

# **CADTH Medical Devices and Clinical Interventions Portfolio Information Session**

Monday, November 25, 2019

10:00 a.m. to 12:00 p.m.

**CADTH**

# Overview of the Agenda

TOPIC	LEAD
Welcome and Strategic Overview	Brian O'Rourke
An Overview of CADTH's Medical Devices and Clinical Interventions Portfolio	Harindra Wijeyesundera
New Initiatives a) Condition-Level Reviews b) Medical Imaging c) Digital Health	Lesley Dunfield Andra Morrison Chris Kamel
Program Changes a) Getting the Question Right b) Getting the Answer Right	Harindra Wijeyesundera Lesley Dunfield Chris Kamel
Patient Engagement at CADTH	Nicole Mittmann
Open Forum	Brian O'Rourke
Wrap Up	Brian O'Rourke

# Presenters

- **Brian O'Rourke**, President and CEO
- **Harindra Wijeyesundera**, VP, Medical Devices & Clinical Interventions
- **Lesley Dunfield**, Director, HTA and Program Development
- **Chris Kamel**, Director, HTA and Rapid Response
- **Andra Morrison**, Program Development Officer
- **Nicole Mittmann**, Chief Scientist & VP, Evidence Standards

# Questions

- Questions of clarification after each agenda item
- Open Forum at the end of the session
- In-person:
  - Please use a microphone for the benefit of on-line participants
- On-line:
  - Use the question feature on the livestream toolbar

# CADTH Succession Planning

- The CADTH Board of Directors is conducting a search for a new President and CEO.
- Contracted Boyden to support the search
- New President and CEO to be in place prior to March 31, 2020

# Federal Government Priorities

- Cabinet announced on November 20, 2019
  - **Patty Hajdu**, Member of Parliament for Thunder Bay-Superior North, is the new Minister of Health
- Updated Health Minister mandate letter expected within two weeks.

# ISPOR 2019 Top 10 HEOR

1

## DRUG SPENDING AND PRICING

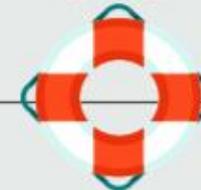
This subject has expanded beyond the pricing of pharmaceuticals to encompass drug spending and its impact on payers' healthcare budgets.



2

## GOING BEYOND UNIVERSAL HEALTH COVERAGE

Universal healthcare cannot be universal without ensuring that patients do not face undue barriers to accessing healthcare.



3

## REAL-WORLD EVIDENCE

There is increasing interest and potential for converting real-world data into real-world evidence to inform healthcare decision making.



4

## AGING POPULATION

Elder care and long-term care will continue to be global healthcare challenges as the number of people in the world aged 60 years or older continues to grow.



5

## PRICE TRANSPARENCY: NOT JUST ABOUT DRUGS

The lack of transparency in the pricing of healthcare services impedes consumers' healthcare decision making.



# ISPOR 2019 Top 10 HEOR

6

## “BIG DATA” CONTINUE TO MAKE NOISE

The use of “big data” can assist clinicians in making better healthcare decisions for their patients.



7

## VALUE ASSESSMENT FRAMEWORKS

Value assessment frameworks can be an important element in moving towards a more value-based care model.



8

## HEALTHCARE DECISION MAKING IN LOW-INCOME COUNTRIES

The difference between health technology assessment use by high-income and low-income countries is notable.



9

## PERSONALIZED/PRECISION MEDICINE

As researchers continue to determine the roles that genes play in diseases, HEOR will be needed to evaluate the diagnostics and drugs derived from their discoveries.



10

## UNHEALTHY BEHAVIORS

The root causes of many chronic diseases include a host of unhealthy behaviors that lead to a variety of diseases responsible for the majority of all deaths worldwide.



# International HTA Activities

- **INAHTA**
  - New definition for HTA
  - Global collaborative on RWE
  - Harmonization of HTA and guidelines (G-I-N)
- **HTAi**
  - Annual conference in Beijing
  - Global Policy Forum – deliberative Frameworks
- **CIRS**
  - Managing uncertainty
- **ISPOR**
  - HTA roundtables
  - Cumulative budget impact
  - Value assessment of medical devices
- **Miscellaneous**
  - Paying for combination regimens in oncology
  - ICER-NICE-CADTH collaboration

# **An Overview of CADTH's Medical Devices and Clinical Interventions Portfolio**

**CADTH**

PROGRAMS AND SERVICES

# HEALTH TECHNOLOGY MANAGEMENT PROGRAMS

- Rapid Response Service
- Health Technology Assessment Service
- Optimal Use Service
- Environmental Scanning
- Horizon Scanning



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# Assessment Products



# Rapid Response: Products



# Rapid Response: Customers

- Federal government
- Provincial governments
- Regional health authorities
- Hospitals
- *Professional Societies*
- *Choosing Wisely*

# Health Technology Assessment

Effectiveness Review



Economic Analysis



Patient perspectives  
and experiences



Ethics



Legal



Environmental  
Impact



Implementation



# Optimal Use

- HTA with recommendations
- Policy and practice decisions
- Inform appropriate use
- Recommendations developed by an expert committee
- Knowledge mobilization

# Horizon Scanning



# Horizon Scanning

- Informs HTA development
- Preparedness
- Overviews
- Early assessments

# Environmental Scanning

- Standalone reports or HTA-linked
- Snapshot of current context or practice across Canadian jurisdictions and beyond
- Methods: literature review, survey, consultations

# Newer Initiatives

- Tailored, custom HTA
- Horizon scanning expansion
- Collaborative projects
  - With other HTA bodies across Canada
  - Pan-Canadian HTA collaborative
- Condition Level Reviews

# Condition-Level Reviews

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# Condition-level reviews

CADTH Evidence Driven.

CADTH

## **OBJECTIVE 6: Advance initiatives across the health technology life cycle that will improve access, appropriate use, and affordability**

...CADTH will introduce a framework for assessments that addresses care pathways composed of multiple drugs, devices, and interventions. Such assessments could be specific to an episode of care or to a particular disease state.



# Condition-level reviews

- Condition-level reviews are intended to inform decision making about the management of a condition, rather than a single intervention
  - Could include prevention, screening, diagnosis, treatment, follow-up
- Interventions, whether classified as a drug or a non-drug intervention, will be incorporated as relevant to the topic

# Existing products

- Tailored
- Varying methods and products
- De novo systematic review
- Updated systematic review (internal or external)
- Broker existing systematic review
- Rapid response

# New products

- Summary document
- Contextualized options documents

# Topic selection

- Considered:
  - Current priorities
  - Emerging issues
  - Multiple dimensions
  - More than one treatment option
- Selection based on:
  - State of literature
  - Feasibility

# Topics

- Concussion
- *C. difficile*
- Lyme disease
- Tuberculosis

# Concussion

- 46,000 diagnosed concussions in youth (2016-2017)
- 15%-25% - persistent symptoms
- Pharmacological and non-pharmacological interventions
- Diagnosis
- Treatment – immediate and persistent

# *C. difficile* infection

- Most common cause of infectious diarrhea in hospitalized patients
- Varying provincial and hospital formulary coverage of newer drug therapies
- Emerging treatments
- Recent guideline updates and new terminology

# Lyme Disease

- Increasing incidence
- Problematic interpretation of diagnosis
- Unclear guidelines on definitive diagnosis
- Variability in follow up procedures
- Variability in treatments
- Uncertainty about management of latent disease

# Tuberculosis

- Active vs latent TB
- Drug resistant TB
- Adherence support
- Identifying those at high risk
- Optimal treatment regimens
- New treatment regimens
- New diagnostic tests

# Status & Next Steps

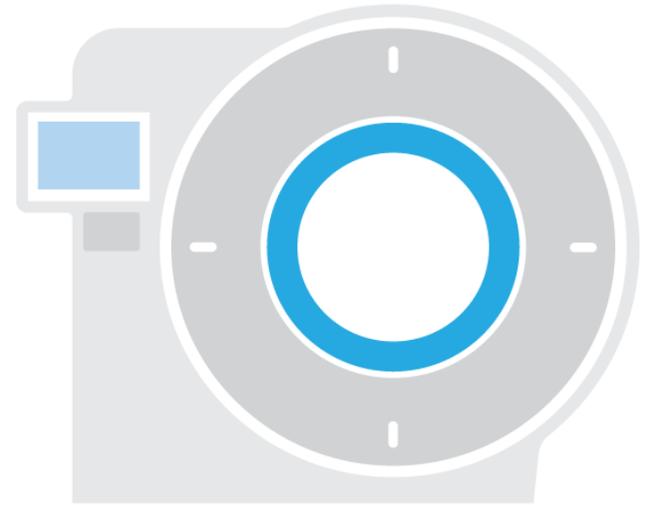
- Tuberculosis Condition-Level Review
  - Focus groups
  - Gaps
  - Compiling existing evidence
- Lyme Disease
- *C. difficile*
- Concussion
- New topics

# Medical Imaging

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# CMII

- What is it:
  - purpose
  - coverage
  - uses
- Next steps:
  - what's new
  - next report
  - pilot service



# CMI: What is it?

## National biennial survey:

- **Access data:** Number and location of modalities & cyclotrons
- **Usage data:** Hours of use and purpose of use
- **Technical data:** unit specifications, PACS access



# Purpose of the CMII

- Guide strategic planning
- Identify gaps in service
- Informs appropriate use
- Anticipate future demand
- Inform purchasing decisions
- Encourage collaboration
- Informs HTA agendas



# Access data: number and location



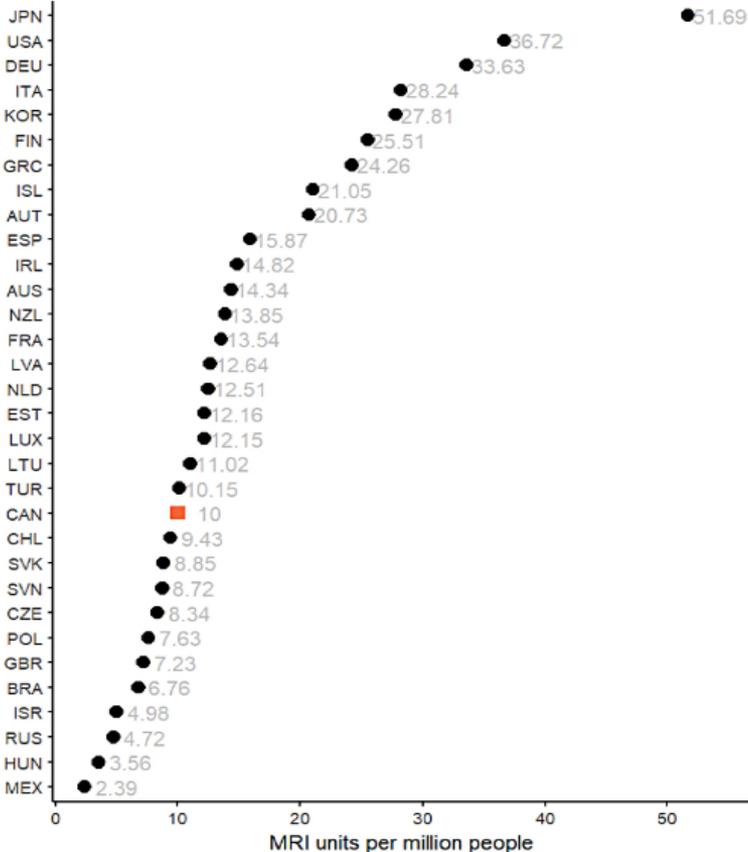
# Uses of access data

- Identify underserved locations and gaps in service
- Inform appropriate deployment of new equipment to help reduce bottlenecks that impede access to other medical specialists
- Inform implementation strategies aimed at wait list reductions
- Facilitate personalized patient care based on a patients proximity to optimal imaging equipment
- Helps planning for contingency care

# International comparison

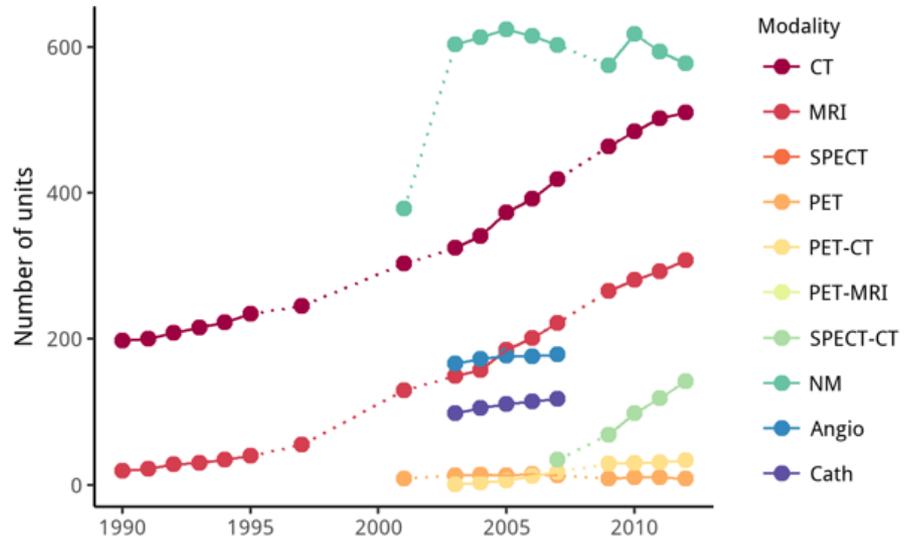
Figure 12: Comparison of Canadian and International Data for MRI: Total units per Million People

Provides data for OECD, allowing comparison with other countries



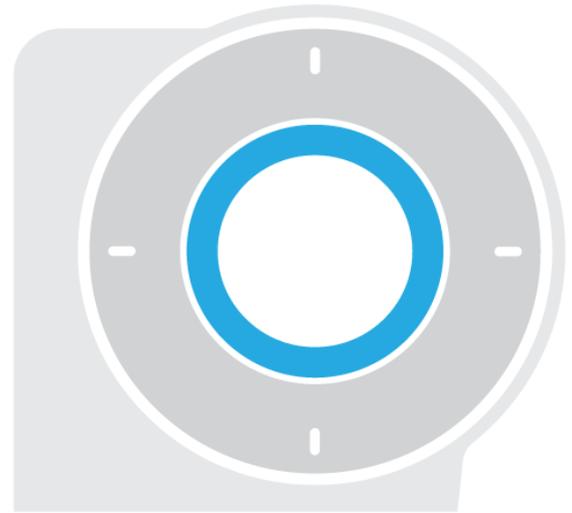
# Monitor Trends

- Monitor the adoption/ disinvestment of advanced medical imaging
- Track the integration of support tools (AI, CDST)
- Forecast future demand



# Usage data

- **Hours of operation:**
  - 24 hour and weekend services
  - hours per day, hours per week, planned downtime
- **Exams conducted:**
  - number of exams
  - type of exams – disease types
  - diagnostic vs interventional use
  - radiation therapy

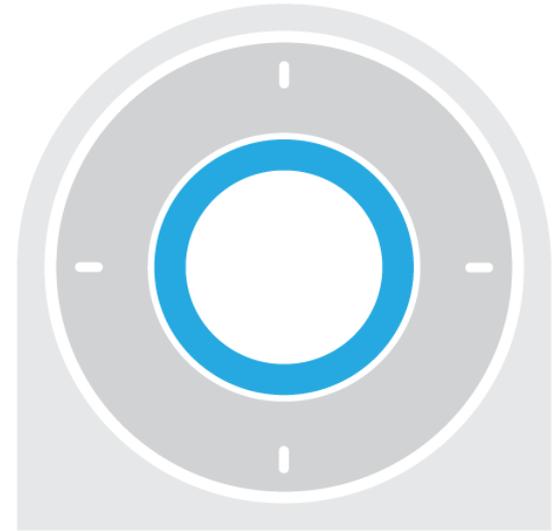


# Uses of usage data

- **Supports system efficiencies by identifying:**
  - Overburdened equipment that may require more maintenance or replacement
  - Under-burdened equipment that can help reduce wait times by diverting patients to under-used sites
  - Factors that may contribute to workflow efficiencies and process-improvement strategies
- **Provides insight on appropriate use**
  - How equipment is used
  - Who can order exams
  - Exam ordering practices

# Technical data

- **Equipment age**
- **Make/model**
- **Plans for new installations**
- **Decommission/replacement**
- **Mobile units**
- **Appropriateness of imaging**
- **Safety features**
  - Radiation dose management controls
  - Recording of patient radiation dose per exam
- **Modality specific:**
  - Field strength/configuration (MRI)
  - Slices (CT)
  - Imaging scope (PET)



# Uses of technical data

- Age of equipment
- Can locate specialized equipment
- Uptake of radiation dose reduction tools
- Purchasing trends



# Next Steps

- New report
- Imaging in rural and remote communities
- Service pilot

**Digital Health**

**CADTH**

# Why Digital Health?

- Lots of new and emerging technologies
- Challenging to evaluate
- Impact across conditions
- Potential to improve care and access outside traditional settings

# What is Digital Health?

Digital Health is:

- A cultural transformation
- Using data to empower patients and clinicians
- New options for the prevention, diagnosis, and management

Includes: mHealth, wearables, telehealth and telemedicine, and personalized medicine.

More Evidence Bundles

Evidence Related to Rural and  
Public Health

Dental Health



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ISSUE 22 | OCTOBER 2018



Photo: iStock/from2015

## Artificial Intelligence Issue

This issue of *Health Technology Update* features brief

summaries of information on a range of artificial

### TECHNOLOGIES IN THIS ISSUE:

IDx-DR: Automated Screening  
for Diabetic Retinopathy  
Page 4

Chatbots: AI-Based Delivery of  
Therapy or Coaching for Mental  
Health Conditions  
Page 7

Using Artificial Intelligence for  
Stroke in the Emergency Setting  
Page 10

Detection of Cognitive Impairment  
and Dementia with Artificial  
Intelligence  
Page 13

FOCUS ON:  
**ARTIFICIAL INTELLIGENCE IN  
POPULATION AND PUBLIC HEALTH**  
Page 16

ity

# Challenges

- What to assess
  - Number of technologies (300,000 health apps alone, by one estimate)
  - Function- or risk-based
- When to assess
  - Short development times or frequent updates; Machine learning
  - Lifecycle approach to assessment
- How to assess
  - Different types or sources of evidence
  - Increased focus on elements outside clinical and cost-effectiveness

# Ongoing Collaborations

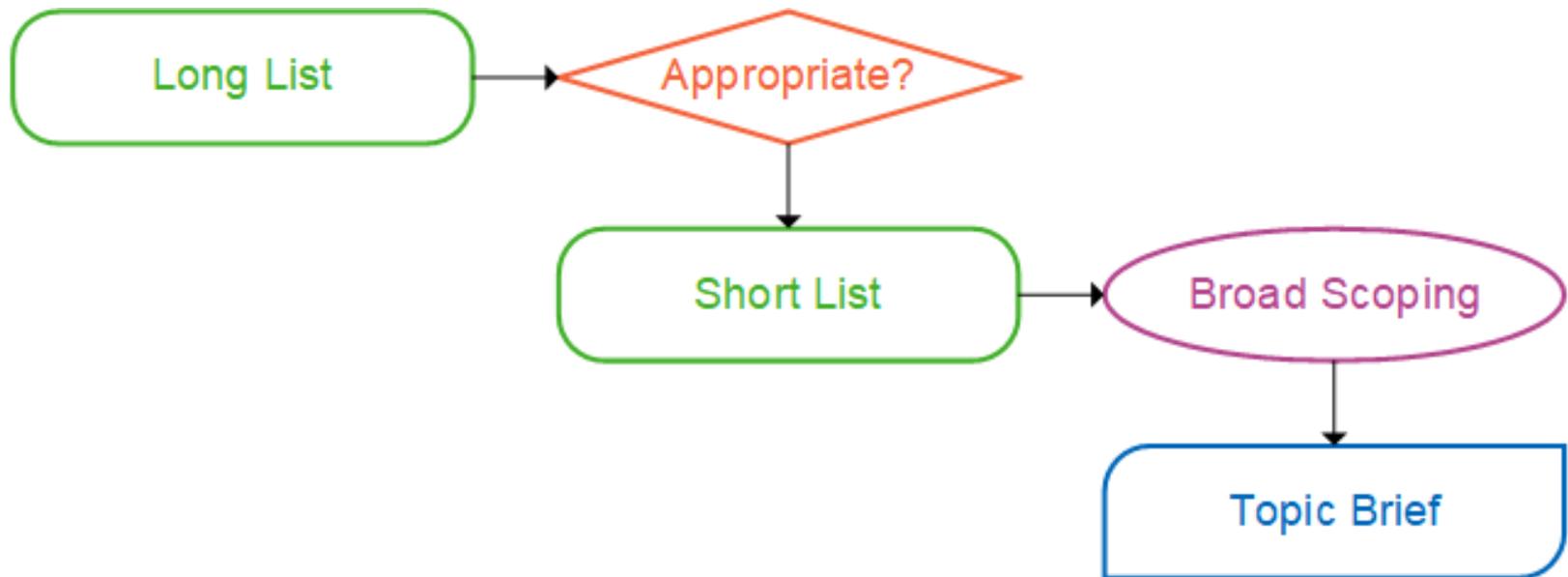
- Health Canada
- Mental Health Commission of Canada
- Canada Health Infoway

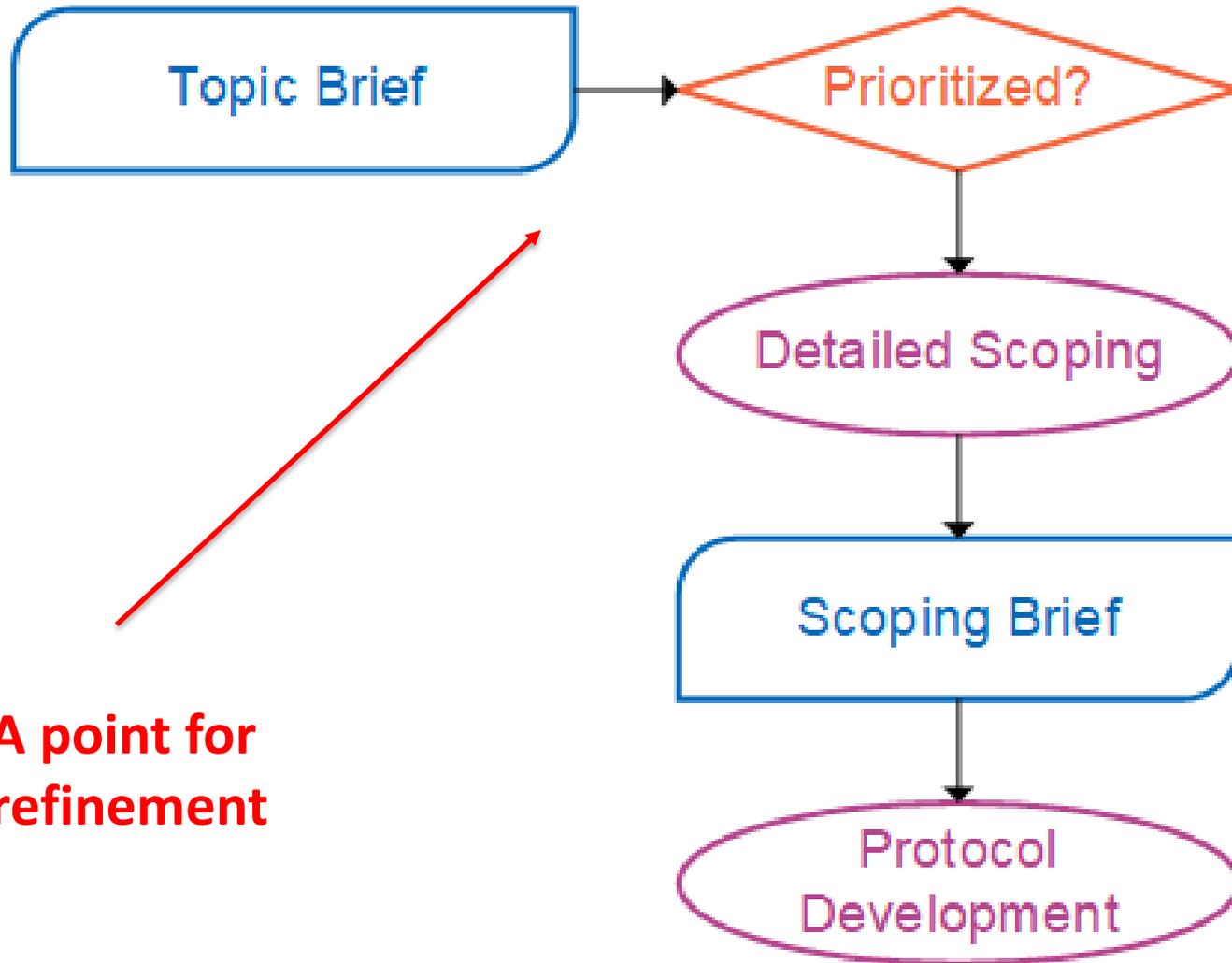
# Getting the Question Right

**CADTH**

# Why is getting the question right important?

- Timeliness
- Relevance
- In the medical device/clinical intervention space, the relevant decision problem is not always “should be adopt?”
- And even if it is, it is not always the case that all components of our deliberative framework are necessary to answer the decision problem.



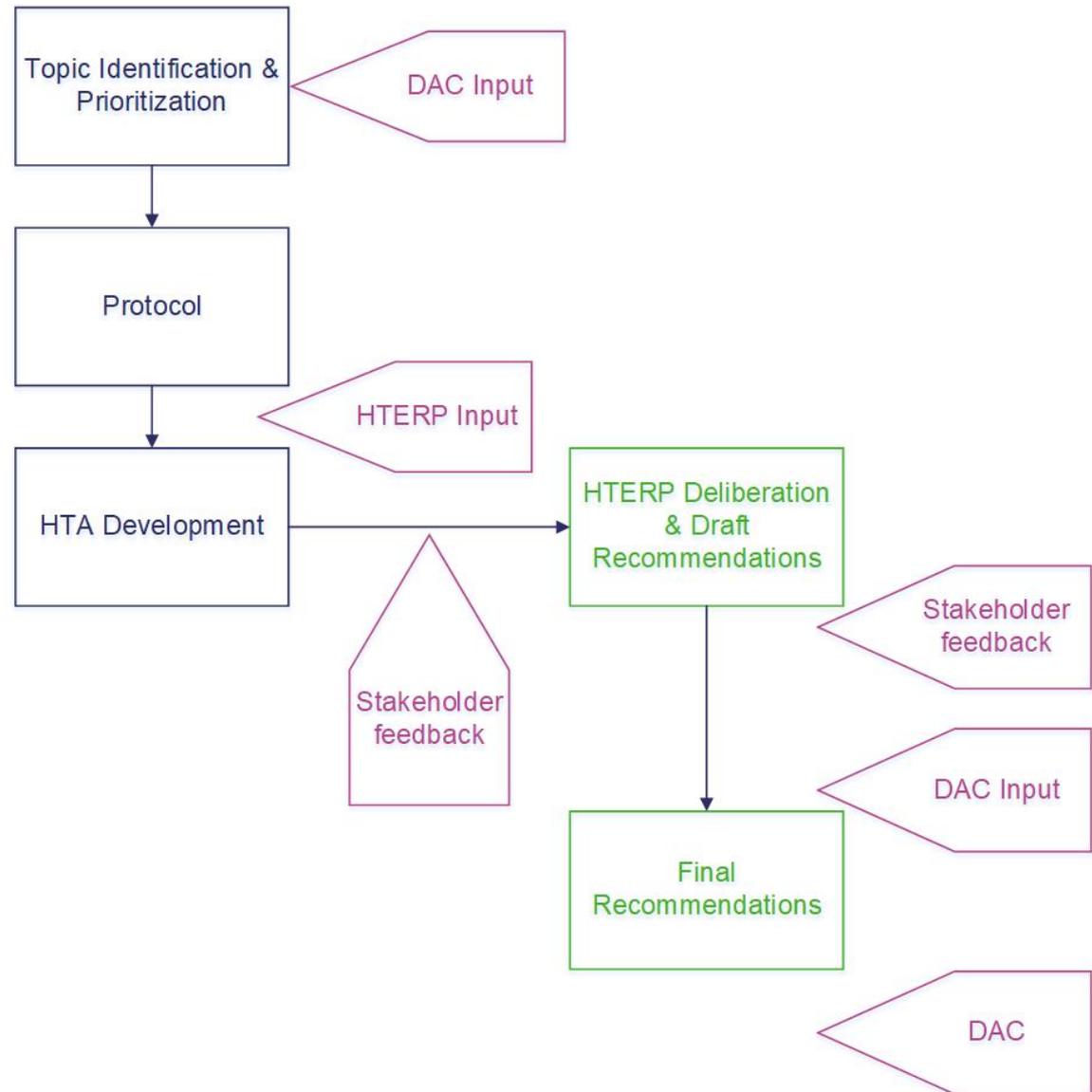


**A point for  
refinement**

# The Device Advisory Committee (DAC)

- Meets quarterly
- Discusses topic briefs
- Analogous to a focus group: **CADTH listens**
  
- Chair: Blair O'Neil
  - Jurisdictional members
  - Academic members
  - Expertise based members
    - Procurement, health profession, patient

# The Device Advisory Committee (DAC)



# Getting the Answer Right

**CADTH**

# Health Technology Assessment

Effectiveness Review



Economic Analysis



Patient perspectives  
and experiences



Ethics



Legal



Environmental  
Impact



Implementation



## CADTH ISSUES IN EMERGING HEALTH TECHNOLOGIES

Policy questions:

What evidence is available on the clinical, behavioural, psychosocial outcomes, and quality of life of residents of dementia villages?

What clinical, economic, social, ethical, and other issues should be considered by jurisdictions interested in implementing this model of care within the public health care system in Canada?



*De Hogeweyk, Weesp, the Netherlands*

Photo copyright De Hogeweyk. Reproduced with permission from Be the Hogeweyk Care Concept.

# Dementia Villages

CADTH

HTERP advises that:

- Although further research and evaluation are needed, dementia villages may have a place within the continuum of dementia care in Canada.
- Built environment and living environment characteristics should be considered when developing or funding residential care facilities for individuals with dementia who can no longer be supported in their own homes.
- Before adopting new design standards or models for residential care, decision-makers should consider the potential impacts on equity of access.

# Remote monitoring

- How remote monitoring could be used
- How programs can be implemented
- Who should use them
- Care in the community
- Safety
- Effect on health system usage

# Remote monitoring

Effectiveness Review



Economic Analysis



Patient perspectives and experiences



Ethics



Legal



Environmental Impact



Implementation



# E-consult

- Implementation
- Costs
- Affect on workflow and patient care

# E - Consult

Effectiveness Review



Economic Analysis



Patient perspectives and experiences



Ethics



Legal



Environmental Impact



Implementation



# Health Technology Assessment

Effectiveness Review



Economic Analysis



Patient perspectives  
and experiences



Ethics



Legal



Environmental  
Impact



Implementation



# Patient Engagement at CADTH

**CADTH**

# 2018 Listening Exercise for Future Direction

*Patient  
Community  
Liaison Forum*

*How can we  
greater involve  
patients, patient  
groups and  
communities in  
our work?*

*9 CADTH directors*

*4 patient and public  
committee members  
from pERC, CDEC and  
HTERP*

*28 patient groups  
involved with  
CADTH*

# We Heard

## Greater Engagement:

- Meaningful, respectful engagement
- Need for greater diversity of voices
- Greater interaction with expert committees and CADTH researchers
- Involvement in CADTH governance
- Input and engagement measured to demonstrate impact

## To Be Supported:

- Travel awards to CADTH symposium much appreciated
- Clear guidance on what is helpful or seen as biased
- Awareness raising of CADTH and role for patient perspectives in assessments
- Help preparing / refining patient input

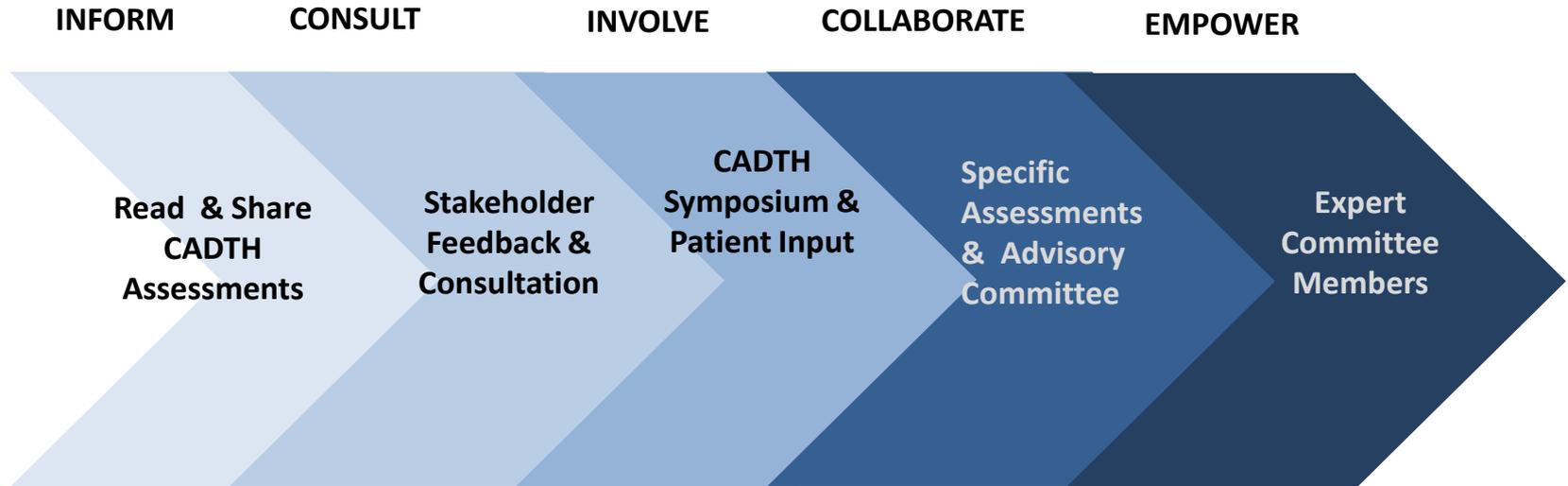
# CADTH Patient and Community Advisory Committee

- The Committee will advise CADTH across all programs:
  - Help CADTH to explore the voices we're hearing from and not hearing from
  - Help us explore approaches to strengthen how we currently engage and how we could engage differently
  - Provide advice on approaches to enhance the transparency of CADTH processes
  - Provide patient and public perspectives to CADTH in the development of initiatives to improve the appropriate use of drugs and devices across the life cycle of health technologies

# CADTH Patient and Community Advisory Committee

- Advisory Committee adds to CADTH's existing approaches to hear from patients and patient groups
  - We still have patient and public members on our expert committees
  - We continue to rely on patient groups to provide patient input
  - We continue to rely on patient groups to comment in stakeholder consultation
  - We continue to rely on individual patients to contribute to Scientific Advice and individual projects

# Become Involved with CADTH



Based on the Spectrum of Public Participation, the International Association for Public Participation ([IAP2](#))

# Participate in CADTH Symposium

- Attend in person or watch live sessions on CADTH
- Question or comment #CADTHSymp
- Present a poster, give a presentation, or join a panel
- Planning committee
- 25 abstracts submitted by members of the patient community for 2019 Symposium



Travel Award Application by  
**December 10, 2019**  
for 2020 CADTH Symposium  
April 19 – 21 in Toronto

# Contribute to CADTH Assessments

Individuals and/or groups **work with CADTH teams** for:

- HTA/OU Projects (medical devices and procedures)
- Horizon and Environmental Scans
- Scientific Advice

Groups provide **Patient Input** on specific drugs for:

- Common Drug Review
- pan-Canadian Oncology Drug Review
- CAR T-cell projects

[SEARCH](#)

# What does the evidence say?

When Canada's health care decision-makers need to know, they ask CADTH. We're a trusted source for evidence on drugs and medical devices.

**How can we help you with your next decision?**

Want to browse reports and resources on high-interest topics? Visit our Evidence Bundles.

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# Patient and Community



Find the information you need

SEARCH

[Home](#) ▶ [Patient and Community Engagement](#)

## Patient and Community

[Become Involved](#)

[Common Acronyms](#)

[Framework for Engagement](#)

[Patient Involvement in Organizational Governance](#)



CADTH seeks patient perspectives to improve the quality of our assessments of medical procedures, devices, and drugs. Patients, families, and communities can offer insight on the diversity of individual needs and health care settings across Canada. CADTH's recommendations on publicly funded devices, procedures, and drugs impact Canadian patients. So, it makes sense that patients and the public be aware of, and involved in, our work.

We have many opportunities for individuals, patients, families, and caregivers — and for patient groups and Canadian communities — to read, contribute to, and shape our work. We explain in our engagement framework why we engage with patients, families, and communities across our different programs and processes. We're aware that patient and community engagement practices are rapidly developing and, as we learn from our own and others' experiences, CADTH approaches may change as a result.

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[CADTH Symposium](#) →

[Patient Input and Feedback to CADTH Pan-Canadian Oncology Drug Review](#) →

[Patient Input to CADTH Common Drug Review](#) →

[Patient and Community Advisory Committee](#) →

# CADTH Expert Review Committees

- CADTH has three expert review committees.
- Committees develop reimbursement recommendations for the optimal use of drug and non-drug interventions in Canada.
- Drug committees meet on a monthly basis; non-drug committee meets approximately four times per year (with webinars as needed).
- Deliberations that occur during these meetings are a key step in the development of recommendations for the optimal use of drug and non-drug interventions in Canada.
- Deliberations are guided by deliberative processes and frameworks.

# CADTH Expert Review Committees

- The three CADTH committees share many similarities in their deliberative processes and frameworks with some differences.
- CADTH is currently assessing the deliberative processes and frameworks that are in place for the three CADTH committees to identify if there are opportunities for improvement or alignment.
- While related to the pCODR and CDR alignment work, the assessment will also include considerations for the non-drug expert review committee.

# CADTH Expert Review Committees

To inform this work, CADTH is:

- Undertaking an internal review and assessment of our advisory committees' deliberative processes and frameworks;
- Reviewing the literature and liaising with external organizations and experts to discuss best practices and practices globally;
- Participating in the Center for Innovation in Regulatory Science (CIRS) – Quality of Decision Making study;
- Participating in the HTAi 2020 Global Policy Forum Meeting which will discuss principles for deliberative processes in HTA.

# CADTH Expert Review Committees

## CIRS – Quality of Decision Making Study

- CIRS developed a 47-item Quality of Decision-Making Orientation Scheme (QoDoS) instrument to assess organizational and individual level decision-making practices in pharmaceutical companies, regulatory agencies, and HTA agencies (Bujar et al.).
- QoDoS is used to determine the factors that influence decision making within organisations.
- The instrument is meant to increase individual decision-maker knowledge, to allow for internal monitoring, and for external benchmarking to other agencies.
- CADTH committees are participating in the study.

# CADTH Expert Review Committees

## HTAi Global Policy Forum Meeting January 2020

- Meeting scheduled for January 2020 in New Orleans.
- Objective of the meeting is to discuss principles for deliberative processes in Health Technology Assessment.
- Backgrounder was open for consultation until November 18<sup>th</sup> 2019 (<https://htai.org/blog/2019/11/05/2020-htai-global-policy-forum-background-paper-consultation/>)

# CADTH Expert Review Committees

## Anticipated Timelines

- January 2020: HTAi Global Policy Forum Meeting
- February/March 2020: CIRS Quality of Decision Making Study Results
- February/March 2020: Completion of literature review and discussions with external organizations and experts
- April 2020: Recommendations

# About CIRIS

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## **Mission**

To maintain a thought leadership role in identifying and applying scientific principles for the purpose of advancing regulatory and HTA policies and processes

CIRIS provides a **neutral, independent, international** forum for industry, regulators, HTA and other healthcare stakeholders to meet, debate and develop regulatory and reimbursement policy through the innovative application of regulatory science

## **Key International Stakeholders**

23 member companies (Top-20 international, research-based):  
9 (USA), 11 (EU), 3 (Japan)  
47 Medicine Regulatory Agencies  
22 HTA/Payer Agencies

## **Self-supporting** operated as a nonprofit. Financed by:

Member Company annual membership fees  
In-kind support by Agencies  
Special projects  
Grants (e.g., from HTA and regulatory agencies, BMGF, APEC etc)

**Open Forum**

**CADTH**

**Wrap Up**

**CADTH**

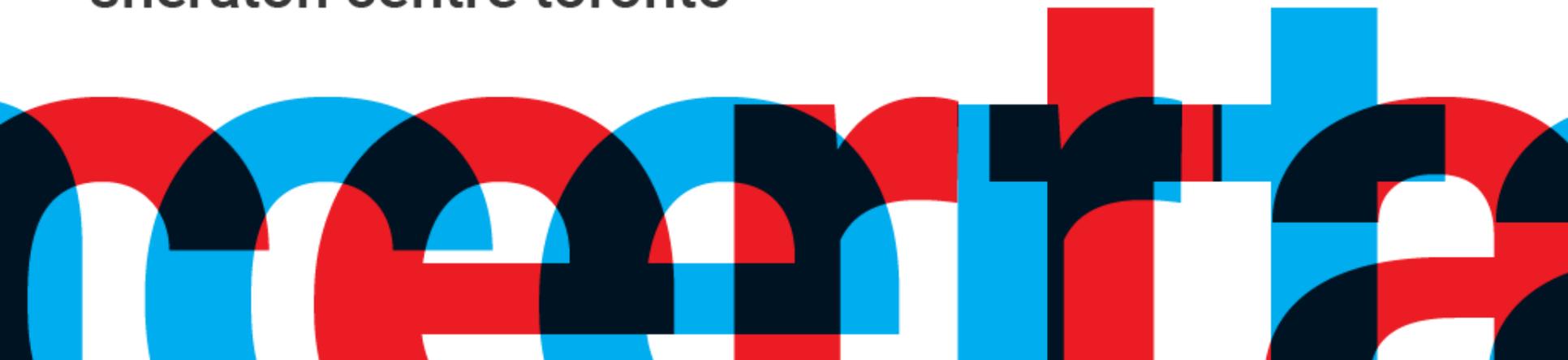
2020 CADTH  
SYMPOSIUM

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# decision- making in an age of **uncertainty**

april 19 to 21, 2020

sheraton centre toronto



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Sign up at [cadth.ca/subscribe](https://cadth.ca/subscribe) to get updates sent directly to your inbox.

## **CADTH E-Alerts**

Calls for stakeholder feedback and patient group input, plus other time-sensitive announcements.

## ***New at CADTH***

Monthly newsletter including a summary of new reports plus corporate news, announcements of upcoming events, and more.

## **CADTH Symposium and Events**

Updates about our flagship annual Symposium, workshops, webinars and other events.

# Stay Connected



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