Generic indicators for process quality in oncological care

A compendium
Generic indicators for process quality in oncological care

A compendium
1 Introduction

LBI-HTA published the report “Quality of care in oncology and its measurement” in 2011 where international efforts in indicator development are discussed. Therein 17 indicator sets for measuring quality in oncological care were presented as examples.

In order to give clinical practice a hands on tool book in the area of cancer care quality indicators, this compendium provides details about generic (i.e. not cancer type specific) process indicators (i.e. not structure or outcome) from this pool of 17 oncological indicator sets.

Table 1 gives an overview of this pool of 17 indicator sets.
Table 1: Pool of indicator sets for this compendium

<table>
<thead>
<tr>
<th>Source</th>
<th>Country</th>
<th>Content covered by indicator set</th>
</tr>
</thead>
<tbody>
<tr>
<td>KRZYZANOWSKA (2011)</td>
<td>Canada, Ontario</td>
<td>Population-level indicators to measure the quality of cancer care for women</td>
</tr>
<tr>
<td>NQF (2009)</td>
<td>USA</td>
<td>National Quality Forum</td>
</tr>
<tr>
<td></td>
<td></td>
<td>National Voluntary Consensus Standards for Quality of Cancer Care: Breast and Colorectal Cancer</td>
</tr>
<tr>
<td>AHRQ (2011), AHRQ (2009)</td>
<td>USA</td>
<td>Agency for Healthcare Research and Quality</td>
</tr>
<tr>
<td></td>
<td></td>
<td>National Healthcare Quality Report, Indicators for Breast and Colorectal Cancer</td>
</tr>
<tr>
<td>LORENZ (2006)</td>
<td>USA</td>
<td>Agency for Healthcare Research and Quality</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cancer Care Quality Measures: Symptoms and End-of-Life Care</td>
</tr>
<tr>
<td>PATWARDHAN (2007)</td>
<td>USA</td>
<td>Agency for Healthcare Research and Quality</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cancer Care Quality Measures: Diagnosis and Treatment of Colorectal Cancer</td>
</tr>
<tr>
<td>MOHER (2004)</td>
<td>USA</td>
<td>Agency for Healthcare Research and Quality</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cancer Care Quality Measures: Breast Cancer</td>
</tr>
<tr>
<td>MALIN (2006) – Breast cancer</td>
<td>USA</td>
<td>American Society of Clinical Oncology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>National Initiative for Cancer Care Quality: Breast Cancer</td>
</tr>
<tr>
<td>MALIN (2006) – Colorectal cancer</td>
<td>USA</td>
<td>American Society of Clinical Oncology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>National Initiative for Cancer Care Quality: Colorectal Cancer</td>
</tr>
<tr>
<td>ASCO - NCCN (2007)</td>
<td>USA</td>
<td>American Society of Clinical Oncology - National Comprehensive Cancer Network</td>
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<tr>
<td></td>
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<td>Breast Cancer, Colorectal Cancer</td>
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<tr>
<td>ASCO/ QOPI (2011)</td>
<td>USA</td>
<td>American Society of Clinical Oncology</td>
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<td></td>
<td>Quality Oncology Practice Initiative: wide range of indicators</td>
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<td>AMA/ PCPI (2011)</td>
<td>USA</td>
<td>American Medical Association</td>
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<td></td>
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<td>Physician Consortium for Performance Improvement: wider range of indicators</td>
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<tr>
<td>GREENBERG (2005)</td>
<td>Canada, Ontario</td>
<td>Cancer Care Ontario</td>
</tr>
<tr>
<td>NCASP (2011)</td>
<td>England</td>
<td>National Clinical Audit Support Programme: example indicators from the Bowel Cancer Audit 2010</td>
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<tr>
<td>AQUA (2011)</td>
<td>Germany</td>
<td>Institut für angewandte Qualitätsförderung und Forschung im Gesundheitswesen AQUA External inpatient quality assurance: Breast cancer surgery</td>
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<tr>
<td>NPK Monitor (2009)</td>
<td>Netherlands</td>
<td>National Cancer Plan</td>
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<tr>
<td></td>
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<td>NPK Monitor Card</td>
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<tr>
<td>VLAYEN (2011) – Rectal cancer</td>
<td>Belgium</td>
<td>Belgian Healthcare Knowledge Center KCE</td>
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<td></td>
<td></td>
<td>Indicators rectal cancer</td>
</tr>
<tr>
<td>VLAYEN (2011) – Breast cancer</td>
<td>Belgium</td>
<td>Belgian Healthcare Knowledge Center KCE</td>
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<tr>
<td></td>
<td></td>
<td>Indicators breast cancer</td>
</tr>
<tr>
<td>VLAYEN (2011) – Testis cancer</td>
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<td>Belgian Healthcare Knowledge Center KCE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Indicators testis cancer</td>
</tr>
<tr>
<td>NIP (2011)</td>
<td>Denmark</td>
<td>National Indicator Project</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lung Cancer</td>
</tr>
</tbody>
</table>
## Method and indicator selection

The focus of this compendium lies on processes after a confirmed diagnosis of cancer. Therefore indicators for preventive care including screening are not covered.

Generic process indicators that were found in at least two of the 17 indicator sets are subsequently described in greater detail.

From the indicator pool described in table 1 above, the following indicators qualify as generic (i.e. not cancer type specific) for process quality.

### Krzyzanowska (2011)

*Population-level indicators to measure the quality of cancer care for women selected for evaluation by expert panel*

<table>
<thead>
<tr>
<th>Category</th>
<th>No.</th>
<th>Indicator name</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waiting time</td>
<td>3.</td>
<td>Wait times for surgery (breast, colon, ovary, uterus and cervical cancers)</td>
<td>This indicator looks at how long patients wait for cancer surgery, measuring the time between the initial consultation with the surgeon and the date the surgery was done, reporting both the median (the time by which 50% of patients underwent surgery) and the 90th percentile (the time by which 90% of patients underwent surgery).</td>
</tr>
<tr>
<td>End-of-life</td>
<td>26.</td>
<td>Death in an acute-care bed (lung, colorectal, breast or gynecological cancers)</td>
<td>This indicator measures the percentage of patients with cancer who died in an acute-care bed in hospital.</td>
</tr>
<tr>
<td>End-of-life</td>
<td>27.</td>
<td>Emergency department visit in the last two weeks of life (lung, colorectal, breast or gynecological cancers)</td>
<td>This indicator measures the proportion of patients who died of cancer who had at least one emergency department visit in the last 2 weeks of life.</td>
</tr>
<tr>
<td>End-of-life</td>
<td>28.</td>
<td>Chemotherapy in the last two weeks of life (lung, colorectal, breast or gynecological cancers)</td>
<td>This indicator measures the percentage of cancer patients who received chemotherapy in the two weeks before they died</td>
</tr>
<tr>
<td>End-of-life</td>
<td>29.</td>
<td>Home care visits in the last 6 months of life (lung, colorectal, breast or gynecological cancers)</td>
<td>This indicator measures the percentage of cancer patients who died who received one of more home care visits in the last 6 months of life.</td>
</tr>
<tr>
<td>End-of-life</td>
<td>30.</td>
<td>Physician house calls in the last two weeks of life (lung, colorectal, breast or gynecological cancers)</td>
<td>This indicator measures the percentage of patients who had one or more physician house calls in the last two weeks of their lives.</td>
</tr>
</tbody>
</table>

*Source: Krzyzanowska (2011), table 2*
**NQF (2009)**

National Quality Forum NQF: Specifications of the National Voluntary Consensus Standards for Quality of Cancer Care

<table>
<thead>
<tr>
<th>Category</th>
<th>Symptom Management and End-of-Life Care</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>End-of-life</td>
<td>Family Evaluation of Hospice Care</td>
<td>Survey of family members of all patients enrolled in a hospice program, who died following care.</td>
</tr>
<tr>
<td>End-of-life</td>
<td>Comfortable dying</td>
<td>Patients whose pain was brought under control within 48 hours of admission to hospice.</td>
</tr>
<tr>
<td>End-of-life</td>
<td>Chemotherapy in the last 14 days of life</td>
<td></td>
</tr>
<tr>
<td>End-of-life</td>
<td>More than one emergency room visit in the last 30 days of life</td>
<td></td>
</tr>
<tr>
<td>End-of-life</td>
<td>More than one hospitalization in the last 30 days of life</td>
<td></td>
</tr>
<tr>
<td>End-of-life</td>
<td>Intensive care unit admission in the last 30 days of life</td>
<td></td>
</tr>
<tr>
<td>End-of-life</td>
<td>Dying in an acute care setting</td>
<td></td>
</tr>
<tr>
<td>End-of-life</td>
<td>Not admitted to hospice</td>
<td></td>
</tr>
<tr>
<td>End-of-life</td>
<td>Admitted to hospice for less than three days</td>
<td></td>
</tr>
</tbody>
</table>

*Source: National Quality Forum (2009), appendix A*

**Indikatoren AHRQ (2011), AHRQ (2009)**

Agency for Health Research and Quality: Quality measures for effectiveness of care: colorectal, breast, cervical and other cancer: all process indicators pertinent to screening.


**Indikatoren Lorenz (2006)**

Agency for Healthcare Research and Quality AHQR Review: Measure Sets for Symptoms and End-of-Life Care

**Lorenz (2006) – RAND Health QA Tools**

Research and Development Corp. RAND

<table>
<thead>
<tr>
<th>Category</th>
<th>Indicator</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supportive Cancer Care: Pain</td>
<td>Pain assessment</td>
<td>Regular assessment of pain</td>
</tr>
<tr>
<td>Supportive Cancer Care: Pain</td>
<td>Pain treatment</td>
<td>Responsive pain treatment</td>
</tr>
<tr>
<td>Supportive Cancer Care: Dyspnea</td>
<td>Dyspnea treatment</td>
<td>Treatment of dyspnea caused by hypoxia</td>
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</table>

*Source: Lorenz (2006): appendix F1, F2*
## Lorenz (2006) – ACOVE

*Assessing the Care Of Vulnerable Elders ACOVE*

<table>
<thead>
<tr>
<th>Category</th>
<th>Indicator</th>
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<tbody>
<tr>
<td>Supportive cancer care</td>
<td>Pain assessment</td>
</tr>
<tr>
<td>Pain</td>
<td>Routine pain assessment in expected dying</td>
</tr>
<tr>
<td>Supportive cancer care</td>
<td>Dyspnea treatment</td>
</tr>
<tr>
<td>Dyspnea treatment</td>
<td>Effective dyspnea treatment in expected dying</td>
</tr>
<tr>
<td>Supportive cancer care</td>
<td>Dyspnea treatment</td>
</tr>
<tr>
<td>Dyspnea treatment</td>
<td>Regular treatment and follow-up of dyspnea</td>
</tr>
<tr>
<td></td>
<td>in expected dying</td>
</tr>
<tr>
<td>Supportive cancer care</td>
<td>Depression assessment</td>
</tr>
<tr>
<td>Depression assessment</td>
<td>Regular spiritual assessment in expected dying</td>
</tr>
<tr>
<td>Supportive cancer care</td>
<td>Depression treatment</td>
</tr>
<tr>
<td>Depression treatment</td>
<td>Regular assessment or treatment of depression</td>
</tr>
<tr>
<td></td>
<td>in newly diagnosed cancer</td>
</tr>
<tr>
<td>Supportive cancer care</td>
<td>Depression treatment</td>
</tr>
<tr>
<td>Depression treatment</td>
<td>Routine assessment or treatment of depression</td>
</tr>
<tr>
<td></td>
<td>in symptomatic patients</td>
</tr>
<tr>
<td>Supportive cancer care</td>
<td>ACP Assessment</td>
</tr>
<tr>
<td>Advanced Care Planning</td>
<td>Regular identification of a surrogate in the</td>
</tr>
<tr>
<td></td>
<td>outpatient setting</td>
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<tr>
<td>Supportive cancer care</td>
<td>ACP Assessment</td>
</tr>
<tr>
<td>Advanced Care Planning</td>
<td>Regular identification of a surrogate among</td>
</tr>
<tr>
<td></td>
<td>hospital admissions with impaired cognition</td>
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<td>Supportive cancer care</td>
<td>ACP Assessment</td>
</tr>
<tr>
<td>Advanced Care Planning</td>
<td>Regular assessment of preferences among</td>
</tr>
<tr>
<td></td>
<td>inpatients with dementia</td>
</tr>
<tr>
<td>Supportive cancer care</td>
<td>ACP Assessment</td>
</tr>
<tr>
<td>Advanced Care Planning</td>
<td>Regular assessment of preferences in an ICU</td>
</tr>
<tr>
<td>Supportive cancer care</td>
<td>ACP Assessment</td>
</tr>
<tr>
<td>Advanced Care Planning</td>
<td>Regular patient participation in decisions to</td>
</tr>
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<td>limit treatment</td>
</tr>
<tr>
<td>Supportive cancer care</td>
<td>ACP Application</td>
</tr>
<tr>
<td>Advanced Care Planning</td>
<td>Documentation of care preferences across</td>
</tr>
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<td></td>
<td>venues</td>
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<td>Supportive cancer care</td>
<td>ACP Application</td>
</tr>
<tr>
<td>Advanced Care Planning</td>
<td>Documentation of specific life sustaining</td>
</tr>
<tr>
<td></td>
<td>preferences</td>
</tr>
<tr>
<td>Supportive cancer care</td>
<td>ACP Follow-up</td>
</tr>
<tr>
<td>Advanced Care Planning</td>
<td>Consistency of preferences with use of</td>
</tr>
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<td>ventilatory support</td>
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<tr>
<td>Supportive cancer care</td>
<td>ACP Follow-up</td>
</tr>
<tr>
<td>Advanced Care Planning</td>
<td>Care consistency with documented care</td>
</tr>
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<td>preferences</td>
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*Source: Lorenz (2006): appendix F1, F2, F3, F4*

## Lorenz (2006) – Dana-Farber Cancer Institute

<table>
<thead>
<tr>
<th>Category</th>
<th>Indicator</th>
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<tbody>
<tr>
<td>Supportive cancer care</td>
<td>ACP Follow-up</td>
</tr>
<tr>
<td>Advanced Care Planning</td>
<td>Late life rate of emergency care: Emergency</td>
</tr>
<tr>
<td></td>
<td>room visit in the last month of life.</td>
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</table>

*Source: Lorenz (2006): appendix F4*

## Lorenz (2006) – CCNS

*Cancer Care Nova Scotia CCNS*

<table>
<thead>
<tr>
<th>Category</th>
<th>Indicator</th>
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<tbody>
<tr>
<td>Supportive cancer care</td>
<td>Pain treatment</td>
</tr>
<tr>
<td>Pain</td>
<td>Effective treatment for painful bony metastasis</td>
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*Source: Lorenz (2006), appendix F1*
### Lorenz (2006) – Cancer Care Ontario

Cancer Care Ontario

<table>
<thead>
<tr>
<th>Category</th>
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<th>Description</th>
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<tbody>
<tr>
<td>Supportive cancer care Advanced Care Planning</td>
<td>ACP Follow-up</td>
<td>Late life rate of emergency care: Emergency room visit in the last month of life.</td>
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<tr>
<td>Supportive cancer care Advanced Care Planning</td>
<td>ACP Follow-up</td>
<td>Chemotherapy in the last 14 days of life.</td>
</tr>
<tr>
<td>Supportive cancer care Advanced Care Planning</td>
<td>ACP Follow-up</td>
<td>Admission to hospice.</td>
</tr>
<tr>
<td>Supportive cancer care Advanced Care Planning</td>
<td>ACP Follow-up</td>
<td>Site of death.</td>
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*Source: Lorenz (2006), appendix F4*

### Lorenz (2006) – Georgia Cancer Coalition

Georgia Cancer Coalition GCC

<table>
<thead>
<tr>
<th>Category</th>
<th>Indicator</th>
<th>Description</th>
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<tbody>
<tr>
<td>Supportive cancer care Pain</td>
<td>Pain assessment</td>
<td>Routine assessment of pain.</td>
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</table>

*Source: Lorenz (2006): appendix F1*

### Lorenz (2006) – VHA

VHA Inc., Irving, Texas

<table>
<thead>
<tr>
<th>Category</th>
<th>Indicator</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supportive cancer care Pain</td>
<td>Pain assessment</td>
<td>Regular ICU pain assessment</td>
</tr>
<tr>
<td>Supportive cancer care Pain</td>
<td>Pain follow-up</td>
<td>Effective treatment of pain in the ICU</td>
</tr>
<tr>
<td>Supportive cancer care Advanced Care Planning</td>
<td>ACP Assessment</td>
<td>Regular identification of a surrogate in the ICU.</td>
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<tr>
<td>Supportive cancer care Advanced Care Planning</td>
<td>ACP Assessment</td>
<td>Regular assessment of advance directives for ICU patients</td>
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<tr>
<td>Supportive cancer care Advanced Care Planning</td>
<td>ACP Assessment</td>
<td>Regular assessment of specific resuscitation preferences in the ICU</td>
</tr>
<tr>
<td>Supportive cancer care Advanced Care Planning</td>
<td>ACP Assessment</td>
<td>Regular clinician-patient-family communication in the ICU</td>
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</tbody>
</table>

*Source: Lorenz (2006): appendix F1, F4*
**Lorenz (2006) – UHC**

*University Health Consortium UHC*

<table>
<thead>
<tr>
<th>Category</th>
<th>Indicator</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supportive cancer care</td>
<td>Pain assessment</td>
<td>Routine inpatient pain assessment</td>
</tr>
<tr>
<td>Pain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supportive cancer care</td>
<td>Pain assessment</td>
<td>Routine inpatient pain assessment with a numeric scale</td>
</tr>
<tr>
<td>Pain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supportive cancer care</td>
<td>Pain treatment</td>
<td>Regular prophylaxis of opiate-induced constipation</td>
</tr>
<tr>
<td>Pain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supportive cancer care</td>
<td>Pain follow-up</td>
<td>Timely treatment of inpatient pain</td>
</tr>
<tr>
<td>Pain</td>
<td></td>
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</tr>
<tr>
<td>Supportive care Dyspnea</td>
<td>Dyspnea assessment</td>
<td>Regular dyspnea assessment</td>
</tr>
<tr>
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</tr>
<tr>
<td>Supportive care Dyspnea</td>
<td>Dyspnea follow-up</td>
<td>Timely treatment of inpatient dyspnea</td>
</tr>
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<tr>
<td>Supportive care Depression</td>
<td>Depression assessment</td>
<td>Regular assessment for psychosocial well-being</td>
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<tr>
<td>Supportive care Advance Care Planning</td>
<td>ACP assessment</td>
<td>Regular family meetings among hospitalized patients</td>
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<td></td>
</tr>
<tr>
<td>Supportive care Advance Care Planning</td>
<td>ACP follow-up</td>
<td>Timely and effective discharge planning</td>
</tr>
</tbody>
</table>

*Source: Lorenz (2006): appendix F1, F2, F3, F4*

**Lorenz (2006) – NHPCO**

*National Hospice and Palliative Care Organisation NHPCO*

<table>
<thead>
<tr>
<th>Category</th>
<th>Indicator</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supportive cancer Care</td>
<td>Pain follow-up</td>
<td>Timely treatment of pain in hospice</td>
</tr>
<tr>
<td>Pain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supportive care</td>
<td>ACP assessment</td>
<td>Regular assessment of preferences in hospice</td>
</tr>
<tr>
<td>Advance Care Planning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supportive care</td>
<td>ACP follow-up</td>
<td>Safe dying in hospice (survey of caregivers after death)</td>
</tr>
<tr>
<td>Advance Care Planning</td>
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<td></td>
</tr>
</tbody>
</table>

*Source: Lorenz (2006): appendix F1, F4*

**Patwardhan (2007)**

Agency for Healthcare Research and Quality AHRQ Review: Selected quality measures for the diagnosis and treatment of colorectal cancer. All indicators specific for colorectal cancer.

*Source: Patwardhan (2007), table 3*
**Moher (2004)**

Agency for Healthcare Research and Quality AHRQ Review: Listing of Quality Indicators Used to Measure Adherence to Standards of Breast Cancer Care: All indicators breast cancer specific.

*Source: Moher (2004), appendix G*

**Malin (2006)**

**Malin (2006) – Breast Cancer**

Results of the National Initiative for Cancer Care Quality: breast cancer care measures with less than 85% adherence by metropolitan statistical area: All indicators breast cancer specific.

*Source: http://jco.ascopubs.org/content/24/4/626/T9.expansion.html - table 5*

**Malin (2006) – Colorectal cancer**

Results of the National Initiative for Cancer Care Quality: colorectal cancer care measures with less than 85% adherence by metropolitan statistical area: All indicators specific for colorectal cancer.

*Source: http://jco.ascopubs.org/content/24/4/626/T10.expansion.html - table 6*

**ASCO – NCCN (2007)**

American Society of Clinical Oncology ASCO and National Comprehensive Cancer Care Network NCCN, Indicators for Breast, Colon, Colorectal and Rectal Cancer: All indicators non generic.

**ASCO/ QOPI (2011)**

American Society of Clinical Oncology ASCO– Quality Oncology Practice Initiative QOPI: Summary of Measures

<table>
<thead>
<tr>
<th>Category</th>
<th>Core</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generic Process 1.</td>
<td>Pathology report confirming malignancy*</td>
</tr>
<tr>
<td>Generic Process 2.</td>
<td>Staging documented within one month of first office visit*</td>
</tr>
<tr>
<td>Generic Process 3.</td>
<td>Pain assessed by second office visit</td>
</tr>
<tr>
<td>Generic Process 4.</td>
<td>Pain intensity quantified by second office visit</td>
</tr>
<tr>
<td>Generic Process 5.</td>
<td>Plan of care for moderate/severe pain documented</td>
</tr>
<tr>
<td>Generic Process 7.</td>
<td>Effectiveness of narcotic assessed on visit following prescription</td>
</tr>
<tr>
<td>Generic Process 8.</td>
<td>Constipation assessed at time of narcotic prescription or following visit</td>
</tr>
<tr>
<td>Generic Process 9.</td>
<td>Documented plan for chemotherapy, including doses, route, and time intervals*</td>
</tr>
<tr>
<td>Generic Process 10.</td>
<td>Chemotherapy intent (curative vs. palliative) documented*</td>
</tr>
<tr>
<td>Generic Process 11.</td>
<td>Chemotherapy intent discussion with patient documented</td>
</tr>
<tr>
<td>Generic Process 12.</td>
<td>Number of chemotherapy cycles documented</td>
</tr>
<tr>
<td>Generic Process 14.</td>
<td>Signed patient consent for chemotherapy</td>
</tr>
<tr>
<td>Generic Process 15.</td>
<td>Patient consent documented in practitioner note</td>
</tr>
<tr>
<td>Generic Process 17.</td>
<td>Chemotherapy treatment summary completed within 3 months of chemotherapy end</td>
</tr>
<tr>
<td>Generic Process 18.</td>
<td>Chemotherapy treatment summary provided to patient within 3 months of chemotherapy end</td>
</tr>
<tr>
<td>Generic Process 19.</td>
<td>Chemotherapy treatment summary provided or communicated to practitioner(s) within 3 months of chemotherapy end</td>
</tr>
<tr>
<td>Generic Process 24.</td>
<td>Patient emotional well-being assessed by the second office visit*</td>
</tr>
<tr>
<td>Generic Process 25.</td>
<td>Action taken to address problems with emotional well-being by the second office visit</td>
</tr>
<tr>
<td><strong>Domain Specific Modules</strong></td>
<td></td>
</tr>
<tr>
<td>Symptom/Toxicity Management – Chemotherapy-Related</td>
<td></td>
</tr>
<tr>
<td>Generic Process 26.</td>
<td>Serotonin antagonist prescribed with moderate/high emetic risk chemotherapy</td>
</tr>
<tr>
<td>Generic Process 27.</td>
<td>Corticosteroids and serotonin antagonist prescribed with moderate/high emetic risk chemotherapy*</td>
</tr>
<tr>
<td>Generic Process 28.</td>
<td>Aprepitant prescribed with high emetic risk chemotherapy</td>
</tr>
<tr>
<td>Generic Process 30.</td>
<td>Baseline iron stores documented within 90 days prior to administration of ESAs</td>
</tr>
<tr>
<td>Generic Process 31.</td>
<td>Hemoglobin &lt; 10g/dL documented within 2 weeks prior to administration of ESAs</td>
</tr>
<tr>
<td>Generic Process 33.</td>
<td>Infertility risks discussed prior to chemotherapy with patients of reproductive age*</td>
</tr>
<tr>
<td>Generic Process 34.</td>
<td>Fertility preservation options discussed or referral to specialist</td>
</tr>
<tr>
<td><strong>Care at End-of-Life</strong></td>
<td></td>
</tr>
<tr>
<td>End-of-life 35.</td>
<td>Pain assessed on either of the last two visits before death</td>
</tr>
<tr>
<td>End-of-life 36.</td>
<td>Pain intensity quantified on either of the last two visits before death</td>
</tr>
<tr>
<td>End-of-life 37.</td>
<td>Plan of care for moderate/severe pain documented on either of the last two visits before death</td>
</tr>
<tr>
<td>End-of-life 39.</td>
<td>Dyspnea assessed on either of the last two visits before death</td>
</tr>
<tr>
<td>End-of-life 40.</td>
<td>Dyspnea addressed on either of the last two visits before death</td>
</tr>
<tr>
<td>End-of-life 41.</td>
<td>Dyspnea addressed appropriately (defect-free measure, 39 and 40)</td>
</tr>
<tr>
<td>End-of-life 42.</td>
<td>Hospice enrollment and 43. Hospice enrollment or palliative care referral</td>
</tr>
<tr>
<td>End-of-life 44.</td>
<td>Hospice enrollment within 3 days of death (Lower Score – Better)</td>
</tr>
<tr>
<td>End-of-life 45.</td>
<td>Hospice enrollment within 7 days of death (Lower Score – Better)</td>
</tr>
<tr>
<td>End-of-life 45a.</td>
<td>Hospice enrollment and enrolled more than 7 days before death (defect-free measure, 42 and inverse 45)*</td>
</tr>
<tr>
<td>End-of-life 46.</td>
<td>For patients not referred, hospice or palliative care discussed within the last 2 months of life</td>
</tr>
<tr>
<td>End-of-life 48.</td>
<td>Chemotherapy administered within the last 2 weeks of life (Lower Score – Better)</td>
</tr>
</tbody>
</table>

*Included in QOPI Certification Program

Generic indicators for process quality in oncological care

AMA/PCPI (2011)

American Medical Association AMA/Physician Consortium for Performance Improvement PCPI Approved Quality Measures for Cancer Care

<table>
<thead>
<tr>
<th>Category</th>
<th>Measure Topic</th>
<th>Measure Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generic Process</td>
<td>Oncology</td>
<td>• Cancer Stage Documented</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Pain Intensity Quantified-Medical Oncology and Radiation Oncology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Pathology Report (QI)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Plan for Chemotherapy Documented</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Plan of Care for Pain-Medical Oncology and Radiation Oncology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Treatment Summary Communication – Radiation Oncology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Treatment Summary Documented – Medical Oncology (QI)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Treatment Summary Communicated–Medical Oncology (QI)</td>
</tr>
<tr>
<td>End-of-Life</td>
<td>Palliative Care</td>
<td>• Advance care planning</td>
</tr>
<tr>
<td></td>
<td>(not cancer specific)</td>
<td>• Dyspnea screening and management</td>
</tr>
</tbody>
</table>


Greenberg (2005)

Selected indicators for strategy-based, system-level cancer care performance indicators

<table>
<thead>
<tr>
<th>Category</th>
<th>Strategic goal</th>
<th>Indicator</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generic Process</td>
<td>Improve measurement, collection, and reporting of cancer system performance</td>
<td>Integrated IT systems</td>
<td>Percentage of hospitals that meet volume cut-off for cancer services that have single view of patient results available in the hospital to appropriate providers that include diagnostic, procedural, systemic, and radiation therapy information.</td>
</tr>
<tr>
<td>Generic Process</td>
<td>Cancer data capture</td>
<td>Cancer data capture</td>
<td>Percentage of hospitals submitting all required data on cancer diagnosis and treatment on time to Cancer Care Ontario.</td>
</tr>
<tr>
<td>Generic Process</td>
<td>Synoptic reporting</td>
<td>Synoptic reporting</td>
<td>Percentage of pathology reports submitted to Cancer Care Ontario that are reported synoptically.</td>
</tr>
<tr>
<td>Generic Process</td>
<td>Stage capture rate</td>
<td>Stage capture rate</td>
<td>Proportion of incident cancer cases in which a cancer stage was identified.</td>
</tr>
<tr>
<td>Generic Process</td>
<td>Increase use of evidence and innovation in decision-making</td>
<td>CPOE</td>
<td>Percentage of medical oncologists using Computerized Physician Order Entry systems.</td>
</tr>
<tr>
<td>Generic Process</td>
<td>Guideline application</td>
<td>Guideline application</td>
<td>Percentage of Ontario cancer cases treated according to selected Program in Evidence-Based Care (PEBC) guidelines (1-2 example conditions).</td>
</tr>
<tr>
<td>Generic Process</td>
<td>Clinical trial Participation</td>
<td>Clinical trial Participation</td>
<td>Number of patients recruited to clinical trials for chemotherapy, radiotherapy, and interventions studies by hospital.</td>
</tr>
<tr>
<td>Generic Process</td>
<td>Cancer research Funding</td>
<td>Cancer research Funding</td>
<td>Percentage of Integrated Cancer Programs’ annual budgets devoted to cancer research funding.</td>
</tr>
<tr>
<td>Generic Process</td>
<td>Innovation</td>
<td>Innovation</td>
<td>Hospitals’ self-reported environments for innovation (questionnaire).</td>
</tr>
<tr>
<td>Category</td>
<td>Strategic goal</td>
<td>Indicator</td>
<td>Definition</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-----------------------------------------------------</td>
<td>------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Generic Process</td>
<td>Increase effective use of resources across the system</td>
<td>Radiation therapy (RT) quality assurance</td>
<td>Percentage of RT facilities in compliance with Healing Arts Radiation Protection (HARP) guidelines.</td>
</tr>
<tr>
<td>(Generic Process*)</td>
<td>Improve access to cancer services and reduce waiting times</td>
<td>Patient satisfaction with coordination of care</td>
<td>Oncology patient satisfaction survey results related to coordination of care.</td>
</tr>
<tr>
<td>Generic Process</td>
<td>Increase effective use of resources across the system</td>
<td>Appropriate utilization: systemic therapy</td>
<td>Percentage of incident cancer patients receiving systemic therapy post-operatively.</td>
</tr>
<tr>
<td>Generic Process</td>
<td>Improve access to cancer services and reduce waiting times</td>
<td>Appropriate utilization: RT</td>
<td>Percentage of cancer cases receiving RT within 1 year of diagnosis.</td>
</tr>
<tr>
<td>Waiting Times</td>
<td>Waiting times: surgery</td>
<td>Median, 90th percentile surgical waiting times (date of pre-operative consultation to date of surgery) among patients undergoing breast, colorectal, lung, and prostate cancer surgery in Ontario.</td>
<td></td>
</tr>
<tr>
<td>Waiting Times</td>
<td>Waiting times: systemic therapy</td>
<td>Median, 90th percentile number of weeks from referral to start of systemic therapy for new patients.</td>
<td></td>
</tr>
<tr>
<td>Waiting Times</td>
<td>Waiting times: RT</td>
<td>Median, 90th percentile number of weeks from referral to start of RT for new patients.</td>
<td></td>
</tr>
<tr>
<td>(Generic Process*)</td>
<td>Improve access to cancer services and reduce waiting times</td>
<td>Patient satisfaction with access to care</td>
<td>Oncology patient satisfaction survey results related to waiting times and access to care.</td>
</tr>
<tr>
<td>End-of-Life</td>
<td>Palliative care utilization</td>
<td>Rates of palliative care utilization among cancer patients.</td>
<td></td>
</tr>
<tr>
<td>Generic Process</td>
<td>Pain management</td>
<td>Patients' self-reported pain.</td>
<td></td>
</tr>
<tr>
<td>(Generic Process*)</td>
<td>Pain management</td>
<td>Patients' perception of pain management by providers.</td>
<td></td>
</tr>
<tr>
<td>(Generic Process*)</td>
<td>Pain management</td>
<td>Patients' perception of pain management by providers.</td>
<td></td>
</tr>
<tr>
<td>(Generic Process*)</td>
<td>Patient satisfaction overall</td>
<td>Oncology patient satisfaction survey results related to patient journey overall.</td>
<td></td>
</tr>
</tbody>
</table>

* Indicators referring to patient satisfaction are in the domain of outcome quality and therefore not included here. In terms of process quality it is necessary to incorporate patient satisfaction surveys related to various aspects of care into the care process in order to then be able to answer questions about patient satisfaction.

Source: Greenberg (2005), table 3
### CSQI (2011)

_Cancer System Quality Index Indicators CSQI, Ontario, Canada_

<table>
<thead>
<tr>
<th>Category</th>
<th>Indicator</th>
<th>Quality Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generic Process</td>
<td>• Reporting of Cancer Stage at Diagnosis</td>
<td>Effective, Accessible</td>
</tr>
<tr>
<td></td>
<td>• Multidisciplinary Cancer Conferences (MCC)</td>
<td>Effective, Accessible</td>
</tr>
<tr>
<td></td>
<td>• Radiation Treatment Utilization</td>
<td>Effective, Accessible</td>
</tr>
<tr>
<td></td>
<td>• Synoptic Pathology Reporting</td>
<td>Effective, Accessible</td>
</tr>
<tr>
<td>(Generic Process*)</td>
<td>• Patient Experience with Outpatient Cancer Care</td>
<td>Responsive</td>
</tr>
<tr>
<td>Generic Process</td>
<td>• Symptom Assessment</td>
<td>Responsive</td>
</tr>
<tr>
<td>Waiting Times</td>
<td>• Wait Times from Surgery to Adjuvant Chemotherapy</td>
<td>Integrated</td>
</tr>
<tr>
<td>End-of-Life</td>
<td>• End-of-Life Care</td>
<td>Responsive</td>
</tr>
<tr>
<td></td>
<td>o Percentage of cancer patients who were admitted to the ICU in the last two weeks of life</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Percentage of cancer patients who visited the emergency department up to two weeks before death</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Percentage of cancer patients who died in acute care hospital</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Median number of days in acute care for last 6 months of life for patients who died of cancer in Ontario</td>
<td></td>
</tr>
<tr>
<td>End-of-Life</td>
<td>• Chemotherapy in the Last Two Weeks of Life</td>
<td>Efficient</td>
</tr>
</tbody>
</table>

* Indicators referring to patient satisfaction are in the domain of outcome quality and therefore not included here. In terms of process quality it is necessary to incorporate patient satisfaction surveys related to various aspects of care into the care process in order to then be able to answer questions about patient satisfaction.

**Source:** [www.cqco.ca/cms/One.aspx?portalId=89621&pageId=89823](http://www.cqco.ca/cms/One.aspx?portalId=89621&pageId=89823)

### NCASP (2011)

_National Clinical Audit Support Programme NCASP – Example Bowel Cancer Audit_

<table>
<thead>
<tr>
<th>Category</th>
<th>Indicator</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generic Process</td>
<td>Discussed at MDT meeting</td>
<td>NICE guidance and Peer Review recommendations are that 95 per cent to 100 per cent of patients should be discussed at an MDT meeting</td>
</tr>
<tr>
<td></td>
<td>Seen by clinical nurse specialist</td>
<td>NICE guidance is that 100 per cent of patients should be seen by a specialist nurse.</td>
</tr>
</tbody>
</table>

**Source:** [NHS Information Centre (2011)](http://www.cqco.ca/cms/One.aspx?portalId=89621&pageId=89823)

### AQUA (2011)

_Institute for Applied Quality Improvement and Research in Health Care AQUA: quality indicators breast cancer surgery_

<table>
<thead>
<tr>
<th>Category</th>
<th>QI</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generic Process</td>
<td>QI 9</td>
<td>Reporting to cancer registry</td>
</tr>
<tr>
<td>Waiting Times</td>
<td>QI 10</td>
<td>Time from diagnosis to surgery</td>
</tr>
</tbody>
</table>

**Source:** [AQUA (2011), page 6](http://www.cqco.ca/cms/One.aspx?portalId=89621&pageId=89823)
NPK Monitor (2009)

Netherlands National Cancer Control Programme NPK: quality indicators NPK Monitor

<table>
<thead>
<tr>
<th>Category</th>
<th>Domain</th>
<th>Quality measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer Care</td>
<td></td>
<td>Stage at diagnosis</td>
</tr>
<tr>
<td>Generic Process*</td>
<td></td>
<td>Compliance to guidelines</td>
</tr>
<tr>
<td>Generic Process</td>
<td></td>
<td>Time from diagnosis to treatment</td>
</tr>
</tbody>
</table>

* Documentation is aspect of process quality.

Source: NPK Monitor: www.npknet.nl/share/files/205_107897/NPK%20monitorkaartje%20ENG%202009.pdf

Vlayen (2011)

Belgian Health Care Knowledge Center KCE Projects: Indicators relevant as generic if used in more than one type of cancer.

Vlayen (2011) – Rectal cancer

<table>
<thead>
<tr>
<th>Category</th>
<th>Domain</th>
<th>Quality measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generic process</td>
<td>General Quality indicators: process</td>
<td>Proportion of patients discussed at a MDT meeting</td>
</tr>
</tbody>
</table>

Source: Vlayen (2011), appendix 3, table 16

Vlayen (2011) – Breast cancer

<table>
<thead>
<tr>
<th>Category</th>
<th>Domain</th>
<th>Quality measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generic Process</td>
<td>General Quality indicators: processes</td>
<td>Proportion of breast cancer women discussed at the MDT meeting</td>
</tr>
<tr>
<td>Generic Process</td>
<td>(Adjuvant) treatment</td>
<td>Proportion of women with breast cancer who are receiving intravenous chemotherapy for whom the planned chemotherapy regimen (which includes, at a minimum: drug[s] prescribed, dose, and duration) is documented prior to the initiation, and at each administration of the treatment regimen</td>
</tr>
</tbody>
</table>

Source: Vlayen (2011), appendix 3, table 16
Vlayen (2011) – Testis cancer

<table>
<thead>
<tr>
<th>Category</th>
<th>Domain</th>
<th>Quality measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generic Process</td>
<td>General quality indicators:</td>
<td>Proportion of patients with testicular cancer discussed at the MDT meeting</td>
</tr>
<tr>
<td></td>
<td>processes</td>
<td></td>
</tr>
<tr>
<td>Generic Process</td>
<td></td>
<td>Proportion of patients with relapsing testicular cancer after curative treatment</td>
</tr>
<tr>
<td></td>
<td>which are included in a clinical trial</td>
<td></td>
</tr>
</tbody>
</table>

Source: Vlayen (2011), appendix 3, table 16

NIP (2011)

Danish National Indicator Program NIP – Lung Cancer – Indicators and Standards: Waiting times are lung cancer specific here but could be adapted to other cancers.

<table>
<thead>
<tr>
<th>Category</th>
<th>Type</th>
<th>Indicator Domain</th>
<th>Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waiting Time</td>
<td>Process</td>
<td>Diagnosing and treatment time</td>
<td>Proportion of patients, for whom the diagnostic package is completed within 28 days of referral</td>
</tr>
<tr>
<td>Waiting Time</td>
<td>Process</td>
<td></td>
<td>Proportion of patients having surgery within 14 days after acceptance of the further treatment course (i.e. referral to surgery)</td>
</tr>
<tr>
<td>Waiting Time</td>
<td>Process</td>
<td></td>
<td>Proportion of patients having surgery within 42 days of referral to the diagnostic package</td>
</tr>
<tr>
<td>Waiting Time</td>
<td>Process</td>
<td></td>
<td>Proportion of patients who initiate chemotherapy within 14 days of acceptance of the further treatment course (i.e. referral to chemotherapy)</td>
</tr>
<tr>
<td>Waiting Time</td>
<td>Process</td>
<td></td>
<td>Proportion of patients who initiate chemotherapy within 42 days after referral to the diagnostic package</td>
</tr>
<tr>
<td>Waiting Time</td>
<td>Process</td>
<td></td>
<td>Proportion of patients who initiate radiation therapy within 14 days after acceptance of the further treatment course (i.e. referral to radiation therapy)</td>
</tr>
<tr>
<td>Waiting Time</td>
<td>Process</td>
<td></td>
<td>Proportion of patients who initiate radiation therapy within 42 days of referral to the diagnostic package</td>
</tr>
</tbody>
</table>

Source: Danish National Indicator Program: www.nip.dk/files/Subsites/NIP/Om%20NIP/About%20NIP/Lung%20Cancer.pdf
3 Results of indicator selection

The generic process indicators found above in the pool of 17 indicator sets are presented grouped in the following domains defined by the authors:

1. Patient communication
2. Waiting time
3. Documentation
4. Reporting
5. Guideline adherence
6. Clinical trial participation
7. Multidisciplinarity
8. Pain management
9. Dyspnea management
10. Depression/ Emotional well-being
11. General processes
12. Information technology (IT)
13. Cancer research funding
14. Innovation
15. Radiation therapy quality assurance
16. Advance care planning (ACP)
17. End-of-life

3.1 Overview of generic indicators

Five of the 17 indicator sets did not contain any generic process indicators. Table 2 below gives an overview of all generic process indicators found in the remaining pool of 12 indicator sets.
### Table 2: Overview generic process indicators found in pool of indicator sets

**BOLD** if found in more than one indicator set

Explanation of information contained in field “Indicator” with an example:

**Indicator Documentation:** Staging documented
1 within one month of first office visit
3 at diagnosis

This indicator was found in four indicator sets (X X X X),
first indicator set (X X X) additionally specifies “within one month of first office visit”,
third indicator set (X X X) additionally specifies “at diagnosis”

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient communication</td>
<td></td>
<td>Patient satisfaction surveys related to various aspects of care conducted</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Patient communication</td>
<td></td>
<td>Signed patient consent for chemotherapy</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Patient communication</td>
<td></td>
<td>Chemotherapy treatment summary provided to patient within 3 months of chemotherapy end</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Patient communication</td>
<td></td>
<td>Infertility risks discussed prior to chemotherapy with patients of reproductive age (Symptom/Toxicity Management – Chemotherapy-Related)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Patient communication</td>
<td></td>
<td>Fertility preservation options discussed or referral to specialist (Symptom/Toxicity Management – Chemotherapy-Related)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
## Results of indicator selection

| Domain                  | Subgroup                          | Indicator                                                                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------------------------|-----------------------------------|----------------------------------------------------------------------------|---|---|---|---|---|---|---|---|----|----|----|
| Patient communication   |                                   | Symptom Assessment                                                         |   |   |   |   |   |   |   |   |    |    |    |
|                         |                                   | Percentage of cancer patients who were screened at least once per month for symptom severity |   |   |   |   |   |   |   |   |    |    |    |
| Waiting Time            |                                   | From diagnosis to treatment                                                |   |   |   |   |   |   |   |   |    |    |    |
| Waiting Time            |                                   | From referral to completion of diagnostic package                          |   |   |   |   |   |   |   |   |    |    |    |
| Waiting Time            |                                   | From referral to diagnostic package to surgery                             |   |   |   |   |   |   |   |   |    |    |    |
| Waiting Time            |                                   | From diagnosis to surgery                                                  |   |   |   |   |   |   |   |   |    |    |    |
| Waiting Time            |                                   | From referral to surgery                                                   |   |   |   |   |   |   |   |   |    |    |    |
| Waiting Time            |                                   | From initial consultation with surgeon to surgery                          |   |   |   |   |   |   |   |   |    |    |    |
| Waiting Time            |                                   | From referral to diagnostic package to chemotherapy                        |   |   |   |   |   |   |   |   |    |    |    |
| Waiting Time            |                                   | From referral to chemotherapy                                              |   |   |   |   |   |   |   |   |    |    |    |
| Waiting Time            |                                   | From surgery to adjuvant chemotherapy                                       |   |   |   |   |   |   |   |   |    |    |    |
| Waiting Time            |                                   | From referral to diagnostic package to radiation therapy                   |   |   |   |   |   |   |   |   |    |    |    |
| Waiting Time            |                                   | From referral to radiation therapy                                         |   |   |   |   |   |   |   |   |    |    |    |
| Documentation           |                                   | Pathology report                                                           |   |   |   |   |   |   |   |   |    |    |    |
|                         |                                   | 1 confirming malignancy                                                    |   |   |   |   |   |   |   |   |    |    |    |
|                         |                                   | 2 (QI)                                                                    |   |   |   |   |   |   |   |   |    |    |    |
| Documentation           | Staging                           | Staging documented                                                         |   |   |   |   |   |   |   |   |    |    |    |
|                         |                                   | 1 within one month of first office visit                                   |   |   |   |   |   |   |   |   |    |    |    |
|                         |                                   | 3 at diagnosis                                                            |   |   |   |   |   |   |   |   |    |    |    |
| Documentation           | Stage capture rate                | Proportion of incident cancer cases in which a cancer stage was identified. |   |   |   |   |   |   |   |   |    |    |    |

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## Generic indicators for process quality in oncological care

| Domain                          | Subgroup                  | Indicator                                                                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---------------------------------|---------------------------|----------------------------------------------------------------------------|---|---|---|---|---|---|---|---|----|----|----|
| Pain management                 | Constipation              | Constipation assessed at time of narcotic prescription or following visit  |   |   |   |   |   |   |   |   | X   |    |    |
| Pain management                 | Constipation              | Regular prophylaxis of opiate-induced constipation                        |   |   |   |   |   |   |   |   |   | X   |    |
| Pain management                 | Treatment                 | Pain Treatment                                                            | X | X | X | X |    |    |    |    |    |    |
|                                 |                           | 1 responsive                                                              |   |   |   |   |    |    |    |    |    |
|                                 |                           | 2 effective for painful bony metastasis                                   |   |   |   |   |    |    |    |    |    |
|                                 |                           | 3 timely of inpatient pain                                                |   |   |   |   |    |    |    |    |    |
|                                 |                           | 4 patients’ perception of pain management by providers                    |   |   |   |   |    |    |    |    |    |
| Pain management                 | Treatment                 | Effective pain treatment in ICU                                           |    |    |   |    |    |    |    |    |    |
| Dyspnea management              | Assessment                | Regular dyspnea assessment                                                | X |    |    |    |    |    |    |    |    |
| Dyspnea management              | Treatment                 | Dyspnea treatment                                                         | X |    |    |    |    |    |    |    |    |
|                                 |                           | 1 dyspnea caused by hypoxia                                                |   |    |    |    |    |    |    |    |    |
|                                 |                           | 2 timely of inpatient                                                      |   |    |    |    |    |    |    |    |    |
| Depression/ Emotional well-being| Assessment                | Assessment emotional well-being                                            | X | X |    |    |    |    |    |    |    |
|                                 |                           | 1 Regular assessment for psychological well-being                          |   |   |    |    |    |    |    |    |    |
|                                 |                           | 2 Patient emotional well-being assessed by the second office visit         |   |   |    |    |    |    |    |    |    |
| Depression/ Emotional well-being| Treatment                 | Action taken to address problems with emotional well-being by the second office visit |   |   |    |    |    |    |    |    |    |
| Depression                      | Assessment/ Treatment     | Regular assessment or treatment of depression in newly diagnosed cancer    | X |    |    |    |    |    |    |    |    |
| Depression                      | Assessment/ Treatment     | Routine assessment or treatment of depression in symptomatic patients      | X |    |    |    |    |    |    |    |    |
| General processes               | Appropriate utilization: systemic therapy                                | Percentage of incident cancer patients receiving systemic therapy post-operatively. |    |    |    |    |    |    |    |    | X   |
## Results of indicator selection

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<td>Symptom/Toxicity Management – Chemotherapy-Related</td>
<td>Aprepitant prescribed with high emetic risk chemotherapy</td>
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<tr>
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<td>Integrated IT systems</td>
<td>Percentage of hospitals that meet volume cut-off for cancer services that have single view of patient results available in the hospital to appropriate providers that include diagnostic, procedural, systemic, and radiation therapy information</td>
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<td>Automatization</td>
<td>Percentage of medical oncologists using &quot;Computerized Physician Order Entry&quot; systems.</td>
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<td>Percentage of Integrated Cancer Programs’ annual budgets devoted to cancer research funding</td>
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<td>Hospitals’ self-reported environments for innovation (questionnaire)</td>
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<td>Surrogate</td>
<td>Regular identification of a surrogate in the outpatient setting</td>
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</table>
## Generic indicators for process quality in oncological care

| Domain          | Subgroup               | Indicator                                                                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-----------------|------------------------|----------------------------------------------------------------------------|---|---|---|---|---|---|---|---|----|----|----|
| ACP             | Surrogate              | Regular identification of a surrogate among hospital admissions with impaired cognition |   |   |   |   |   |   |   |   |   |    |    |    |
| ACP             | Surrogate              | Regular identification of a surrogate in the ICU                           |   |   |   |   |   |   |   |   |   |    |    |    |
| ACP             | Preferences Assessment | Regular assessment of preferences among inpatients with dementia            |   |   |   |   | X |   |   |   |   |    |    |    |
| ACP             | Preferences Assessment | Regular assessment of preferences in hospice                                |   |   |   |   |   |   |   | X |   |    |    |    |
| ACP             | Preferences Assessment | Regular assessment of preferences in an ICU                                  | X |   |   |   |   |   |   |   |   |    |    |    |
| ACP             | Preferences Assessment | Regular assessment of preferences in an ICU 2 specific resuscitation preferences | X |   |   |   |   |   |   |   |   |    |    |    |
| ACP             | Preferences Assessment | Regular assessment of advance directives for ICU patients                   |   |   |   | X |   |   |   |   |   |    |    |    |
| ACP             | Preferences Documentation | Documentation of care preferences across venues                         |   |   |   | X |   |   |   |   |   |    |    |    |
| ACP             | Preferences Documentation | Documentation specific life sustaining preferences                        |   |   |   |   | X |   |   |   |   |    |    |    |
| ACP             | Preferences Follow-up  | Consistency of preferences with use of ventilator support                  |   |   |   | X |   |   |   |   |   |    |    |    |
| ACP             | Preferences Follow-up  | Care consistency with documented care preferences                          | X |   |   |   |   |   |   | X |   |    |    |    |
| ACP             | Communications         | Regular clinician-patient-family communication in the ICU                  |   |   |   |   |   |   |   |   |   | X |    |    |
| ACP             | Communications         | Regular family meetings among hospitalized patients                          |   |   |   |   |   |   |   |   |   |    | X |    |
| ACP             | End-of-life            | Death in acute-care bed                                                     | X | X | X |   |   |   |   |   |   |    |    |    |
| End-of-life     | End-of-life            | 3 site of death                                                            |   |   |   |   |   |   |   |   |   |    |    |    |
| End-of-life     | End-of-life            | More than one hospitalization in the last 30 days of life                   | X |   |   |   |   |   |   |   |   |    |    |    |
| End-of-life     | End-of-life            | Median number of days in acute care for last 6 months of life for patients who died of cancer |   |   |   |   |   |   |   |   |   |    |   | X |
## Results of indicator selection

<p>| Domain                  | Subgroup           | Indicator                                                                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|-------------------------|--------------------|---------------------------------------------------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|
| End-of-life             |                    | Emergency department visit                                               | X | X | X | X |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                         |                    | 1 in the last two weeks of life                                          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                         |                    | 2 more than one ER visit in the last 30 days of life                     | X |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                         |                    | 3 ER visit in the last month of life                                     | X |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                         |                    | 4 ER visit in the last month of life                                     | X |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                         |                    | 5 in the last two weeks of life                                          | X |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| End-of-life             |                    | Intensive care unit admission                                            | X |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                         |                    | 1 in the last 30 days of life                                            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                         |                    | 2 in the last 14 days of life                                            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| End-of-life             |                    | Chemotherapy in the last two weeks of life                              | X | X | X | X | X | X |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| End-of-life             |                    | Home care visit in the last 6 months of life                            | X |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| End-of-life             |                    | Physician house calls in the last two weeks of life                    | X |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| End-of-life             | Hospice/Palliative  | Hospice enrolment                                                        | X | X | X | X | X | X |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                         | care               | 1 not admitted to hospice (inverse)                                     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                         |                    | 2 admission to hospice (equivalent to: Death in acute-care bed)          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                         |                    | 3 hospice or palliative care referral                                   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                         |                    | 4 rates of palliative care utilization                                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| End-of-life             | Hospice            | Admitted to hospice for less than                                       | X |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                         |                    | 1 three days                                                            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                         |                    | 2 seven days                                                            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| End-of-life             | Hospice            | For patients not referred, hospice or palliative care discussed within  | X |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                         |                    | the last 2 months of life                                               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| End-of-life             | Hospice            | Family evaluation of hospice care                                       | X |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                         |                    | 2 Survey of caregivers after death                                      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |</p>
<table>
<thead>
<tr>
<th>Domain</th>
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<th>Indicator</th>
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<td>Pain intensity quantified on either of the last two visits before death</td>
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<td>Depression/ Spiritual well-being</td>
<td>Depression/ Spiritual well-being in expected dying</td>
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</table>
31 generic process indicators were found in more than one indicator set.

- Waiting time (4)
- Documentation (5)
- Reporting (1)
- Guideline adherence (1)
- Clinical trial participation (1)
- Multidisciplinarity (2)
- Pain management (3)
- Dyspnea management (1)
- Depression/ Emotional well-being (1)
- General processes (1)
- Advance care planning (2)
- End-of-life (9)

These are presented in table 3 below.
Table 3: Generic process indicators found at least twice in pool of indicator sets

<table>
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<tr>
<td>1</td>
<td>Patient communication</td>
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<td>Patient satisfaction surveys related to various aspects of care conducted</td>
<td>In order to answer questions about patient satisfaction with various aspects of care (Greenberg 2005: coordination of care, access to care, pain management, overall, CSQI 2011: experience with outpatient cancer care) the respective surveys need to be incorporated in the care process.</td>
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<tr>
<td>2</td>
<td>Waiting Time</td>
<td></td>
<td>From initial consultation with surgeon to surgery</td>
<td>Cancer Quality Council Ontario <a href="http://www.cqco.ca/cms/One.aspx?portalId=80621&amp;pageId=92646">http://www.cqco.ca/cms/One.aspx?portalId=80621&amp;pageId=92646</a></td>
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<td>From referral to chemotherapy</td>
<td>Cancer Quality Council Ontario <a href="http://www.cqco.ca/cms/One.aspx?portalId=80621&amp;pageId=92651">http://www.cqco.ca/cms/One.aspx?portalId=80621&amp;pageId=92651</a></td>
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<td>From referral to radiation therapy</td>
<td>Cancer Quality Council Ontario <a href="http://www.cqco.ca/cms/One.aspx?portalId=80621&amp;pageId=92651">http://www.cqco.ca/cms/One.aspx?portalId=80621&amp;pageId=92651</a></td>
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<td>Pathology report</td>
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<td>Care Planning</td>
<td>Plan of care for pain documented</td>
<td>American Medical Association and American Society of Clinical Oncology <a href="http://www.ama-assn.org/ama1/pub/upload/mm/pcpi/oncology-worksheets.pdf">http://www.ama-assn.org/ama1/pub/upload/mm/pcpi/oncology-worksheets.pdf</a> Measure #9</td>
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<td>Care Planning</td>
<td>Documented plan for chemotherapy</td>
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<td>Chemotherapy treatment summary</td>
<td>American Medical Association and American Society of Clinical Oncology <a href="http://www.ama-assn.org/ama1/pub/upload/mm/pcpi/oncology-worksheets.pdf">http://www.ama-assn.org/ama1/pub/upload/mm/pcpi/oncology-worksheets.pdf</a> Measure #5</td>
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<td>Patient discussed at multidisciplinary forum</td>
<td>Most far reaching concept: Cancer Quality Council Ontario <a href="http://www.cqco.ca/cms/One.aspx?portalId=80621&amp;pageId=92500">http://www.cqco.ca/cms/One.aspx?portalId=80621&amp;pageId=92500</a></td>
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<td>Communication</td>
<td>Treatment summary</td>
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<td>Georgia Cancer Coalition Lorenz (2006): appendix F1</td>
</tr>
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<td>University Health Consortium Lorenz (2006): appendix F1</td>
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<td>Pain Treatment</td>
<td>RAND Lorenz (2006): appendix F1</td>
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<td>Dyspnea treatment</td>
<td>University Health Consortium Lorenz (2006): appendix F2</td>
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<td>Preferences Assessment</td>
<td>Regular assessment of preferences in an ICU</td>
<td>Assessing the Care Of Vulnerable Elders ACOVE Lorenz (2006): appendix F4</td>
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<td>Care consistency with documented care preferences</td>
<td>Assessing the Care Of Vulnerable Elders ACOVE Lorenz (2006): appendix F4</td>
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<td>Chemotherapy in the last two weeks of life</td>
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<td>Hospice enrolment</td>
<td>Hospice enrolment</td>
<td>National Quality Forum NQF (2009a), A-14</td>
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<td>National Quality Forum NQF (2009a), A-14</td>
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<td>Details on family evaluation survey: NQF (2009a), figure A-1, table A-1</td>
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<td>End-of-life dyspnea assessment</td>
<td>Dyspnea assessed on either of the last two visits before death</td>
<td>Dyspnea assessed on either of the last two visits before death</td>
<td>American Medical Association and American Society of Clinical Oncology <a href="http://www.ama-assn.org/ama1/pub/upload/mm/pcc/palliative-care.pdf">http://www.ama-assn.org/ama1/pub/upload/mm/pcc/palliative-care.pdf</a> Measure #2</td>
</tr>
<tr>
<td>31</td>
<td>End-of-life dyspnea treatment</td>
<td>Dyspnea addressed on either of the last two visits before death</td>
<td>Dyspnea addressed on either of the last two visits before death</td>
<td>American Medical Association and American Society of Clinical Oncology <a href="http://www.ama-assn.org/ama1/pub/upload/mm/pcc/palliative-care.pdf">http://www.ama-assn.org/ama1/pub/upload/mm/pcc/palliative-care.pdf</a> Measure #2</td>
</tr>
</tbody>
</table>
### 3.2 Detailed description of generic process indicators

Detailed information about the 31 generic process indicators found in more than one of the pool indicator sets is presented below:

<table>
<thead>
<tr>
<th>No.</th>
<th>Domain</th>
<th>Subgroup</th>
<th>Indicator</th>
<th>Details/ Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Patient communication</td>
<td></td>
<td>Patient satisfaction surveys related to various aspects of care conducted</td>
<td>In order to answer questions about patient satisfaction with various aspects of care (Greenberg 2005: coordination of care, access to care, pain management, overall, CSQI 2011: experience with outpatient cancer care) the respective surveys need to be incorporated in the care process.</td>
</tr>
</tbody>
</table>

#### Wait time for cancer surgery

**Definition**

Percent of cancer surgery patients treated within 14, 28 and 84 days access target for priority 2, 3 and 4 cases, respectively

**Calculation**

\[
\text{Percentage of treatment within target} = \left( \frac{\text{Total} \# \text{ of patients treated within their respective priority targets}}{\text{Total} \# \text{ of cancer surgery patients}} \right) \times 100
\]

**Analysis**

- Provincial trend from January 2009 to December 2010, by Priority Access Target Disease Site and LHIN

**Considerations**

- The percent of cancer surgery patients treated within 14, 28 and 84 days is weighted based on volume by priority.

**Technical Specifications**

- Wait time (in days) for cancer surgery is calculated as:
- Surgery Operation Date – Decision to Treat Date – Patient Unavailable Days
- Based on closed cases, with operation dates within date range, submitted by hospitals through the Wait Time Information System (WTIS).
- Procedures classified as “NA” are currently included.
- If unavailable days fall outside the decision to treat date up to procedure date, unavailable days are not deducted from patients’ wait days. These are considered data entry errors.

**Exclusions:**

- Individuals <18 years old
- Procedures that are no longer required for submission
Results of indicator selection

- Skin – carcinoma, skin – melanoma, and lymphomas
- Priority 1 procedures
- Diagnostic, palliative, and reconstructive cancer procedures
- Non cancer diagnosis
- Wait list entries identified by hospitals as data entry errors

**Numerator**
- Total # of cancer surgery patients treated within their respective priority access targets; 14, 28 and 84 days for priority 2,3 and 4 cases, respectively

**Denominator**
- Total # of cancer surgery patients after exclusion

**Data Sources**
- Wait Time Information System, Cancer Care Ontario

**Data Availability & Limitations**
- Calculated for the period between January 2009 and December 2010
- Guidelines are implemented to ensure the facilities submit their data through WTIS in close to real time at source. A 2-business-day rule has been put in place for opening a wait list entry in the system when the decision for treatment is made, and closing the entry after the procedure is performed. This rule is established to ensure compliance with timely data submissions.
- It is possible to allow for an audit trail back to the original source of data in the physician’s office or the hospital scheduling system

---

### Wait time systemic therapy “consult to treatment”

**Definition**
Percentage of patients that are seen within the consult to treatment wait time target for systemic therapy

**Calculation**

\[
\text{Percent of patients seen within target} = \frac{\text{Total Number of Patients within Ready to treat to treat wait time target}}{\text{Total Number of Valid Cases}} \times 100
\]

**Analysis**
- January to December 2009, 2010, by Regional Cancer Centre and Disease Site

**Considerations**
- The consult to treatment activity presented in this report is limited to treatment activity provided within the Regional Cancer Centres which covers about 65% of the provincial activity.

**Technical Specifications**
- Systemic Consult to Treatment patients are those patients with both a valid Consult and Treatment Date receiving treatment at the Regional Cancer Centre.
- Only new treatments for a particular disease site are included

**Exclusions:**
- Diagnosis site not between ‘C00’ and ‘D49’
### Generic indicators for process quality in oncological care

**Definition**
Percentage of patients that are seen within the consult to treatment wait time target for systemic therapy

- Consult date is null
- Consult date is greater than Treatment date
- Program Code is Radiation and Treatment is non-IV chemotherapy

**Numerator**
- Total number of patients within ready to treat to treatment wait time of 1, 7 and 14 days

**Denominator**
- Total number of cases with a valid Treatment Date during the reporting time period

**Data Sources**
- Activity Level Reporting, Cancer Care Ontario

**Data Availability & Limitations**
- Data for the 2 intervals referral to consult and ready to treat to treatment are available only from April 2007 onwards.
- Only new systemic patients are included (excludes re-treats)

---

### Wait Times for Radiation Treatment “Ready to Treat to Treatment”

#### Definition
Percentage of patients that are seen within the ready to treat to treatment wait time target

**Calculation**

\[
\text{Percent of patients seen within target} = \left( \frac{\text{Total Number of Patients within Ready to treat to treat wait time target}}{\text{Total Number of Valid Cases}} \right) \times 100
\]

**Analysis**
- January to December 2009, 2010, by Regional Cancer Centre and Disease Site

**Considerations**
- The ready to treat to treatment activity presented in this report is limited to treatment activity provided within the Regional Cancer Centres.

**Technical Specifications**
- Radiation Ready to Treat to Treatment patients are those patients with both a valid Ready to Treat and Treatment Date receiving treatment at the cancer centre.
- Only new treatments for a particular disease site are included

**Exclusions:**
- Diagnosis site not between ‘C00’ and ‘D49’
- Treatment date is null
- Ready to Treat date is null
- Ready to Treat date is greater than Treatment date

**Numerator**
- Total number of patients within ready to treat to treatment wait time of 1, 7 and 14 days
Results of indicator selection

<table>
<thead>
<tr>
<th>Definition</th>
<th>Percentage of patients that are seen within the ready to treat to treatment wait time target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denominator</td>
<td>Total number of cases with a valid Treatment Date during the reporting time period</td>
</tr>
<tr>
<td>Data Sources</td>
<td>Activity Level Reporting, Cancer Care Ontario</td>
</tr>
<tr>
<td>Data Availability &amp; Limitations</td>
<td>Data for the 2 intervals referral to consult and ready to treat to treatment are available only from April 2007 onwards. Only new radiation patients are included (excludes re-treats)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No.</th>
<th>Domain</th>
<th>Subgroup</th>
<th>Indicator</th>
<th>Details/ Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Documenta-</td>
<td>Pathology report</td>
<td>American Medical Association and American Society of Clinical Oncology <a href="http://www.ama-assn.org/ama1/pub/upload/mm/pcpi/oncology-worksheets.pdf">http://www.ama-assn.org/ama1/pub/upload/mm/pcpi/oncology-worksheets.pdf</a></td>
<td>Measure #10</td>
</tr>
</tbody>
</table>

Pathology Report

This measure is appropriate as a Quality Improvement measure only.

**Clinical Performance Measure**

**Numerator:** Patients with a pathology report in the medical record that confirms malignancy prior to the initiation of therapy  
**Denominator:** All patients with a diagnosis of cancer receiving chemotherapy or radiation therapy  
**Denominator Exceptions:** Documenta- tion of medical reason(s) for not having a pathology report in the medical record that confirms malignancy prior to the initiation of therapy (eg, palliative treatment for metastatic illness)  
**Measure:** Percentage of patients with a diagnosis of cancer receiving chemotherapy or radiation therapy with a pathology report in the medical record that confirms malignancy prior to the initiation of therapy

The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines and represent the evidence base for the measure:

The cognitive process of treatment planning requires the radiation oncologist to have knowledge of the natural history of the tumor to be treated and to determine the tumor site, its extent, and its relationship with adjacent normal tissues. This process is based on consideration of the history, physical examination, endoscopy, diagnostic imaging, findings at surgery, and histology (ACR)

A practice must demonstrate that it performs an adequate clinical evaluation by taking a patient history, performing a physical examination, reviewing pertinent diagnostic studies and reports, determining the extent of the tumor for staging purposes, and communicating with the referring physician and certain other physicians involved in the patient’s care. (ACRO)

**Rationale for the measure:**
The extent of the tumor must be determined and recorded for staging; this will facilitate treatment decisions, determine prognosis, and allow a comparison of treatment results.

**Data capture and calculations:**
**Calculation for Performance**  
For performance purposes, this measure is calculated by creating a fraction with the following components: Numer- ator, Denominator, and Denominator Exclusions.  
**Performance Numerator (A) Includes:** Patients with a pathology report in the medical record that confirms malignancy prior to the initiation of therapy  
**Performance Denominator (PD) Includes:** All patients with a diagnosis of cancer receiving chemotherapy or radiation therapy
Performance Denominator Exceptions (C) Include:

Documentation of a medical reason(s) for not having a pathology report in the medical record, confirming malignancy prior to the initiation of therapy (eg, palliative treatment for metastatic illness)

Performance Calculation

\[ \frac{A \text{ (# of patients meeting numerator criteria)}}{PD \text{ (# of patients in denominator)} - C \text{ (# of patients with valid denominator exclusions)}} \]

Components for this measure are defined as:

A

# of patients with a pathology report in the medical record that confirms malignancy prior to the initiation of therapy

PD

# of patients with a diagnosis of cancer receiving chemotherapy or radiation therapy

C

# of patients with a documented medical reason(s) for not having a pathology report in the medical record, confirming malignancy prior to the initiation of therapy (eg, palliative treatment for metastatic illness)

Calculation for Reporting

For reporting purposes, this measure is calculated by creating a fraction with the following components: Reporting Numerator and Reporting Denominator

Reporting Numerator includes each of the following instances:

A. Patients who have a pathology report in the medical record that confirms malignancy prior to the initiation of therapy

C. Patients with a documented medical reason(s) for not having a pathology report in the medical record, confirming malignancy prior to the initiation of therapy (eg, palliative treatment for metastatic illness)

D. Patients who do not have a pathology report in the medical record that confirms malignancy prior to the initiation of therapy

Reporting Calculation

\[ \frac{A \text{ (# of patients meeting numerator criteria)} + C \text{ (# of patients with valid exclusions)} + D \text{ (# of patients not meeting numerator criteria)}}{RD \text{ (# of patients in denominator)}} \]

Reporting Denominator (RD) Includes:

All patients with a diagnosis of cancer receiving chemotherapy

A

# of patients with a pathology report in the medical record that confirms malignancy prior to the initiation of therapy

C

# of patients who do not have a pathology report in the medical record that confirms malignancy prior to the initiation of therapy and there is a documented medical reason for not doing so

D

# of patients who do not have a pathology report in the medical record that confirms malignancy prior to the initiation of therapy

RD

# of patients with a diagnosis of cancer receiving chemotherapy or radiation therapy
<table>
<thead>
<tr>
<th>No.</th>
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<th>Subgroup</th>
<th>Indicator</th>
<th>Details/ Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Documentation</td>
<td>Staging</td>
<td>Staging documented</td>
<td>Cancer Quality Council Ontario</td>
</tr>
</tbody>
</table>

### Reporting of Cancer Stage at Diagnosis (Population-based stage capture rate)

**Definition**
The population-based measure reports the percentage of all eligible new cancer cases in Ontario for which a valid stage at diagnosis is derived from information in the Ontario Cancer Registry (OCR) and the CS database.

**Calculation**

\[
\text{Population Stage Rate} = \frac{\text{Reportable incident cases in OCR where a valid stage at diagnosis is available}}{\text{Reportable incident cases in OCR which are TNM stageable}} \times 100
\]

**Analysis**
- For Jan. 2006 – Dec 2009
- % of reportable incident cases in OCR with valid stage by fiscal year, LHIN, by top four disease sites (Breast, Colorectal, Lung, Prostate)

**Considerations**
- The AJCC Collaborative Staging (CS) coding system is used by CCO CS analysts to collect the base data elements from cancer patient hospital health records (i.e., cancer pathology report, CT/MRI or other radiology reports, operative note, etc) in 85 hospitals across Ontario. CS data collection is semi-automated with electronic data capture from CCO's ePath data holdings and OCRIS. The CS minimum data set can derive AJCC TNM staging values and includes additional prognostic information such as PSA test results for prostate cancer and ER/PR results for breast cancer.
- This indicator does not assess the accuracy of the staging information. It is a measure of the completeness in reporting.
- The calculation integrates two sources of stage data: AJCC TNM staging which is reported to CCO by Ontario’s 14 Cancer Centres and the Collaborative Staging (CS) data collection system where trained CCO abstractors collect the base data elements from hospital health records (i.e., cancer pathology report, CT/MRI or other radiology reports, operative note, etc) via remote access to charts in 71 other Ontario hospitals. Starting in March 2010, CS data collection was also initiated in RCCs, to obtain staging for the 2007, 2008 and 2009 diagnosis years for cases where TNM stage was not submitted to CCO.
- In-situ cases are not included.
- Currently the CS data collection system in Ontario is limited to the top four disease sites; expansion to other sites will begin in 2011/12.
- CS is a new data collection system for staging of cancer based on the TNM categories and stage groupings, Summary Stage, and the SEER Extent of Disease coding structure. The development of the Collaborative Staging coding system was sponsored by the American Joint Committee on Cancer (AJCC) in collaboration with the National Cancer Institute Surveillance, Epidemiology and End Results Program (NCI-SEER); Centers for Disease Control and Prevention National Program of Cancer Registries (CDC/NPCR); National Cancer Registrars Association (NCRA); North American Association of Central Cancer Registries (NAACCR); and American College of Surgeons (ACOS) Commission on Cancer (CoC). Collaborative Staging has been endorsed by all Canadian provinces/territories (including Ontario) and US registries as the pan-American standard for cancer staging data collection.
### Technical Specifications

- Eligible cases include all cancers identifiable in OCR except those cancers for which TNM staging is not appropriate.
- For cases with multiple different valid stage values (due to multiple visits for Cancer Centres or staging using both TNM and CS systems), the resolved best stage is derived based on a specified algorithm.
- Inclusion of "Unknown" as a valid stage group, according to the AJCC Staging Guidelines.

#### Exclusions:
- Pediatric cases (those patients who are <18 years of age).
- Non-melanoma skin.
- CCO Diagnosis grouping with primary unknown.

### Numerator

- Total number of reportable incident cases in OCR which a valid stage at diagnosis is available.

### Denominator

- Total number of reportable registered cases in OCR for which TNM staging is applicable and exclusion criteria are applied.

### Data Sources

- Ontario Cancer Registry, Cancer Care Ontario.
- Activity Level Reporting, Cancer Care Ontario.
- Collaborative Staging Database, Cancer Care Ontario.

### Data Availability & Limitations

- The availability of population-based stage information relies on the timeliness of CIHI database and Ontario Cancer Registry case resolution process. Usually it takes up to one and half years after diagnosis to ensure all cancer cases for a given year are identified.
- Currently TNM stage data from RCC are available from April 2005 forward and CS data for top four disease sites are available from January 2007 forward.
- Recent studies conducted to assess the timeliness, validity and reliability of stage data Collaborative Staging Data Quality Report for 2007 and 2008 found that these data are of high quality.
- In 2010/11, starting with the 2010 diagnosis year, the CS data collection system will be used exclusively for the four most common cancers, TNM will continue to be collected by RCCs for other sites, until full CS implementation starting with the 2012 diagnosis year.
Plan of Care for Pain-Medical Oncology and Radiation Oncology
This measure may be used as an Accountability measure.

<table>
<thead>
<tr>
<th>No.</th>
<th>Domain</th>
<th>Subgroup</th>
<th>Indicator</th>
<th>Details/ Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Documentation</td>
<td>Care Planning</td>
<td>Plan of care for pain documented</td>
<td>American Medical Association and American Society of Clinical Oncology <a href="http://www.ama-assn.org/ama1/pub/upload/mm/pcp/oncology-worksheets.pdf">http://www.ama-assn.org/ama1/pub/upload/mm/pcp/oncology-worksheets.pdf</a> Measure #9</td>
</tr>
</tbody>
</table>

**Clinical Performance Measure**

**Numerator:** Patient visits that included a documented plan of care* to address pain

Numerator instructions: *A documented plan of care may include: use of opioids, nonopioid analgesics, psychological support, patient and/or family education, referral to a pain clinic, or reassessment of pain at an appropriate time interval.

**Denominator:** All visits for patients, regardless of age, with a diagnosis of cancer currently receiving chemotherapy or radiation therapy who report having pain

**Denominator Exceptions:** None

**Measure:** Percentage of visits for patients, regardless of age, with a diagnosis of cancer currently receiving chemotherapy or radiation therapy who report having pain with a documented plan of care to address pain

The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines and represent the evidence base for the measure:

- All patients with cancer should be screened during the initial evaluation, at regular intervals, and whenever new therapy is initiated. The standard means for determining how much pain a patient is experiencing relies on a patient’s self-report. Severity should be quantified using a 0-10 numerical rating scale, a categorical scale, or the pictorial scale (Wong-Baker Faces Pain Rating Scale). Faces can be used with patients who have difficulty with the above scales, eg, children, the elderly, and patients with language or cultural differences or other communication barriers (Category 2A). (NCCN9)

- Pain intensity must be quantified, as the algorithm bases therapeutic decisions on a numerical value assigned to the severity of pain. Opioid naive patients experiencing severe or increasing pain should receive rapid escalating doses of short-acting opioids, a bowel regimen, and Nonopioid analgesics as indicated. Psychosocial support is needed to ensure that patients encountering common barriers to appropriate pain control (eg, fear of addiction or side effects, inability to purchase opioids) or needing additional assistance (eg, depression, rapidly declining functional status) receive appropriate aid. Although pain intensity ratings will be obtained frequently to judge opioid dose increases, a formal reassessment is mandated in 24 hours for severe pain (Category 2A). (NCCN9)

- For patients whose pain is less than 7 at presentation, the pathways are similar. The main differences include the option to perform the formal pain intensity reassessment less frequently (24-48 hours) and to consider beginning with slower titration of short-acting opioids for patients with moderate pain intensity rating 4-6 or with NSAID or acetaminophen if the patient has mild pain intensity rating from 1 to 0 and is opioid and NSAID-naive (Category 2A). (NCCN9)

- Regular, ongoing assessment of pain, nonpain symptoms (including but not limited to shortness of breath, nausea, fatigue and weakness, anorexia, insomnia, anxiety, depression, confusion and constipation), treatment side effects and functional capacities are documented. Validated instruments, where available, should be used. (NCP12)

- All patients should be routinely screened for pain, and when it is present, pain intensity should be recorded in highly visible ways that facilitate regular review by health care providers. A standard for pain assessment and documentation should be established in each setting to ensure that pain is recognized, documented, and treated promptly. (APS13)

**Rationale for the measure:**

Inadequate cancer pain management is widely prevalent, harmful to the patient, and costly. There are no denominator exclusions for this measure.
Data capture and calculations:

**Calculation for Performance**

For performance purposes, this measure is calculated by creating a fraction with the following components: Numerator and Denominator.

**Performance Numerator (A) Includes:**
- Patient visits that included a documented plan of care to address pain

**Performance Denominator (PD) Includes:**
- All visits for patients, regardless of age, with a diagnosis of cancer, currently receiving chemotherapy or radiation therapy AND
- A visit where a patient reports having pain

**Performance Calculation**

\[
A \div PD
\]

Components for this measure are defined as:

\[
A = \text{# of patient visits that included a documented plan of care to address pain}
\]

\[
PD = \text{# of visits for patients, regardless of age, with a diagnosis of cancer currently receiving chemotherapy or radiation therapy who report having pain}
\]

**Calculation for Reporting**

For reporting purposes, this measure is calculated by creating a fraction with the following components: Reporting Numerator and Reporting Denominator.

**Reporting Numerator includes each of the following instances:**
- A. Patient visits where a patient reports having pain that included a documented plan of care to address pain
- D. Patient visits where a patient reports having pain that did not include a documented plan of care to address pain
- E. Patient visits that report no pain

**Reporting Denominator (RD) Includes:**
- All patient visits for patients, regardless of age, with a diagnosis of cancer currently receiving chemotherapy or radiation therapy

**Reporting Calculation**

\[
A + D + E \div RD
\]

\[
A = \text{# of patient visits where a patient reports having pain that included a documented plan of care to address pain}
\]

\[
D = \text{# of patient visits where a patient reports having pain that did not include a documented plan of care to address pain}
\]

\[
E = \text{# of patient visits where a patient reports no pain}
\]

\[
RD = \text{# of visits for patients, regardless of age, with a diagnosis of cancer currently receiving chemotherapy or radiation therapy}
\]
Results of indicator selection

<table>
<thead>
<tr>
<th>No.</th>
<th>Domain</th>
<th>Subgroup</th>
<th>Indicator</th>
<th>Details/ Source</th>
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</thead>
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<tr>
<td>8</td>
<td>Documenta-</td>
<td>Care Planning</td>
<td>Documented plan for chemotherapy</td>
<td>American Medical Association and American Society of Clinical Oncology <a href="http://www.amapub/upload/mm/pco/therapy-workheets.pdf">http://www.amapub/upload/mm/pco/therapy-workheets.pdf</a></td>
</tr>
</tbody>
</table>

**Treatment Summary Communication – Radiation Oncology**

This measure may be used as an Accountability measure.

**Clinical Performance Measure**

**Numerator:** Patients who have a treatment summary report in the chart that was communicated to the physician(s) providing continuing care and to the patient within one month of completing treatment.

**Definition:**
- Treatment Summary: a report that includes mention of all of the following components: 1) dose delivered; 2) relevant assessment of tolerance to and progress towards the treatment goals; and 3) subsequent care plans.

**Denominator:** All patients, regardless of age, with a diagnosis of cancer who have undergone brachytherapy or external beam radiation therapy.

**Denominator Exceptions:**
- Documentation of a patient reason(s) for not communicating the treatment summary report to the physician(s) providing continuing care (e.g., patient requests that report not be sent) and to the patient within one month of completing treatment.
- Documentation of a system reason(s) for not communicating the treatment summary report to the physician(s) providing continuing care (e.g., patient does not have any physician responsible for providing continuing care) and to the patient within one month of completing treatment.

**Measure:** Percentage of patients, regardless of age, with a diagnosis of cancer who have undergone brachytherapy or external beam radiation therapy who have a treatment summary report in the chart that was communicated to the physician(s) providing continuing care and to the patient within one month of completing treatment.

The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines and represent the evidence base for the measure:

- A summary should be generated that accurately describes the treatment process, the doses delivered to the target/tumor volume and other key organs, relevant assessment of tolerance to and progress towards the treatment goals, and subsequent care plans. The style will reflect the radiation oncologist’s individual practice convention and the referral provider’s needs. The style, content, and detail of this summary must be tailored to the clinical setting and prevailing practice norms. It should contain elements that accurately and succinctly reflect the program of care administered in a language understandable to the non-radiation oncologist. It is suggested that the report to the referring physician include a request for periodic updates on the patient’s progress. These updates will facilitate continuity of care should the patient require further radiation therapy. (not ranked) (ACR7)

**Rationale for the measure:**

Timely, accurate, and effective communications are critical to quality and value in contemporary medical practices. As both a consultant oncologist and the provider of radiation oncology services, the radiation oncologist has a dual role. Radiation therapy incorporates the science of complex, integrated treatment delivery and the art of individual cancer management. Through written focused reports and direct communications, the contribution of radiation oncologists concerning patient care, responsible utilization, and quality are provided, especially to primary care physicians, other oncologists and specialists, and allied healthcare providers (nurses, tumor registrars, quality assurance personnel, third-party reviewers, etc). (ACR7)

**Data capture and calculations:**

**Calculation for Performance**

For performance purposes, this measure is calculated by creating a fraction with the following components: Numerator, Denominator, and Denominator Exclusions.

**Performance Numerator (A) Includes:**
- Patients who have a treatment summary report in the chart that was communicated to the physician(s) providing continuing care and to the patient within one month of completing treatment.

**Performance Denominator (PD) Includes:**
- All patients, regardless of age, with a diagnosis of cancer AND
- Patients who have undergone brachytherapy or external beam radiation therapy

**Performance Denominator Exceptions (C) Include:**
- Documentation of patient reason(s) for not having a treatment summary report in the chart that was
communicated to the physician(s) providing continuing care (e.g., patient requests that report not be sent) and to the patient within one month of completing treatment

Documentation of system reason(s) for not having a treatment summary report in the chart that was communicated to the physician(s) providing continuing care (e.g., patient does not have any physician responsible for providing continuing care) and to the patient within one month of completing treatment

**Performance Calculation**

A (# of patients meeting measure criteria) divided by PD (# of patients in denominator) – C (# of patients with valid denominator exclusions)

**Components for this measure are defined as:**

A  
# of patients who have a treatment summary report in the chart that was communicated to the physician(s) providing continuing care and to the patient within one month of completing treatment

PD  
# of patients, regardless of age, with a diagnosis of cancer who have undergone brachytherapy or external beam radiation therapy

C  
# of patients with documented patient or system reason(s) for not having a treatment summary report in the chart that was communicated to the physician(s) providing continuing care and to the patient within one month of completing treatment

D. Patients who do not have a treatment summary report in the chart that was communicated to the physician(s) providing continuing care and to the patient within one month of completing treatment and there is no documented reason for not doing so

**Reporting Denominator (RD) Includes:**

All patients, regardless of age, with a diagnosis of cancer AND

Patients who have undergone brachytherapy or external beam radiation therapy

**Reporting Calculation**

A(# of patients meeting numerator criteria) + C(# of patients with valid exclusions) + D(# of patients NOT meeting numerator criteria) divided by RD (# of patients in denominator)

**Components for this measure are defined as:**

A  
# of patients who have a treatment summary report in the chart that was communicated to the physician(s) providing continuing care and to the patient within one month of completing treatment

C  
# of patients who do not have a treatment summary report in the chart that was communicated to the physician(s) providing continuing care and to the patient within one month of completing treatment but for whom there is a documented patient or system reason for not doing so

D  
# of patients who do not have a treatment summary report in the chart that was communicated to the physician(s) providing continuing care and to the patient within one month of completing treatment and there is no documented reason for not doing so

RD  
# of patients, regardless of age, with a diagnosis of cancer who have undergone brachytherapy or external beam radiation therapy
<table>
<thead>
<tr>
<th>No.</th>
<th>Domain</th>
<th>Subgroup</th>
<th>Indicator</th>
<th>Details/ Source</th>
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<td>Documentation</td>
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<td>Chemotherapy treatment summary</td>
<td>American Medical Association and American Society of Clinical Oncology <a href="http://www.ama-assn.org/ama1/pub/upload/mm/pcpi/oncology-worksheets.pdf">http://www.ama-assn.org/ama1/pub/upload/mm/pcpi/oncology-worksheets.pdf</a> Measure #5</td>
</tr>
</tbody>
</table>

*Treatment Summary Documented and Communicated—Medical Oncology*
This measure may be used as a Quality Improvement measure only.

**Clinical Performance Measure**

**Numerator:** (This numerator has 3 components that must be calculated individually):
- A. Patients who have a chemotherapy treatment summary* documented in the medical record
- B. Patients who have documentation that a chemotherapy treatment summary* was communicated to the patient
- C. Patients who have documentation that a chemotherapy treatment summary* was communicated to the physician(s) providing continuing care

Definition: “Treatment Summary: a report that includes mention of all of the following components: 1) chemotherapy treatment delivered (including number of cycles administered, duration, and extent of dose reduction); 2) reason treatment was stopped; 3) major toxicities and/or hospitalizations; 4) treatment response; 5) follow up care and relevant providers.

This measure requires that ALL components listed within the numerator statement be provided in order to meet the measure.

**Denominator:** All patients, regardless of age, with a diagnosis of cancer who have completed adjuvant chemotherapy treatment within the 12 month reporting period

**Denominator Exceptions:**
- Documentation of a patient reason(s) for not having either a chemotherapy treatment summary documented in the medical record OR not having documentation that the chemotherapy treatment summary was communicated to the patient and physician(s) providing continuing care (eg, patient requests that report not be sent)
- Documentation of system reason(s) for not having either a chemotherapy treatment summary documented in the medical record OR not having documentation that the written chemotherapy treatment summary was provided to the patient and physician(s) providing continuing care (eg, patient does not have any physician responsible for providing continuing care)

This measure requires that ALL components listed within the numerator statement be provided in order to meet the measure.

**Measure:** Percentage of patients, regardless of age, with a diagnosis of cancer who have completed adjuvant chemotherapy treatment within the 12 month reporting period who: A) have a chemotherapy treatment summary* documented in the medical record; AND B) have documentation that a chemotherapy treatment summary* was communicated to the patient; AND C) have documentation that a chemotherapy treatment summary* was communicated to the physician(s) providing continuing care

The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines and represent the evidence base for the measure:

The chemotherapy treatment summary should be prepared at the completion of a course of treatment. The core elements of a chemotherapy treatment summary are:
- Chemotherapy treatment delivered, including number of cycles administered, duration, and extent of dose reduction
- Reason treatment was stopped
- Major toxicities and/or hospitalizations
- Treatment response
- Follow up care and relevant providers

This may occur at the end of a course of adjuvant therapy, before a planned surgical resection, or after disease progression. Treatment breaks, holidays, and minor modifications are not envisioned as triggering preparation of such a summary. The treatment plan and summary are not intended to replace detailed chart documentation, including complete patient histories or chemotherapy flow sheets. (ASCO)
**Rationale for the measure:**
Timely, accurate, and effective communications are critical to quality and value in contemporary medical practices. This measure is broken into 3 distinct components to encourage sharing of communication about the patient's course of treatment with the patient him/herself, the physician proving continuing care for the patient, and documented in the medical record. Since each component of the numerator will be scored separately, physicians will know exactly which aspect of care may need improvement.

**Data capture and calculations:**
Calculation for Performance

For performance purposes, this measure is calculated by creating a fraction with the following components: Numerator, Denominator, and Denominator Exclusions.

**Performance Numerator (A) includes:**
- Patients who have a chemotherapy treatment summary documented in the chart AND who have a documentation that the written chemotherapy treatment summary was provided to the patient AND who have documentation that the chemotherapy treatment summary was communicated to the physician(s) providing continuing care

**Performance Denominator (PD) includes:**
- All patients, regardless of age, with a diagnosis of cancer AND
- Patients who have completed adjuvant chemotherapy treatment within the 12 month reporting period

**Performance Denominator Exceptions (C) include:**
- Documentation of patient reason(s) for not having either a chemotherapy treatment summary documented in the chart OR not having documentation that the chemotherapy treatment summary was communicated to the patient OR not having documentation that the chemotherapy treatment summary was communicated to the physician(s) providing continuing care (eg, patient requests that report not be sent)
- Documentation of system reason(s) for not having either a chemotherapy treatment summary documented in the chart OR not having documentation that the written chemotherapy treatment summary was provided to the patient OR not having documentation that the chemotherapy treatment summary was communicated to the physician(s) providing continuing care (eg, patient does not have any physician responsible for providing continuing care)

**Performance Calculation**

\[
\frac{A \text{ (# of patients meeting measure criteria)}}{PD \text{ (# of patients in denominator)}} - C \text{ (# of patients with valid denominator exclusions)}
\]

**Components for this measure are defined as:**

**A**
- # of patients who have a chemotherapy treatment summary documented in the chart AND who have a documentation that the written chemotherapy treatment summary was provided to the patient AND who have documentation that the chemotherapy treatment summary was communicated to the physician(s) providing continuing care

**PD**
- # of patients with a diagnosis of cancer who have completed adjuvant chemotherapy treatment within the 12 month reporting period

**C**
- # of patients with documented patient or system reason(s) for not having either a chemotherapy treatment summary documented in the chart OR not having documentation that the written chemotherapy treatment summary was provided to the patient OR not having documentation that the chemotherapy treatment summary was communicated to the physician(s) providing continuing care
## Results of indicator selection

<table>
<thead>
<tr>
<th>No.</th>
<th>Domain</th>
<th>Subgroup</th>
<th>Indicator</th>
<th>Details/ Source</th>
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</thead>
</table>

### Synoptic Pathology Reporting

#### Definition
Percent of 5 common cancer pathology reports submitted in discrete synoptic format, as per the College of American Pathologist's (CAP) inclusion criteria. 5 common cancers sites are: Invasive Breast, Colorectal, Prostate, Endometrium and Lung.

#### Calculation

\[
\text{Synoptic Rate (\%)} = \left( \frac{\text{Number reports received in discrete synoptic format}}{\text{Total number of pathology reports received in either discrete synoptic or narrative format}} \right) \times 100
\]

#### Analysis
- Discrete synoptic reporting rate by pathology submitting facility LHIN (reporting in either discrete synoptic or narrative format in 2010)

#### Considerations
- North East LHIN, for specified timeframe, does not include the Ottawa Hospital. The Ottawa Hospital has since gone live in January 2011

#### Technical Specifications
- This report utilizes all pathology resection reports received in discrete synoptic data format from Ontario hospitals through Cancer Care Ontario's pathology reporting database during the defined reporting period. The source data set excludes the following:
  - All Non cancer cases
  - ICD-3 behaviours of 0 (benign), 1 (borderline), 6 (metastatic), and 2 (in situ).
  - Report with a status of "K" (consult of external hospital)
  - All report types other than surgical pathology ("P") reports (i.e. biopsies are excluded)
  - Reports not coded at time of analysis
  - Reports from private labs (institution codes of 9300 or greater) and pediatric hospitals
  - Reports in which the "Specimen Type" contains any of the following terms:
    - For prostate: TURPs, Chips, Transurethral, Prostate TUR, cystoprostatectomies;
    - For colorectal cancer: polyp, rectal abscess, rectal polyp, polypectomy
    - For endometrium: uterine curettings
  - Reports in which the "Specimen Taken" date was before go-live date plus two days

**Important Note Regarding the Discrete Synoptic Reporting Indicator:** The Synoptic Pathology Reporting target is set at 90% rather than 100%, which allows a 10% window for those rare cases that do not fit the current CAP checklists and which CCO cannot exclude automatically. Please be aware of this when reviewing/interpreting the results for the synoptic pathology reporting indicator. Examples of the rare instances where the current CAP checklist DDF templates may not or cannot be appropriately utilized by the reporting pathologists include:
- Microinvasion breast cancer
- Unusual histologies (i.e. sarcomas, phyllodes tumour, carcinosarcoma, neuroendocrine tumours)
- Re-excisions
- Recurrent tumours
Numerator

- All 5 common cancer resection reports received in discrete synoptic format (level 5 or 6) in 2010

Denominator

- All 5 common cancer resection reports received by CCO in 2010

Data Sources

- Pathology Information Management System, Cancer Care Ontario, as of January 2011

Data Availability & Limitations

- N/A

Compliance to guidelines

Indicators

Compliance with guidelines, specified by tumour type and stage. Several of these guidelines are presented as an indicator in the Monitor 2009.

For breast cancer:

- Performing breast-conserving surgery (lumpectomy) for small breast tumours (T1 No,1,2 Mo) on women from 15 to 75 years old.

For colon cancer:

- The percentage of patients operated on, whereby a minimum of 10 lymph nodes are examined/removed via resection (only for stage I or II tumours).
- The percentage of patients operated on who are under 80 years of age with a pathological stage III tumour, and who were administered adjuvant chemotherapy.

For rectal cancer:

- The percentage of patients operated on who are under 80 years of age and have received preoperative radiotherapy.

For bladder cancer:

- The percentage of patients operated on (cystectomy) in whom radical lymph node dissection was performed (a minimum of 10 lymph nodes are removed).
Objective
The NPK stipulates that every patient is entitled to optimal and timely diagnosis, treatment and care in accordance with the most current guidelines. The guideline for small breast tumours favours breast-conserving surgery, which aims to achieve an "excellent" cosmetic result and optimal locoregional tumour control (www.oncoline.nl).

Two guidelines are provided for colon cancer. The first guideline aims at the highest possible percentage of patients operated on with a stage I or II tumour, whereby a minimum of 10 lymph nodes are examined/removed. The second guideline concerns the administration of adjuvant chemotherapy and aims at the highest possible percentage of patients with a pathological stage III tumour who receive adjuvant chemotherapy.

The guideline for rectal cancer favours preoperative radiotherapy over postoperative radiotherapy and indicate preoperative radiotherapy for all T2-T4 tumours (www.oncoline.nl). The aim is therefore a high percentage of patients operated on who have undergone preoperative radiotherapy (www.oncoline.nl).

The guideline for bladder cancer aims at the highest possible percentage of patients operated on, in whom radical lymph node dissection was performed (i.e. a minimum of 10 lymph nodes are examined).

Technical information Definitions
Compliance with guidelines requires that relevant indicators be specified for each tumour type and stage. One such example is the application of breast-conserving surgery for small (T1) invasive primary breast tumours among women between the ages of 15 and 75.

Two indicators are provided for colon cancer. The first is the percentage of patients with a stage I or II tumour, whereby a minimum of 10 lymph nodes are removed/examined during resection. The second indicator for colon cancer represents the percentage of patients that have had a resection and received adjuvant chemotherapy. Only those patients under the age of 80 and with a stage III tumour are taken into account for this.

For rectal cancer, the indicator is the percentage of patients under the age of 80 who have received preoperative radiotherapy. All stages are taken into account for this. Rectal sigmoid tumours are not taken into account.

The indicator of bladder cancer is the percentage of patients in whom radical lymph node dissection was performed (a minimum of 10 lymph nodes are removed as a result of a cystectomy).

Data source
The data were gathered from the Netherlands Cancer Registry (NKR) of the Association of Comprehensive Cancer Centres (VIKC). This registry contains data from the eight comprehensive cancer centres and comprises the entire Dutch population ("population-based"). Since 2008, data have been directly entered into the nationwide registry by specially trained staff who compile information from patient files in hospitals based on reports from the Dutch national pathology information system (PALGA). Once a year, the data are supplemented with information from the Dutch National Medical Registration (LMR) and other sources, if available. This ensures that the registry contains information on every patient diagnosed with cancer and on any cancer diagnosed. An estimated 95% of all cancer cases in the Netherlands are recorded in the database.

Remarks upon data
- The stage of the tumour is crucial in evaluating the guidelines.
- In addition, the patient's age and other disorders (comorbidity) should be taken into consideration when evaluating the application of specific treatments.
- If the patient is being treated in a trial, this should also be considered therapy in accordance with the guidelines. However, these data are not (yet) included in the cancer registry.

<table>
<thead>
<tr>
<th>No.</th>
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<th>Subgroup</th>
<th>Indicator</th>
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</thead>
<tbody>
<tr>
<td>12</td>
<td>Clinical trial participation</td>
<td>Participation in Clinical Trials</td>
<td>Greenberg (2005), table 3</td>
<td></td>
</tr>
</tbody>
</table>

Strategic goal: Increase use of evidence and innovation in decision-making
Indicator: Clinical trial participation
Definition: Number of patients recruited to clinical trials for chemotherapy, radiotherapy, and interventions studies by hospital
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**Patient discussed at multidisciplinary forum: MCCs Adherence to Standards**

**Definition**

The percentage of reported MCCs that are meeting the minimum standards criteria

**Calculation**

\[
\text{Percentage of MCCs meeting minimum standards} = \left( \frac{\text{Number of MCC Standards criteria met}}{\text{Total number of criteria required by MCCs Standards}} \right) \times 100
\]

**Analysis**

- For Q3 2009/10 and Q3 2010/11
- By LHIN
- For specific disease site attendance criteria, please go to: [https://www.cancercare.on.ca/common/pages/UserFile.aspx?fileId=63113](https://www.cancercare.on.ca/common/pages/UserFile.aspx?fileId=63113)

*Regions will not be penalized if a medical oncologist does not attend a Gynaecology MCC. Therefore, the denominator is either 8 or 9.*

**Considerations**

- Percentages are based on low volume
- We have restated FY09/10 results. In order to improve and maintain consistency the FY09/10 results have been reinstated and measured by the same methodology as FY10/11 results. Most regions will have a smaller hospital denominator.

**Technical Specifications**

- Quarterly MCC reporting process where the Regional MCC Coordinator submits and validates MCC performance

**Exclusions:**

- NA

**Numerator**

- Number of MCC Standards Criteria met

**Denominator**

- Total number of criteria required by MCCs Standards

**Data Sources**

- MCC Tracker Tool Self reported in MCC Data Excel Template, Cancer Care Ontario

**Data Availability & Limitations**

- Data is reported for Q3 2009/10 and Q3 2010/11 to CCO
- Not all hospitals are reporting MCCs data

Results of indicator selection

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<thead>
<tr>
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<tr>
<td>14</td>
<td>Multidisciplinarity</td>
<td>Communication</td>
<td>Treatment summary</td>
<td>American Medical Association and American Society of Clinical Oncology</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Measure 5 and 6</td>
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</table>

**Treatment Summary Communication – Radiation Oncology**

This measure may be used as an Accountability measure.

**Clinical Performance Measure**

**Numerator:** Patients who have a treatment summary* report in the chart that was communicated to the physician(s) providing continuing care and to the patient within one month of completing treatment

**Definition:** A treatment summary: a report that includes mention of all of the following components: 1) dose delivered; 2) relevant assessment of tolerance to and progress towards the treatment goals; and 3) subsequent care plans

**Denominator:** All patients, regardless of age, with a diagnosis of cancer who have undergone brachytherapy or external beam radiation therapy

**Denominator Exceptions:**
- Documentation of a patient reason(s) for not communicating the treatment summary report to the physician(s) providing continuing care (e.g., patient requests that report not be sent) and to the patient within one month of completing treatment
- Documentation of a system reason(s) for not communicating the treatment summary report to the physician(s) providing continuing care (e.g., patient does not have any physician responsible for providing continuing care) and to the patient within one month of completing treatment

**Measure:** Percentage of patients, regardless of age, with a diagnosis of cancer who have undergone brachytherapy or external beam radiation therapy who have a treatment summary report in the chart that was communicated to the physician(s) providing continuing care and to the patient within one month of completing treatment

The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines and represent the evidence base for the measure:

A summary should be generated that accurately describes the treatment process, the doses delivered to the target/tumor volume and other key organs, relevant assessment of tolerance to and progress towards the treatment goals, and subsequent care plans. The style will reflect the radiation oncologist's individual practice convention and the referral provider's needs. The style, content, and detail of this summary must be tailored to the clinical setting and prevailing practice norms. It should contain elements that accurately and succinctly reflect the program of care administered in a language understandable to the non-radiation oncologist. It is suggested that, the report to the referring physician include a request for periodic updates on the patient's progress. These updates will facilitate continuity of care should the patient require further radiation therapy. (not ranked) (ACR7)

**Rationale for the measure:**

Timely, accurate, and effective communications are critical to quality and value in contemporary medical practices. As both a consultant oncologist and the provider of radiation oncology services, the radiation oncologist has a dual role. Radiation therapy incorporates the science of complex, integrated treatment delivery and the art of individual cancer management. Through written focused reports and direct communications, the contribution of radiation oncologists concerning patient care, responsible utilization, and quality are provided, especially to primary care physicians, other oncologists and specialists, and allied healthcare providers (nurses, tumor registrars, quality assurance personnel, third-party reviewers, etc). (ACR7)
**Data capture and calculations:**

**Calculation for Performance**

For performance purposes, this measure is calculated by creating a fraction with the following components: Numerator, Denominator, and Denominator Exclusions.

**Performance Numerator (A) Includes:**

Patients who have a treatment summary report in the chart that was communicated to the physician(s) providing continuing care and to the patient within one month of completing treatment.

**Performance Denominator (PD) Includes:**

All patients, regardless of age, with a diagnosis of cancer AND

Patients who have undergone brachytherapy or external beam radiation therapy.

**Performance Denominator Exceptions (C) Include:**

Documentation of patient reason(s) for not having a treatment summary report in the chart that was communicated to the physician(s) providing continuing care (e.g., patient requests that report not be sent) and to the patient within one month of completing treatment.

Documentation of system reason(s) for not having a treatment summary report in the chart that was communicated to the physician(s) providing continuing care (e.g., patient does not have any physician responsible for providing continuing care) and to the patient within one month of completing treatment.

**Performance Calculation**

\[
\frac{A \text{(# of patients meeting measure criteria)}}{PD \text{(# of patients in denominator)}} - C \text{(# of patients with valid denominator exclusions)}
\]

**Components for this measure are defined as:**

- **A**: # of patients who have a treatment summary report in the chart that was communicated to the physician(s) providing continuing care and to the patient within one month of completing treatment.
- **PD**: # of patients, regardless of age, with a diagnosis of cancer who have undergone brachytherapy or external beam radiation therapy.
- **C**: # of patients with documented patient or system reason(s) for not having a treatment summary report in the chart that was communicated to the physician(s) providing continuing care and to the patient within one month of completing treatment.

**Calculation for Reporting**

For reporting purposes, this measure is calculated by creating a fraction with the following components: Reporting Numerator and Reporting Denominator.

**Reporting Numerator includes each of the following instances:**

- **A**: Patients who have a treatment summary report in the chart that was communicated to the physician(s) providing continuing care and to the patient within one month of completing treatment.
- **C**: Documented patient or system reason(s) for not having a treatment summary report in the chart that was communicated to the physician(s) providing continuing care and to the patient within one month of completing treatment.
- **D**: Patients who do not have a treatment summary report in the chart that was communicated to the physician(s) providing continuing care and to the patient within one month of completing treatment and there is no documented reason for not doing so.

**Reporting Denominator (RD) includes:**

All patients, regardless of age, with a diagnosis of cancer AND

Patients who have undergone brachytherapy or external beam radiation therapy.

**Reporting Calculation**

\[
\frac{A \text{(# of patients meeting numerator criteria)}}{PD \text{(# of patients in denominator)}} + C \text{(# of patients with valid exclusions)}} + D \text{(# of patients NOT meeting numerator criteria)}} \text{ divided by} \RD \text{(# of patients in denominator)}
\]

**Components for this measure are defined as:**

- **A**: # of patients who have a treatment summary report in the chart that was communicated to the physician(s) providing continuing care and to the patient within one month of completing treatment.
# of patients who do not have a treatment summary report in the chart that was communicated to the physician(s) providing continuing care and to the patient within one month of completing treatment but for whom there is a documented patient or system reason for not doing so

# of patients who do not have a treatment summary report in the chart that was communicated to the physician(s) providing continuing care and to the patient within one month of completing treatment and there is no documented reason for not doing so

# of patients, regardless of age, with a diagnosis of cancer who have undergone brachytherapy or external beam radiation therapy

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<thead>
<tr>
<th>No.</th>
<th>Domain</th>
<th>Subgroup</th>
<th>Indicator</th>
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</thead>
<tbody>
<tr>
<td>15</td>
<td>Pain management</td>
<td>Assessment</td>
<td>Pain Assessment</td>
<td>Georgia Cancer Coalition Lorenz (2006): appendix F1</td>
</tr>
</tbody>
</table>

**Description of Indicator:** Routine assessment of pain.
**Denominator:** Number of cancer patient encounters.
**Numerator:** Number of cancer patient encounters where patient was assessed for pain.
**Disease:** Mixed cancer

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</thead>
<tbody>
<tr>
<td>16</td>
<td>Pain management</td>
<td>Assessment</td>
<td>Pain intensity quantified</td>
<td>University Health Consortium Lorenz (2006): appendix F1</td>
</tr>
</tbody>
</table>

**Description of Measure:** Routine inpatient pain assessment with a numeric scale.
**Denominator:** Adults ≥ 18 years of age, with admission for CHF (DRG 127), Cancer (DRG 82, 203, 172, 274, 346, 10) HIV (DRG 489) OR respiratory (DRG 475, 483) AND length of stay > 4 days, 2 prior admissions for any cause in preceding 12 months in the hospital, AND reported pain within the 1st 48 hours of admission.
**Numerator:** Persons assessed with a numeric pain scale.
**Disease:** CHF, Mixed cancer, HIV, Mixed respiratory diseases

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</thead>
<tbody>
<tr>
<td>17</td>
<td>Pain management</td>
<td>Treatment</td>
<td>Pain Treatment</td>
<td>RAND Lorenz (2006): appendix F1</td>
</tr>
</tbody>
</table>

**Description of Measure:** Responsive pain treatment.
**Denominator:** All cancer patients whose pain is uncontrolled.
**Numerator:** Patients offered a change in pain management within 24 hours of the pain complaint.
**Disease:** Mixed cancer
### No. 18: Dyspnea management

**Domain:** Dyspnea management  
**Subgroup:** Treatment  
**Indicator:** Dyspnea treatment  

**Details/Source:** University Health Consortium Lorenz (2006): appendix F2

**Description of Measure:** Timely treatment of inpatient dyspnea.  
**Denominator:** Adults > or = 18 years of age, with admission for CHF (DRG 127), Cancer (DRG 82, 203, 172, 274, 346, 10) HIV (DRG 489) OR respiratory (DRG 475, 483) AND length of stay > 4 days, 2 prior admissions for any cause in preceding 12 months in the hospital, AND reported dyspnea within the 1st 48 hours of admission.  
**Numerator:** Dyspnea relief or reduction within 48 hours of admission.  
**Disease:** CHF, Mixed cancer, HIV, Mixed respiratory diseases

### No. 19: Depression/Emotional well-being

**Domain:** Depression/Emotional well-being  
**Subgroup:** Assessment emotional well-being  

**Details/Source:** University Health Consortium Lorenz (2006): appendix F3

**Description of Measure:** Regular assessment for psychosocial well-being.  
**Denominator:** Adults > or = 18 years of age, with admission for CHF (DRG 127), Cancer (DRG 82, 203, 172, 274, 346, 10) HIV (DRG 489) OR respiratory (DRG 475, 483) AND length of stay > 4 days, 2 prior admissions for any cause in preceding 12 months in the hospital.  
**Numerator:** Formal psychosocial assessment up to 1 year prior to admission during a previous hospitalization OR within 4 days of index admission.  
**Disease:** CHF, Mixed cancer, HIV, Mixed respiratory diseases

### No. 20: General processes

**Domain:** General processes  
**Subgroup:** Appropriate utilization radioation treatment  
**Indicator:** Radiation Treatment Utilization  

**Details/Source:** Cancer Quality Council Ontario  
http://www.cqco.ca/cms/One.aspx?portalId=89621&pageId=92612

**Radiation treatment utilization**

**Definition:** Proportion of patients receiving radiation treatment at any time during their illness  
**Calculation:**  
- Estimated using Multi-cohort Current Utilization Table (MCUT) method.  
  
  **Reference:**  
- By LHIN and overall  

**Considerations**  
- Benchmark rates were calculated previously using 2001-2002 data, based on the assumption that the appropriate rate could be approximated by the rates observed in communities where there are no barriers to access to care and no financial incentive to over treat patients.  
- “No barriers” is measured by wait time (counties in which the wait time is shorter than the provincial average). “No financial incentive to over treat patient” means that the benchmark rates were
Results of indicator selection

Calculated when radiation oncologists were paid a standard salary. They are now in private operation and fee for service is applied.

- Percentage shortfall in the use of radiation treatment was calculated as the difference between observed rate and the rate in the benchmark communities, divided by the benchmark rate.

Exclusions:
- Radiotherapy given to in-situ and non-malignant diseases were excluded.

| Numerator | Radiotherapy given to cancer patients for treatment of cancer |
| Data Sources | Activity Level Reporting, Cancer Care Ontario |
| Data Sources | Ontario Cancer Registry, Cancer Care Ontario |
| Data Sources | Historical radiotherapy data from OPIS and PMH |
| Data Availability & Limitations | Information on radiation treatment was incomplete for the county of Kenora, because a large proportion of patients residing in Kenora travel to the neighbouring province for treatment. As a result, the utilization rate in Kenora was not reported. |
| Data Availability & Limitations | The linkage rate of the radiation treatment data to the Ontario Cancer Registry is more than 99%. Assuming all the unlinked cases were attributable to the cancer cases in the Ontario Cancer Registry, this could under-estimate the utilization rate by less than 0.5%. |

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**Description of Measure:** Regular assessment of preferences in an ICU.

IF a vulnerable elder is admitted directly to the intensive care unit from an outpatient or ER setting and survives 48 hours, THEN within 48 hours of admission, the medical record should document that the patient's preferences for care have been considered or that these preferences could not be elicited or are unknown.

**Denominator:** All vulnerable elderly patients admitted directly to the ICU from an outpatient or ER setting and surviving 48 hours.

**Numerator:** Number of vulnerable elders admitted directly to the intensive care unit from an outpatient or ER setting and surviving 48 hours with documentation in the medical record that the patient's preferences for care have been considered or that these preferences could not be elicited or are unknown within 48 hours of admission.

**Disease:** Mixed disease

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</table>

**Description of Indicator:** Care consistency with documented care preferences. If a vulnerable elder has specific treatment preferences (e.g., a do-not-resuscitate order, no tube feeding, or no hospital transfer) documented in a medical record, THEN these treatment preferences should be followed.

**Denominator:** All vulnerable elderly patients in any health care setting with specific treatment preferences documented in their medical record.
**Numerator:** Number of vulnerable elders with specific treatment preferences documented in their medical record with those treatment preferences having been followed.

**Disease:** Mixed disease

<table>
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**End of Life Care – Death in Hospital**

**Definition**
Percentage of cancer patients who died in acute care hospital

**Calculation**

\[
\text{Percent of deaths in hospital} = \left( \frac{\text{Number of Cancer patients who died in hospital}}{\text{Target Population (number of deaths)}} \right) \times 100
\]

**Analysis**
- For calendar years 2004 to 2007, by calendar year and LHIN

**Considerations**
- These results do not assess the quality of end-of-life care in detail. For example, the absence of emergency department visits does not necessarily mean good quality care. Some patients may not have visited the emergency department but may still have experienced poor symptom control or psychological distress. Individual palliative care patients may have specific needs or require specific expertise that is not routinely available in the home.

**Technical Specifications**
- Cause of death from Cancer defined by the following ICD9 diagnosis codes from the Ontario Cancer Registry:
  - Head and Neck (140-149,160,161)
  - Female Breast (174)
  - Lung (162)
  - Prostate (185)
  - Ovary (183)
  - Colorectal (153,154)
  - CNS (191)
  - Lymphoma/Leukemia (200-208)
  - Other GU/ Gyn (179-182,184,186-189)
  - Melanoma/Sarcoma (170-172, 176)
  - Other GI (150-152, 155-159)
  - Metastases (196-199)
  - Other (163-165, 175,190,192-195)
  - Non-melanoma skin (173)
- Diagnosis on death certificate must be a cancer diagnosis
- Death in hospital defined by discharge disposition of “death”
- Local Health Integrated Network (LHIN) assignment is based on Postal Code Conversion file (PCCF+), version 5e

**Exclusions:**
- Invalid HINs
- Death certificate only patient
- Age <20
- Death within 30 days of major cancer surgery
- Death outside of Ontario

**Numerator**
- Total number of cancer patients who died in hospital
Results of indicator selection

<table>
<thead>
<tr>
<th>Definition</th>
<th>Percentage of cancer patients who died in acute care hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denominator</td>
<td>Total number of deaths related to cancer</td>
</tr>
</tbody>
</table>
| Data Sources | • Ontario Cancer Registry, Cancer Care Ontario  
• Discharge Abstract Data base, Canadian Institute for Health Information  
• Registered Person Database (RPDB), Ministry of Health and Long-Term Care |
| Data Availability & Limitations | • There is no palliative care minimum dataset that is being consolidated / collected by care giver teams. Such a database could help understand the demand for end-of-life care services and activities.  
• Non-medical data in CIHI and NACRS has been found to be very accurate ([http://www.ices.on.ca/file/CIHI_DAD_Reabstractors_study.pdf](http://www.ices.on.ca/file/CIHI_DAD_Reabstractors_study.pdf)); Canadian Institute for Health Information, Data Quality Documentation, Discharge Abstract Database, 2007–2008—Executive Summary (Ottawa, Ont.: CIHI, 2008, Canadian Institute for Health Information, CIHI Data Quality Study of Ontario Emergency Department Visits for Fiscal Year 2004–2005—Executive Summary (Ottawa: CIHI, 2008).  
• The cohort definition requires information about cause of death. There is a delay in the update of this variable in the OCR. Consequently, the most updated cohort only includes up to 2007. |

<table>
<thead>
<tr>
<th>No.</th>
<th>Domain</th>
<th>Subgroup</th>
<th>Indicator</th>
<th>Details/ Source</th>
</tr>
</thead>
</table>
| 24  | End-of-life | Emergency department visit | | Cancer Quality Council Ontario  
[http://www.cqco.ca/cms/One.asp x?portalId=89621&pageId=92397] |

### End of Life Care – Visits to Emergency

**Definition**  
Percentage of cancer patients who visited the emergency department up to two weeks before death

**Calculation**  
\[
\text{Percentage of cancer patients who visited the ER up to two weeks before death} = \frac{\text{Number of Cancer patients who visited emergency}}{\text{Target Population (number of deaths)}} \times 100
\]

**Analysis**  
• For calendar years 2004 to 2007,  
• Percentage of cancer patients, by calendar year and LHIN

**Considerations**  
• These results do not assess the quality of end-of-life care in detail. For example, the absence of emergency department visits does not necessarily mean good quality care. Some patients may not have visited the emergency department but may still have experienced poor symptom control or psychological distress. Individual palliative care patients may have specific needs or require specific expertise that is not routinely available in the home.

**Technical Specifications**  
• Cause of death from Cancer defined by the following ICD9 diagnosis codes from the Ontario Cancer Registry:  
  - Head and Neck (140-149,160,161)  
  - Female Breast (174)  
  - Lung (162)  
  - Prostate (185)  
  - Ovary (183)  
  - Colorectal (153,154)  
  - CNS (191)  
  - Lymphoma/Leukemia (200-208)  
  - Other GU/ Gyne (179-182,184,186-189)  
  - Melanoma/Sarcoma (170-172, 176)
### Definition

Percentage of cancer patients who visited the emergency department up to two weeks before death

- Other GI (150-152, 155-159)
- Metastases (196-199)
- Other (163-165, 175,190,192-195)
- Non-melanoma skin (173)
  - Diagnosis on death certificate must be a cancer diagnosis
  - ER visit must be within 14 days of death date
  - Local Health Integrated Network (LHIN) assignment is based on Postal Code Conversion file (PCCF+), version 5e

#### Exclusions:

- Invalid HINs
- Death certificate only patient
- Age <20
- Death within 30 days of major cancer surgery
- Death outside of Ontario
- Patient in acute care all 14 days prior to death

#### Numerator

- Total number of cancer patients who visited the emergency room within 14 days of death

#### Denominator

- Total number of deaths related to cancer

### Data Sources

- Ontario Cancer Registry, Cancer Care Ontario
- National Ambulatory Care Reporting System, Canadian Institute for Health Information
- Registered Persons Data Base, Ministry of Health and Long-Term Care

### Data Availability & Limitations

- There is no palliative care minimum dataset that is being consolidated / collected by care giver teams. Such a database could help understand the demand for end-of-life care services and activities.
- For the analysis of emergency department visit rates, data do not provide information about the appropriateness of the visit.
- The cohort definition requires information about cause of death. There is a delay in the update of this variable in the OCR. Consequently, the most updated cohort only includes up to 2007.
## Results of indicator selection

<table>
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<tr>
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</table>

### End of Life Care – ICU

#### Definition
The percentage of cancer patients who were admitted to the ICU in the last two weeks of life.

#### Calculation

\[
\text{Percentage of cancer patients admitted to the ICU in the last two weeks of life} = \frac{\text{Number of Cancer patients who were admitted to the ICU in the last two weeks of life}}{\text{Total patients who died of cancer}} \times 100
\]

#### Analysis
- For calendar years 2004 to 2007,
- Percentage of cancer patients who died of cancer, by calendar year and LHIN

#### Considerations
- These results do not assess the quality of end-of-life care in detail. For example, the absence of emergency department visits does not necessarily mean good quality care. Some patients may not have visited the emergency department but may still have experienced poor symptom control or psychological distress. Individual palliative care patients may have specific needs or require specific expertise that is not routinely available in the home.

#### Technical Specifications
- Cause of death from Cancer defined by the following ICD9 diagnosis codes from the Ontario Cancer Registry:
  - Head and Neck (140-149,160,161)
  - Female Breast (174)
  - Lung (162)
  - Prostate (185)
  - Ovary (183)
  - Colorectal (153,154)
  - CNS (191)
  - Lymphoma/Leukemia (200-208)
  - Other GU/ Gyn (170-182,184,186-189)
  - Melanoma/Sarcoma (170-172, 176)
  - Other GI (150-152, 155-159)
  - Metastases (196-199)
  - Other (163-165, 175,190,192-195)
  - Non-melanoma skin (173)
- Diagnosis on death certificate must be a cancer diagnosis
- The ICU visits are captured by Discharge Abstract Database. ICU stays were identified using ICU admit date (scuadmdate1-6), and ICU discharge date (scuddate1-6).
- ICU admission must be within 14 days of death date
- Local Health Integrated Network (LHIN) assignment is based on Postal Code Conversion file (PCCF+), version 5e

#### Exclusions:
- Invalid HINs
- Death certificate only patient
- Age <20
- Death within 30 days of major cancer surgery
- Death outside of Ontario

#### Numerator
- Number of Cancer patients who were admitted to the ICU in the last two weeks of life

#### Denominator
- Total number of deaths related to cancer

#### Data Sources
- Discharge Abstract Database, Canadian Institute for Health Information
### Data Availability & Limitations

- There is no palliative care minimum dataset that is being consolidated / collected by care giver teams. Such a database could help understand the demand for end-of-life care services and activities.
- Non-medical data in CIHI and NACRS has been found to be very accurate (http://www.ices.on.ca/file/CIHI_DAD_Reabstractors_study.pdf); Canadian Institute for Health Information, Data Quality Documentation, Discharge Abstract Database, 2007–2008—Executive Summary (Ottawa, Ont.: CIHI, 2008, Canadian Institute for Health Information, CIHI Data Quality Study of Ontario Emergency Department Visits for Fiscal Year 2004–2005—Executive Summary (Ottawa: CIHI, 2008).
- The cohort definition requires information about cause of death. There is a delay in the update of this variable in the OCR. Consequently, the most updated cohort only includes up to 2007.

### Chemotherapy in the Last Two Weeks of Life

<table>
<thead>
<tr>
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</thead>
</table>

**Definition**

Percentage of patients who died of cancer who had chemotherapy in the last 2 weeks of life

**Calculation**

\[
\frac{\text{Patients with at least one chemotherapy claim with service date within the last 14 days of life.}}{\text{All patients in the cohort}} \times 100 = \text{Percentage of patients who died of cancer who had chemotherapy in the last 2 weeks of life}
\]

**Analysis**

- For calendar years 2003 to 2007
- Analyses by LHIN
- Analyses by disease site
- Analyses by sex and by age

**Considerations**

- Since physicians may forget to submit a claim for supervising the delivery of chemotherapy, the observed rate may under-represent the real rate. This effect is likely small. These claims only represent intravenous chemotherapy and do not include hormonal treatment.

**Technical Specifications**

- Cohort: the Ontario Cancer Registry (OCR) was used to identify all patients who died of cancer, in 2003-2007, as indicated by the death certificate. When more than one record was present we chose the cause of death as the record which matched the registration diagnosis. Cases were excluded if: 1) the diagnosis of cancer was based solely on the death certificate; 2) the death occurred within 30 days of a major operative procedure; 3) the insurance number was not valid during the last 6 months of life; 4) the patient died outside of Ontario; 5) the patient was younger than 20 years of age.
- Chemotherapy use: claims with OHIP fee codes indicating the delivery of chemotherapy.

**Numerator**

- Patients with at least one chemotherapy claim with service date within the last 14 days of life.

**Denominator**

- All patients in the cohort.

**Data Sources**

- Ontario Cancer Registry, Cancer Care Ontario
- Ontario Health Insurance Plan database, Ministry of Health and Long-Term Care
- Registered Persons Data Base, Ministry of Health and Long-Term Care
Results of indicator selection

2007.

- These claims would only represent the delivery of chemotherapy and would not potentially be submitted for some other kind of activity. No observations can be made about the type of chemotherapy that is given.

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>27</td>
<td>End-of-life</td>
<td>Hospice/Palliative care</td>
<td>Hospice enrolment</td>
<td>National Quality Forum NQF (2009a), A-14</td>
</tr>
</tbody>
</table>

Not admitted to hospice
Symptom Management and End-of-Life Care, Surveillance Measure

**Intellectual Property Owner:** Dana-Faber Cancer Institute

**Numerator:** Patients who died from cancer without being admitted to hospice. Those without claims in Medicare HOSPICE file.

**Denominator:** Patients who died from cancer.

**Inclusions and/or Exclusions:** None.

<table>
<thead>
<tr>
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<th>Indicator</th>
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</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>End-of-life</td>
<td>Hospice</td>
<td>Admitted to hospice for less than three days</td>
<td>National Quality Forum NQF (2009a), A-14</td>
</tr>
</tbody>
</table>

Admitted to hospice for less than three days
Symptom Management and End-of-Life Care, Surveillance Measure

**Intellectual Property Owner:** Dana-Faber Cancer Institute

**Numerator:** Patients who died from cancer and spent fewer than three days in hospice. Medicare HOSPICE file only: subtracted hospice admission date (admitdate) from death date variable to get hospice length of stay.

**Denominator:** Patients who died from cancer.

**Inclusions and/or Exclusions:** None.

<table>
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</table>

Family evaluation of hospice care (FEHC)
Symptom Management and End-of-Life Care; Accountability, Quality Improvement, and/or Surveillance Measure

**Intellectual Property Owner:** National Hospice and Palliative Care Organisation NHPCO

**Methodology:** Responses to survey instrument. Family members of all patients enrolled in a hospice program. This tool is only for family members of patients who died following care.

**Exclusions:** Exclude patients who are not enrolled in a hospice program or have disenrolled from a hospice program. Live discharges are excluded.

**Data source/Reporting:** Family members of deceased patients (survey responses).

Details on family evaluation survey: NQF (2009a), figure A-1, table A-1
### Dyspnea Screening and Management

**Palliative and End of Life Care**

**Measure Description**

Percentage of patients with advanced chronic or serious life threatening illnesses that are screened for dyspnea. For those that are diagnosed with moderate or severe dyspnea, a documented plan of care to manage dyspnea exists.

**Numerator**

1. Patients who are screened for dyspnea.

2. Patients who are screened for dyspnea and diagnosed with moderate or severe dyspnea, who have a documented plan of care* to manage dyspnea

*A documented plan of care includes: a plan for treatment of dyspnea, including but not limited to: nonpharmacologic treatments (e.g. repositioning, improving air circulation, relaxation techniques) and pharmacologic methods (e.g. oxygen, opioids, anxiolytics) OR a statement about why no intervention is undertaken AND a plan for assessment including indication of reassessment time or interval

**Denominator**

Patients with incurable cancer, organ system failure, or severe progressive neurological conditions (identified with ICD-9 code) AND

Patients with a substantial risk of death within one year, based on the physician’s clinical judgment integrating the patients co-morbidities, health status, social and other factors (identified with CPT-II code) OR

Patients with advanced disease whose goals of care prioritize comfort (identified with CPT-II code)

**Denominator Exclusions**

None

**Measure Importance**

**Relationship to desired outcome**

Assessment and treatment of symptoms such as dyspnea are deemed critical for palliative care. Dyspnea is a symptom frequently seen in the end of life population. Identification and treatment (if necessary) of dyspnea improves quality of life at the end of life.

**Opportunity for Improvement**

While no published data regarding a quality gap or variation in performance are available for this measure topic, the work group was in consensus that this is an aspect of care that is not regularly performed for all patients. Through implementation and testing of this measure, it is expected that we will be able to collect data that will help us demonstrate whether or not a gap in care or variation in performance exists.

**Exclusion Justification**

This measure has no exclusions
References


