Stakeholder Engagement in Real World Evidence in Oncology

CAPT 2018 Conference

October 22, 2018

10:45 a.m. – 12:00 noon

Panelists

Barry Stein
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Colorectal Cancer Canada

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CADTH

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Alberta Health Services

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Merck Canada

Merck Oncology

MERCK

Today's topic

Stakeholder Engagement in Real World Evidence in Oncology

Why RWE in oncology?

1. Burden of cancer is growing
2. R&D pipeline for cancer treatments is changing and quickly evolving
3. Pressure on and from health systems to approve and adopt new cancer treatments quickly to address the burden

1. Burden of cancer is growing

- 200,000 new cases of cancer every year[1]

- Increase in new cancer cases over next 12 years[2]

- 1 in 2 Canadians will be diagnosed with cancer[1]

- Nearly 81,000 deaths from cancer each year[1]
- 1 in 4 is expected to die of cancer[1]

$7.5 billion in total costs[3]

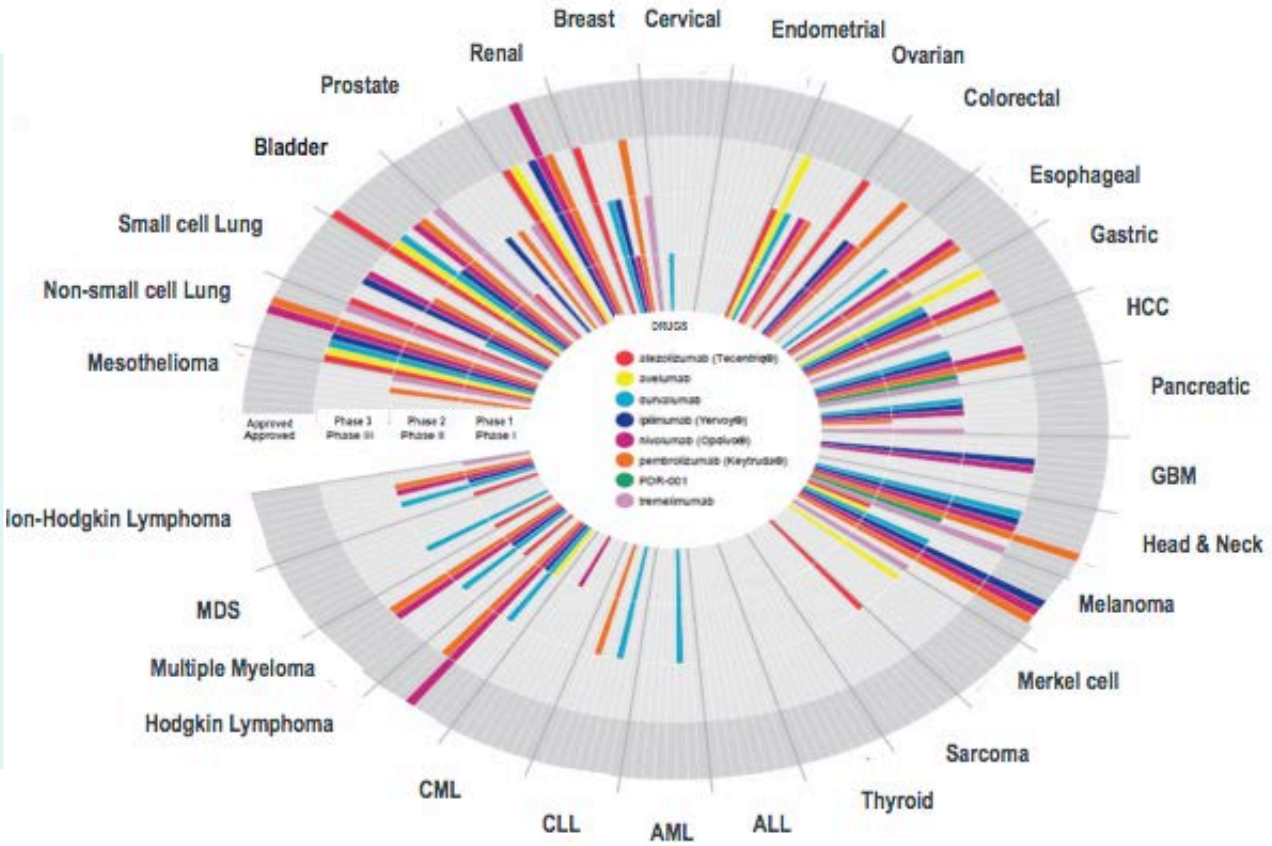
1. Cancer Cancer Society statistics: http://www.cancer.ca/en/cancer-information/cancer-101/cancer-statistics-at-a-glance/?region=on;
2. Canadian Cancer Society press release: http://www.cancer.ca/en/about-us/for-media/media-releases/national/2015/canadian-cancer-statistics-2015/?region=on;
3. Claire de Oliveira, « The economic burden of cancer care in Canada: a population-based cost study », CMAJ: http://cmajopen.ca/content/6/1/E1.full

2. R&D pipeline for cancer treatments is changing and quickly evolving

Specific challenges for reimbursing new cancer therapies:

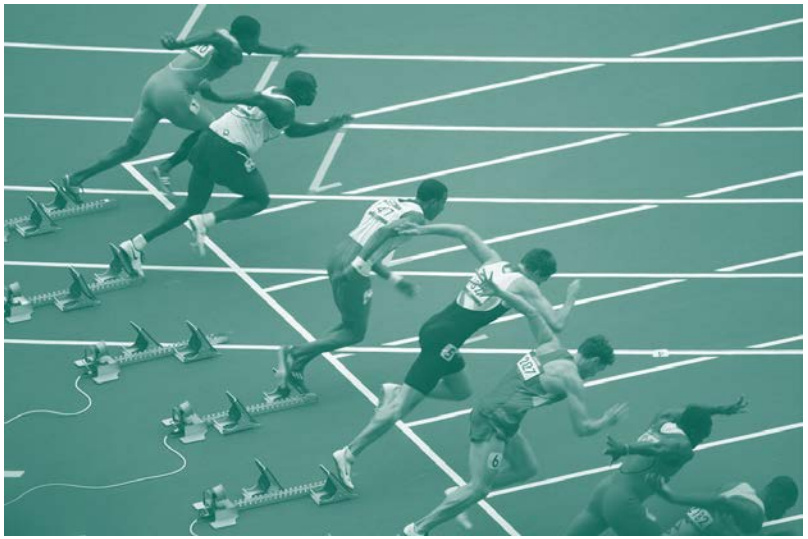
- Highly targeted
- Smaller populations
- Shifting endpoints
- Higher uncertainty

Example of immuno-oncology pipeline



Source: Kantar Health, July 2016

3. Pressure on and from health systems to approve and adopt cancer treatments quickly to address the burden



Start line for approval of new cancer therapies is moving up

Regulators:
Accelerating access to medicines that have the potential to address a high unmet need

EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH
Adaptive pathways

FDA U.S. FOOD & DRUG ADMINISTRATION

Payers:
Having to make decisions based on more limited evidence

Today's panel…

How can stakeholders best collaborate for patent-centric RWE in a reimbursement context?

We will need to unpack several questions…

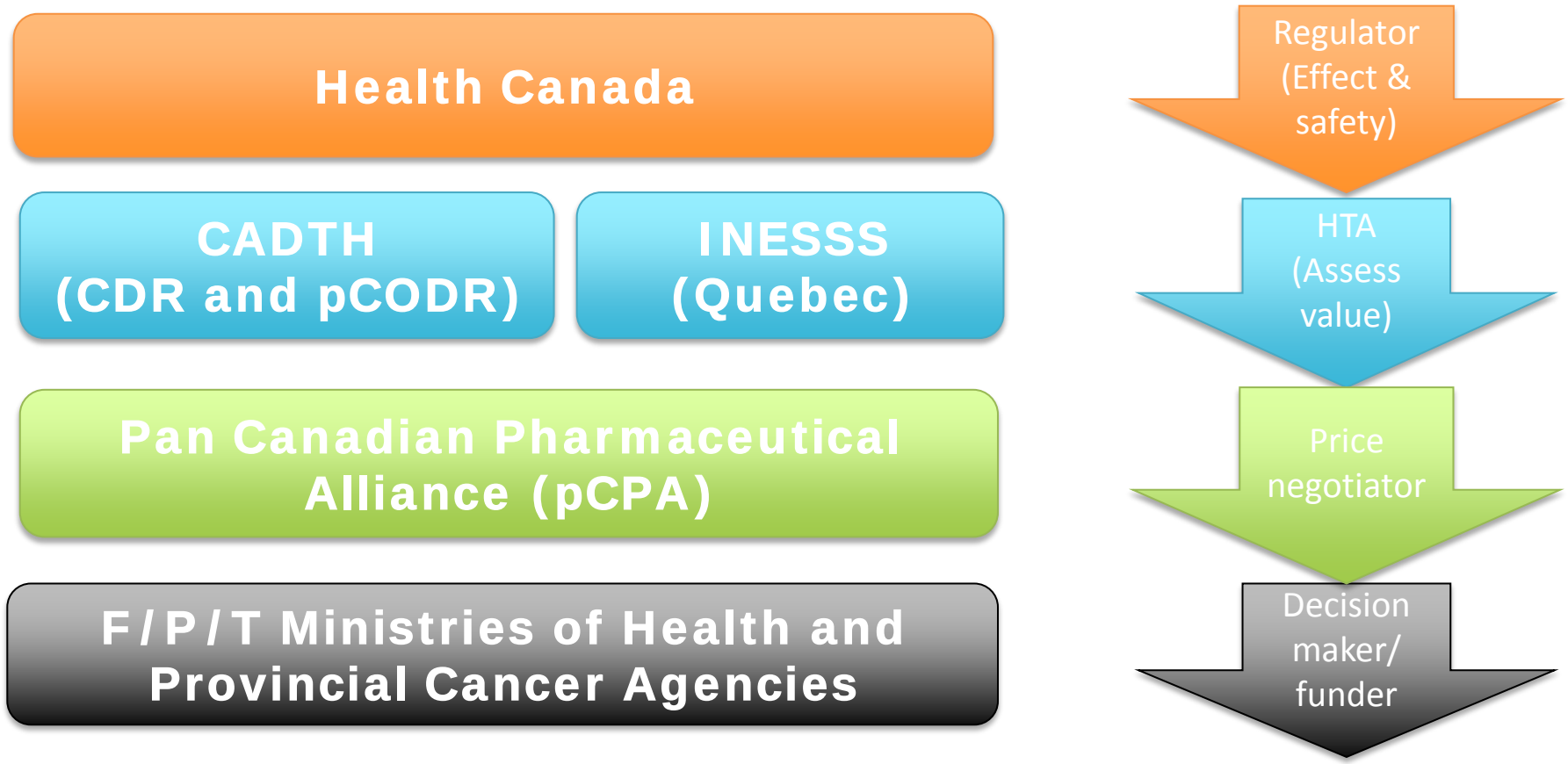
- **What** is RWE or **where** do we get RWE (biomarkers, PROMs, patient registries, patient support programs, surveys, innovative CT designs, etc.)?
- **How** is RWE used and how could it be used to address gaps/opportunities?
- **What role** can stakeholders play in addressing the barriers and opportunities, remembering that patients have the most at stake in this? Pressure is building on all stakeholders to get this right.

Stakeholder Engagement in RWE Oncology

ALEX CHAMBERS
DIRECTOR, PCODR

CADTH Evidence Driven.

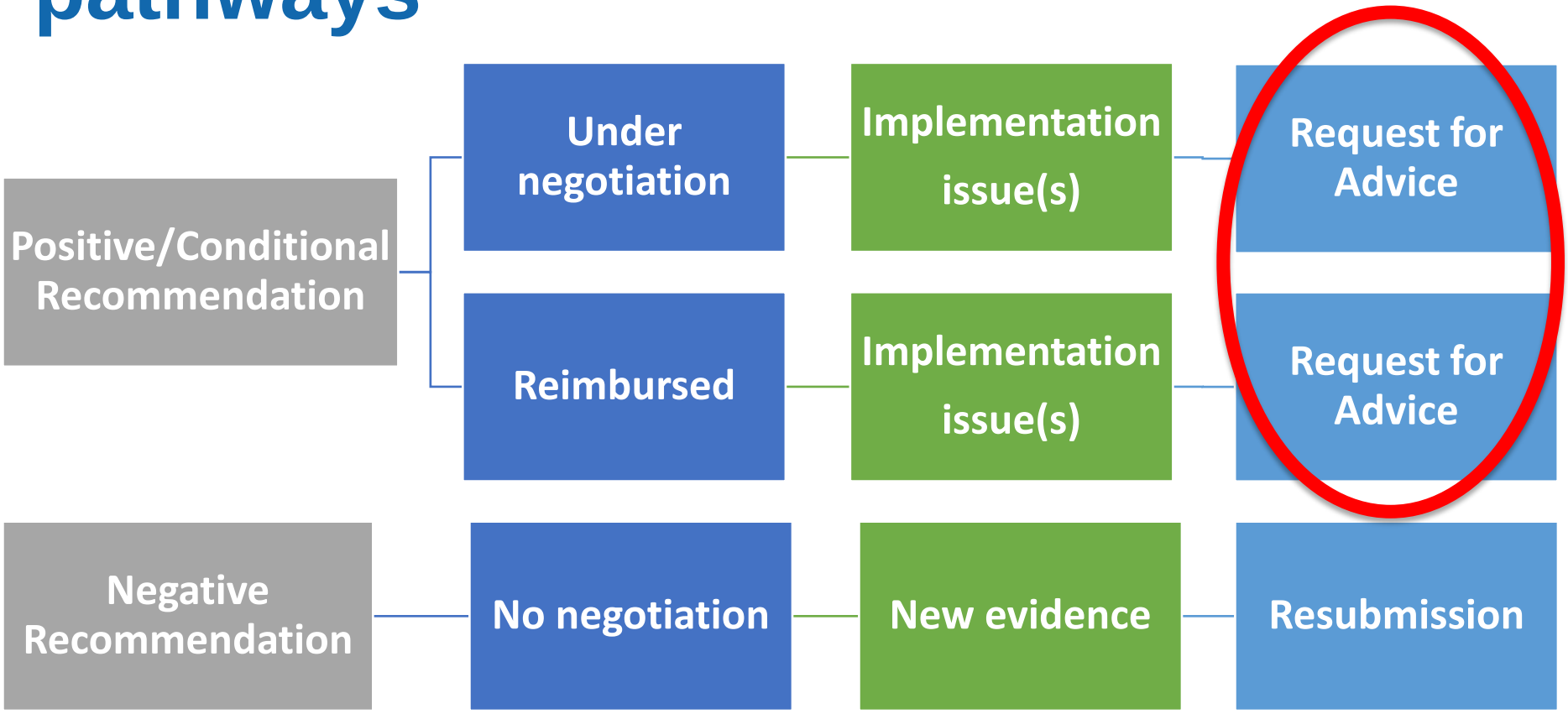
Overview of Drug Review in Canada



How does pCODR use RWE?

1. Real world data/evidence has been used to supplement clinical trial data in pCODR reviews
2. Request for advice

Current post-pERC recommendation pathways



Example: RFA for Axitinib for Metastatic Renal Cell Carcinoma (mRCC)

- In 2013, pERC recommended the second-line use of axitinib in patients with mRCC who were unable to tolerate everolimus or had a contraindication to everolimus.
  - Uncertainty in the effectiveness of everolimus vs axitinib

- In 2017, Request by the Provincial Advisory Group (PAG):
  - **Is there evidence to fund axitinib as an alternative to everolimus for the second-line treatment of metastatic clear cell renal carcinoma?**

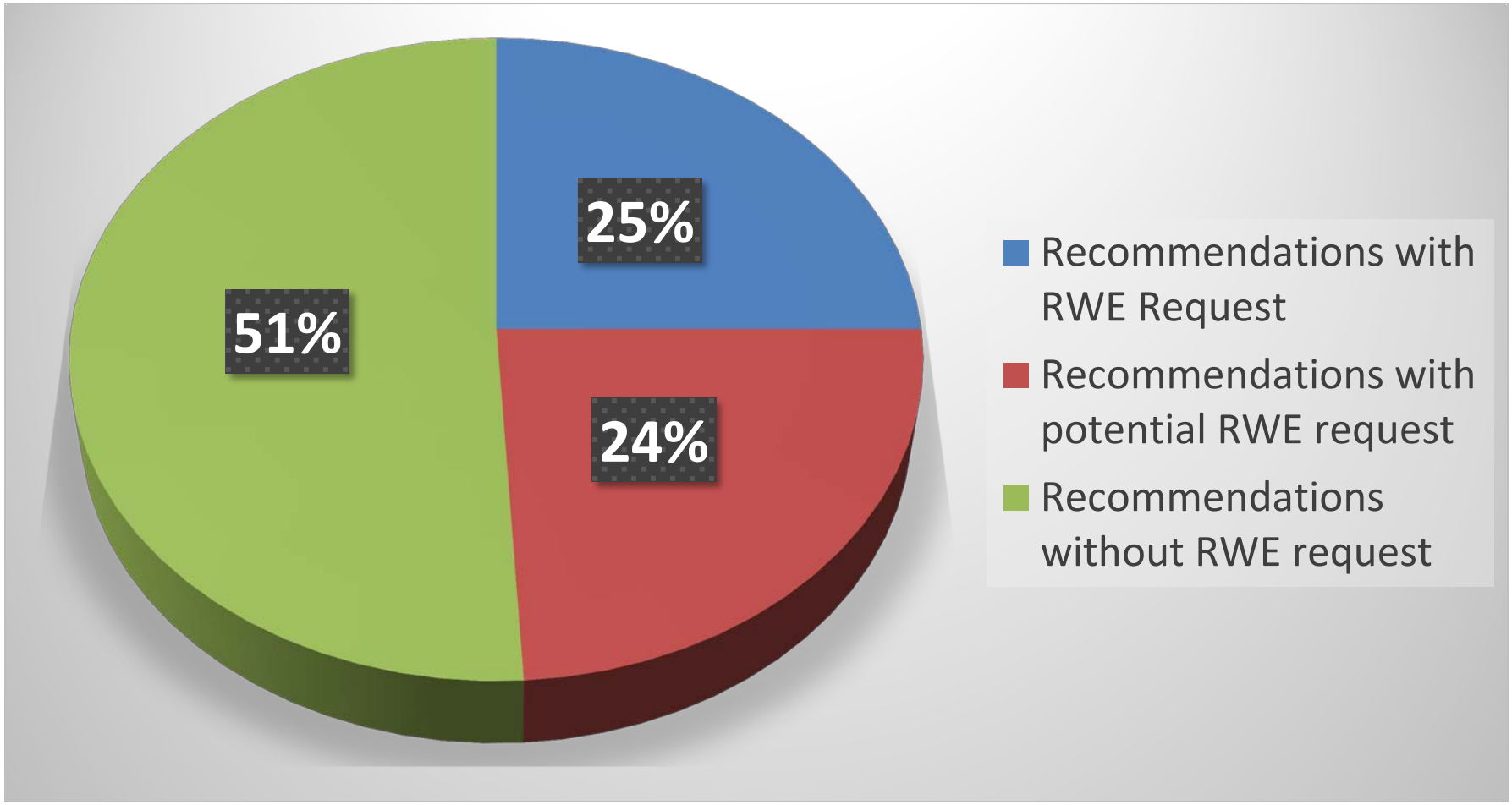
Example: RFA for Axitinib for mRCC

- pERC RFA Recommendation: pERC recommends reimbursement of axitinib as a second-line treatment for patients with mRCC.
  - Multiple sources of retrospective evidence demonstrated that there may not be a difference in clinical benefit between axitinib and everolimus.
  - No RCT comparing everolimus to axitinib, and unlikely that there will ever be a RCT.
  - Studies have limitations, but consistency in results.

Example: RFA for Axitinib for mRCC

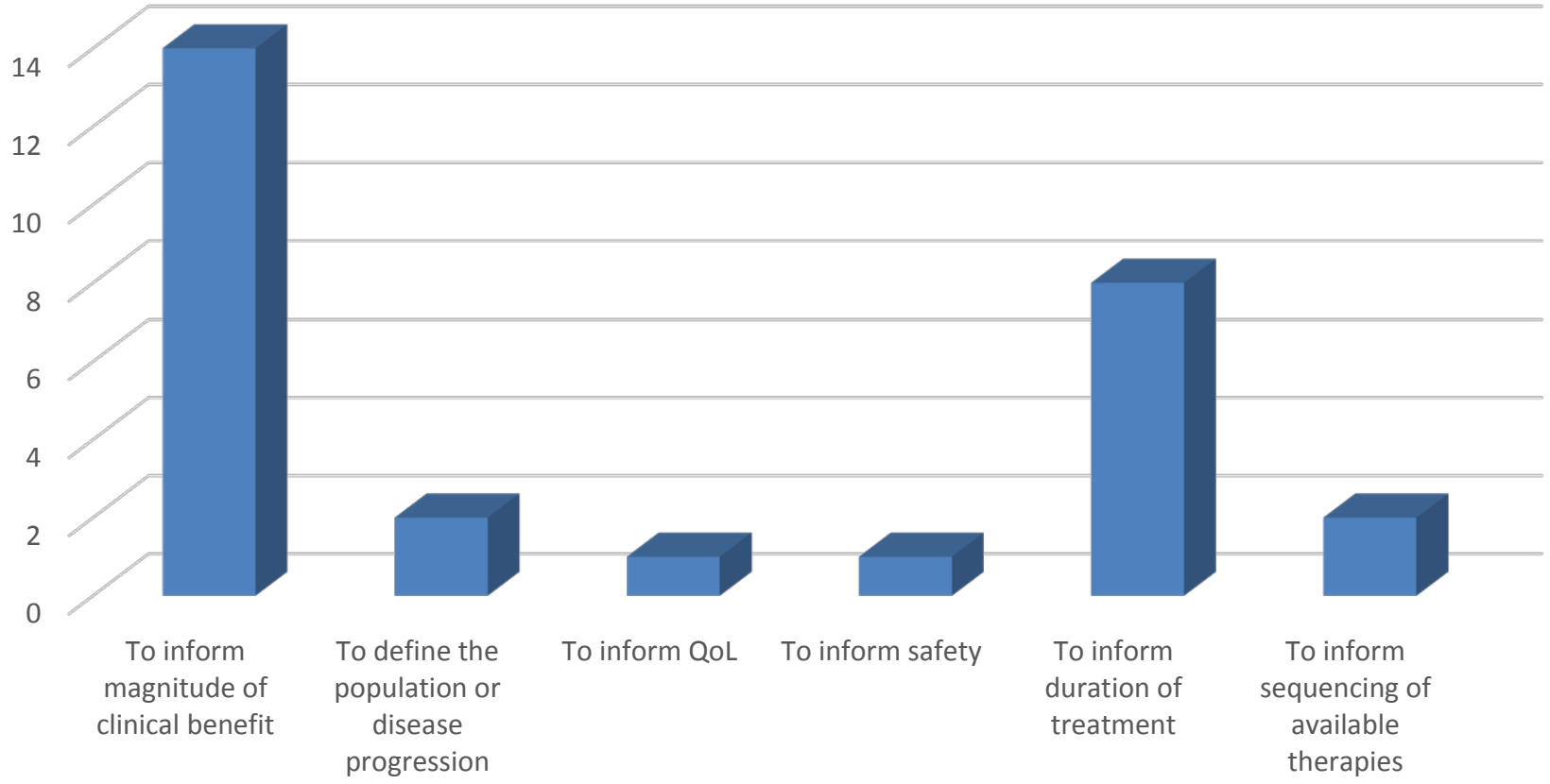
- Stakeholder input: Kidney Cancer Canada (KCC)
  - KCC provided data from its Canadian Kidney Cancer Information System
    - A database of Canadian patients with kidney cancer that tracks kidney cancer treatment practice in Canada.
  - pERC remarked that “KCC’s input was valuable in noting the Canadian experience for metastatic RCC”.

RWE in ‘Next Steps’ of pERC Recommendations



CADTH Evidence Driven.

Reasons for pERC Recommendations with RWE Requests



CADTH Evidence Driven.

Why should we use RWE to help inform decisions by patients, clinicians, and payers?

- **ASCO Abstract 2018:** A comparison of clinical trial (CT) overall survival (OS) and toxicity data with population-based, real world (RW) OS data. *Phillips et al, 2018 ASCO (CCO study)*
- **Results:** 32 indications from 21 drugs (9 chemotherapy, 10 targeted therapies, 2 immunotherapy) involving 8,344 CT pts and 29,424 RW pts were included.
- **Conclusions:** In most cases, substantially worse OS and greater toxicity were observed in the RW compared to CTs.

How could pCODR use RWE?

- If data are collected, pCODR could conduct more RFAs to address questions of the jurisdictions
- RWE could potentially be used to inform reassessments of drugs that are already funded to ensure that they are delivering value to the health system


THANK
YOU!

Stakeholder Engagement in RWE Oncology

Carole Chambers

CAPT Panel member

October 22, 2018

"Hand clapping for science is now inextricably linked to hand wringing over affordability.

Bach PB New Math on Cost Effectiveness NEngJMed 373:19:1798 Nov 5,2015

RWE Considerations
“not one size fits all”

- Survival /outcomes – 7
- Adherence impacts -2
- Drug Interactions – 2
- Gender impacts - 1
- Other disease impacts – 1
- Physician behaviours – 1

Survival outcomes

- Shivji, A, Ali, R, North, S, Sawyer M, Ghosh,S, Chambers CR. Real world evidence: Abiraterone use post-docetaxel in metastatic castrate resistant prostate cancer. J Oncol Pharm Practice (online June 27, 2018 10.1177/1078155218784716)
- Overall survival of l7 months was consistent with survival increase of l4.8 months observed in clinical trial .

- N Sheikh, C Chambers. Efficacy vs. Effectiveness: Erlotinib in previously treated non-small-cell lung cancer. J Oncol Pharm Pract (online 22 November 2012 10.1177/1078 155212464087) 2013: 19(3): 228-36
- In our clinical setting erlotinib did not perform as well in terms of median overall survival as reported in the pivotal clinical trial (5.19 vs 6.7 months)

- N. Lam, C.R. Chambers. Temozolomide plus radiotherapy for glioblastoma in a Canadian province: Efficacy versus effectiveness and the impact of O6-methyguanine-DNA-methyltransferase promoter methylation. J Oncol Pharm Practice (online Nov. 7, 2011)
- Alberta patients achieved overall and progression free survival similar to the clinical trial

- D.N. Howard, C. Chambers, F. Cusano. Efficacy vs Effectiveness - docetaxel and prednisone in hormone refractory prostate cancer. J Oncol Pharm Practice. 2008; 14:45-9.
- In our population docetaxel and prednisone did not perform as well in terms of median survival as in the pivotal clinical trial (17.22 vs l8.29 months)

- C.R. Chambers, D.M. Dimaculangan, K.A. Grindrod, J. Hanson, F. Pataky, T.T. Vu. Clinical Effectiveness of Trastuzumab: Early Experience. J Oncol Pharm Practice 2002;8:19-25.
- T.T. Vu, F. Pataky, C.R. Chambers, J. Hanson, K. Grindrod, D. Dimaculangan. Clinical Effectiveness of Trastuzumab: Early Experience. Proceedings of Asco; 2002:21:47b. (Abstract 1998).
- Performing less well in our population with respect to survival – monotherapy 10 vs l3 months, combination therapy 21 vs 25.1 months

- L.E. Street, C.R. Chambers. Vinorelbine in advanced non-small cell lung cancer. Has a survival benefit been achieved in clinical practice? Can J Hosp Pharm 1998; 51: 49-54.
- Results were comparable to that achieved in pivotal clinical trial.

Adherence

KR Anderson, CR Chambers, N Lam, PS Lau, F Cusano, ML Savoie N Sheikh. Medication Adherence among adults prescribed imatinib, dasatinib or nilotinib for the treatment of chronic myeloid leukemia J Oncol Pharm Pract (online 6 February, 2014 10,1177/107815521352061). 2015:21(1):19-25

Our population was adherent 0.95 (0.83 to 1.07) compared to literature reports of 0.64 and 0.96

M Danilak, CR Chambers Adherence to adjuvant endocrine therapy in women with breast cancer. J Oncol Pharm Practice [August 15, 2012 online 10:1177/1078155212455939] 2013:19(2):105-10

In our population majority of adjuvant patients remained on therapy for at least 2 years and were adherent.

Drug Interactions

- Chu MP, Ghosh S, Chambers CR, Basappa N, Butts CA, Chu Q, Fenton D, Joy AA, Sangha R, Smylie M, Sawyer M. Gastric Acid Suppression is associated with decreased Erlotinib Efficacy in non small cell lung cancer. Clin Lung Cancer (2014 Aug 15 online) 2015:16(1):33-9
- Erlotinib efficacy may be linked with gastric pH and OS could be adversely affected.

- V. Ha, M. Ngo, M. Chu, S. Ghosh, M. Sawyer, C. Chambers. Does gastric acid suppression affect sunitinib efficacy in patients with advanced or metastatic renal cell cancer? J Oncol Pharm Pract (online 24 March 2014 10.1177/1078155214527145). 2015:21 (3) 194-200
- Significant difference in progression free survival and overall survival between acid suppressed and no acid suppression groups.

Gender Impacts/Other Disease Impacts/ Physician Behaviours

- Ilich A, Danilak M, Kim CA, Mulder KE, Spratlin JL, Ghosh S, Chambers CR, Sawyer MB. Effects of gender on capecitabine toxicity in colorectal cancer J Oncol Pharm Practice (online 22 May 2015. 10.1177/1078155215587345) 2016:22(3):454-460
- Females experienced higher dose limiting toxicity than males when dosed according to BSA

- R. Schlichemeyer, C.R. Chambers, M.J. Gill. The oncology impact of highly active antiretroviral therapy. J Oncol Pharm Practice. 2007;13:17-25
- Introduction of HAART has dramatically reduced the amount spent on chemotherapy due to a decreased incidence of AIDS-related cancers even though the individual patient treatments have become more effective and expensive.
-
- A. Rajora, K.S. Chow, T.T. Vu, C.R. Chambers. Documentation of Capecitabine Usage as a Third Line Chemotherapy Option For Metastatic Breast Cancer Patients. J Oncol Pharm Practice. 2001;6:138-45.
- As requested during listing the breast tumor group adopted capecitabine as the current primary choice of third line chemotherapy

How best can RWE be incorporated into current patient access pathway, in particular for medicines to treat cancer, and what is needed to make this happen?

- Consider phase 4 surveillance tools for initial two years of reimbursement to ensure no new harm signals and also gather expected outcomes

- Consider RWE collection during patient access programs under the consent given by the patient

What are the current key challenges of and opportunities for RWE in the context of HTA reviews and reimbursement decisions?

- Challenges are that RWE is not really available for all HTA , not like clinical trials on which most HTA reviews are based
- Opportunity to include in the patient section of HTA from compassionate access program patients

Are public payors interested in using RWE to negotiate more outcomes based agreements?

- Yes and there have been some historically already
- Literature is emerging about the pros and cons of outcomes based agreements
- Public payors are interested in the patient outcomes as that is what we are all investing public dollars in

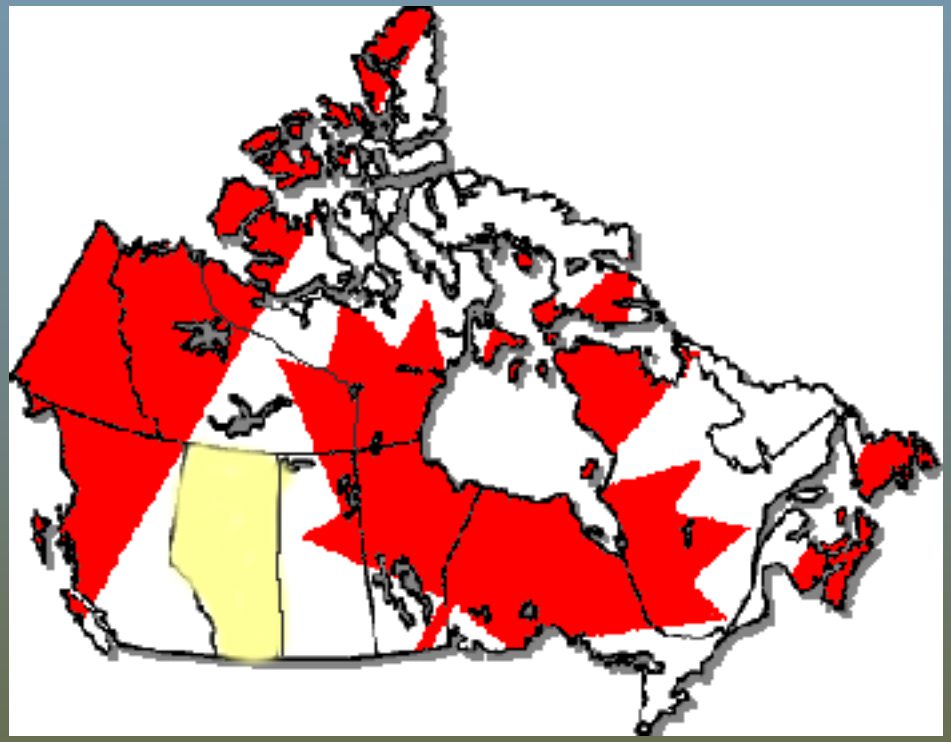
What are the opportunities for various health system stakeholders – in particular the pharmaceutical industry and patients – to collaborate with payers on RWE initiatives

- Patients providing consent for their health data to be incorporated in the RWE material
- Pharmaceutical companies to include this option in consent for the compassionate access programs and also for phase IV surveillance programs post launch

Can patient organizations and civil society act as enablers and facilitators for the generation of RWE?

- Absolutely yes.
- Enablers to expect this RWE to be collected and see how drugs perform in actual use
- Facilitators by providing consent for your health data to inform the RWE

Thank you



Stakeholder Engagement in RWE in Oncology

Sujitha Ratnasingham

Director, Strategic Partnerships

ICES

CAPT Conference

October 22, 2018

IC/ES Data Discovery Better Health

ICES Mission, Vision and Values

- ICES is a not-for-profit research institute encompassing a community of research, data and clinical experts, and a secure and accessible array of Ontario's health-related data.

ICES MISSION

Our mission is research excellence resulting in trusted evidence that makes policy better, health care stronger and people healthier.

ICES VISION

Our vision is to be a world-leading institute where data and discovery improve health and health care.

ICES VALUES

Excellence Integrity Relevance Collaboration Respect

Data & Analytic Services (DAS)

- As part of the Strategy for Patient Oriented Research (SPOR) initiative, ICES has successfully launched ICES' Data and Analytic Services (DAS) platform in 2014
- Enables external researchers to access ICES data previously unavailable to them, while maintaining ICES' privacy and security standards
- Adjudication of requests is done by a multidisciplinary team who assess feasibility and determine the resources needed to carry out their research

- **<u>Services Available:</u>**
  - **Access to Data (DAS Data)**
    - ICES Data and Analytic Virtual Environment (IDAVE)
    - Virtual workspace allows external researchers to access their project-specific data outside of ICES on a secure platform
  - **Access to Analytics (DAS Analytics)**
    - ICES staff perform analysis directed by external

Data Available Through ICES DAS

Core datasets:

- These data are available to all researchers
- Examples of these data include the Discharge Abstract Database (DAD), National Ambulatory Care Reporting System (NACRS), Ontario Drug Benefit Claims (ODB), Ontario Health Insurance Plan Claims Database (OHIP), Registered Persons Database (RPDB), and the Ontario Cancer Registry (OCR)

Restricted datasets:

- These data are available for research which meets specific criteria
- Researchers may be required to seek additional approvals or collaborations, and in some cases the research objectives must align with predetermined guidelines

Why ICES Extended DAS to Private Sector Researchers

- Alignment with the Open Data initiative by Government of Ontario
- Potential to create knowledge that informs the ~30% of health care expenditures that are funded by the private sector
- Build on experience by other similar organizations in Canada and internationally who have provided similar access

https://www.netbase.com/wp-content/uploads/value-addeed1.png

DAS Private Sector Pilo

- ICES began 2 pilot projects in 2015 with private sector organizations under ICES' existing charitable organizational corporate structure

- Two pilots were successfully completed :
  - IMS Brogan, access to data for a study for their client AstraZeneca, “The disease burden of gout in Ontario – a real-world data retrospective study”
  - Janssen, analytic services, “The impact of adherence to biologics on healthcare resource utilization in rheumatoid arthritis”

- IMS Brogan and Janssen are actively pursuing publication of the findings of their studies

https://s3.amazonaws.com/blog.v-comply.com/wp-content/uploads/2018/04/17121236/

Stakeholder Engagement

- General public and scientists
- Focus groups and ideation sessions (ICES and non-ICES scientists)
- Areas of focus
  - Research using health administrative data
  - Appropriateness of expanding uses and users
  - Private sector researchers

https://taigacompany.com/wp-content/uploads/2015/10/shutterstock_154870712.jp

Findings: General Public

- **Supportive of**
  - Research to support monitoring what is happening in health system and to aid planning
  - Consent to use data
  - ICES holding linked data: non-for-profit and independent
  - Privacy safeguards

- **Concerns**
  - Security of personal data: de-identification
  - Selling of private data for marketing/profiteering

http://www.lesepl.fr/images/foreign/header-img.png

Requirements for Private Sector Projects

- Aligns with ICES' mission

  Research excellence resulting in trusted evidence that makes policy better, health care stronger and people healthier.

- Transparency principles
  - Final full-results reports, identities of private sector organizations, and analytic plans are publically available
- Financial viability
- Limited access to data (i.e. summary data only)

Data Available for Private Sector

- Hospital Discharge Abstract Database (DAD)
- National Ambulatory Care Reporting System (NACRS)
- Continuing Care Reporting System (CCRS)
- Ontario Drug Benefit Claims (ODB)
- Ontario Health Insurance Plan Claims Database (OHIP)
- Registered Persons Database (RPDB)
- Ontario Cancer Registry (OCR)

http://www.lesepl.fr/images/foreign/header-img.png

Additional DAS Private Sector Projects

- Additional projects have been completed by:

- Ongoing projects:

- Topics: Breast cancer epidemiology and treatment patterns, costing, burden of disease, etc.

Thank You

Questions:
Sujitha.ratnasingham@ices.on.ca

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Patient Perspectives on Real World Evidence & Real World Data

Taking Action on Real World Evidence: From Analysis to Impact

Session 2: Stakeholder Engagement in RWE Oncology
October 22, 2018

CAPT ACTP Canadian Association for Population Therapeutics / Association canadienne pour la thérapeutique des populations

Barry D. Stein

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FOCUS ON VALUE HAS LED TO INTEREST IN RWE

An increasing focus on value-based healthcare has brought greater interest in RWE to assist with reimbursement decision making.

A number of countries, including Canada, are using various forms of RWE to assess healthcare interventions.

A consistent approach has not yet emerged and criteria defining when RWE might be required still needs to be established.

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Patient Perspectives on Real World Evidence (RWE) and Real World Data (RWD)

Patients and Patient Groups can play an important role and their main concerns must be addressed:

" Will this work for me?

"Is this safe for me?"

RWE and RWD have the potential to provide patients, clinicians, and policymakers information that more traditional scientific studies cannot.

Patients often do not:

Have a full understanding of the complexities of generating RWE or be aware that there is a debate about the types of evidence used for the determination of safety and effectiveness of medical treatments.

Patients may assume:

Their providers have an ongoing feedback loop, and that their data is typically available for providers to use in choosing the right course of action or that RWD is already being incorporated into their treatment decisions.

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***Patients want* . . .**

- ✓ RWE generated from their experiences to be incorporated into value-driven decision making and policy discussions *to ensure that the outcomes most important to them are considered.*
- ✓ ***More control of their data*** and how it is used; they want their data used for research, but, generally do not want it used for only commercial purposes.

- ✓ ***Patients need*** **a better understanding of RWE to both use and contribute.**

Policymakers and advisory groups need to invest in educational efforts to inform and fully include the patient community in initiatives to establish standards for RWD and to use RWE more effectively

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THE NEED FOR STAKEHOLDERS TO AGREE

CENTRAL TO THE COLLECTION & INCREASED USE OF RWE IS A NEED TO AGREE ON A COMMON:

- ✓ DEFINITION OF RWE
- ✓ APPROPRIATE METHODOLOGY USED TO GATHER IT
- ✓ APPROPRIATE USE OF INFORMATION FOR HTA, POLICY, TREATMENTS

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National Health Council Working Definition (USA) (Proposed)	Data and data-derived interpretation that is based on sources other than conventional, randomized controlled studies and offers insight to clinical, coverage, payment, and patient decisions.
FDA per 21st Century Cures Legislation. 21st Century Cures Act	Data regarding the usage, or the potential benefits or risks, of a drug derived from sources other than randomized clinical trials.
International Society of Pharmaco-economics and Outcomes Research of RWD (ISPOR) (ISPOR Real- World Data Task Force, 2016)	Data used for clinical, coverage, and payment decision-making that are not collected in conventional randomized controlled trials (RCTs). Real-world data could be characterized in a number of different ways, e.g., by type of outcome, by location in a hierarchy of evidence, or by type of data source.
FDA- Center for Evaluation Research (CDER) "Working Definitions" of RWD and RWE (FDA, 2017)	Real-World Data (RWD): Data relating to patient health status and/or the delivery of health care routinely collected from a variety of sources. Real-World Evidence (RWE) : The clinical evidence regarding the usage and potential benefits or risks of a medical product derived from analysis of RWD. Examples of RWD include: Data derived from electronic health records (EHRs), claims and billing data, data from product and disease registries, patient- generated data including in home-use settings, and data gathered from other sources that can inform on health status, such as mobile devices. Sources of RWD include: Registries, collections of EHRs, and administrative and health care claims databases, among others. RWD sources such as these can be used as data collection and analysis infrastructure to support many types of trial designs, including, but not limited to, randomized trials, such as large simple trials, pragmatic clinical trials, and observational studies (prospective and/or

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RANDOMIZED CONTROLLED TRIALS (RCT)

RANDOMIZED CONTROLLED TRIALS (RCT) CONTINUE TO BE THE GOLD STANDARD FOR ASSESSING EFFICACY OF NEW DRUGS BUT THEY HAVE LIMITATIONS IN PROVIDING INFORMATION FOR HTA:

- **May not reflect how effective a drug would be in real clinical practice**
- **Patients are preselected, short time frames, limited sample size, driven by trial protocol**
- **This creates concern about the validity of economic models driven by RCT outcomes** e.g. For cancers of rare genetic sub-types RCT evidence alone may not provide sufficient data on patient survival and outcomes. (Phase II data only)

Emerging sources of data captured in "real world" treatment settings & atient populations offer opportunities for a deeper understanding of wh and for whom treatments work (or not) to help fill the gaps from RCTs.

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pCODR – UNCERTAINTY AROUND CLINICAL OUTCOMES

THE MAJORITY OF pCODR RECOMMENDATIONS FOR ONCOLOGY DRUGS ARE CONDITIONAL UPON IMPROVEMENT IN COST EFFECTIVENESS AND/OR CONFIRMATION OF CLINICAL EFFICACY.

- ***Conditional recommendations*** **stem from uncertainty around clinical outcomes, safety parameters and quality of life which impacts the validity of economic models.**

- ***Clinical uncertainty*** **is a result of data submitted for HTA, which is typically based on structured Phase III trials over time frames that may not be relevant to treatment in real clinical practice.**

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THIS UNCERTAINTY COULD BE ADDRESSED WITH ADDITIONAL PROSPECTIVE OR RWE DATA COLLECTION.

- A study of 60 pCODR recommendations up to February 2016 showed that in 21 reviews there were 23 requests.
- 13 pCODR reviews explicitly requested RWE, 10 pCODR reviews potentially requested RWE.

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RWE REQUESTED IN pCODR DECISIONS:

- ✓ Prospective evidence to help determine magnitude of clinical benefit.
- ✓ Information on efficacy, QoL and strategies for long term control in patients.
- ✓ Data on treatment duration, patient monitoring to better define drug tapering and stopping criteria.
- ✓ Information on efficacy and safety in patient sub-populations.

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CADTH recognized the potential limitations of clinical trial data in some situations

"In certain exceptional cases, there may be practical challenges in conducting robust clinical trials and pharmacoeconomic evaluations. Under these conditions there may be a recommendation for listing with Real World Evidence development for scenarios where there is uncertain clinical benefit, but significant unmet need."

CADTH , March 2016

PROVINCIAL PAYERS, OPERATING WITH CONSTRAINED BUDGETS ALSO HAVE CONCERNS ABOUT THE CLINICAL AND COST EFFECTIVENESS OF NEW ONCOLOGY DRUGS AND HAVE ALSO STATED THE NEED FOR RWE TO SUPPORT DRUG REIMBURSEMENT DECISION MAKING.

e.g. Cancer Care Ontario (CCO), the Ministry of Health and Long-Term Care (MOHLTC), the Canadian Association of Provincial Cancer Agencies (CAPCA) have recommended that RWE should be used to inform and monitor the effects of funding decisions.

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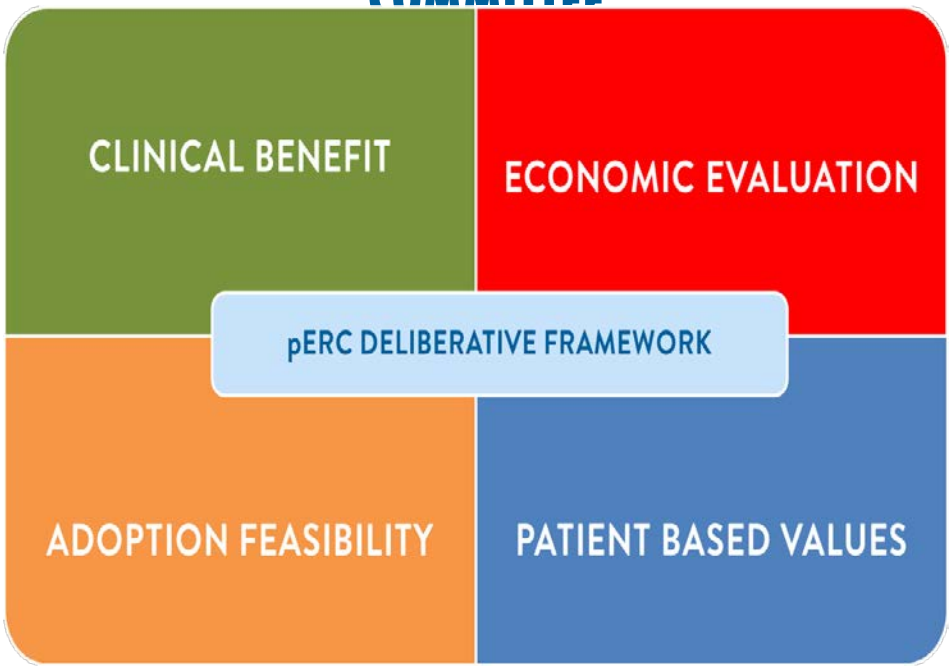
THE PAN-CANADIAN ONCOLOGY DRUG REVIEW (pCODR)

- ✓ pCODR assesses new oncology products and makes funding recommendations to the provinces/territories (except Quebec) for cancer drugs for reimbursement

PATIENT/PATIENT GROUP INPUT IS REVIEWED BY THE pCODR EXPERT REVIEW COMMITTEE



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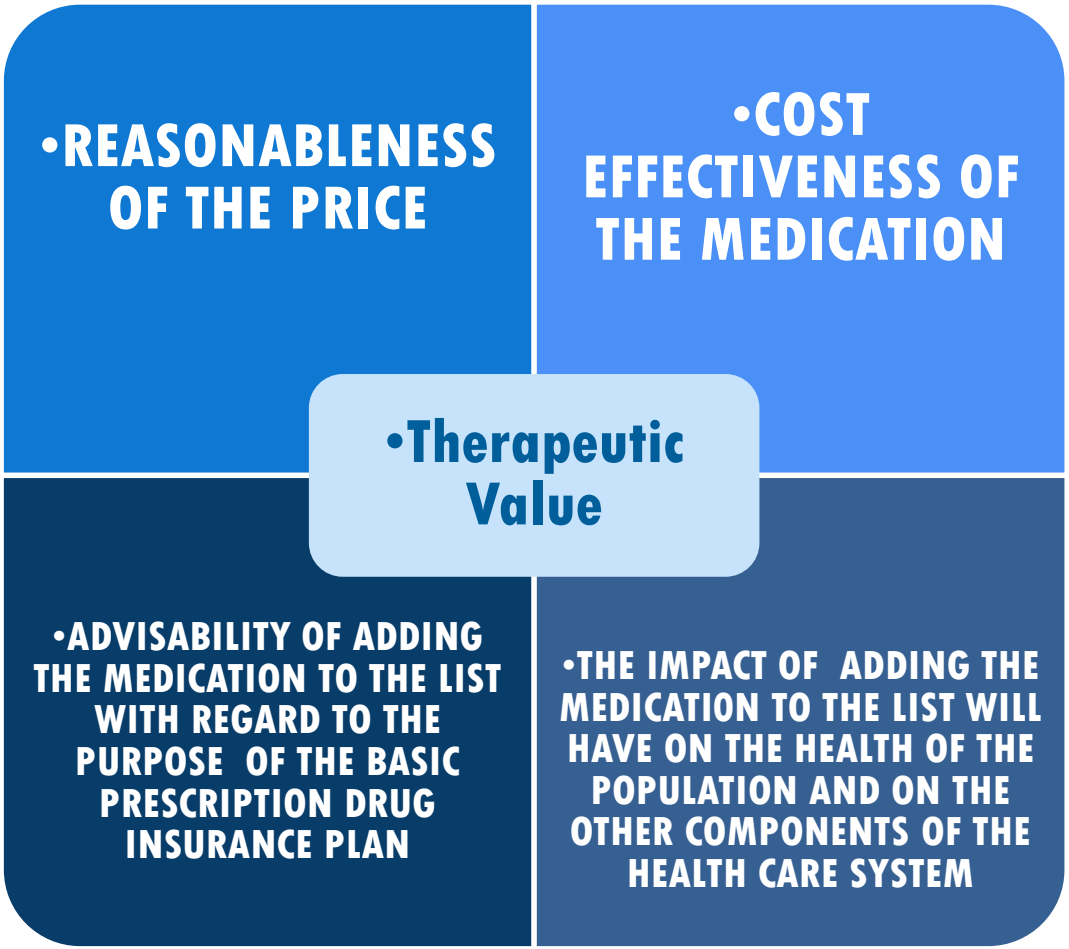
INESSS

Institut national d'excellence en santé et en services sociaux

INESSS invites citizens, patients, caregivers and health professionals, as well as their associations and groups, to provide information on issues from the participants' specific knowledge or experiences on a particular drug.



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pCODR	Sub-Criteria	Sub-Criteria Definitions
Overall Clinical Benefit	Effectiveness (systematic review in the Clinical Guidance Report)	The potential health impact of the drug compared to the other drug and non-drug alternatives, measured in terms of relevant patient outcomes such as mortality, morbidity, quality of life. Magnitude, direction and uncertainty of effect should be considered.
	Safety (systematic review in the Clinical Guidance Report)	Frequency and severity of adverse effects associate with the new drug compared to other drug and non-drug alternatives.
	Burden of Illness (Clinical Guidance Report, PAG)	Incidence, prevalence or other measure of disease burden on the population.
	Need (Clinical Guidance Report, PAG)	Availability of an effective alternative to the drug technology.
Alignment with Patient Values	Patient Values (Patient Advocacy Group Input)	Patient based values which bear on the appropriate use and impact of the drug.
Cost Effectiveness	Economic Evaluations (Economic Guidance Report and pharmaco-economic model review)	A measure of the net cost or efficiency of the drug and companion technology compared to other drug and non-drug alternatives. The uncertainty of results should be considered.
Feasibility of Adoption into Health Systems	Economic Feasibility (evaluation of budget impact assessment in Economic Guidance Report)	The net budget impact of the new drug on other drug and health system spending, including companion testing technology.

PATIENT EVIDENCE

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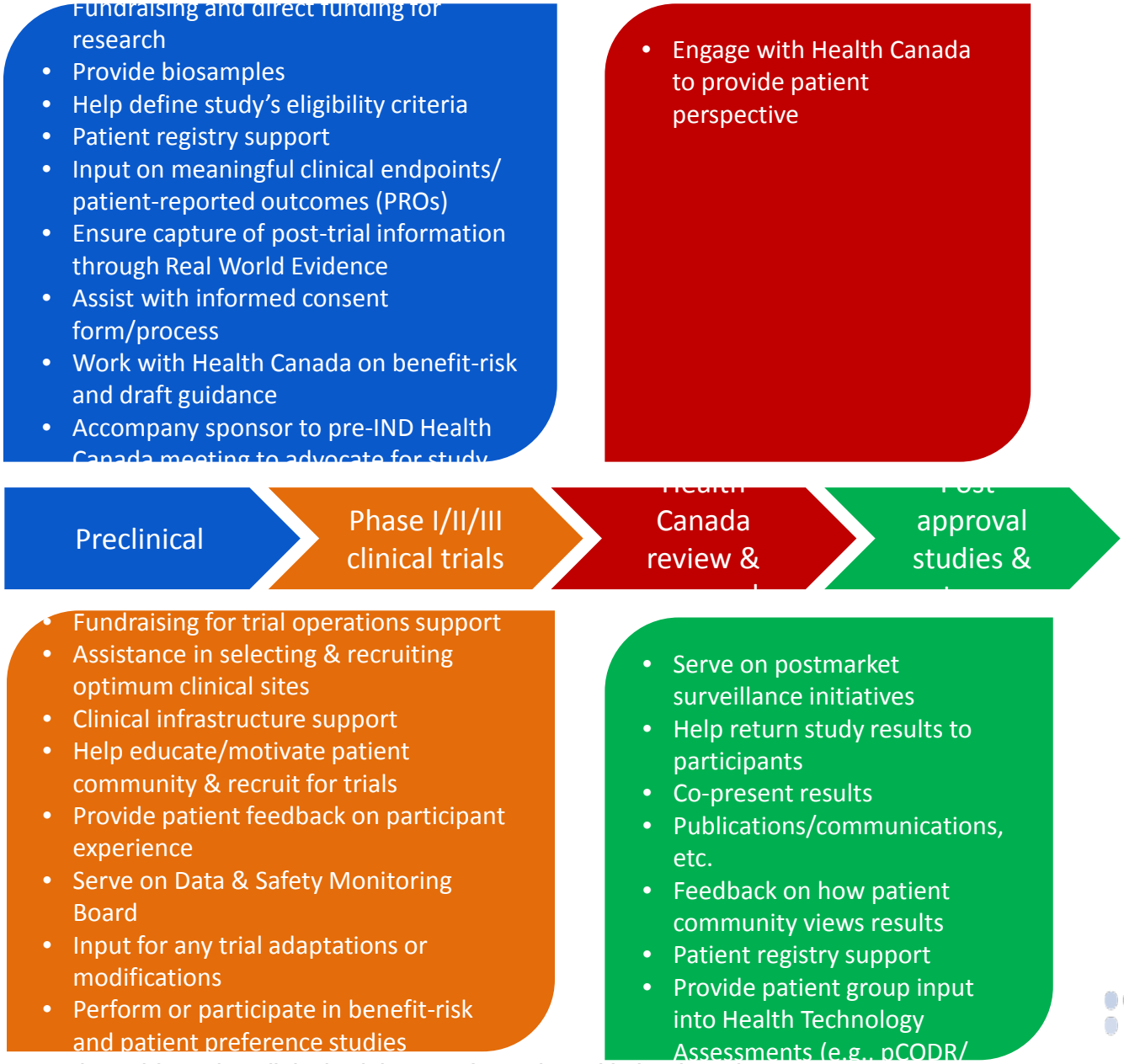
Patient Group Engagement In Canadian Clinical Trials System



** Adapted from the Clinical Trials Transformation Initiative (CTTI)*

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RWE STUDIES CAN PROVIDE:

- ✓ Effectiveness and safety data for patient populations over disease-relevant timeframes;
- ✓ Adherence to treatment and dose changes over time;
- ✓ Time to discontinuation of therapy and medication switching patterns;
- ✓ Cost of therapy to support ongoing drug cost-effectiveness estimations;
- ✓ Time to a defined response;
- ✓ Physician prescribing patterns and identification of potential limitations of current treatment guidelines;
- ✓ Patient concomitant medication utilization and changes over time;
- ✓ Patient reported outcomes (satisfaction with therapy; quality of life; utility; out-of-pocket disease expenses; caregiver burden) which can be used to support cost-effectiveness estimations and
- ✓ Expanded reimbursement;
- ✓ Burden of disease (e.g., particularly for rare cancers) which can support requests for wider reimbursement.

COLORECTAL CANCER CANADA

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PREVENTABLE,
TREATABLE,
BEATABLE!

Patient Perspectives on Real World Evidence & Real World Data

Taking Action on Real World Evidence: From Analysis to Impact

Session 2: Stakeholder Engagement in RWE Oncology
October 22, 2018

CAPT ACTP Canadian Association for Population Therapeutics / Association canadienne pour la thérapeutique des populations

Barry D. Stein

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***Patients want* . . .**

- ✓ RWE generated from their experiences to be incorporated into value-driven decision making and policy discussions *to ensure that the outcomes most important to them are considered.*
- ✓ ***More control of their data*** and how it is used; they want their data used for research, but, generally do not want it used for only commercial purposes.

- ✓ ***Patients need*** **a better understanding of RWE to both use and contribute.**

Policymakers and advisory groups need to invest in educational efforts to inform and fully include the patient community in initiatives to establish standards for RWD and to use RWE more effectively

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Stakeholder Engagement in Real World Evidence in Oncology

CAPT 2018 Conference

October 22, 2018

10:45 a.m. – 12:00 noon

VIRGINIE GIROUX

Director, HEOR and Real World Evidence
Merck Canada

Real World Data

- Different outcomes versus clinical trial setting
- Insights into day-to-day care of patients
- Various sources (EMR, claims, pharmacies, hospital, wearables, etc.)

Value Beyond Clinical Trial Measures

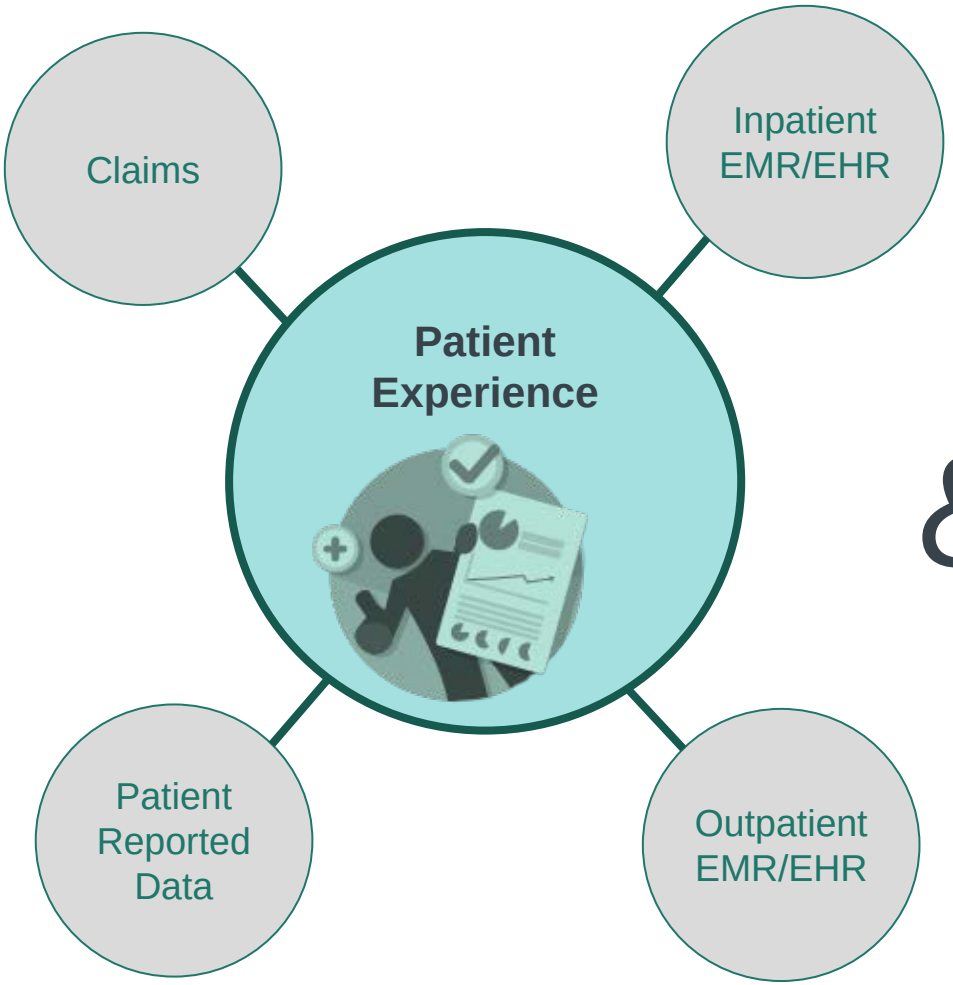
Patient perspectives

Real world performance

Other outcomes

Benefits of precision medicine

Patient-Centric & Collaborative Approach



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A Strong and Collaborative Working Relationship with Patients, Payers, the Regulator and Health Care Community

Optimal Approach

- Need to work together to develop RWE approach
- Collaborative pilot projects to:
  - Help define roles of stakeholders (i.e., HTA, payers, industry, patients and clinicians)
  - Gain insights into, and find ways to address, practical challenges (e.g., data quality, sources, methods, access to data, etc.)
  - Gain better understanding of how to use RWE to demonstrate effectiveness and safety
- Scale up once approach has been fine-tuned
- Ensure flexibility to continue to adjust approach as needed

Merck-Regenstrief Collaboration

- Partnership with the Regenstrief Institute, Indiana University
- Started multi-year collaboration in 2012 and recently renewed
- Seeks to understand how to use real-world data to better understand effectiveness of therapies

Regenstrief Institute
Better Care. Better Health.

"Both parties bring something different to the table... We bring different perspectives and viewpoints but one unified goal: to get patients access to care in an affordable, effective, and efficient way."

—Susan Shiff, Ph.D., senior vice president of Merck's Center for Observational and Real-World Evidence (CORE)

CORE is the arm of Merck that harnesses real-world and observational data to provide the best available information on the value of our medicines and the products that we bring to the market.

Merck-Regenstrief Collaboration (Continued…)

+70 SCIENTISTS

+50 PROJECTS

+30 PUBLICATIONS, PRESENTATIONS & POSTERS

- Multiple scientists have worked on many projects to produce useful materials and insights

- Both Merck and the Regenstrief Institute see the collaboration as a different way of looking at the patient's interaction with the healthcare system

QUESTIONS & DISCUSSION