How can we use routinely collected PROMs data to support decision-making within the healthcare system?

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How can we use routinely collected PROMs data to support decision-making within the healthcare system?

Patient-reported outcome measures (PROMs) are measurement instruments designed to assess health outcomes as directly reported by patients, without interpretation of their responses by clinicians or anyone else.
### PROMs commonly used in Alberta

<table>
<thead>
<tr>
<th>Generic</th>
<th>Specific</th>
</tr>
</thead>
<tbody>
<tr>
<td>EQ-5D-3L / 5L</td>
<td>WOMAC</td>
</tr>
<tr>
<td>SF-12 / 36</td>
<td>ESAS</td>
</tr>
<tr>
<td></td>
<td>PHQ-9</td>
</tr>
</tbody>
</table>

Pain rating scales

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**How can we use routinely collected PROMs data to support decision-making within the healthcare system?**

“The primary goal of most health care systems is to improve patients’ health outcomes – and, arguably, it is the patients themselves who are best placed to judge how the health system is impacting their lives. Health systems collect large amounts of healthcare data including numbers of patients treated, types of services delivered, and cost of healthcare. However, we lack data that patients (clinicians and health systems) need to understand how the system is performing.

Devlin & Appleby, 2010

“We need to invest in measures that will help us assess whether our health systems deliver what matters most to people”

Health Ministers of OECD countries, 2017 (including Canada)
PROMs

Life years saved
Clinical outcomes
Cases prevented
Hospitalization rates
ER visits

Functioning
Disability

PROM

Triple Aim Framework

Triple Aim
Improve Health
Lower Costs
Better Care
PROMs – a theoretical framework

Source: Santana & Feeny, 2014

PROMs impact on CONTINUITY OF CARE

Patients report improvements in continuity of care when quality of life assessments are used routinely in oncology practice: secondary outcomes of a randomised controlled trial.

PROMs impact on PSYCHOSOCIAL WELL-BEING

Monitoring and discussing health-related quality of life in adolescents with type 1 diabetes improve psychosocial well-being: a randomized controlled trial.

dewit M et al.

PROMs impact on SURVIVAL

Figure. Overall Survival Among Patients With Metastatic Cancer Assigned to Electronic Patient-Reported Symptom Monitoring During Routine Chemotherapy vs Usual Care

How can we use routinely collected PROMs data to support decision-making within the healthcare system?


There are no guidelines or formal requirements for the use and reporting of PROMs in the province. Use is often driven by the interest to incorporate patients’ perspectives into the care model, and/or by reporting requirements.
WHITE PAPER

Enhancing the Use of Patient-reported Outcome Measures (PROMs) in the Healthcare System in Alberta

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CLINICAL STUDY

Population health
Clinical practice
Health System
How can we use routinely collected PROMs data to support decision-making within the healthcare system?

Use of PROMs Data – A Multi-Level Approach

- **Macro**
  - Health system, policy-makers

- **Meso**
  - Healthcare organizations

- **Micro**
  - Healthcare providers, patients

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**Use of PROMs Data – MICRO**

**Patient & Care Provider**

Informs patient management and care plan

- Patient completes the PROM prior or during clinical encounter.
- The PROM could be used to:
  - Identify health issues as reported by patients, especially those that may go unnoticed (e.g., pain, anxiety).
  - Monitor patients’ outcomes over time to inform usefulness of treatments or interventions.
  - Empower patients to share how they feel about their health with their care providers.
Use of PROMs Data – MICRO

Visit 1

**MOBILITY**
- I have no problems in walking about ✓
- I have slight problems in walking about
- I have moderate problems in walking about
- I have severe problems in walking about
- I am unable to walk about

**SELF-CARE**
- I have no problems washing or dressing myself ✓
- I have slight problems washing or dressing myself
- I have moderate problems washing or dressing myself
- I have severe problems washing or dressing myself
- I am unable to wash or dress myself

**USUAL ACTIVITIES**
- I have no problems doing my usual activities ✓
- I have slight problems doing my usual activities
- I have moderate problems doing my usual activities
- I have severe problems doing my usual activities
- I am unable to do my usual activities

**PAIN/DISCOMFORT**
- I have no pain or discomfort ✓
- I have slight pain or discomfort
- I have moderate pain or discomfort ✓
- I have severe pain or discomfort
- I have extreme pain or discomfort

**ANXIETY/DEPRESSION**
- I am not anxious or depressed ✓
- I am slightly anxious or depressed
- I am moderately anxious or depressed ✓
- I am severely anxious or depressed
- I am extremely anxious or depressed

Visit 2

**MOBILITY**
- I have no problems in walking about ✓
- I have slight problems in walking about
- I have moderate problems in walking about
- I have severe problems in walking about
- I am unable to walk about

**SELF-CARE**
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- I am severely anxious or depressed
- I am extremely anxious or depressed

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Use of PROMs Data – MICRO

**Patient ID 100: Pain/Discomfort**

- visit 1: 4
- visit 2: 4
- visit 3: 3
- visit 4: 2
- visit 5: 2
Use of PROMs Data – MICRO

Use of PROMs Data – MESO
Use of PROMs Data – MESO

Healthcare Organization
Informs performance measurement and evaluation

- PROM completed by multiple patients at various clinics are aggregated and data analyzed to:
  - Compare patients’ health outcomes between providers or clinics
  - Examine the effectiveness of a health intervention or program and compare it across different providers or sites
  - Triage patients according to their self-reported health problems to inform care delivery

Change in EQ-5D pain/discomfort dimension after completing a pain management program at a PCN clinic:

- Worsen: 32%
- No change: 15%
- Pain/Discomfort: 26%
- Improve: 33%

Average ESAS score by provider:

<table>
<thead>
<tr>
<th>Provider</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provider 1</td>
<td>4.3</td>
</tr>
<tr>
<td>Provider 2</td>
<td>8.4</td>
</tr>
<tr>
<td>Provider 3</td>
<td>8.9</td>
</tr>
<tr>
<td>Provider 4</td>
<td>6.9</td>
</tr>
<tr>
<td>Provider 5</td>
<td>2.8</td>
</tr>
</tbody>
</table>

Low: 46.3
Moderate: 30.2
High: 23.5
Use of PROMs Data – MACRO

Health System
Inform resource planning and allocation
PROM completed by multiple patients at various clinics across the province are aggregated and data analyzed to:
- Compare patients’ health outcomes across health zones
- Compare patients’ response to treatments or interventions across hospitals
- Identify key health problems at a provincial level

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Use of PROMs Data – MACRO

% of patients achieving an MID (EQ-SD) after hip arthroplasty

- Hospital 5: 90%
- Hospital 4: 68%
- Hospital 3: 84%
- Hospital 2: 85%
- Hospital 1: 82%

Source: Devlin & Appleby 2010

Use of PROMs Data – MACRO

Cost-effectiveness plane for orthopaedic surgery

- £30,000/QALY
- £20,000/QALY

Average QALY gained = 5.2
Average cost per QALY gained = £1,800

Source: Devlin & Appleby 2010
Methodological Challenges

- Attrition and missing data
- Lack of a control arm in comparative effectiveness analysis
- Large data pitfalls
- Statistical significance vs. clinical importance
- Representativeness of the sample
- Response shift
- Case-mix adjustment
- Data linkage

Use of PROMs Data
How can we use routinely collected PROMs data to support decision-making within the healthcare system?

- **Micro**
  - Patient management
  - Usefulness of treatments

- **Meso**
  - Program evaluation
  - Healthcare delivery

- **Macro**
  - Quality improvement
  - Resource planning & allocation

Previous Webinars: [https://apersu.ca/webinars/](https://apersu.ca/webinars/)
- Collecting, analyzing and interpreting EQ-5D Data
- The use of EQ-5D in Program Evaluation
- The use of EQ-5D in Economic Evaluations
- The use of EQ-5D in Clinical Practice
- Comparing PROMs/EQ-5D data with population norms
- The use of PROMs/EQ-5D in economic analysis
- Disease-specific PROMs: when and how to use them
- Minimally important difference of PROMs: What is it, and when and how to use it?