

# What to ask when conducting patient-oriented research, what to look for, and where to get it

Day 2, Session 2: Researchers

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Wanrudee Isaranuwachai

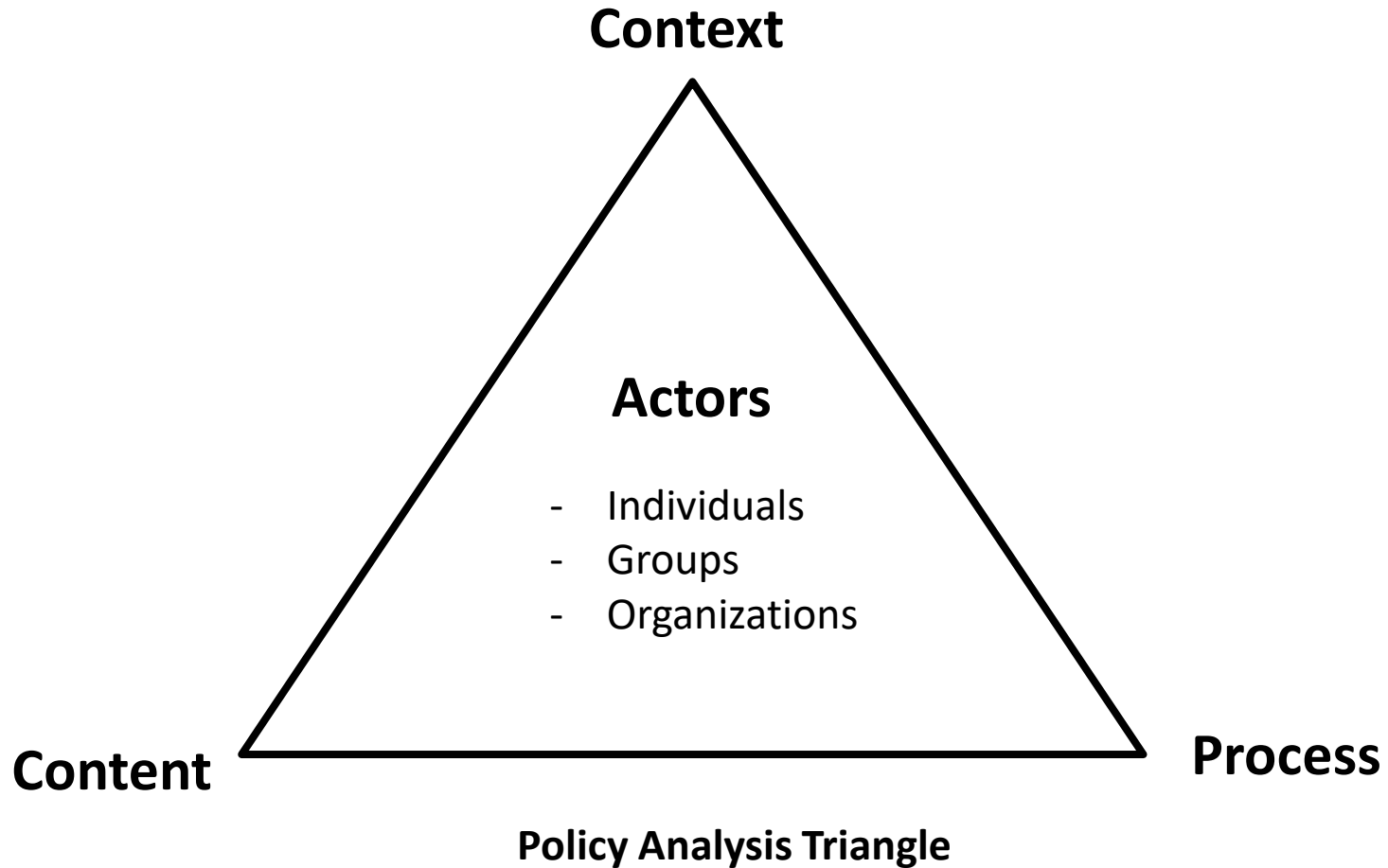
OSSU Masterclass on the Conduct and Use of Patient-Oriented Research  
Toronto, ON  
April 18-20, 2016



# Objectives

1. To understand the importance of working iteratively as partners to understand a problem; options and implementation considerations in light of institutional constraints; interest group pressure, values and many other types of information; as well as 'external' factors such as the state of the economy.
2. To understand the importance of using economic ways of thinking.
3. To appreciate the resources in Ontario for data access, methodological and analytical support, and knowledge translation support (i.e. OSSU Member Centres), as well as sources of pre-appraised, synthesized research evidence.

# Considerations



Walt, G. and Gibson, L. (1994),  
reproduced in Buse, K. (2012)

# Actors

Individuals, groups and organizations that participate in the policy process

- Government - federal, provincial, local
- Interest groups – outside of government
- Individuals – general public, patients, influential people

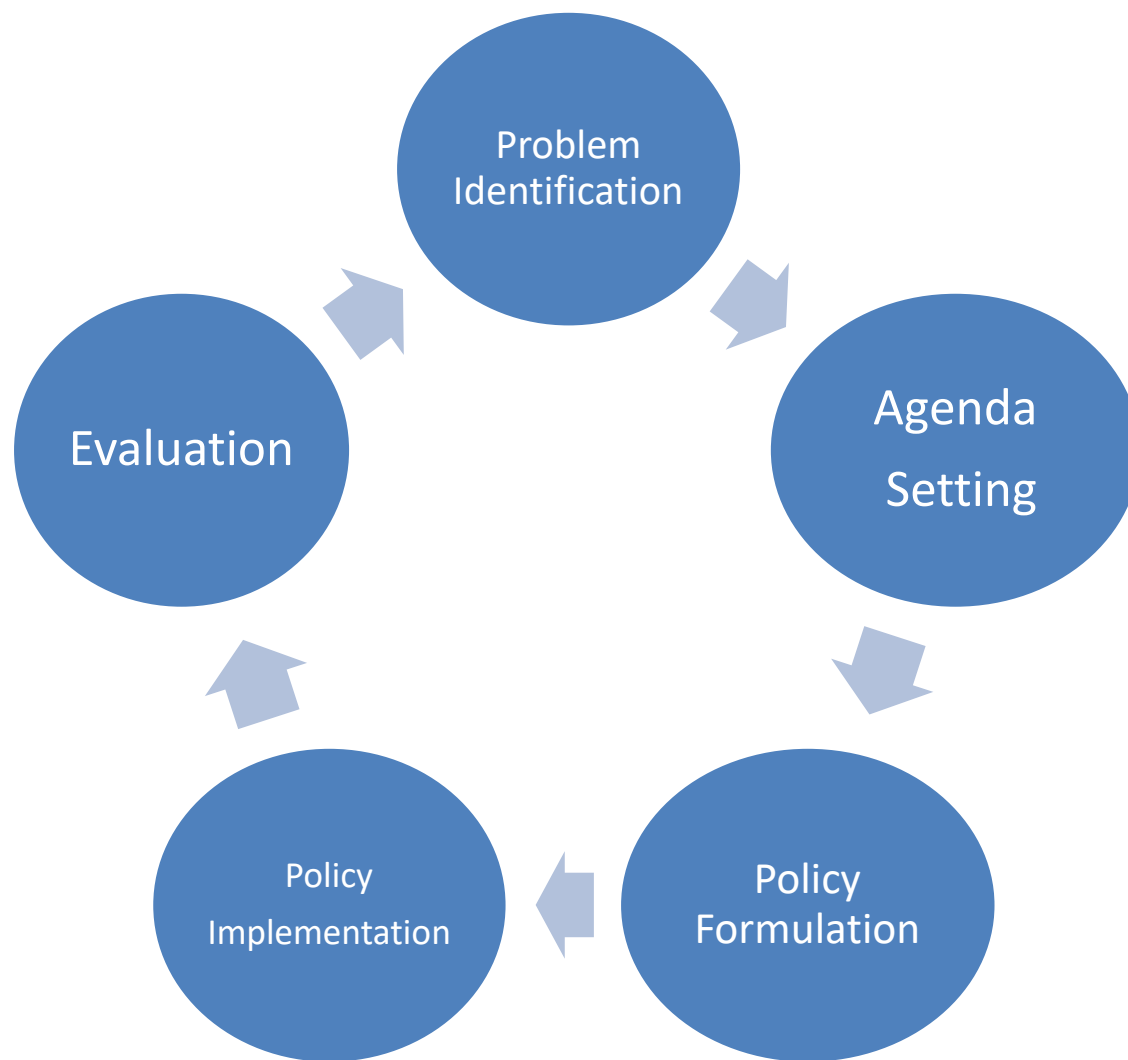


# Context

- **Situational factors** – Conditions or events that may influence policy
- **Structural factors** – Relatively unchanging elements of the society such as the political system, type of economy, and employment base.
- **Cultural factors** – Include values/beliefs, ethnic, language, religious influences
- **International or exogenous factors** – global influences and collaborations

Source: Buse et al. 2012. Making Health Policy. Open University Press

**Policy process-** the process of shaping policy initiatives, from problem identification to policy formulation, implementation and evaluation



# Content

## Open Minds, Healthy Minds

Ontario's Comprehensive Mental Health and Addictions Strategy



The *Excellent Care for All Act* puts patients first by improving the quality and value of the patient experience through the application of evidence-based health care. It will improve health care while ensuring that the system we rely on today is there for future generations.

## Realizing Our Potential



Ontario's Poverty Reduction Strategy  
2014-2019

## Ageing at Home Strategy



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- Interim Director and Health Economist
  - Centre for Excellence in Economic Analysis Research (CLEAR), St. Michael's Hospital
- Assistant Professor
  - Institute of Health Policy, Management and Evaluation, University of Toronto

**CLEAR** | Centre for excellence in  
Economic Analysis  
Research



**St. Michael's**  
Inspired Care.  
Inspiring Science.





# One piece of a puzzle: How can economic analysis support your patient-oriented research?

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# Discussion

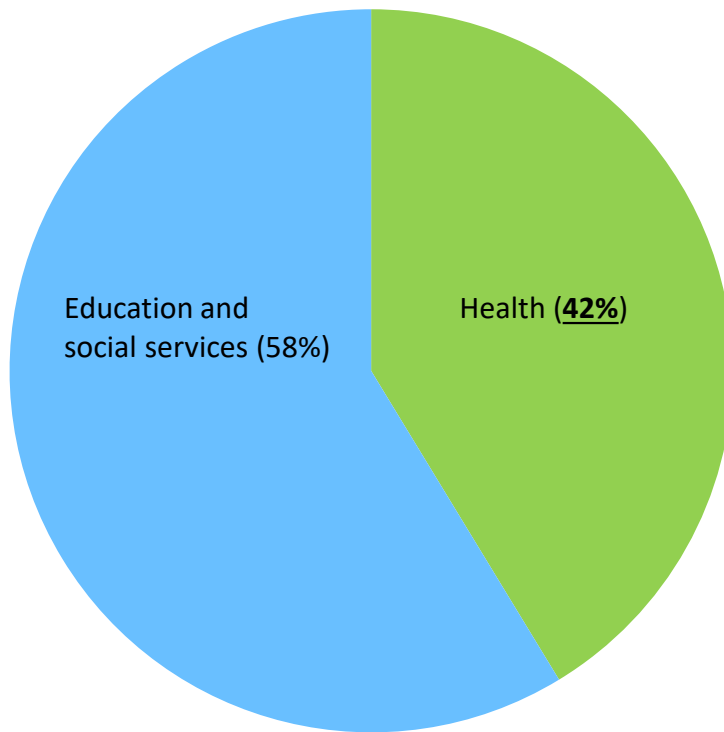
- Please share your background or previous experience applying economic approach in patient-oriented research

# Outline

- Why do economic evaluation?
- What is economic evaluation?
  - Questions we can answer
  - General factors to consider
- Summary

# Scarcity and Tradeoffs

## 2015-2016 Program Expense



Source: Ontario Ministry of Finance

# Why do Economic Evaluation?

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- Resources are limited
- Therefore, choices must be made

# Old School Methods

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- What we did last time
- Educated guesses
- Gut feelings
- Experiences

# Economic Evaluation

- A technique that compares 2 or more programs
- Considers both cost and outcome simultaneously
- Purpose = To inform decision-making

Drummond et al., 2005

# Outline

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- Why do economic evaluation?
- **What is economic evaluation?**
  - Questions we can answer
  - General factors to consider
- Summary



# Context Matters

# Context = Questions → Types of EE

Question of interest	Type of economic evaluation
Compared to usual care, is this new program cost-effective?	<ul style="list-style-type: none"><li>• Cost Benefit Analysis (CBA)</li><li>• Cost Utility Analysis (CUA)</li><li>• Cost Effectiveness Analysis (CEA)</li><li>• Cost Minimization Analysis (CMA)</li><li>• Cost Consequence Analysis (CCA)</li></ul>
How much does the program cost?	<ul style="list-style-type: none"><li>• Cost Description</li></ul>
How will the program affect the overall budget?	<ul style="list-style-type: none"><li>• Budget Impact Analysis (BIA)</li></ul>

# Discussion

- What are the question(s) which may be relevant to you and your patient population?

# Outline

- Why do economic evaluation?
- What is economic evaluation?
  - Questions we can answer
  - **General factors to consider**
- Summary

# Perspective

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- Public payer
- Patients
- Caregivers
- Health providers
- Manufacturer
- Society

# Compared to standard of care, is the new program cost-effective?

- Cost Benefit Analysis (CBA)
- Cost Utility Analysis (CUA)
- Cost Effectiveness Analysis (CEA)
- Cost Minimization Analysis (CMA)
- Cost Consequence Analysis (CCA)

Drummond et al. *Methods for the Economic Evaluation of Health Care Programmes*. 2005.  
Hoch JS and Dewa CS. *Can J Psychiatry*. 2005. 50(3):159-166

# Cost

- Many types of cost
- Direct cost
- Indirect cost
- One-time cost
- Ongoing cost
- ...

# Discussion

- What types of cost you think matter in your patient-oriented research?
- Whose perspective?



# Which TYPE of analysis to use?

- Data on cost and outcome
- Depend on your outcome (effect)

Type of EE	Cost	Outcome
Cost Benefit Analysis (CBA)	\$	\$
Cost Utility Analysis (CUA)	\$	QALY
Cost Effectiveness Analysis (CEA)	\$	Natural unit
Cost Minimization Analysis (CMA)	\$	0
Cost Consequence Analysis (CCA)	\$	Multiple outcomes

# Discussion

- Please share examples of outcomes you are working with in your patient-oriented research

# Compared to standard of care, is the new program cost-effective?

## □ Economic evaluation

- Compare cost and outcome between 2 groups

## □ Incremental Cost-Effectiveness Ratio (**ICER**)

- EXTRA cost for one EXTRA unit of outcome

- $\Delta C / \Delta E$

- $\frac{\overline{C}_{TX} - \overline{C}_{UC}}{\overline{E}_{TX} - \overline{E}_{UC}}$

# Compared to standard of care, is the new program cost-effective?

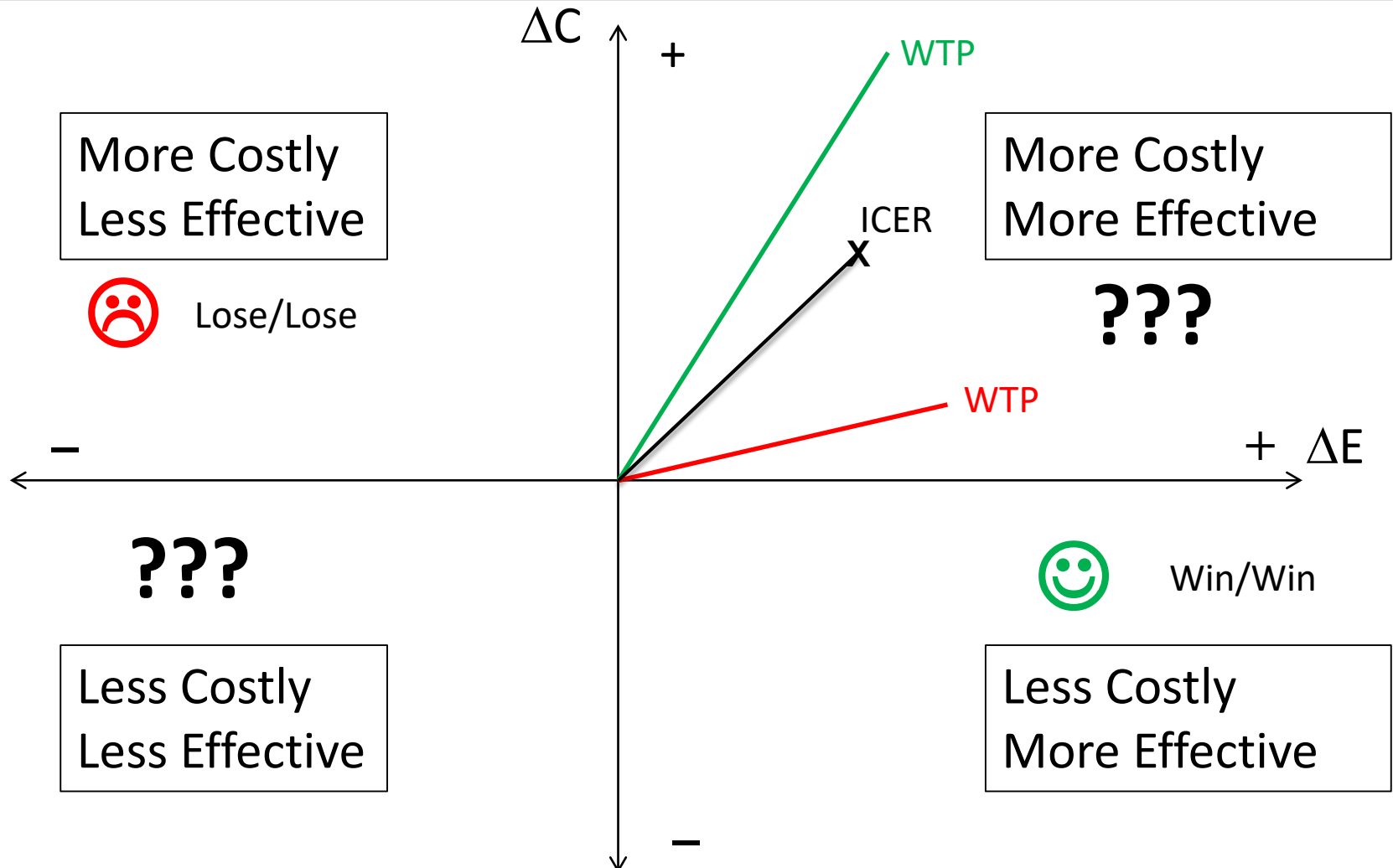
- ICER = Extra cost for 1 extra unit of effect
- Cost-effective:

$$\text{ICER} < \text{WTP}$$

$$\Delta C / \Delta E$$



# Cost-Effectiveness Plane



# Outline

- Why do economic evaluation?
- What is economic evaluation?
  - Questions we can answer
  - General factors to consider
- Summary

# Summary

- Why do economic evaluation?
  - Scarcity → having to make choices
  - You can spend each dollar once
  
- What is economic evaluation?
  - A technique to help us compare 2 or more initiatives
  - Consider both COST and EFFECT simultaneously
  
- What does “cost-effective” mean?
  - $ICER < WTP$
  - Cost; Effect; Perspective; Willingness-to-pay
  - Consider both estimate and uncertainty
  
- Economic evaluation
  - To provide evidence to assist decision- and policy-makers

# Example - Program of Research

Co-PIs - Dr. Regan & Dr. Donelle

Health Economist – Dr. Isaranuwathchai

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- Pilot Study – Caregiver experience of new model of home care
- 3-year Study – eShift model of home care build on Pilot Study of caregiver experience
  - Year 3 – economic analysis
    - Government
    - Societal
- eHIPP Study – 4 year study of home care remote monitoring
  - Economic analysis



# eHIPP Economic Analysis

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## □ Government perspective

- Measuring health care costs
  - Hospital
  - Emergency department
  - Long-term care
  - Prescription drugs

## □ Societal perspective

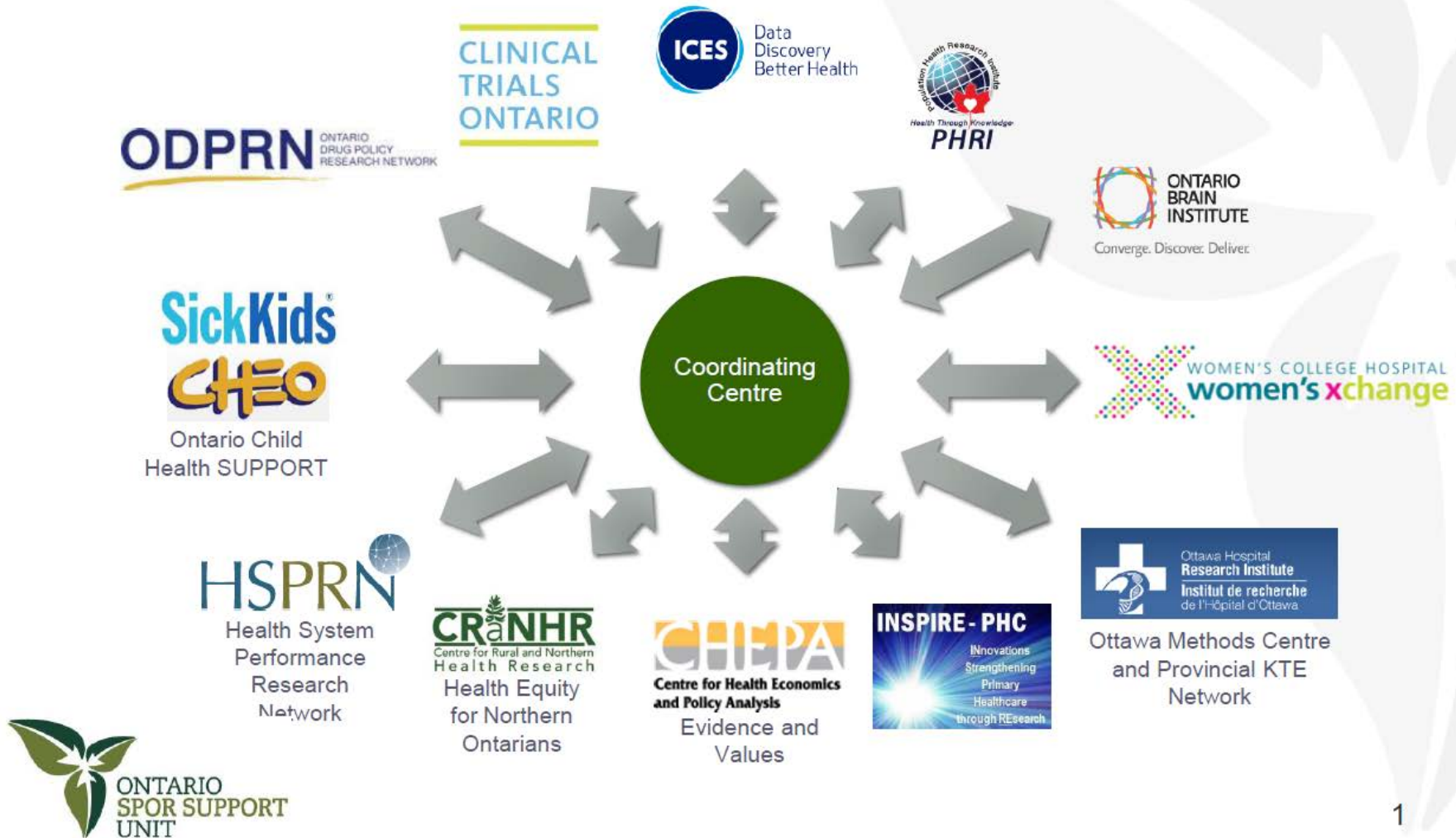
- Measuring direct and indirect costs to patient/caregiver
  - Out-of-pocket expenses
  - Time missed from work
  - Health care services not covered – prescription drugs, PT,

# THANK YOU

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[www.clear-healthconomics.ca](http://www.clear-healthconomics.ca)

# OSSU Research Centres



# Centre for Health Economics and Policy Analysis: Harnessing Evidence and Values for Health System Excellence (**CHEPA**)

- **Leads:** John Lavis and Jeremiah Hurley
- **Collaboration/support opportunities:**
  - Putting your research evidence about a problem and its causes, options for addressing a problem or key implementation considerations in the context of: other types of evidence, values, and influences
  - Contributing or complementing your research with an economic perspective
  - Contributing to or complementing your research with a citizen/patient perspective
  - <http://www.chepa.org/>



# Centre for Rural and Northern Health Research (CRaHNR)

- **Lead:** Wayne Warry
- **Collaboration/support opportunities:**
  - Capacity Building
    - ICES NORTH – analysis of data specific to north by northerners
  - Northern Patient Engagement
    - Francophone and Mainstream Partners, Indigenous, Advisory groups, Seniors panels
  - Indigenous Research Ethics
  - Identifying health care contacts, organizations, and research sites
  - Translational research, KATE for northern populations, patients, and providers
  - <http://www.cranhr.ca/>



# Clinical Trials Ontario (CTO)

- **Lead:** Susan Marlin
- **Collaboration/support opportunities:**
  - Streamlines ethics submission process and recruitment support for clinical trials at 48 health centres in Ontario
    - Multicentre SPOR related research can be submitted through the CTO system; can accommodate clinical trials and other health related research
  - Advise on research ethics review application and processes
  - Advance policy discussions within the research ethics community etc. regarding research ethics/privacy issues
  - Support communications regarding SPOR supported research
  - <http://www.ctontario.ca/>



# Health System Performance Research Network (HSPRN)

- **Lead:** Walter Wodchis
- **Collaboration/support opportunities:**
  - <http://www.hsprn.ca/>



# Innovations Strengthening Primary Health Care through Research (**INSPIRE-PHC**)

- **Lead:** Moira Stewart
- **Collaboration/support opportunities:**
  - Ideas for Primary Health Care collaborators (researchers and knowledge users)
  - KTE expertise and advice for PHC research (network of researchers)
  - Consultations on PHC specific methodology/processes
  - Dissemination of research to larger network of interdisciplinary PHC related researchers and decision makers
  - <http://www.phcresearchnetwork.com/>





# Institute for Clinical Evaluative Sciences (ICES)

- **Leads:** David Henry and Michael Schull
- **Collaboration/support opportunities:**
  - Access to all major data holdings:
    - Ontario Health Insurance Plan Claims (OHIP)
    - Hospital Discharge Abstract Database (DAD)
    - Same Day Surgery (SDS)
    - National Ambulatory Care Reporting System (NARCS)
    - Ontario Drug Benefit Claims (ODB)
    - Continuing Care Reporting System (CCRS)
    - ICES-derived and validated cohorts: Asthma, COPD, CHF, Diabetes, Hypertension, MOMBABY
  - Data Tools: John's Hopkins ACGs, Costing Macros
  - <http://www.ices.on.ca/>



# Ontario Child Health Support Unit at SickKids and CHEO (**OCHSU**)

- **Leads:** Martin Osmond, Colin Macarthur
- **Collaboration/support opportunities:**
  - Methods/biostatistics
  - Child health standards
  - Clinical trials
  - Routinely collected health data
  - Health economics evaluation
  - <http://www.ochsu.ca/en/OCHSU>



# Ontario Drug Policy Research Network(**ODPRN**)

- **Leads:** Muhammad Mamdani, Tara Gomes, David Juurlink
- **Collaboration/support opportunities:**
  - <http://odprn.ca/>

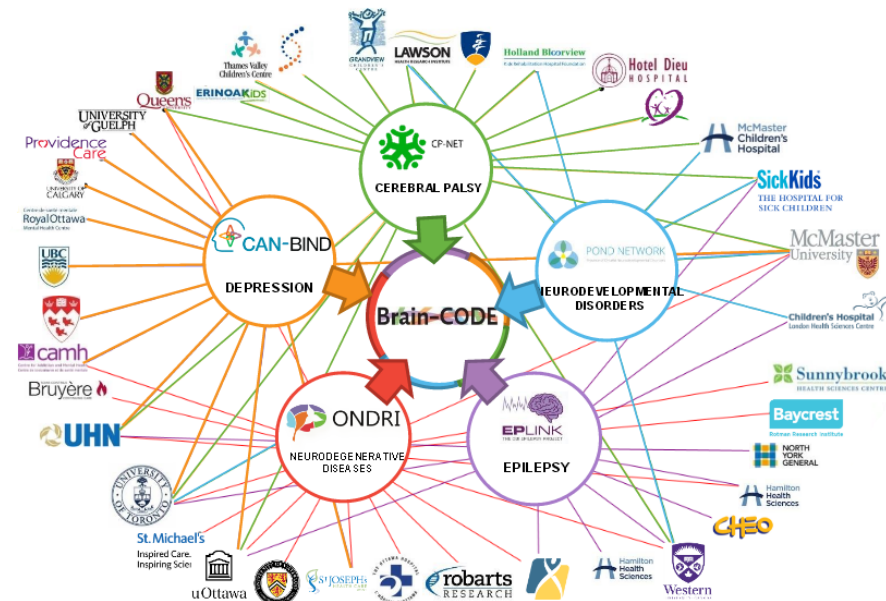
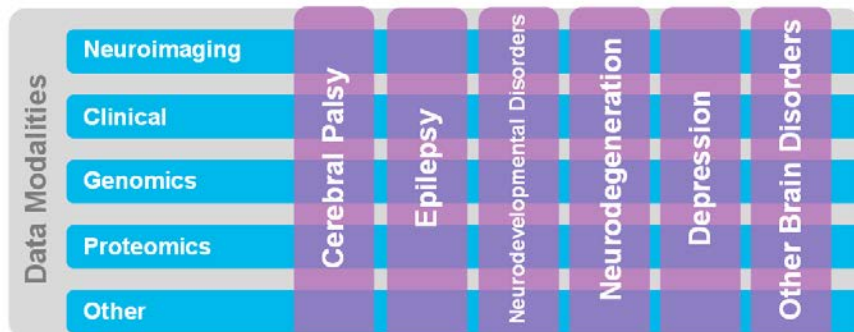


# Ontario Brain Institute (OBI)

- **Lead:** Tom Mikkelsen
- **Collaboration/support opportunities:**
  - Connect researchers with the patient community
  - Connect researchers to data through integrated discovery programs and Brain CODE (database)
  - commercialization of neuroscience research
  - <http://www.braininstitute.ca/>



*Integrated Discovery Programs*



# Ottawa Methods Centre and Provincial KTE Network

- **Leads:** Jeremy Grimshaw, Dean Fergusson, Sharon Straus
- **Collaboration/support opportunities:**
  - Methods service provided for OSSU collaborations
  - Research design methodology
  - Data Management and data linkage expertise
  - Statistical support
  - Health economics
  - Budget reviews and cost estimates guidance
  - Rapid reviews methods experience
  - <http://www.ohri.ca/>



# Population Health Research Institute (PHRI)

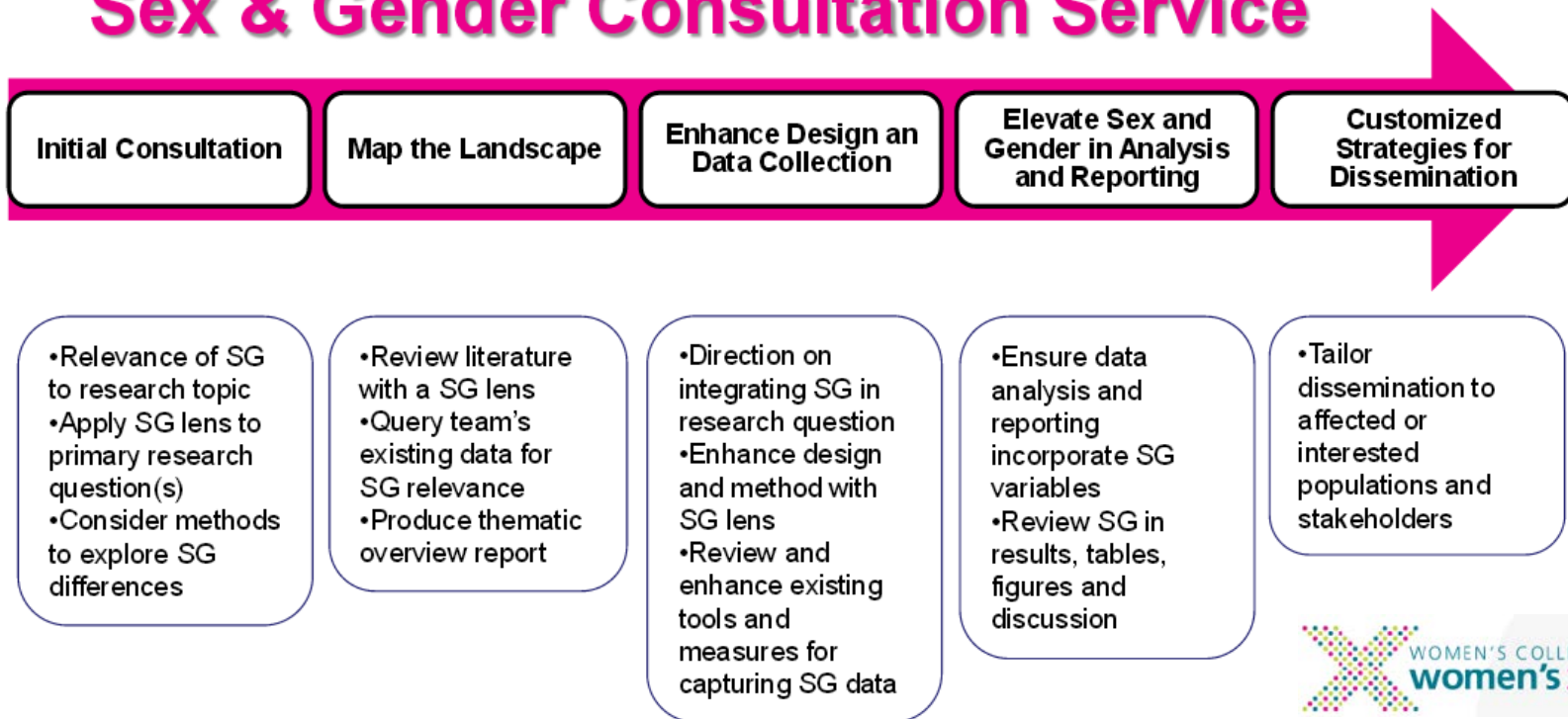
- **Lead:** Salim Yusuf
- **Collaboration/support opportunities:**
  - Data centre: large, simple, randomized trials, registries, and cohorts
  - Bio bank
  - Global collaborations: over 1,500 centres in 86 countries
  - Expertise in:
    - Cardiovascular disease, diabetes, arrhythmias, perioperative medicine, cardiac surgery, kidney disease
    - Population health/epidemiology
    - Clinical trial methodology
    - Population genomics and biomarkers
    - Global study and data coordinating centre
    - <http://www.phri.ca/>



# Women's College Hospital – Women's Xchange

- **Lead:** Paula Rochon
- **Collaboration/support opportunities:**
  - <http://womensxchange.womensresearch.ca/>

## Sex & Gender Consultation Service



# Sources of pre-appraised, synthesized research evidence

- McMaster Optimal Aging Portal:  
<https://www.mcmasteroptimalaging.org/>
- ACCESSSSS:  
<https://plus.mcmaster.ca/ACCESSSSS/>
- Health Evidence:  
<http://www.healthevidence.org/>
- Health Systems Evidence:  
<https://www.healthsystemsevidence.org/>