Electronic Synoptic Surgical Reporting – Implementation and Benefits Evaluation

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Presentation Overview

• Background
• Pan-Canadian scope
• Method
• Key findings
• Clinical value
• Opportunities
• Future direction
Accelerating Synoptic Reporting in Canada

**CAP Checklist, modified to requirements of your institution.**

<table>
<thead>
<tr>
<th>Report Entries</th>
<th>Hint</th>
<th>Info</th>
<th>Info Content</th>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invasive carcinoma:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size of invasive component (microscopic measurement)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greatest Dimension (cm):</td>
<td>0.8</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Histologic Grade:</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Nottingham System (Elston-Ellis/Scarff-Bloom-Richardson)</td>
<td></td>
<td></td>
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<tr>
<td>Tubule formation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nuclear Pleomorphism:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mitotic count:</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Nottingham Score:</td>
<td>Great</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Margin Involvement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Margins (invasive):</td>
<td></td>
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</table>
Synoptic Reporting
e.g. Structured Surgical Report

- Electronic capture of clinical information/documentation in a **standardized, structured** way

- Incorporates evidence-informed best practices and **clinically validated** data elements to facilitate clinical decision making to improve patient outcomes

- Enables clinicians to gain timely access to **concisely-reported and clinically-relevant** information

Infoway invested with partners in synoptic reporting initiatives to establish pan-Canadian templates and demonstrate emerging benefits from early adoption.
Background

• Surgical information narrated, traditionally
• Synoptic surgical reporting (SSR) captures structured, evidenced-based operative data electronically
• Piloted in 2008, in 5 provinces (4 cancer surgery disease site)
• Pan-Canadian implementation in 4 provinces for eight cancer surgery sites
  – Breast, colon, rectal, ovarian, endometrial, thyroid, lung and prostate—60% of incident cancer cases in Canada
  – Advance the development and implementation of pan-Canadian standards for surgical cancer reporting and promote adoption
  – Facilitate clinical decision-making and improve outcomes
Pan-Canadian Scope – SSR
Implement and evaluate benefits

With funding from Infoway and through engagement with surgical clinical leaders and provincial partners:

• Integrated clinical guidelines and content standards into the development of data collection tools
• Alberta, Manitoba, Ontario and Nova Scotia used electronic surgical synoptic reporting
• Identified and measured indicators to support outcomes reporting at pan-Canadian and provincial levels
  – Areas: quality, access and productivity
Method

• The Benefits Evaluation Framework, by Infoway, guided the data collection and analysis
• Data collection: October 2013 – April 2014
  • Clinicians collected surgical care data for 8 disease sites electronically
  • SNOMED CT International (v.2014) supported data extraction to analyze and measure clinical outcomes indicators
• Study design: mixed methods
  • Quantitative—descriptive statistics
    • Surgical care synoptic reporting—data on process and outcomes of cancer operations
    • Survey data: clinician satisfaction levels
  • Qualitative
    • Interviews and focus groups
• Transitioning from narrative to synoptic surgical reporting: surgeons’ satisfaction levels

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Data accuracy</th>
<th>Data relevance</th>
<th>Data availability</th>
<th>Data timeliness</th>
<th>Data comprehensive</th>
<th>Ease of use</th>
<th>Improves patient care</th>
<th>Expedites clinical decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction scores (%)</td>
<td>92%</td>
<td>89%</td>
<td>86%</td>
<td>71%</td>
<td>68%</td>
<td>86%</td>
<td>70%</td>
<td>52%*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Security</th>
<th>Coordinates care with health care team</th>
<th>Fits work flow</th>
<th>Improves patient safety</th>
<th>Discharge summary efficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction scores (%)</td>
<td>89%</td>
<td>78%</td>
<td>75%</td>
<td>52%*</td>
<td>71%</td>
</tr>
</tbody>
</table>

* Score 52% reflects respondents’ belief that their current practice, prior to synoptic reporting, was already at an acceptable level
Key Findings

Discrete, consistent and comprehensive surgical operative data:

- 2941 synoptic surgical reports and 729 discharge summaries

<table>
<thead>
<tr>
<th>Disease site</th>
<th>Breast</th>
<th>Colon</th>
<th>Rectal</th>
<th>Ovarian</th>
<th>Endometrial</th>
<th>Thyroid</th>
<th>Lung</th>
<th>Prostate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discrete data collection</td>
<td>1702</td>
<td>168</td>
<td>123</td>
<td>185</td>
<td>149</td>
<td>392</td>
<td>104</td>
<td>118</td>
</tr>
</tbody>
</table>

- **Impact to clinical care and patient care**
  - Synoptic surgical reporting improves data timeliness and availability (82% - 100%), enables clinical investigations and informs treatment plans for 60% of incident cancer cases in Canada

- Turnaround times for discharge summaries to reach patient charts

<table>
<thead>
<tr>
<th>Median</th>
<th>Baseline (narrative)</th>
<th>Electronic Synoptic (discrete data)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0 days</td>
<td>15% of discharge summaries</td>
<td>74.5% discharge summaries</td>
</tr>
</tbody>
</table>
Clinical Use and Value of SSR data

Breast Cancer

The proportion of patients with stage I or II breast cancer who underwent sentinel lymph node (SLN) biopsy

<table>
<thead>
<tr>
<th>Provinces</th>
<th>Total number of patients surgically treated for clinical stage 1 or 2 breast cancer</th>
<th>Sentinel lymph node biopsy done on patients who were surgically treated for clinical stage 1 or 2 breast cancer</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provinces Combined</td>
<td>527</td>
<td>378</td>
<td><strong>71.1</strong></td>
</tr>
<tr>
<td>AB</td>
<td>406</td>
<td>278</td>
<td>68.5</td>
</tr>
<tr>
<td>MB</td>
<td>28</td>
<td>24</td>
<td>85.7</td>
</tr>
<tr>
<td>ON</td>
<td>14</td>
<td>9</td>
<td>64.3</td>
</tr>
<tr>
<td>NS</td>
<td>79</td>
<td>67</td>
<td>84.8</td>
</tr>
</tbody>
</table>
Clinical Use and Value of SSR Data

Prostate Cancer

The proportion of patients with complete removal of seminal vesicles, associated with improved outcomes

<table>
<thead>
<tr>
<th>Indicator: Percent Complete removal of seminal vesicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provinces</td>
</tr>
<tr>
<td>Provinces Combined (AB, MB, ON)</td>
</tr>
</tbody>
</table>
Clinical Use and Value of SSR data

Thyroid Cancer

The proportion of patients who waited > 90 days for a surgical treatment

**Indicator: Percent of patients waited >90 days for surgery, from the date the decision to treat was made to the date of surgery**

<table>
<thead>
<tr>
<th>Province</th>
<th>Total patients who underwent thyroid surgery</th>
<th>Number of patients who waited &gt; 90 days for surgery</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provinces combined</td>
<td>305</td>
<td>88</td>
<td>28.9</td>
</tr>
</tbody>
</table>
Opportunities: Expand SSR Adoption

• Leverage leading practices and clinical leaders across the country via a “network approach”
• Pan-Canadian endorsement—surgical synoptic reporting tools and indicators
• Governance
  – Content, informatics and technical standards
  – Implementation, change management and capacity building
• Provincial priorities and funding support:
  – IT infrastructure and support
  – Communication and education to manage change
Summary

Users of the surgical synoptic reports reported...

• Positive clinical impact—improved quality
  – increased awareness of relevant guidelines, safety, quicker access to reports by health care teams
  – Results in better surgical care and is cost effective
  – Identified treatments that have better outcomes
  – Improved ability to analyze outcomes and compare nationally
Future Direction – Build on the Success

The Partnership is working with a number of jurisdictions and clinicians:

• Measure a priority set of clinical indicators to further demonstrate the value of electronic synoptic surgical reporting

• Endorsement and adoption strategy for standards, indicators and reporting
Questions?

Visit us
http://stg.cancerview.ca/cv/portal/Home/TreatmentAndSupport/TSProfessionals/TSDiagnosisTreatment/SynopticReportingMS/SRSurgery?lang=en

Email us surgery@partnershipagainstcancer.ca