Using Performance Data to Drive Quality Improvement in Cancer Services: Cancer Care Ontario’s Approach

14th JASP Conference

Carol Sawka, MD FRCPC
Vice President
Clinical Programs and Quality Initiatives
Cancer Care Ontario

November 23, 2010

Overview

1. What is CCO?
2. The Ontario Cancer Plan: our strategy
3. Performance improvement cycle
4. Clinical accountability framework
5. Performance measurement and reporting tools: Internal and public reporting
6. Examples
About Cancer Care Ontario: What We Do

- Direct and oversee close to $700 million public health care dollars to hospitals and other cancer care providers to deliver high quality, timely cancer services
- Implement provincial cancer prevention and screening programs designed to reduce cancer risks and raise screening participation rates
- Work with cancer care professionals and organizations to develop and implement quality improvements and standards
- Use electronic information and technology to support health professionals and patient self-care to continually improve the safety, quality, efficiency, accessibility, and accountability of cancer services
- Plan cancer services to meet current and future patient needs, and works with health care providers in every Local Health Integration Network to continually improve cancer care for the people they serve
- Rapidly transfers new research into improvements and innovations in clinical practice and cancer service delivery

Our Regional Structures
Regional / Provincial Leadership Alignment & Coordination
System-wide strategy

Vision
• Working together to create the best cancer system in the world

Mission
• We will improve the performance of the cancer system by driving quality, accountability and innovation in all cancer-related services

Guiding Principles
• Transparency
• Equity
• Evidence-based
• Performance oriented
• Active engagement
• Value for money

Goals
1. Help Ontarians lessen their risk of developing cancer
2. Reduce the impact of cancer through effective screening and early detection
3. Ensure timely access to accurate diagnosis and safe, high quality care
4. Improve the patient experience along every step of the patient journey
5. Improve the performance of Ontario’s cancer system
6. Strengthen Ontario’s ability to improve cancer services and control through research

Strategic priorities
Develop and implement a focussed approach to cancer risk reduction
Implement integrated cancer screening
Continue to improve patient outcomes through accessible, safe, high quality care
Continue to improve the patient experience
Develop and implement innovative models of care delivery
Expand our efforts in personalized medicine
How do we drive change?

Performance & Clinical accountability framework

Extensive clinical engagement and joint clinical/administrative accountability for quality at provincial and regional levels

The Performance Improvement Cycle

1. Data/Information
   - Incidence, mortality, survival
   - Analysis
   - Indicator development
   - Expert input

2. Knowledge
   - Research production
   - Evidence-based guidelines
   - Policy analysis
   - Planning

3. Transfer
   - Publications
   - Practice leaders engaged
   - Policy advice
   - Public reporting
   - Technology tools
   - Process innovation

4. Performance Management
   - Institutional agreements
   - Quarterly review
   - Quality-linked funding
   - Clinical accountability
Clinical accountability structures

Clinical Council

- Prevention
- Family medicine
- Screening
- Imaging
- Pathology and Laboratory Medicine
- Surgical Oncology
- Systemic Therapy
- Radiation Therapy
- Oncology Nursing
- Patient Education
- Palliative Care

Integrated Approach to Clinical Accountability
## Our Quality Framework

### Population Studies
- Risk factors & socio-demographic factors

### Surveillance
- Incidence, mortality, survival, prevalence

### Quality Dimensions
- Safe
- Effective
- Accessible/ Timely
- Patient Centred/ Responsive
- Equitable
- Integrated
- Efficient

### Patient Journey
- Prevention
- Screening
- Diagnosis
- Treatment
- Recovery
- End-of-Life Care

**Framework examines all aspects in Journey:**
- **Structure**
- **Process**
- **Outcome**

**Framework examines all levels:**
- **Macro**
- **Meso**
- **Micro**

## Cancer System Quality Index: Currently publicly reported indicators

### Quality Dimensions
- Safe
- Effective
- Accessible/ Timely
- Patient Centred/ Responsive
- Equitable
- Integrated
- Efficient

<table>
<thead>
<tr>
<th>Patient Journey</th>
<th>Quality Dimensions</th>
<th>Cancer System Quality Index: Currently publicly reported indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevention</td>
<td>Safe, Effective</td>
<td>Gaps guide future work</td>
</tr>
<tr>
<td>Screening</td>
<td>Safe, Effective</td>
<td></td>
</tr>
<tr>
<td>Diagnosis</td>
<td>Safe, Effective</td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>Safe, Effective</td>
<td></td>
</tr>
<tr>
<td>Recovery</td>
<td>Safe, Effective</td>
<td></td>
</tr>
<tr>
<td>End-of-Life Care</td>
<td>Safe, Effective</td>
<td></td>
</tr>
</tbody>
</table>

### Gaps guide future work

14es Journées annuelles de santé publique
Internal Reporting

- Provincial Targets set by Provincial Programs for each yearly priority
- Regional Targets negotiated through the RVP
- Performance against targets monitored through the CCO
- Regional Scorecard is a central component of RVP performance review
- Progress against targets reported publicly through CSQI, and in annual OCP update

Measurement is embedded in Performance Improvement Cycle

Regional Scorecard
Examples:

1. Pathology reports
2. Cancer surgery
3. Symptom management
4. Regional performance across the cancer journey

Pathology Reporting

- Completeness according to CAP checklists
- Synoptic standardized reporting
80% of Ontario hospitals have adopted CAP; new hospital e-Tools, and standards are ensuring sustainability of the clinical reporting standard

<table>
<thead>
<tr>
<th>Reporting Level</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Level 5</th>
<th>Level 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Narrative + No CAP content + Single text field data</td>
<td>Narrative + CAP content + Single text field data</td>
<td>Narrative + Report + Structured field data</td>
<td>Narrative + Synoptic + Electronic reporting tools + drop-down menus</td>
<td>Narrative + Synoptic + Electronic reporting tools + C-Keys, SNOMED CT or other encoding</td>
<td></td>
</tr>
<tr>
<td>% Ontario Hospitals 2004-05</td>
<td>5%</td>
<td>40%</td>
<td>50%</td>
<td>5%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>% Ontario Hospitals 2006-07</td>
<td>0%</td>
<td>5%</td>
<td>70%</td>
<td>25%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>% Ontario Hospitals 2008-09</td>
<td>0%</td>
<td>0%</td>
<td>65%</td>
<td>17%</td>
<td>18%</td>
<td>0%</td>
</tr>
<tr>
<td>% Ontario Hospitals 2009-10</td>
<td>0%</td>
<td>0%</td>
<td>20%</td>
<td>2%</td>
<td>78%</td>
<td>0%</td>
</tr>
<tr>
<td>% Ontario Hospitals November 2010</td>
<td>0%</td>
<td>0%</td>
<td>20%</td>
<td>2%</td>
<td>69%</td>
<td>9%</td>
</tr>
</tbody>
</table>

Data Source: CCO PIMS ePath Database; As of November 1, 2010.

Almost 60% of all pathology resection reports were received in discrete data field synoptic format for cancer surgeries completed in September 2010

Initial focus in 2008-10 – implement top 5 common cancer resections
Current focus 2010-12 – expand to all other cancer resections

Data Source: CCO PIMS Database; Reports received by month of date of surgery; from May 08 to Aug 10, as of Oct 30/10.
Discrete data field synoptic pathology reporting is foundation for Ontario’s pathology data quality program with monthly reporting back to hospitals.

This indicator was developed using data from a labor intensive manual audit of electronic reports, with 3 staff over 5 months.

Since implementation of discrete data field synoptic reporting, 95% of synoptic pathology reports were complete against the CAP standard.

Data Source: CCO PIMS Database; Reports received by month of date of surgery, from May 08 to Aug 10, as of Oct 30/10.
Synoptic reporting in discrete data field format supports secondary data uses of the rich information in cancer pathology reports

- Enables automated tumour registration and stage data capture to support cancer surveillance
- Supports the provincial and national pathology data quality program
- Enables surgical indicator reporting for quality improvement
- Provides standardized data in discrete synoptic format to enable electronic data mining to support cancer system planning, evaluation and research

Cancer Surgery: positive margin rates with radical prostatectomy
% Positive surgical margin (PSM) rate for Radical Prostatectomies for pT2 patients, pT3 patients and Overall, by Province

<table>
<thead>
<tr>
<th>Year</th>
<th>pT2 Patients</th>
<th>pT3 Patients</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>29%</td>
<td>36%</td>
<td>31%</td>
</tr>
<tr>
<td>2006</td>
<td>32%</td>
<td>39%</td>
<td>31%</td>
</tr>
<tr>
<td>Total</td>
<td>31%</td>
<td>36%</td>
<td>31%</td>
</tr>
</tbody>
</table>

Positive Margin %

Source: FY2005 and 2006 CCO Pathology Audits

Prostate Margin Rate – 2008 to 2010

- Guideline for Optimization of Surgical and Pathological Quality Performance for Radical Prostatectomy in Prostate Cancer Management Released 2008
  - “… a positive margin rate of <25% for pT2 disease should be an achievable goal.”
- Implementation of synoptic pathology reporting, near-real time reporting
- KT Initiatives:
  - provincial workshops (2) numerous regional workshops
- Provincial positive margin rate for pT2 patients: 31% (2005 & 2006) to approx 20% (FY10/11, Q1)
Positive margin Rates for Radical Prostatectomy, for pT2 and >pT2 patients, FY08/09 to FY10/11

<table>
<thead>
<tr>
<th>Quarter</th>
<th>2008/09</th>
<th>Quarter_1</th>
<th>2009/10</th>
<th>Quarter_2</th>
<th>2010/11</th>
<th>Quarter_3</th>
<th>2010/11</th>
<th>Quarter_4</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; pT2 Total</td>
<td>50.0%</td>
<td>40.0%</td>
<td>58.3%</td>
<td>39.6%</td>
<td>38.2%</td>
<td>41.3%</td>
<td>50.5%</td>
<td>46.4%</td>
</tr>
<tr>
<td>pT2</td>
<td>0.0%</td>
<td>45.5%</td>
<td>33.3%</td>
<td>23.6%</td>
<td>21.6%</td>
<td>19.9%</td>
<td>20.8%</td>
<td>19.0%</td>
</tr>
<tr>
<td>&gt;pT2 - Total # Reports</td>
<td>2</td>
<td>5</td>
<td>24</td>
<td>53</td>
<td>89</td>
<td>63</td>
<td>59</td>
<td>138</td>
</tr>
<tr>
<td>pT2 - Total # Reports</td>
<td>1</td>
<td>30</td>
<td>51</td>
<td>89</td>
<td>272</td>
<td>156</td>
<td>207</td>
<td>284</td>
</tr>
<tr>
<td># Reporting hospitals</td>
<td>2</td>
<td>5</td>
<td>8</td>
<td>24</td>
<td>26</td>
<td>35</td>
<td>54</td>
<td>64</td>
</tr>
</tbody>
</table>

Source: Cancer Care Ontario, Pathology / Stage Capture program; PIMS

Symptom Management
OCSMC targets improvement in cancer patient’s physical and emotional symptoms

**Rationale**
- Inconsistency in cancer symptom management practices across province
  - Limited use of standardized tools
  - Lack of palliative care service integration
  - Poor system outcomes—40% visit ED last 2 weeks; acute care LOS (14 days)

**Purpose**
- To improve the quality and consistency of patient’s physical and emotional symptom management across the patient journey
  - Earlier identification and communication of symptoms
  - Improved symptom management
  - Improved collaborative care planning for patients
- To improve the patient experience

**Approach**
- Implement and assist in adoption of common tools: ESAS\(^1\), PPS\(^2\), symptom management guides, collaborative care plans
- Host and support ISAAC\(^3\) - electronic tool for ESAS and PPS
- Establish and monitor improvement aims and regional targets (RCCs)
  - 90% lung cancer patients screened with ESAS
  - 65% all other cancer patients screened with ESAS (2010/11)

---

1. ESAS – Edmonton Symptom Assessment System
2. PPS – Palliative Performance Scale
3. ISAAC – Interactive Symptom Assessment and Collection

---

Information captured in ISAAC has uses ranging from individual patient care to system planning and performance

**Improving Patient Care**
- Monitoring patients symptoms over time and across care settings

**Guide regional improvement and clinical practice**
- Regional monthly progress reports
- Provider level reports

**Performance Measurement**
- CCO’s quarterly reviews with regions
- CCO’s performance scorecard

**Public Reporting**
- Cancer System Quality Index (CSQI)

**Inform planning and impact on system outcomes**
- Researchers accessing Symptom Management database
Monitoring patients symptoms over time and across care settings

Overall growth in number of screens & patients

- ~530,000 ESAS records to June 2010
  - > 250,000 ESAS screens in past year

- > 25,000 ESAS screens in June 2010
  - 38% increase over June 2009 (18,500)

- ~ 18,500 unique patient screened at RCCs (June 2010)
  - 32% increase over June 2009 (14,000)
Upward momentum continues
Greater than 250,000 ESAS screens in past year

>1/3 increase in provincial “all other cancer” performance

Percent of 'All Other Cancers' Patients who were Screened at Least Once with ESAS
Regional Cancer Centre Patients Only
July YTD 2009/10 vs 2010/11

Total Patients Screened (June 2010)
Patients value ISAAC approach to symptom assessment

- Thought ESAS was important to complete as it helps health care providers know how they are feeling (89% in 85% in 2007)
- Preferred the kiosk/internet version of ESAS over the paper tool (70%)
- Agreed that their pain and other symptoms have been controlled to a comfortable level (78% in 62% in 2007)
- Agreed that their providers took into consideration ESAS symptom ratings in developing a care plan (79% in 61% in 2007)

ESAS Satisfaction Survey 2009/10 (Sample of 8 RCCS – 844 patients completed)

Developing measurement strategy beyond screening
Incorporates clinician action and decreases symptom burden

<table>
<thead>
<tr>
<th>Symptoms Assessed</th>
<th>Action Taken</th>
<th>Burden Decreased</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current / short-term</td>
<td>% lung / all other cancer patients screened (RCC)</td>
<td>Chart audits for appropriate referrals (PPCIP)</td>
</tr>
<tr>
<td>Medium-term</td>
<td>% all cancer patients screened (RCC) and % growth screens per month (RCC and overall)</td>
<td>Chart audits for concordance with SMGs and algorithms (annual chart audits)</td>
</tr>
<tr>
<td>End state</td>
<td>% all cancer patients in all treatment locations screened</td>
<td>Automatic notification / SMG concordance audit through EHR</td>
</tr>
</tbody>
</table>

- AOPSS – compare pain management reports - ISAAC vs. matched non-ISAAC patients
- % patients lower pain scores w/in 72 hours (where possible)
- Decrease in % ED visits for ISAAC related symptoms
- Compare ED visits ISAAC vs. matched non-ISAAC patients
Regional performance across the journey

• Overall strategy to improve regional performance in specific cancer types

Example: Colorectal cancer performance in Erie/St.Clair Region

Colorectal Cancer Pathway Regional Visits: Discussion of region-specific data for each phase of the journey

- Crude / age standardized incidence
- FOBT participation rates
- % rectal cancer patients having MRI
- Wait time from diagnosis to 1st treatment
- Chemotherapy guideline concordance
- % rectal cancer patients with rad onc consult
- Symptom assessment rates
- Age standardized 5-year survival rates
CRC should be top of mind in Erie St. Clair
Above average crude and standardized incidence

Progress being made on FOBT screening targets

Notes:
1. Colon and rectum (ICD-O-3 C18-C20, C26.0).
2. Crude rates are per 100,000.
3. Age-standardized rates are per 100,000 and adjusted to the age distribution of the 1991 Canadian population.
4. Cases with unknown LHIN were excluded.
Erie St. Clair - Slightly longer than average diagnosis to 1st treatment wait times

Report Date: February, 2009

Data Sources:
- OCRIS: Used for identifying CRC cohort
- CIHI DAD/NACRS: Non-RCC Systemic treatment dates and Surgical treatment dates
- ALR: RCC Systemic and Radiation treatment

Prepared by: Cancer Care Ontario, Cancer Informatics
**See Appendix

19% of rectal cancer patients having MRI

Erie St. Clair below Ontario average

Report Date: February, 2009

Data Sources:
- OCRIS: Used for identifying CRC cohort
- WTIS: MRI/CT Scans

Prepared by: Cancer Care Ontario, Cancer Informatics
**See Appendix

14es Journées annuelles de santé publique
Does oral chemotherapy explain gap in guideline concordance?

Percent of stage III colon cancer patients treated with guideline recommended chemotherapy following surgery (Apr 2006 - Mar 2008)

Notes: *M/H/W excluded due to low case volumes.

Chart audits provide explanation for non-concordance

Charting Colorectal Cancer According to Guidelines

Concordant
Radiation Oncologist

Proportion of patients with known or suspected rectal cancer who receive consultations/services from a radiation oncologist 12 months pre or post to rectal cancer surgery

Erie St. Clair one of the leaders in symptom assessment in GI patients
ESAS can help direct symptom management for GI patients

- 87% of patients view this as important
- 79% believe health-care teams took into account

Report Date: March, 2009
Prepared by: Cancer Care Ontario, Cancer Informatics
Data Source: ESAS GI Indicator Results, data from all RCC's

More people surviving colorectal cancer
Erie St. Clair below provincial average

Report Date: February 2009
Data Source: Cancer Care Ontario (Ontario Cancer Registry, 2009)
Prepared by: Cancer Care Ontario, Surveillance

Notes:
1. *See Technical Information for method
2. †Using Brenner's period method, which estimates survival of all cases followed up during the specified period
3. ‡Colon and Rectum (ICD-O-3 C18-C20, C26.0)
4. **Cases with missing LHIN excluded
For more information go to:

http://csqi.cancercare.on.ca