NATIONAL QUALITY FORUM

Measure Submission and Evaluation Worksheet 5.0

This form contains the information submitted by measure developers/stewards, organized according to NQF's measure evaluation criteria and process. The evaluation criteria, evaluation guidance documents, and a blank online submission form are available on the submitting standards web page.

NQF #: 0214 **NQF Project:** Cancer Project
(for Endorsement Maintenance Review) **Original Endorsement Date:** Aug 10, 2009 **Most Recent Endorsement Date:** Aug 10, 2009 **Last Updated Date:** Aug 09, 2012
BRIEF MEASURE INFORMATION
De.1 **Measure Title:** Proportion dying from Cancer in an acute care setting
Co.1.1 **Measure Steward:** American Society of Clinical Oncology
De.2 **Brief Description of Measure:** Percentage of patients who died from cancer dying in an acute care setting
2a1.1 **Numerator Statement:** Patients who died from cancer in an acute care hospital
2a1.4 **Denominator Statement:** Patients who died from cancer.
2a1.8 **Denominator Exclusions:** None
1.1 **Measure Type:** Process 2a1. 25-26 **Data Source:** Claims, Electronic Health Records, Management Data, Other, Paper Records, Registry Data 2a1.33 **Level of Analysis:** Clinician : Group/Practice, Facility, Health Plan, Integrated Delivery System, Other, Population : Community, County or City, Population : Regional and State 1.2-1.4 **Is this measure paired with another measure?** No De.3 **If included in a composite, please identify the composite measure** (*title and NQF number if endorsed*)**:**

STAFF NOTES (*issues or questions regarding any criteria*)
Comments on Conditions for Consideration:
Is the measure untested? Yes○ No○ If untested, explain how it meets criteria for consideration for time-limited endorsement:
1a. Specific national health goal/priority identified by DHHS or NPP addressed by the measure (*check De.5*)**:** **5. Similar/related endorsed or submitted measures** (*check 5.1*)**:** **Other Criteria:**
Staff Reviewer Name(s):

1. IMPACT, OPPORTUITY, EVIDENCE - IMPORTANCE TO MEASURE AND REPORT

See Guidance for Definitions of Rating Scale: H=High; M=Moderate; L=Low; I=Insufficient; NA=Not Applicable

Importance to Measure and Report is a threshold criterion that must be met in order to recommend a measure for endorsement. All three subcriteria must be met to pass this criterion. See guidance on evidence.

Measures must be judged to be important to measure and report in order to be evaluated against the remaining criteria. **(evaluation criteria)**

1a. High Impact: **H● M● L● I ●**

(*The measure directly addresses a specific national health goal/priority identified by DHHS or NPP, or some other high impact aspect of healthcare.*)

De.4 Subject/Topic Areas *(Check all the areas that apply)*: Cancer, Palliative Care and End-of-Life Care

De.5 Non-Condition Specific (*Check all the areas that apply)*:

1a.1 Demonstrated High Impact Aspect of Healthcare: Affects large numbers, Patient/societal consequences of poor quality

1a.2 If "Other," please describe:

1a.3 Summary of Evidence of High Impact *(Provide epidemiologic or resource use data)*:

Most patients prefer to die at home. Although, when operationalized as a claims-based measure, this does not take patient preferences into account, the idea is for the measure to be seen as an overall indication of practice style and/or available palliative resources. An individual patient experiencing this process of care has not necessarily received poor quality care, but unless there is a reason to think that the patients in one setting have a significantly greater proportion with differing preferences, aggregate rates of the measure can justifiably be compared across settings. In this way it is a reflection of the quality of end-of-life care.

NOTE: THIS MEASURE IS NOT INTENDED TO IDENTIFY A 'NEVER' EVENT. RATHER, IF THIS IS HAPPENING MORE FREQUENTLY THAN IN COMPARABLE PRACTICES, IT MAY INDICATE A QUALITY PROBLEM RELATED TO SUCH THINGS AS COMMUNICATION, PATIENT-CENTERED DECISION-MAKING, OR THE AVAILABILITY OF SUPPORTIVE END-OF-LIFE SERVICES IN THE PRACTICE SETTING.

1a.4 Citations for Evidence of High Impact cited in 1a.3: Earle CC, Park ER, Lai B, Weeks JC, Ayanian JZ, Block S. Identifying potential indicators of the quality of end of life cancer care from administrative data. J Clin Oncol. 2003;21(6):1133-8.

Luney J, Foley KM, Smith TJ, et al. Describing death in America: What we need to know. National Academies Press, Washington, DC, 2003.

The measures identified in that publication have been cited in peer-reviewed publications indicating their application to analyses in a broad array of countries and settings, including Canada, Taiwan, Italy, and the U.S. Veterans Administration. A sample of these citations are:

Early palliative care for patients with metastatic non–small-cell lung cancer
[PDF] from palliumindia.org
JS Temel, JA Greer, A Muzikansky… - New England Journal …, 2010 - nejm.org
Of the 151 patients who underwent randomization, 27 died by 12 weeks and 107 (86% of the remaining patients) completed assessments. Patients assigned to early palliative care had a better quality of life than did patients assigned to standard care (mean score on the ...)

Place of death: Correlations with quality of life of patients with cancer and predictors of bereaved caregivers´ mental health from ascopubs.org
AA Wright, NL Keating, TA Balboni… - Journal of Clinical …, 2010 - jco.ascopubs.org
Patients and Methods Prospective, longitudinal, multisite study of patients with advanced cancer and their

caregivers (n = 342 dyads). Patients were followed from enrollment to death, a median of 4.5 months later. Patients´ QoL at the EOL was assessed by caregiver report within 2 ...

Use of chemotherapy at end of life in oncology patients
from oxfordjournals.org
S Kao, J Shafiq, J Vardy… - Annals of Oncology, 2009 - Eur Soc Med Oncology
Results: Seven hundred and forty-seven patients died during this period; median age 67 years (range 20–96); female 44%. Three hundred and ninety-eight (53%) received chemotherapy: 18% and 8% within 4 and 2 weeks of death, respectively. Younger age (P < 0.01), cancer ...

Determinants of aggressive end-of-life care for Taiwanese cancer decedents, 2001 to 2006 from 171.66.121.246
ST Tang, SC Wu, YN Hung, JS Chen… - Journal of Clinical …, 2009 - 171.66.121.246
Purpose To assess the association between aggressiveness of end-of-life (EOL) care and patient demographics, disease characteristics, primary physician´s specialty, hospital characteristics, and availability of health care resources at the hospital and regional ...

American Society of Clinical Oncology statement: Toward individualized care for patients with advanced cancer
from jcojournal.org
JM Peppercorn, TJ Smith, PR Helft… - Journal of Clinical …, 2011 - jcojournal.org. Patients with advanced incurable cancer face complex physical, psychological, social, and spiritual consequences of disease and its treatment. Care for these patients should include an individualized assessment of the patient´s needs, goals, and preferences throughout the course of ...

Cancer Quality-ASSIST supportive oncology quality indicator set
SM Dy, KA Lorenz, SM O´Neill, SM Asch… - Cancer, 2010 - Wiley Online Library
The authors conducted a pilot evaluation of a comprehensive set of 92 supportive oncology quality indicators, Cancer Quality-ASSIST, including outpatient and hospital indicators for symptoms commonly related to cancer and its treatment and information and care planning. They ...

Factors that affect the duration of the interval between the completion of palliative chemotherapy and death
from alphamedpress.org
K Hashimoto, K Yonemori, N Katsumata… - The …, 2009 - AlphaMed Press
First published online in THE ONCOLOGIST Express on July 11, 2009. ... Kenji Hashimoto: None; Kan Yonemori: None; Noriyuki Katsumata: None; Marika Hotchi: None; Tsutomu Kouno: None; Chikako Shimizu: None; Kenji Tamura: None; Masashi Ando: None; ...

Quality of end-of-life care between medical oncologists and other physician specialists for Taiwanese cancer decedents, 2001–2006
[HTML] from alphamedpress.org
TW Liu, JS Chen, HM Wang, SC Wu, YN Hung… - The …, 2009 - AlphaMed Press
First published online in THE ONCOLOGIST Express on December 10, 2009. ... Tsang-Wu Liu: None; Jen-Shi Chen: None; Hung-Ming Wang: None; Shiao-Chi Wu: None; Yen-Ni Hung: None; Siew Tzuh Tang: None. ... Section editors Eduardo Bruera and Russell ...

A population-based study on the determinants of hospice utilization in the last year of life for Taiwanese cancer decedents, 2001–2006
ST Tang, EW Huang, TW Liu, HM Wang… - Psycho- …, 2010 - Wiley Online Library
Results: Rates of hospice utilization increased significantly (12.99–17.24%) over the study period. Hospice utilization was more likely for cancer patients who were female; over 65 years old; currently or formerly married; with =1 concurrent disease; diagnosed with breast ...

End-of-life care for older cancer patients in the Veterans Health Administration versus the private sector
NL Keating, MB Landrum, EB Lamont, CC Earle… - Cancer, 2010 - Wiley Online Library
This analysis would not have been possible without the invaluable feedback we received from the VA Oncology Program Evaluation Team, especially members with extensive clinical oncology experience within the VA system, including Dr. Steven Krasnow (DC VAMC), Dr. Judith ...

Propensity for Home Death Among Taiwanese Cancer Decedents in 2001-2006, Determined by Services Received at End of Life
ST Tang, EW Huang, TW Liu, KM Rau… - Journal of pain and …, 2010 - Elsevier
Rates of home death decreased significantly over time (from 35.67% to 32.39%). Dying at home was associated with patient demographics (gender, age, and marital status) and disease characteristics (cancer type, metastatic status, postdiagnosis survival time, and comorbidity level). ...

Determinants of ICU care in the last month of life for Taiwanese cancer decedents, 2001 to 2006
SC Wu, JS Chen, HM Wang, YN Hung… - Chest, 2010 - chestjournal.chestpubs.org
Results: Rates of hospital ICU care in the last month of life did not change significantly from 2001 to 2006 (11.27%-12.71%). ICU use in the last month of life was more likely for single male patients aged < 65 years who had hematologic malignancies or esophageal cancer and more ...

Understanding provision of chemotherapy to patients with end stage cancer: qualitative interview study [HTML] from nih.gov
HM Buiting, ML Rurup, H Wijsbek… - BMJ Supportive & …, 2011 - spcare.bmj.com
Contributors HMB, MLR, HW, and GdH designed the study. HMB carried out the study. HMB, MLR, HW, GdH, and LvZ were involved in interpreting the study findings. HMB wrote the manuscript, which was critically read by all the authors. HMB is guarantor of the study. All ...

Influence of patients´ preferences and treatment site on cancer patients´ end-of-life care
AA Wright, JW Mack, PA Kritek, TA Balboni… - Cancer - Wiley Online Library
Drs. Prigerson and Wright had full access to all data in the study and take responsibility for the integrity of the data and the accuracy of data analysis. Drs. Wright and Prigerson were responsible for the study design and conception; Dr. Prigerson obtained funding for the study and was ...

Aggressive End-of-Life Care Significantly Influenced Propensity for Hospice Enrollment Within the Last Three Days of Life for Taiwanese Cancer Decedents
ST Tang, EW Huang, TW Liu, HM Wang… - Journal of pain and …, 2010 - Elsevier
Rates of hospice enrollment within the last three days of life (16.80%–18.73%) remained constant over 2001–2006. After adjustment for patient demographics and disease characteristics, physician specialty, availability of health care resources at the hospital and regional levels, and ...

Clinical governance benchmarking issues in oncology: aggressiveness of cancer care and consumption of strong opioids. A single-center experience on …from tumorionline.it
P Giovanis, G De Leonardis, A Garna, V Lovat… - Tumori, 2010 - tumorionline.it
Key words: benchmarking issue, pal- liative care, quality of care. ... Acknowledgments: We thank Mrs. Isabella Pruneri for her revision of the manuscript. ...

Chemotherapy use at the end of life. A retrospective single centre experience analysis from tumorionline.it
F Andreis, A Rizzi, L Rota, F Meriggi… - Tumori, 2011 - tumorionline.it
Page 1.

End-of-life care in medicare beneficiaries dying with pancreatic cancer
KM Sheffield, CA Boyd, J Benarroch-Gampel… - Cancer, 2011 - Wiley Online Library

Overall, 56.9% of patients enrolled in hospice, and 35.9% of hospice users enrolled for 4 weeks or more. Hospice use increased from 36.2% in 1992-1994 to 67.2% in 2004-2006 (P < .0001). Admission to the ICU and receipt of chemotherapy in the last month of life ...

2010 INTERNATIONAL SURVEY ON END-OF-LIFE CARE
[HTML] from wildirismedical.com
N Evans - wildirismedical.com
Wild Iris Medical Education (CBRN Provider #12300) is approved as a provider of continuing education for RNs, LVNs, and respiratory therapists by the California Board of Registered Nursing. ... Wild Iris Medical Education is an approved provider of case manager ...

Survival prediction and frequency of anticancer treatment in cancer patients hospitalized due to acute conditions. Role of clinical parameters and PaP score
G Numico, M Occelli, EG Russi, N Silvestris… - Supportive Care in Cancer - SpringerAbstract Purpose Survival prediction is useful in selecting patients for palliative care or active anticancer therapy. The palliative and prognostic (PaP) score was shown to predict 1-month survival in terminally ill patients. Its application to patients with less advanced disease is a ...

[HTML] Volume 96 Numero 3 maggio-giugno 2010 I documenti sono in formato PDF, consultabili utilizzando Acrobat Reader[HTML] from tumorionline.it
P Giovanis, G De Leonardis, A Garna, V Lovat… - tumorionline.it
We found that 5% and 9% of all treated patients were still receiving antiblastic treatment near the end of life within respectively 14 and 30 days prior to death (respectively 29.6% and 51.5% of deceased patients). All but 2 patients died from progressive disease, one patient ...

Why do our patients get chemotherapy until the end of life?
Annals of Oncology Advance Access published on September 13, 2011 Ann Oncol 2011 22: 2345-2348

Palliative chemotherapy during the last month of life
Annals of Oncology Advance Access published on March 14, 2011
Ann Oncol 2011 22: 2375-2380

1b. Opportunity for Improvement: H● M● L● I ●
(*There is a demonstrated performance gap - variability or overall less than optimal performance*)

1b.1 Briefly explain the benefits (improvements in quality) envisioned by use of this measure:
Conditions of death more in keeping with patients´ wishes.

1b.2 Summary of Data Demonstrating Performance Gap *(Variation or overall less than optimal performance across providers)*: **[*For Maintenance* –** *Descriptive statistics for performance results for this measure - distribution of scores for measured entities by quartile/decile, mean, median, SD, min, max, etc.*]**
There is approximately 2.5-fold variation in site of death in different areas of America

1b.3 Citations for Data on Performance Gap: [*For Maintenance* – *Description of the data or sample for measure results reported in 1b.2 including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included*]**
Earle CC, Neville BA, Landrum ME, Souza JE, Weeks JC, Block SD, Grunfeld E, Ayanian JZ. Evaluating claims-based indicators of the intensity of end-of-life cancer care. Int J Qual Health Care. 2005;17(6):505-9.

1b.4 Summary of Data on Disparities by Population Group: [*For Maintenance* –*Descriptive statistics for performance results for this measure by population group*]**
None

1b.5 Citations for Data on Disparities Cited in 1b.4: [*For Maintenance* – *Description of the data or sample for measure results reported in 1b.4 including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included*]**
N/A

1c. Evidence (*Measure focus is a health outcome OR meets the criteria for quantity, quality, consistency of the body of evidence.*)
Is the measure focus a health outcome? Yes● No● If not a health outcome, rate the body of evidence.

Quantity: H● M● L● I ● Quality: H● M● L● I ● Consistency: H● M● L● I ●

Quantity	Quality	Consistency	Does the measure pass subcriterion1c?
M-H	**M-H**	**M-H**	**Yes●**
L	**M-H**	**M**	**Yes●** IF additional research unlikely to change conclusion that benefits to patients outweigh harms: otherwise **No●**
M-H	**L**	**M-H**	**Yes●** IF potential benefits to patients clearly outweigh potential harms: otherwise **No●**
L-M-H	**L-M-H**	**L**	**No ●**

Health outcome – rationale supports relationship to at least one healthcare structure, process, intervention, or service	**Does the measure pass subcriterion1c?** **Yes●** IF rationale supports relationship

1c.1 Structure-Process-Outcome Relationship *(Briefly state the measure focus, e.g., health outcome, intermediate clinical outcome, process, structure; then identify the appropriate links, e.g., structure-process-health outcome; process- health outcome; intermediate clinical outcome-health outcome)***:**
A structural feature: regional availability of hospice, has been shown to correlate with a composite measure of the aggressiveness of cancer care near the end of life that contains this measure. Mostly it is a process measure indicating a possible inadequate focus on palliation and supportive care, that can affect quality of life.

1c.2-3 Type of Evidence *(Check all that apply)***:**
Selected individual studies (rather than entire body of evidence)

1c.4 Directness of Evidence to the Specified Measure *(State the central topic, population, and outcomes addressed in the body of evidence and identify any differences from the measure focus and measure target population)***:**
The cited evidence specifically investigates this measure.

1c.5 Quantity of Studies in the Body of Evidence *(Total number of studies, not articles)***:** 2

1c.6 Quality of Body of Evidence (*Summarize the certainty or confidence in the estimates of benefits and harms to patients across studies in the body of evidence resulting from study factors. Please address: a) study design/flaws; b) directness/indirectness of the evidence to this measure (e.g., interventions, comparisons, outcomes assessed, population included in the evidence); and c) imprecision/wide confidence intervals due to few patients or events*)**:** The studies are qualitative and observational using administrative data, consequently there are limitations to the quality of the data.

1c.7 Consistency of Results across Studies *(Summarize the consistency of the magnitude and direction of the effect):* All studies have shown similar results.

1c.8 Net Benefit *(Provide estimates of effect for benefit/outcome; identify harms addressed and estimates of effect; and net benefit - benefit over harms)*:
The ability to achieve site of death most congruent with patient wishes.

1c.9 Grading of Strength/Quality of the Body of Evidence. Has the body of evidence been graded? No

1c.10 If body of evidence graded, identify the entity that graded the evidence including balance of representation and any disclosures regarding bias: N/A

1c.11 System Used for Grading the Body of Evidence: Other

1c.12 If other, identify and describe the grading scale with definitions: NQF field requires input here - but please mark this field as "N/A"

1c.13 Grade Assigned to the Body of Evidence: N/A

1c.14 Summary of Controversy/Contradictory Evidence: Not all patients are desirous or able to die at home, however, currently observed rates are below what would be predicted based on surveys.The argument is made that because providers cannot predict the future, measures based on decedent cohorts are unfair. However, as described above in 1a.a, the idea is for the measure to be seen as an overall indication of practice style and/or available palliative resources. An individual patient experiencing this process of care has not necessarily received poor quality care. If explanations other than practice style and resource availability, such as unusually poor prognostic ability on the part of the provider or unexpected toxic deaths (whether unavoidable, from overly aggressive treatment, or poor patient selection) are enough to influence the overall aggregate rates, it is still justifiable to consider it a 'red flag' that should prompt examination of the care provided.

1c.15 Citations for Evidence other than Guidelines*(Guidelines addressed below)*:
The underlying evidence was obtained by expert consensus, as described in Earle CC, Park ER, Lai B, Weeks JC, Ayanian JZ, Block S. Identifying potential indicators of the quality of end of life cancer care from administrative data. J Clin Oncol. 2003;21(6):1133-8. The panel consisted of oncologists, nurses, palliative care specialists, etc, and used a modified Delphi process to evaluate measures.

1c.16 Quote verbatim, <u>the specific guideline recommendation</u> *(Including guideline # and/or page #)*:
N/A

1c.17 Clinical Practice Guideline Citation: N/A

1c.18 National Guideline Clearinghouse or other URL: N/A

1c.19 Grading of Strength of Guideline Recommendation. Has the recommendation been graded? No

1c.20 If guideline recommendation graded, identify the entity that graded the evidence including balance of representation and any disclosures regarding bias:

1c.21 System Used for Grading the Strength of Guideline Recommendation: Other

1c.22 If other, identify and describe the grading scale with definitions: N/A

1c.23 Grade Assigned to the Recommendation: N/A

1c.24 Rationale for Using this Guideline Over Others: N/A

Based on the NQF descriptions for rating the evidence, what was the developer's assessment of the quantity, quality, and consistency of the body of evidence?
1c.25 Quantity: High **1c.26** Quality: Moderate**1c.27** Consistency**:** High
1c.28 Attach evidence submission form**:**
1c.29 Attach appendix for supplemental materials**:**

Was the threshold criterion, *Importance to Measure and Report*, met?
(*1a & 1b must be rated moderate or high and 1c yes*) Yes○ No○
Provide rationale based on specific subcriteria:

For a new measure if the Committee votes NO, then STOP.
For a measure undergoing endorsement maintenance, if the Committee votes NO because of 1b. (no opportunity for improvement), it may be considered for continued endorsement and all criteria need to be evaluated.

2. RELIABILITY & VALIDITY - SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES

Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. **(evaluation criteria)**
Measure testing must demonstrate adequate reliability and validity in order to be recommended for endorsement. Testing may be conducted for data elements and/or the computed measure score. Testing information and results should be entered in the appropriate field. Supplemental materials may be referenced or attached in item 2.1. See guidance on measure testing.

S.1 Measure Web Page *(In the future, NQF will require measure stewards to provide a URL link to a web page where current detailed specifications can be obtained*). Do you have a web page where current detailed specifications for this measure can be obtained? No

S.2 If yes, provide web page URL:

2a. RELIABILITY. Precise Specifications and Reliability Testing: H○ M○ L○ I ○

2a1. Precise Measure Specifications. (*The measure specifications precise and unambiguous.*)

2a1.1 Numerator Statement *(Brief, narrative description of the measure focus or what is being measured about the target population, e.g., cases from the target population with the target process, condition, event, or outcome)***:**
Patients who died from cancer in an acute care hospital

2a1.2 Numerator Time Window *(The time period in which the target process, condition, event, or outcome is eligible for inclusion)***:**
None

2a1.3 Numerator Details *(All information required to identify and calculate the cases from the target population with the target process, condition, event, or outcome such as definitions, codes with descriptors, and/or specific data collection items/responses***:**
No SNF claims
If death date occurs between hospital admit and discharge
OR
dschgsta = B
OR
discdest = 20

The MEDPAR code indicating the status of the beneficiary on the date of discharge from the facility;
B = Discharged dead

Discdest = The MEDPAR code primarily indicating the destination of the beneficiary upon discharge from a facility; also denotes death or snf/still patient situations;

20 = died

2a1.4 Denominator Statement *(Brief, narrative description of the target population being measured)*:
Patients who died from cancer.

2a1.5 Target Population Category *(Check all the populations for which the measure is specified and tested if any)*: Adult/Elderly Care

2a1.6 Denominator Time Window *(The time period in which cases are eligible for inclusion)*:
None

2a1.7 Denominator Details (*All information required to identify and calculate the target population/denominator such as definitions, codes with descriptors, and/or specific data collection items/responses)*:
Medicare patients in the death registry with cancer as their cause of death. In the cited analyses by the measure submitter, this is a field in the cancer registry or denominator file not requiring specific codes. This may be different in other administrative data sets.

2a1.8 Denominator Exclusions *(Brief narrative description of exclusions from the target population)*:
None

2a1.9 Denominator Exclusion Details *(All information required to identify and calculate exclusions from the denominator such as definitions, codes with descriptors, and/or specific data collection items/responses)*:
N/A

2a1.10 Stratification Details/Variables *(All information required to stratify the measure results including the stratification variables, codes with descriptors, definitions, and/or specific data collection items/responses)*:
None

2a1.11 Risk Adjustment Type *(Select type. Provide specifications for risk stratification in 2a1.10 and for statistical model in 2a1.13)*: No risk adjustment or risk stratification **2a1.12 If "Other," please describe:**

2a1.13 Statistical Risk Model and Variables *(Name the statistical method - e.g., logistic regression and list all the risk factor variables. Note - risk model development should be addressed in 2b4.)*:
No risk adjustment or risk stratification is necessary because the measure is intended to be used for comparison among similar providers; unless there is a reason to believe that one providers' patients have significantly different risks than others, it will not affect relative comparisons. Since, however, comorbidity risks coule increase the likelihood of experiencing this process of care, stratification or adjustment as described above can be considered. is necessary because the measure is intended to be used for comparison among similar providers; unless there is a reason to believe that one providers' patients have significantly different risks than others, it will not affect relative comparisons. Since, however, comorbidity risks coule increase the likelihood of experiencing this process of care, stratification or adjustment as described above can be considered.

2a1.14-16 Detailed Risk Model Available at Web page URL (or attachment). Include coefficients, equations, codes with descriptors, definitions, and/or specific data collection items/responses. Attach documents only if they are not available on a webpage and keep attached file to 5 MB or less. NQF strongly prefers you make documents available at a Web page URL. Please supply login/password if needed:

2a1.17-18. Type of Score: Rate/proportion

2a1.19 Interpretation of Score *(Classifies interpretation of score according to whether better quality is associated with a higher score, a lower score, a score falling within a defined interval, or a passing score)*: Better quality = Lower score

2a1.20 Calculation Algorithm/Measure Logic*(Describe the calculation of the measure score as an ordered sequence of steps including identifying the target population; exclusions; cases meeting the target process, condition, event, or outcome; aggregating data; risk adjustment; etc.)*:

2a1.21-23 Calculation Algorithm/Measure Logic Diagram URL or attachment:

2a1.24 Sampling (Survey) Methodology. If measure is based on a sample (or survey), provide instructions for obtaining the sample, conducting the survey and guidance on minimum sample size (response rate):

2a1.25 Data Source *(Check all the sources for which the measure is specified and tested*). If other, please describe:
Claims, Electronic Health Records, Management Data, Other, Paper Records, Registry Data

2a1.26 Data Source/Data Collection Instrument (*Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.*): Medicare claims and denominator file

2a1.27-29 Data Source/data Collection Instrument Reference Web Page URL or Attachment:

2a1.30-32 Data Dictionary/Code Table Web Page URL or Attachment:

2a1.33 Level of Analysis (*Check the levels of analysis for which the measure is specified and tested)*: Clinician : Group/Practice, Facility, Health Plan, Integrated Delivery System, Other, Population : Community, County or City, Population : Regional and State

2a1.34-35 Care Setting *(Check all the settings for which the measure is specified and tested)*: Inpatient/Hospital

2a2. Reliability Testing. (*Reliability testing was conducted with appropriate method, scope, and adequate demonstration of reliability*.)

2a2.1 Data/Sample *(Description of the data or sample including number of measured entities; number of*

patients; dates of data; if a sample, characteristics of the entities included):
The measure was developed using the Medicare claims of all continuously-enrolled patients who died of cancer after having been diagnosed in a SEER region between 1991 and 1996.

2a2.2 **Analytic Method** *(Describe method of reliability testing & rationale)*:
Evaluation was carried out on 150 consecutive patients treated for advanced cancer at Dana-Farber Cancer Institute and Brigham and Women´s Hospital in Boston. The percent accuracy of death ascertainment for includion into this cohort is unknown but is likely high as the cancer registry regularly uses the death index for ascertainment. Ascertainment would be expected to be highly specific. Hospital billing cClaims were obtained and analyzed and the accuracy was compared to detailed medical record review.

2a2.3 **Testing Results** *(Reliability statistics, assessment of adequacy in the context of norms for the test conducted)*:
Sensitivity 0.95, Specificity 1.00, where sensitivity = # true positives (both claims and charts)/(# true positives + # false negatives, i.e., not in claims but present in charts) and specificity = # true negatives/(# true negatives + false positives, i.e., present in claims but not in charts).

2b. VALIDITY. Validity, Testing, including all Threats to Validity: H○ M○ L○ I ○

2b1.1 **Describe how the measure specifications** *(measure focus, target population, and exclusions)* **are consistent with the evidence cited in support of the measure focus (***criterion 1c)* **and identify any differences from the evidence:**
They are identical

2b2. Validity Testing. (*Validity testing was conducted with appropriate method, scope, and adequate demonstration of validity.)*

2b2.1 **Data/Sample** *(Description of the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included)*:
Evaluation was carried out on 150 consecutive patients treated for advanced cancer at Dana-Farber Cancer Institute and Brigham and Women´s Hospital in Boston. Claims were obtained and analyzed and the accuracy was compared to detailed medical record review.

2b2.2 **Analytic Method** *(Describe method of validity testing and rationale; if face validity, describe systematic assessment)*:
Face validity was determined by focus groups and structured interviews with end-of-life cancer patients and bereaved caregivers, and then vetted by an expert panel of cancer providers. The percent agreement between claims and medical record review was calculated.

2b2.3 **Testing Results** *(Statistical results, assessment of adequacy in the context of norms for the test conducted; if face validity, describe results of systematic assessment)*:
The measure was 97% accurate (percent true positives + true negatives).

POTENTIAL THREATS TO VALIDITY. (*All potential threats to validity were appropriately tested with adequate results.*)

2b3. Measure Exclusions. (*Exclusions were supported by the clinical evidence in 1c or appropriately tested with results demonstrating the need to specify them.*)

2b3.1 **Data/Sample for analysis of exclusions** *(Description of the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included)*:
None

2b3.2 **Analytic Method** (*Describe type of analysis and rationale for examining exclusions, including exclusion related to patient preference)*:
N/A

2b3.3 Results *(Provide statistical results for analysis of exclusions, e.g., frequency, variability, sensitivity analyses):*
N/A

2b4. Risk Adjustment Strategy. (*For outcome measures, adjustment for differences in case mix (severity) across measured entities was appropriately tested with adequate results.*)

2b4.1 Data/Sample *(Description of the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included)***:**
N/A

2b4.2 Analytic Method (*Describe methods and rationale for development and testing of risk model or risk stratification including selection of factors/variables)***:**
N/A

2b4.3 Testing Results *(Statistical risk model: Provide quantitative assessment of relative contribution of model risk factors; risk model performance metrics including cross-validation discrimination and calibration statistics, calibration curve and risk decile plot, and assessment of adequacy in the context of norms for risk models. Risk stratification: Provide quantitative assessment of relationship of risk factors to the outcome and differences in outcomes among the strata)***:**
N/A

2b4.4 If outcome or resource use measure is not risk adjusted, provide rationale and analyses to justify lack of adjustment: No risk adjustment or risk stratification is necessary because the measure is intended to be used for comparison among similar providers; unless there is a reason to believe that one providers' patients have significantly different risks than others, it will not affect relative comparisons. Since, however, comorbidity risks coule increase the likelihood of experiencing this process of care, stratification or adjustment as described above can be considered.

2b5. Identification of Meaningful Differences in Performance. (*The performance measure scores were appropriately analyzed and discriminated meaningful differences in quality.*)

2b5.1 Data/Sample *(Describe the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included)***:**
We used the Medicare claims of all 28,777 continuously-enrolled patients who died of cancer after having been diagnosed in a SEER region between 1991 and 1996. This was an analysis of SEER-Medicare linked data obtained from NCI (http://healthservices.cancer.gov/seermedicare/).

2b5.2 Analytic Method *(Describe methods and rationale to identify statistically significant and practically/meaningfully differences in performance)***:**
Benchmarks were established to identify the outlying 10th decile of practice: The proportion of patients experiencing each process of care in each Health Care Service Area (HCSA) was computed and ranked from best (least aggressive) to worst. A new cohort was created by sequentially adding HCSAs in order starting with the least aggressive until they contained at least 10% of the original cohort and the proportion experiencing each process of care was then recalculated to arrive at the 'Achievable Benchmark of Care). More detail on this, as well as a reference for the Achievable Benchmark of Care method can be found in our publication: Earle CC, Neville BA, Landrum ME, Souza JE, Weeks JC, Block SD, Grunfeld E, Ayanian JZ. Evaluating claims-based indicators of the intensity of end-of-life cancer care. Int J Qual Health Care. 2005;17(6):505-9.

2b5.3 Results *(Provide measure performance results/scores, e.g., distribution by quartile, mean, median, SD, etc.; identification of statistically significant and meaningfully differences in performance)*:
A benchmark target of < 17% of patients dying in an acute care setting was established corresponds to that

achieved by the highest performing regions in the country.

2b6. Comparability of Multiple Data Sources/Methods. (*If specified for more than one data source, the various approaches result in comparable scores.*)

2b6.1 Data/Sample *(Describe the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included)*:
Administrative claims and chart review, as described above: 14 entities (Ontario Local Health Integration Networks (LHINs)), all patients, between 2007 and 2007.

2b6.2 Analytic Method *(Describe methods and rationale for testing comparability of scores produced by the different data sources specified in the measure)*:
Percent who died in an acute care setting was calculated

2b6.3 Testing Results *(Provide statistical results, e.g., correlation statistics, comparison of rankings; assessment of adequacy in the context of norms for the test conducted)*:
Available graphically at http://www.csqi.on.ca/ptjourney/pallendcare/eol/. Remarkable consistency from each region year over year, despite two-fold variation (from 35% to 70%)

2c. Disparities in Care: H○ M○ L○ I ○ NA○ (*If applicable, the measure specifications allow identification of disparities.*)

2c.1 If measure is stratified for disparities, provide stratified results *(Scores by stratified categories/cohorts)*: N/A

2c.2 If disparities have been reported/identified (e.g., in 1b), but measure is not specified to detect disparities, please explain:
N/A

2.1-2.3 Supplemental Testing Methodology Information:

Steering Committee: Overall, was the criterion, *Scientific Acceptability of Measure Properties*, met? (*Reliability and Validity must be rated moderate or high*) Yes○ No○
Provide rationale based on specific subcriteria:

If the Committee votes No, STOP

3. USABILITY

Extent to which intended audiences (e.g., consumers, purchasers, providers, policy makers) can understand the results of the measure and are likely to find them useful for decision making. **(evaluation criteria)**

C.1 Intended Actual/Planned Use *(Check all the planned uses for which the measure is intended)*: Public Reporting, Quality Improvement (external benchmarking to organizations), Quality Improvement (Internal to the specific organization)

3.1 Current Use *(Check all that apply; for any that are checked, provide the specific program information in the following questions)*: Public Reporting, Quality Improvement with Benchmarking (external benchmarking to multiple organizations)

3a. Usefulness for Public Reporting: H○ M○ L○ I ○
(*The measure is meaningful, understandable and useful for public reporting.*)

3a.1. Use in Public Reporting - disclosure of performance results to the public at large *(If used in a public reporting program, provide name of program(s), locations, Web page URL(s)).* If not publicly reported in a national or community program, state the reason AND plans to achieve public reporting, potential reporting programs or commitments, and timeline, e.g., within 3 years of endorsement: **[*For Maintenance* –** *If not publicly reported, describe progress made toward achieving disclosure of performance results to the public at large and expected date for public reporting; provide rationale why continued endorsement should be considered.***]**

To obtain sufficient sample size, this measure is generally reported at the level of the region, rather than physician.

Because this measure is publically available, all of its uses are not known. This has been reported as part of Cancer Care Ontario´s Cancer System Quality Index (www.csqi.cancercare.on.ca)

Cancer Care Ontario's report of this measure can be found at http://www.csqi.on.ca/cms/one.aspx?portalId=89621&pageId=92410 as part of the Cancer Quality Council of Ontario's Cancer System Quality Index. A summary of the recent findings follows:

What do the results show?
More than half of Ontario cancer deaths took place in an acute care hospital setting, and these rates are not decreasing (Figure 4)

- In 2007, 52% of Ontario cancer patients died in an acute care hospital setting.
- This is essentially unchanged from the previous three years.
- Variations continue between Local Health Integration Networks (LHINs), with a low of 39% in Central West and a high of 69% in the North East LHIN.

Median length of stay in acute care holding steady (Figure 5)

- The median length of stay in acute care has remained relatively constant over the last 4 years at around 13 days. The lack of adequate home care and hospice services along with -deficiencies in advance care planning may contribute to this rate.
- North West LHIN has the highest median value in 2007, at 16 days, while Hamilton Niagara Haldimand Brant's median value is lowest, at 10 days.

Why is this important to patient care?
Aligning care with patients' needs and wants

- Improving discussions about end of life care, ensuring adequate palliative care, primary care, hospice and home care resources can help us align the delivery of end-of-life care with what patients need and prefer. Preferences and needs can change during the illness and resources should be put in place to respond appropriately.
- The goal of palliative care is to improve the quality of life of patients, and their families, by providing relief from the physical and psychosocial symptoms of life-threatening illness.
- Appropriate symptom management and palliative care throughout a patient's disease experience not only improves the patient's outcomes and quality of life during their illness, it also maximizes the appropriateness of an individual's care at the end of their life.
- Research suggests that most cancer patients would choose to die outside of an acute care hospital setting2.
- Acute care settings, such as hospitals or emergency departments, are generally not designed to provide the best possible end-of-life care for terminally ill cancer patients.
- Regional variability in end-of-life indicators likely reflects differences in the availability of palliative care services and resources throughout the province.

The Canadian Cancer Society´s Canadian Cancer Statistics 2010 (www.cancer.ca) reports that the proportion of patients dying in an acute care setting was 59.7% across Canada and varied from 70.9% in Nova Scotia, 61.1% in British Columbia, and 53.4% in Ontario between 2003-5.

3a.2.Provide a rationale for why the measure performance results are meaningful, understandable, and useful for public reporting. If usefulness was demonstrated (e.g., focus group, cognitive testing), describe the data, method, and results**:** This measure was established based on focus groups and interviews with patients, followed by a modified Delphi process with an expert panel.

3.2 Use for other Accountability Functions (payment, certification, accreditation). If used in a public accountability program, provide name of program(s), locations, Web page URL(s)**:**

3b. Usefulness for Quality Improvement: H⭘ M⭘ L⭘ I ⭘
(*The measure is meaningful, understandable and useful for quality improvement.*)

3b.1. Use in QI. If used in quality improvement program, provide name of program(s), locations, Web page URL(s):
[*For Maintenance* – *If not used for QI, indicate the reasons and describe progress toward using performance results for improvement***]**.
Illustrates potential inadequate access to home based palliative and hospice care and large geographic variation.

3b.2. Provide rationale for why the measure performance results are meaningful, understandable, and useful for quality improvement. If usefulness was demonstrated *(e.g., QI initiative),* describe the data, method and results:
The measure has face validity and is usually, though not always, under the control of the treating physician.

Overall, to what extent was the criterion, *Usability*, met? H⭘ M⭘ L⭘ I ⭘
Provide rationale based on specific subcriteria:

4. FEASIBILITY

Extent to which the required data are readily available, retrievable without undue burden, and can be implemented for performance measurement. **(evaluation criteria)**

4a. Data Generated as a Byproduct of Care Processes: H⭘ M⭘ L⭘ I ⭘

4a.1-2 How are the data elements needed to compute measure scores generated? *(Check all that apply).*
Data used in the measure are**:**
Coded by someone other than person obtaining original information (e.g., DRG, ICD-9 codes on claims)

4b. Electronic Sources: H⭘ M⭘ L⭘ I ⭘

4b.1 Are the data elements needed for the measure as specified available electronically *(Elements that are needed to compute measure scores are in defined, computer-readable fields)***:** ALL data elements in electronic claims

4b.2 If ALL data elements are not from electronic sources, specify a credible, near-term path to electronic capture, OR provide a rationale for using other than electronic sources:

4c. Susceptibility to Inaccuracies, Errors, or Unintended Consequences: H⭘ M⭘ L⭘ I ⭘

4c.1 Identify susceptibility to inaccuracies, errors, or unintended consequences of the measurement identified during testing and/or operational use and strategies to prevent, minimize, or detect. If audited, provide results:
97% accuracy. There have been no reports of unintended consequences with this measure.

4d. Data Collection Strategy/Implementation: H⭘ M⭘ L⭘ I ⭘

A.2 Please check if either of the following apply (*regarding proprietary measures*)**:**

4d.1 Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data, missing data, timing and frequency of data collection, sampling, patient confidentiality, time and cost of data collection, other feasibility/implementation issues *(e.g., fees for use of proprietary measures)*:
None

Overall, to what extent was the criterion, *Feasibility*, met? H○ M○ L○ I ○
Provide rationale based on specific subcriteria:

OVERALL SUITABILITY FOR ENDORSEMENT

Does the measure meet all the NQF criteria for endorsement? Yes○ No○
Rationale:

If the Committee votes No, STOP.
If the Committee votes Yes, the final recommendation is contingent on comparison to related and competing measures.

5. COMPARISON TO RELATED AND COMPETING MEASURES

If a measure meets the above criteria and there are endorsed or new related measures (either the same measure focus or the same target population) or competing measures (both the same measure focus and the same target population), the measures are compared to address harmonization and/or selection of the best measure before a final recommendation is made.

5.1 If there are related measures *(either same measure focus or target population)* or competing measures *(both the same measure focus and same target population*), list the NQF # and title of all related and/or competing measures:

5a. Harmonization

5a.1 If this measure has EITHER the same measure focus OR the same target population as NQF-endorsed measure(s): Are the measure specifications completely harmonized?

5a.2 If the measure specifications are not completely harmonized, identify the differences, rationale, and impact on interpretability and data collection burden:

5b. Competing Measure(s)

5b.1 If this measure has both the same measure focus and the same target population as NQF-endorsed measure(s):
Describe why this measure is superior to competing measures *(e.g., a more valid or efficient way to measure quality)***; OR provide a rationale for the additive value of endorsing an additional measure.** *(Provide analyses when possible)*:

CONTACT INFORMATION

Co.1 Measure Steward (Intellectual Property Owner): American Society of Clinical Oncology, 2318 Mill Road, Suite 800, Alexandria, Virginia, 22314

Co.2 Point of Contact: Craig, Earle, craig.earle@ices.on.ca, 416-480-6047-

Co.3 Measure Developer if different from Measure Steward: Institute for Clinical Evaluative Sciences, 2075 Bayview Ave, G-wing, room 106, Toronto, Ontario, M4N 3M5 **Co.4 Point of Contact:** Craig, Earle, craig.earle@ices.on.ca, 416-480-6047-
Co.5 Submitter: Craig, Earle, craig.earle@ices.on.ca, 416-480-6047-, Institute for Clinical Evaluative Sciences
Co.6 Additional organizations that sponsored/participated in measure development:
Co.7 Public Contact: Craig, Earle, craig.earle@ices.on.ca, 416-480-6047-, Institute for Clinical Evaluative Sciences

ADDITIONAL INFORMATION
Workgroup/Expert Panel involved in measure development **Ad.1 Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.** Co-investigators on grant: Jane Weeks, John Ayanian, Mary Beth Landrum, Susan Block, Joe Newhouse
Ad.2 If adapted, provide title of original measure, NQF # if endorsed, and measure steward. Briefly describe the reasons for adapting the original measure and any work with the original measure steward:
Measure Developer/Steward Updates and Ongoing Maintenance **Ad.3 Year the measure was first released:** 2005 **Ad.4 Month and Year of most recent revision:** 06, 2011 **Ad.5 What is your frequency for review/update of this measure?** q3years **Ad.6 When is the next scheduled review/update for this measure?** 12, 2013
Ad.7 Copyright statement:
Ad.8 Disclaimers:
Ad.9 Additional Information/Comments:
Date of Submission (*MM/DD/YY*)**:** 01/09/2012