Horizon Scanning
Process

CADTH Evidence Driven.

REVISION HISTORY

Periodically, this document will be revised as part of ongoing process improvement activities. The following version control table, as well the version number and date on the cover page, is to be updated when any updates or revisions are made.

Section	Revision Number	Date	Description/Changes Made

TABLE OF CONTENTS

ABBREVIATIONS

CADTH	Canadian Agency for Drugs and Technologies in Health
EHT	Emerging Health Technologies
HS	Horizon Scan/Scanning
HTA	Health Technology Assessment
IEHT bulletin	Issues in Emerging Health Technologies bulletin

1. INTRODUCTION

1.1 About Horizon Scanning

CADTH's Horizon Scanning process identifies and monitors new and emerging health technologies that are likely to have a significant impact on the delivery of health care in Canada. The program systematically summarizes the available information on technologies that are not yet in widespread use here. This means they are either not yet licensed for use in Canada, not yet widely available, or not in routine clinical use. Technologies reviewed that are not yet licensed are typically expected to receive approval from Health Canada within six to eighteen months.

Once technologies are selected, brief summaries are prepared. These describe the intended or anticipated use of the technology, its regulatory status, the patient population, as well as cost, current practice, adverse effects and any relevant implementation issues. These summaries are stored in the program's database where their status is monitored. Database topics may be prioritized and used to develop various horizon scanning products, including Issues in Emerging Health Technologies bulletins as well as other current awareness publications.

1.2 Scope

Any new or emerging health technologies may be suitable candidates for review, including:
- drugs (comprising, but not limited to, biologics, blood products, vaccines, and prescription and non-prescription medicines)
- devices
- diagnostic tests or imaging
- medical interventions or surgical procedures

1.3 Audience

1.3.1 Primary Audience:
CADTH's Horizon Scanning process develops products to support health care decision-makers and health care providers across Canada.

1.3.2 Secondary Audience
Secondary audiences include other health technology assessment agencies and horizon scanning programs, academic researchers, professional associations, patients and patient groups, as well as the general public, and the media.

All publications are freely available, and interested parties can subscribe to horizon scanning products by visiting cadth.ca.

1.4 Purpose and Application for Decision-Making

The purpose of CADTH's Horizon Scanning is to:
- identify and describe the evidence on new or emerging health care technologies that may be important, and
- estimate what their potential impact may be for patient care and for the health care system.

For decision-makers, the program aims to support planning and priority setting by increasing awareness of new and emerging health technologies. It helps them gauge the available information, to better understand the appropriate place of these new technologies in health care.

Horizon scanning products are also intended to assist in the prioritization and allocation of resources, as well as to inform decision-makers of the possible implications of introducing new and emerging health technologies.

Health care providers also can use horizon scanning products to facilitate the appropriate adoption and use of new and emerging health technologies, and to understand their potential risks and benefits of their use. Patients may also use these products to learn about new and emerging health technologies that might affect them.

Horizon Scanning products do not provide recommendations for or against the use of a particular new or emerging health technology, nor are they intended to replace professional medical advice. Readers are cautioned that a lack of good quality evidence does not necessarily mean a lack of effectiveness, particularly in the case of new and emerging health technologies, for which little information may be available, but which may in future prove to be effective.

1.5   Transparency

CADTH aims to be as transparent as possible within its Horizon Scanning program. Stakeholders (see primary audience) may suggest new and emerging topics for review at any time by contacting the CADTH Liaison Officer for their jurisdiction. New and emerging topics filtered by CADTH Horizon Scanning Officers (see 2.1.2) are typically sent to pan-Canadian committees to review and prioritize. Technologies selected for review are listed on the "Projects in Progress" section of cadth.ca prior to publication. The methods and processes used for Horizon Scanning at CADTH are documented online, and all HS products are freely available for download from cadth.ca or via subscription.

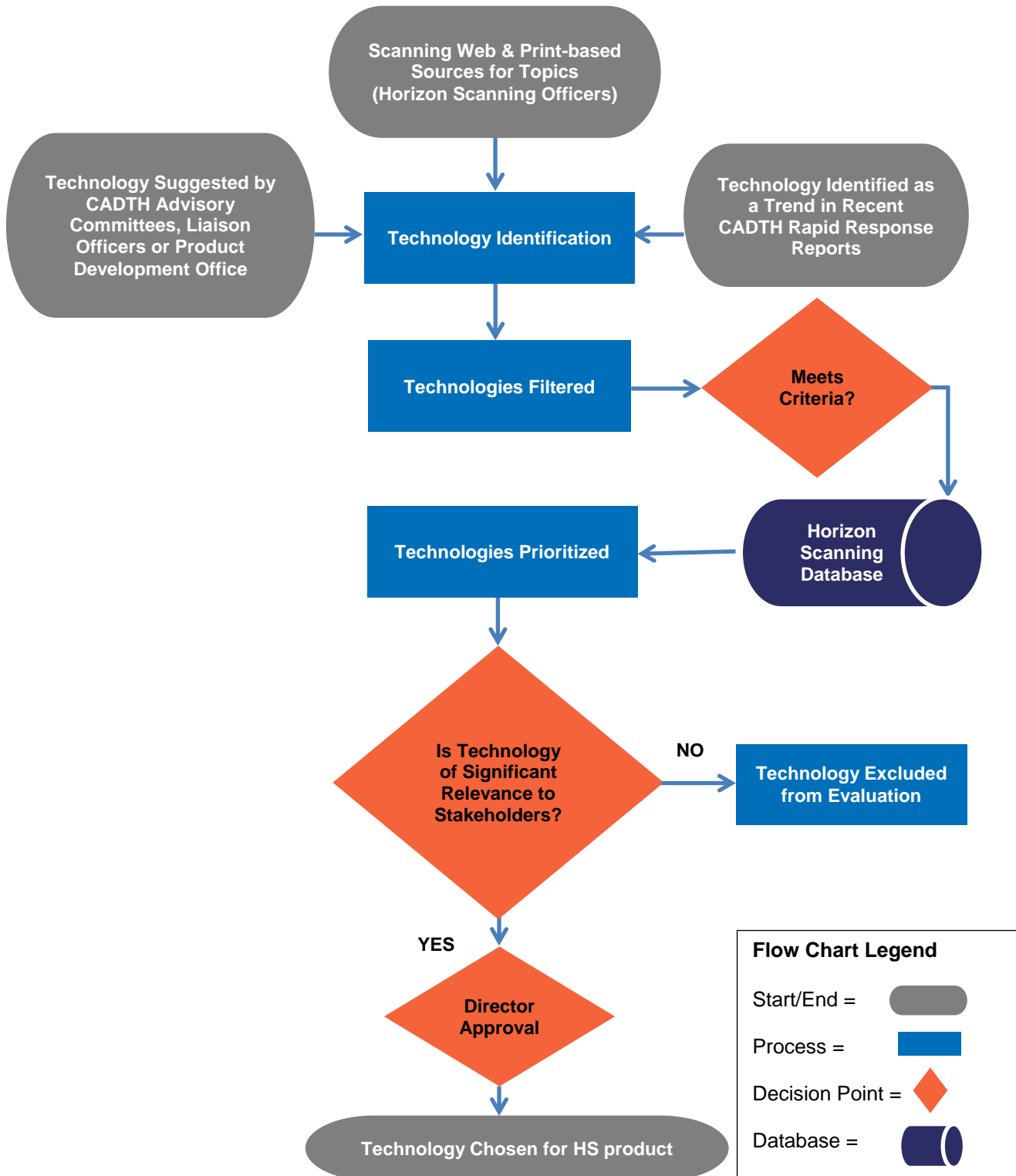## 1.7   Roles and Responsibilities

Program	Role	Responsibilities
Horizon Scanning Program	Horizon Scanning Officer(s)	Responsible for systematically scanning relevant sources of information for emerging or new technologies that may have an impact on the Canadian health care system. Technologies that meet the criteria are added to the HS database for future development. The HS Team meets monthly to examine potential topics, and quarterly to shortlist technologies from those identified during the horizon-scan process. Some short-listed technologies are sent to pan-Canadian committees for prioritization, while others are selected automatically for HS products.
	Pan-Canadian Committees	Members of the following pan-Canadian committees/networks assist in the prioritization/selection of topics chosen to be evaluated: • Drug Policy Advisory Committee Formulary Working Group • Health Technology Strategy Policy Forum • Health Technology Analysis Exchange • Canadian Network for Environmental Scanning in Health (CNESH)
	Director, Strategic Initiatives	Provides final CADTH approval for technologies selected for assessment.

2. PROCESS

Flow Chart

** **Ctrl click** on individual processes for details*

Scanning Web & Print-based Sources for Topics (Horizon Scanning Officers)

Technology Suggested by CADTH Advisory Committees, Liaison Officers or Product Development Office

Technology Identification

Technology Identified as a Trend in Recent CADTH Rapid Response Reports

Technologies Filtered

Meets Criteria?

Horizon Scanning Database

Technologies Prioritized

Is Technology of Significant Relevance to Stakeholders?

NO

Technology Excluded from Evaluation

YES

Director Approval

Technology Chosen for HS product

Flow Chart Legend

Start/End =

Process =

Decision Point =

Database =

2.1 Detailed Horizon Scanning Processes

2.1.1 Technology Identification

Potential new or emerging technologies suitable for horizon scanning products are identified by CADTH staff who systematically search various web-based resources, email news services, print journals, regulatory agencies, HTA databases, and other horizon scanning services (see Appendix 2). Publicly funded Canadian health care decision-makers may also suggest new and emerging technologies by submitting requests to CADTH, or by contacting their jurisdictional CADTH Liaison Officer.

Internal CADTH resources are also used to identify new and emerging technologies, including:
- in-house media monitoring services
- CADTH's Rapid Response Service queries
- CADTH's Board members and advisory committees
- CADTH's Liaison Officers and Program Development Officers

2.1.2 Technologies Filtered

Identified new and emerging technologies are selected for further evaluation by CADTH's Horizon Scanning Team. The team meets monthly for topic filtration and quarterly to shortlist technologies that are collected during the ongoing scanning process. When selecting potential health technologies to either monitor or consider for assessment, the HS team considers the following four criteria:
- Is the technology relevant to the Canadian health care system?
- Is the technology within CADTH's HS timeframe?
- Is the technology innovative?
- Does this technology have the potential to have a significant positive impact on health outcomes or resources?

Technologies that pass through the filtering phase are entered into the Horizon Scanning Database for further investigation.

2.1.3 Horizon Scanning Database

A horizon scanning database is used as a repository for all technologies identified as potentially relevant. The database provides a central resource that can be used to track and monitor new and emerging technologies. The database allows Horizon Scanning Officers to filter for specific technologies or to identify possible trends or emerging themes. Database fields include: name of the technology, identified patient population, approval and regulatory status of the technology, type of technology, as well as medical specialty and clinical setting for use. The database is reviewed on a bi-annual basis to remove any technologies that may no longer fit the definitions of new and emerging technologies.

2.1.4 Technologies Prioritized

The primary purpose of priority setting is to select technologies for more detailed assessment. The technologies selected should be those that are likely to be of significant interest and relevance to CADTH stakeholders. To accurately represent stakeholder interests at the federal, provincial and territorial levels, members of several pan-Canadian committees and networks (listed in section 1.7 above) assist in the prioritization of topics to be evaluated.
These groups are provided with a list of technologies to be prioritized — both drug and/or non-drug, depending on the committee's focus.

The Horizon Scanning Officers prepare a brief summary of the technologies, including a technical description, regulatory status in Canada (and elsewhere if easily accessible), target population, the setting in which the technology is intended to be used and recent clinical evidence. An example is provided below.

| **Valiant Thoracic Stent Graft (with Captivia Delivery System)** Traumatic aortic tears | Aortic dissection is a tear or separation of the layers of the wall of the aorta (the main artery of the body). Treatment usually involves surgical repair or medical management. Thoracic endovascular aortic repair (TEVAR) using mesh stent devices was introduced about 15 years ago, as a minimally invasive alternative to open surgical repair.

The Valiant Captivia device received U.S. FDA approval for the treatment of type B aortic dissections in January 2014. (Devices from other manufacturers are also available.) Data from a multicentre trial of 50 patients, presented at the 2014 annual meeting of the Society for Thoracic Surgery, found a three to four-fold reduction in mortality at 30 days, in comparison to patients who received open surgical repair.
The device is to be used in a surgical setting. It is not currently approved for use in Canada. |

Committee members select the new and emerging technologies that are of the most interest and relevance in their jurisdiction. Technologies receiving the most votes are selected for review. Technologies that appear to be obviously important may also be evaluated without the committee selection process.

2.1.5   Director Approval
Final approval to evaluate a new technology is given by CADTH's Director, Strategic Initiatives.

2.1.6   Horizon Scanning Program Products
Once technologies have been approved for further evaluation they are featured in one of the following Horizon Scanning Program products:
- **Issues in Emerging Health Technologies (IEHT)**: is a series of concise bulletins describing drug and non-drug technologies that are not yet used (or widely diffused) in Canada. Bulletins include a description of the emerging technology, patient indications, regulatory status, adverse effects, costs, anticipated diffusion rates, implementation issues, and a discussion of the reliability and quality of the available evidence. While the bulletins analyze all available data, the evidence base is not developed enough to conduct a meta-analysis of individual trials or any other statistical analysis. Each bulletin is externally reviewed by two or more clinical experts. A more detailed description can be found in the IEHT bulletin process document.
- **Other current awareness publications**, such as the Health Technology Update newsletter, as needed.

APPENDIX 1: DEFINITIONS

CADTH: Canadian Agency for Drugs and Technologies in Health is an independent, not-for-profit organization funded by Canada's federal, provincial and territorial governments. CADTH's role is to deliver reliable, timely and credible evidence-based information and impartial advice to Canada's health care leaders and decision makers through a variety of customized products and services.

Customer: A CADTH customer is an entity or organization that requests CADTH's products or engages CADTH's services. (The customer is most often the first point of contact and requests knowledge from CADTH. The customers' needs may vary with specific topics, and they may request and/or choose between different products, services and suppliers. By expressing their needs, the customers drive the knowledge that CADTH produces.)

Emerging: Emerging pharmaceuticals are usually at the Phase II or III clinical trials or pre-launch stage. Emerging medical devices are at the pre-marketing stage, or are within six months of being marketed, or have already been marketed, but only in a few centres (less than 10%, for example). What is involved may also be a change in indication or use of an existing technology.

Health Technology: These technologies are inclusive of drugs, medical devices, diagnostics (such as tests), procedures, programs, settings and public health activities.

Horizon Scanning: The systematic identification of new and emerging health technologies that have the potential to impact health, health services, and/or society, and which might be considered for Health Technology Assessment.

Jurisdictions: Include the federal, provincial and territorial health ministries from across Canada.

Liaison Officer: CADTH staff member who works closely with stakeholders in provincial and territorial jurisdictions, and who supports decision-makers' access to and use of evidence-informed drug and health technology information. Liaison Officers contribute to enhanced communications between CADTH and the jurisdictions, and they highlight local needs, issues, and priorities that can guide program development, service delivery, and improvement, to ensure that CADTH's products and services remain responsive and relevant.

New: a health technology in the launch or early post-marketing stages of diffusion.

Product: a deliverable that is provided to a customer, is quantifiable, and can be either an item itself or a component of a larger item.

Stakeholders: organizations, institutions or individuals who have a strong and vested interest in specific CADTH projects and their outcomes. Stakeholders may include:

- Federal / Provincial / Territorial Ministries of Health;
- Hospitals and Health Institutions;
- Health Regions;
- Patients, Consumers and Caregivers;
- Health Professionals; and
- Industry.

Topic: a health technology or clinical or disease area that is being, has been, or will be investigated by CADTH to determine the suitable product or service to be provided. Essentially, it is project idea that is being developed. The topic investigation could result in multiple products, projects or requests.

APPENDIX 2: SOURCES OF INFORMATION COMMONLY USED FOR HORIZON SCANNING

Sources of Information for Horizon Scanning				
Source title	**Scanning frequency**	**Technology classification**	**Medical Speciality**	**Web link**
Regulatory Agencies				
US FDA: devices US FDA: drugs UK MHRA EMA	Quarterly Quarterly Quarterly Quarterly	Device Drug Drug/Device Drug	Various Various Various Various	http://1.usa.gov/1kuuBSr http://1.usa.gov/1hIRtda http://www.mhra.gov.uk http://www.ema.europa.eu/ema/
Clinical Trial Registries				
ClinicalTrials.gov	Bi-annually	Drug/Device/Procedure	Various	http://clinicaltrials.gov/
WHO International Clinical Trials Registry Platform	Bi-annually	Drug/Device/Procedure	Various	http://www.who.int/ictrp/search/en/
News Alerts				
Medpage Today	Daily	Drug/Device/Procedure	Various	http://www.medpagetoday.com/
Medical Device Daily	Daily	Device	Various	http://www.medicaldevicedaily.com/
Medgadget	Daily	Device	Various	http://www.medgadget.com/
Science Daily	Daily	Drug/Device/Procedure	Various	http://www.sciencedaily.com
Fierce Medical Devices	Daily	Device	Various	http://www.fiercemarkets.com/
PharmaTimes	Weekly	Drugs	Various	http://www.pharmatimes.com/
Bioresearch Online	Daily	Drug/Device	Various	http://www.bioresearchonline.com
Rehab Management Today	Daily	Device/Procedure	Various	http://www.rehabpub.com/
FDA Weekly Digest Bulletin	Weekly	Drug/Device	Various	http://1.usa.gov/1gOOnT5
AHRQ Bi-Weekly Digest	Bi-Weekly	Drug/Device	Various	http://pbrn.ahrq.gov/pbrnews
Medical Journals				
BMJ	Weekly	Drug/Device/Procedure	Various	http://www.bmj.com/content/
Lancet	Weekly	Drug/Device/Procedure	Various	http://www.thelancet.com/journals/lancet/onlinefirst
JAMA	Weekly	Drug/Device/Procedure	Various	http://jama.jamanetwork.com/issue.aspx

Sources of Information for Horizon Scanning				
Source title	**Scanning frequency**	**Technology classification**	**Medical Speciality**	**Web link**
New England J Med	Weekly	Drug/Device/Procedure	Various	http://www.nejm.org/toc/nejm/medical-journal
Journal of Medical Devices	Quarterly	Devices	Various	http://medicaldevices.asmedigitalcollection.asme.org/journal.aspx
Assistive Technology	Quarterly	Device	Various	https://resna.org/at-journal/
Evidence-Based Mental Health	Quarterly	Drug/Device/Procedure	Mental Health	http://ebmh.bmj.com/
Journal of Pain	Monthly	Drug/Device/Procedure	Chronic Pain	http://www.jpain.org/current
Conference Proceedings				
American Society of Clinical Oncology (ASCO)	Annual	Drug/Device/Procedure	Cancer	http://am.asco.org/
American Academy of Pain Medicine	Annual	Drug/Device/Procedure	Chronic Pain	http://www.painmed.org/AnnualMeeting/Main.aspx
International Mental Health Conference	Annual	Drug/Device/Procedure	Mental Health	http://anzmh.asn.au/conference/
American Heart Association Conference	Annual	Drug/Device/Procedure	Cardiology	http://my.americanheart.org/professional/Sessions/ScientificSessions/Scientific-Sessions_UCM_316900_SubHomePage.jsp
American College of Rheumatology Conference	Annual	Drug/Device/Procedure	Rheumatology	http://www.rheumatology.org/
American Diabetes Association Conference	Annual	Drug/Device/Procedure	Diabetes	http://professional.diabetes.org/Congress_Display.aspx?TYP=9&CID=93229
International Technology and Persons with Disabilities Conference	Annual	Device/Procedure	Disability	http://www.csun.edu/cod/conference/2014/sessions/index.php/public/website_pages/view/5
International Conference of Neurorehabilitation	Annual	Device/Procedure	Rehabilitation	http://icnr2014.org/special-sessions.aspx
Horizon Scanning Services				
Euroscan	Quarterly	Drug/Device/Procedure	Various	http://euroscan.org.uk/
CADTH	Quarterly	Drug/Device/Procedure	Various	http://www.cadth.ca/en/products/environmental-scanning

Sources of Information for Horizon Scanning				
Source title	**Scanning frequency**	**Technology classification**	**Medical Speciality**	**Web link**
AHRQ	Quarterly	Drug/Device/Procedure	Various	http://effectivehealthcare.ahrq.gov/index.cfm/who-is-involved-in-the-effective-health-care-program1/ahrq-horizon-scanning-system/
UK NIHR NHSC	Quarterly	Drug/Device/Procedure	Various	http://www.hsc.nihr.ac.uk/
NICE Medtech Innovations	Quarterly	Device/Procedure	Various	http://www.nice.org.uk/mib
HealthPact	Quarterly	Device/Procedure	Various	http://www.health.qld.gov.au/healthpact/
The Oxford Centre for Monitoring and Diagnosis in Primary Care	Quarterly	Diagnostics	Various	http://madox.org/horizon-scanning-reports
Miscellaneous				
Company websites	As required	Drug/Device/Procedure	Various	
Cleveland Top 10	Annual	Drug/Device/Procedure	Various	http://summit.clevelandclinic.org/Top-10-Innovations.aspx
ECRI Top 10	Annual	Drug/Device/Procedure	Various	https://www.ecri.org/Forms/Documents/ECRI_Institute_Top_10_C-Suite_Watch_List_Hospital_Technology_Issues_for_2012.pdf
CNESH Top 10	Annual	Drug/Device/Procedure	Various	http://www.cadth.ca/en/products/environmental-scanning/overview/cnesh
Pipeline reports	As required	Drug/Device/Procedure	Various	
White papers	As required	Drug/Device/Procedure	Various	
Government reports	As required	Drug/Device/Procedure	Various	