurisdictions Served: Canada (federal), British Columbia
Website: http://www.c2e2.ca/

Centre for Health Evaluation & Outcome Sciences (CHÉOS)
Providence Health Care Research Institute, University of British Columbia, and St. Paul’s Hospital
Location: Vancouver, BC
Type of Organization: Academic / Hospital-based
Canadian Jurisdictions Served: British Columbia
Website: http://www.cheos.ubc.ca/

Therapeutics Initiative (TI)
University of British Columbia
Location: Vancouver, BC
Type of Organization: Academic
Canadian Jurisdictions Served: British Columbia
Website: https://www.ti.ubc.ca/

Centre for Health Services and Policy Research (CHSPR)
University of British Columbia
Location: Vancouver, BC
Type of Organization: Academic
Canadian Jurisdictions Served: All
Website: https://chspr.ubc.ca/

WorkSafeBC - Evidence-Based Practice Group
Location: Vancouver, BC
Type of Organization: Provincial
Canadian Jurisdictions Served: British Columbia
<table>
<thead>
<tr>
<th>Title</th>
<th>Director, XXXXX</th>
<th>Other ???</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Signature</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date Approved</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>