A scoping review of appropriateness of care research activity in Canada from a health system level perspective

CAHSPR Conference, Concurrent Session F7
May 15, 2014

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Health Council of Canada
Conseil canadien de la santé
Background

- There is increased interest in evaluating the appropriateness of health care services

Are the right services being delivered to the right people, at the right time, by the right complement of health care providers, and in the right health care setting?
Background

- There is increased interest in evaluating the appropriateness of health care services

- Most current definitions of appropriateness are clinically focused (Sanmartin et al., 2008)

- Stakeholder groups in Canada are focusing on appropriateness from a system-level perspective
  - E.g. Council of the Federation HIWG
Objectives

Given growing interest in this field, we aimed to:

1) Identify and categorize Canadian research and related activity focused on system-level appropriateness of care

2) Create a publically-available database to inform evidence-based decision-making and future research priorities in this area
Guiding Definition

System level appropriateness of care

is the use or non-use of a health service and/or intervention based on the evaluation of:

(i) evidence of effectiveness (including net individual health benefit and/or population net health benefit);
(ii) economic implications (e.g., cost-effectiveness, resource availability, sustainability);
(iii) other health system impacts (e.g., small area variation);
(iv) consideration of ethical implications and societal values.
Scoping Review Methodology

What it Is

- Examines the extent, range, and nature of research in a given field
- Broad research question
- Inc/Exc criteria developed iteratively
- Examines many sources, including grey literature

What it Isn’t

- Not a systematic review
- Included studies are not assessed for methodological quality
  - Recommendations on study design/quality are usually not made
- Often leads to systematic reviews
Methods: Overview

1. Literature Search

Title-Abstract Screening
Full-text Screening

2. Website Search

3. Charting Results
Methods: Overview

1. Literature Search
   - Title-Abstract Screening
   - Full-text Screening

2. Website Search

3. Charting Results
   - Medline, EMBASE and CINAHL databases between 2003 – 2013
Methods: Overview

1. Literature Search
   - Medline, EMBASE and CINAHL databases between 2003 – 2013
   - Canadian-based articles meeting inclusion criteria were included
   - Inc/Exc criteria refined iteratively

2. Website Search

3. Charting Results

Title-Abstract Screening
Full-text Screening
Methods: Overview

1. Literature Search
   - Targeted website search of Canadian-based organizations and F/T/P ministries of health
   - Searched April – Dec 2013 with a systematic approach
   - Identified appropriateness of publications, programs, and initiatives

2. Website Search

3. Charting Results

Title-Abstract Screening
Full-text Screening
Methods: Overview

1. Literature Search
   - Title-Abstract Screening
   - Full-text Screening

2. Website Search

3. Charting Results

- Two databases that map out research and related activity in Canada
  - Peer-reviewed literature
  - Websites

- Available soon in Healthcare Policy
Results: Literature Search Flowchart

Article types: systematic reviews, randomized-controlled trials, cost-effectiveness analyses, health technology assessments, etc.

Medline, Embase, Cinahl search n=6050

Duplicates n=1071

Title abstract screen n=4979

Excluded n=4375

Full text review n=604

Duplicate n=2
Full text not located n=25
Excluded n = 477 (not relevant, duplicate, commentary, not Cdn focus)

Include from commentary found in literature search n=1

Total charted n=103
## Results: Literature Search Analysis

<table>
<thead>
<tr>
<th>Type of Analysis</th>
<th>Evaluation of Appropriateness</th>
<th>Cost-analysis</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation of Appropriateness</td>
<td>64</td>
<td>30</td>
<td>9</td>
</tr>
<tr>
<td>Cost-analysis</td>
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### Type of Health Service/Intervention
- Clinical Area (e.g. cardiovascular, chronic disease)

### Population
- (e.g. seniors, paediatrics)

### Evaluation Setting
- (e.g. health region, province, pan-Canadian)
# Results: Literature Search Analysis

## Type of Analysis

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- Comparison practice to guidelines ($n=40$)
- Use of appropriateness criteria ($n=5$)
- RAND/UCLA rating method ($n=2$)
- Peer review ($n=2$)
- Combinations or other ($n=16$)
- Markov modeling, expenditures, cost estimates
Results: Literature Search Analysis

Type of Health Service/Intervention

Total charted N=103

- Biopharmaceuticals n=10
- Diagnostic imaging n=4
- Drug Therapy n=40
- Health service utilization n=33
- Non-drug technology n=4
- Non-drug therapy n=4
- Surgery n=8

- Blood products n=5
- Immunization n=3
- Other n=2
- Antibiotics n=7
- NSAIDs n=3
- Preventive care n=6
- Psychotropic drugs n=8
- Other n=16

- 14 clinical areas identified; cardiovascular care most common (n=21)

- Acute care
- Cardiovascular care
- Chronic disease
- Geriatrics
- Mental Health
- Obstetrics
- Ophthalmology
- Orthopaedics
- Paediatrics
- Patient safety
- Policy
- Primary care
- Public Health
- Transfusion medicine
Results: Website Search Analysis

- Cross-section of the country
- Charting according to
  - Type of activity
  - Resources available
- Resources included reports and tools

Websites in list \( n=73 \)

Main page scan for relevancy

Websites screened \( N=60 \)

In-depth screening, methods 1 and 2

Websites from which material was collected \( n=58 \)

Exclude \( n=13 \) (not relevant = 6, not Canadian \( n=3 \), other \( n=4 \))

Excluded \( n=2 \) (not relevant)
Discussion

- First review to map out research and related activity focused on system-level appropriateness of care
  - Literature focused on health service utilization, drug therapies
  - Little system-level work in diagnostic imaging, despite this being a priority focus of many governments
  - Several disparate organizations have some stake in appropriateness research; opportunities for alignment?
Conclusions & Significance

- Evaluating appropriateness of care is a priority for organizations, policy-makers, and governments
  - Opportunities exist to use the knowledge already available and conduct further research

- Our databases may serve as a resource to identify existing knowledge and guide future research

- Collaborative efforts can accelerate advancements in this area
Acknowledgements

Co-authors
Yvonne Tse, Sophia Harrison
Susan Brien, Mary Byrnes, Mark Dobrow
Dr. Charles Wright, Dr. Cy Frank

Sponsors
The Health Council of Canada
Thank You!

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