CBE ID

0210

Title

Percentage of Patients who Died with Cancer Receiving Systemic Cancer-Directed Therapy in the Last 14 / 30 Days of Life (lower score – better) (Registry version)

Project

Advanced Illness and Post-Acute Care

Endorsement Status

Endorsed

Is Under Review

Yes

Next Maintenance Cycle

Spring 2026

Previous Endorsement Cycle

Spring 2022

Initial Endorsement

Sun, 08/09/2009 - 20:00

Steward

American Society of Clinical Oncology (ASCO)

1.0 New or Maintenance

Maintenance

1.1 Measure Structure

Single Measure

1.3 Electronic Clinical Quality Measure (eCQM)

No

1.6 Measure Description

Percentage of patients, aged 18 years and older, who died with cancer receiving systemic cancer-directed therapy in the last 14 / 30 days of life

1.6a Material Specification Change(s)

Yes

1.6b Summary of Specification Changes

Implementers can also look at systemic cancer-directed therapy in the last 30 days of life, as well. However the 14-day version is the only one used in MIPS.

1.7 Measure Type

Intermediate Outcome

1.8 Level of Analysis

Clinician: Group/Practice, Clinician: Individual

1.9 Care Setting

Ambulatory Care: Clinic, Ambulatory Care: Clinician Office, Ambulatory Care: Office, Clinician Office/Clinic

1.10 Measure Rationale

Cancer is the second leading cause of death in the United States overall and the leading cause among people younger than 85 years (Siegel et al., 2026). Use of systemic cancer-directed therapies at the end of life is associated with higher rates of hospitalization, including ICU stays, delayed utilization of hospice, worse quality of life, and higher costs (Canavan et al., 2024). *Dying in America* states that a palliative approach often offers the best chance of maintaining the highest possible quality of life for those living with advanced serious illness (Institute of Medicine [IOM], 2015) and proposes, as a core component to quality end-of-life care, to offer palliative care services and a personalized revision of the care plan and access to services based on the changing needs of the patient and family (IOM, 2015). The purpose of this measure is to encourage timely enrollment in palliative care that focuses on symptom management, rather than low utility and aggressive treatments, among people dying with cancer. This results in a reduction of aggressive interventions leading to ICU visits, ED visits, and hospitalizations, a reduction in resource utilization costs, improved symptom control and quality of life for the patient, and ultimately improved patient, family, and caregiver satisfaction. As there are challenges to capturing palliative care consultations from a quality measure perspective, aggressive treatments at the end of life serve as a proxy for the purposes of this measure. ASCO's End of Life Measures Technical Expert Panel emphasized that performance is not expected to be perfect (i.e., 0) on this quality measure. A margin of error should be expected to account for scenarios such as patient preferences or the receipt of appropriate cancer-directed treatment where the patient passes unexpectedly.

References:

1. Canavan, M. E., Wang, X., Ascha, M. S., Miksad, R. A., Showalter, T. N., Calip, G. S., Gross, C. P., & Adelson, K. B. (2024). Systemic Anticancer Therapy and Overall Survival in Patients With Very Advanced Solid Tumors. JAMA oncology, e241129. Advance online publication. https://doi.org/10.1001/jamaoncol.2024.1129
2. IOM (Institute of Medicine). 2015. Dying in America: Improving quality and honoring individual preferences near the end of life. Washington, DC: The National Academies Press.
3. Siegel, R. L., Kratzer, T. B., Giaquinto, A. N., Sung, H., & Jemal, A. (2025). Cancer Statistics. *CA: A Cancer Journal for Clinicians*, *75*(1), 10–45. https://doi.org/10.3322/caac.21871

1.13 Data Dictionary

Not attached. I attest that all information will be provided where codes and/or value sets are needed (1.14a - 1.15c).

1.14 Numerator

Patients who received systemic cancer-directed therapy in the last 14 days of lifePatients who received systemic cancer-directed therapy in the last 30 days of life

1.14a Numerator Details

Patients who received systemic cancer-directed therapy in the last 14 days of life

OR

Patients who received systemic cancer-directed therapy in the last 30 days of life

Guidance:

The measure includes intramuscular, intravenous, oral, and subcutaneous routes of administration of systemic cancer-directed therapy. Oral systemic cancer-directed therapy is oral prescription of extension of same oral drug or prescription of new oral drug.

Definition:

Systemic Cancer-directed Therapy:

Includes:

- Cytotoxic chemotherapy
- Drugs and biologics which activate or inhibit the hallmarks of cancer (e.g., kinase inhibitors)

Excludes:

- Hormones and hormone antagonists
- Red Blood Cell (RBC) growth factors used to treat chemotherapy-induced anemia
- White Blood Cell (WBC) growth factors used to treat chemotherapy-induced neutropenia
- Bisphosphonates and biologics used to treat osteopenia or osteoporosis
- Antiemetics and antinauseants
- Pain medications

Example:

Drugs and biologics under the World Health Organization's (WHO) Anatomical Therapeutic Chemical (ATC) classification "Antineoplastic Agents" and select "Immunostimulants" and "Immunosuppressants".

"Antineoplastic and Immunomodulating Agents" Drug Classes and Identifiers:

Note: To find the drug members under each class, go to https://mor.nlm.nih.gov/RxClass/ *and enter the class name or ID on the "Search" field of the RxClass browser.*

Antineoplastic Agents

- Alkylating agents (id: L01A)
    - Antimetabolites (id: L01B)
    - Cytotoxic antibiotics and related substances (id: L01D)
    - Monoclonal antibodies and antibody drug conjugates (id: L01F)
    - Other antineoplastic agents (id: L01X)
    - Plant alkaloids and other natural products (id: L01C)
    - Protein kinase inhibitors (id: L01E)
        - *Exclude: Cyclin-dependent kinase (CDK) inhibitors (id: L01EF)*

Immunostimulants *(Includes only those that apply to cancer)*

- Interferons (id: L03AB)
    - Include only: interferon alfa-2b, ropeginterferon alfa-2b, and ropeginterferon alfa-2b-njft
- Interleukins (id: L03AC)
    - Include only: aldesleukin
- Other immunostimulants (id: L03AX)
    - Include only: sipuleucel-T

Immunosuppressants *(Includes only those that apply to cancer)*

- Selective immunosupressants (id: L04AA)
    - Include only: alemtuzumab, everolimus, and sirolimus
- Other immunosuppressants (id: L04AX)
    - Include only: lenalidomide, pomalidomide, and thalidomide

NOTE: For the purposes of the measure, only medications approved by the United States Food and Drug Administration (FDA) qualify for the measure.

Numerator Instructions:

INVERSE MEASURE – A lower calculated performance rate for this measure indicates better clinical care
or control. The "Performance Not Met" numerator option for this measure is the representation of

the better clinical quality or control. Submitting that numerator option will produce a performance rate that trends closer to 0%, as quality increases. For inverse measures, a rate of 100% means all of the denominator eligible patients did not receive the appropriate care or were not in proper control.

Receipt of systemic cancer-directed therapy in the last 14 or 30 days of life can be calculated as follows:

(Date of death minus ***Most Recent*** Systemic cancer-directed therapy Administration Date or Date Filled) < 14 days / < 30 days

Numerator Options:

Performance Met: Patient received systemic cancer-directed therapy in the last 14 days of life **(G9847)**

/

Patient received systemic cancer-directed therapy in the last 30 days of life **(GXXXX)**

OR

Denominator Exception: Patients received systemic cancer-directed therapy due to 1) receipt or in process of receipt of bone marrow or peripheral blood stem cell transplant (transplant status) in the last 60 days of life, or 2) receipt or in process of receipt of CAR T cell therapy in the last 60 days of life **(GXXXX)**

NOTE: Patients typically given bridging chemotherapy and other cancer-directed therapies while awaiting transplant or CAR T cell therapy.

OR

Numerator Exclusion: Patients given hydroxyurea or BTK inhibitors (GXXXX)

Note: Hydroxyurea and BTK inhibitors may be inappropriate to withdraw at the end of life and/or are used for palliative purposes.

OR

Performance Not Met: Patient did not receive systemic cancer-directed therapy in the last 14 days of life **(G9848)**

/

Patient did not receive systemic cancer-directed therapy in the last 30 days of life **(GXXXX)**

Note: GXXXX is a placeholder for HCPCS codes.

1.15 Denominator

Patients, aged 18 years and older, who died with cancer

1.15a Denominator Details

Patients, aged 18 years and older, who died with cancer

Denominator Criteria (Eligible Cases):

Patients aged ≥ 18 years on date of any of the eligible patient encounters

AND

Encounter diagnosis of cancer (ICD-10-CM): C00.0, C00.1, C00.2, C00.3, C00.4, C00.5, C00.6, C00.8, C00.9, C01, C02.0, C02.1, C02.2, C02.3, C02.4, C02.8, C02.9, C03.0, C03.1, C03.9, C04.0, C04.1, C04.8, C04.9, C05.0, C05.1, C05.2, C05.8, C05.9, C06.0, C06.1, C06.2, C06.80, C06.89, C06.9, C07, C08.0, C08.1, C08.9, C09.0, C09.1, C09.8, C09.9, C10.0, C10.1, C10.2, C10.3, C10.4, C10.8, C10.9, C11.0, C11.1, C11.2, C11.3, C11.8, C11.9, C12, C13.0, C13.1, C13.2, C13.8, C13.9, C14.0, C14.2, C14.8, C15.3, C15.4, C15.5, C15.8, C15.9, C16.0, C16.1, C16.2, C16.3, C16.4, C16.5, C16.6, C16.8, C16.9, C17.0, C17.1, C17.2, C17.3, C17.8, C17.9, C18.0, C18.1, C18.2, C18.3, C18.4, C18.5, C18.6, C18.7, C18.8, C18.9, C19, C20, C21.0, C21.1, C21.2, C21.8, C22.0, C22.1, C22.2, C22.3, C22.4, C22.7, C22.8, C22.9, C23, C24.0, C24.1, C24.8, C24.9, C25.0, C25.1, C25.2, C25.3, C25.4, C25.7, C25.8, C25.9, C26.0, C26.1, C26.9, C30.0, C30.1, C31.0, C31.1, C31.2, C31.3, C31.8, C31.9, C32.0, C32.1, C32.2, C32.3, C32.8, C32.9, C33, C34.00, C34.01, C34.02, C34.10, C34.11, C34.12, C34.2, C34.30, C34.31, C34.32, C34.80, C34.81, C34.82, C34.90, C34.91, C34.92, C37, C38.0, C38.1, C38.2, C38.3, C38.4, C38.8, C39.0, C39.9, C40.00, C40.01, C40.02, C40.10, C40.11, C40.12, C40.20, C40.21, C40.22, C40.30, C40.31, C40.32,

C40.80, C40.81, C40.82, C40.90, C40.91, C40.92, C41.0, C41.1, C41.2, C41.3, C41.4, C41.9, C43.0 , C43.10, C43.111, C43.112, C43.121, C43.122, C43.20, C43.21, C43.22, C43.30, C43.31, C43.39, C43.4, C43.51, C43.52, C43.59, C43.60, C43.61, C43.62, C43.70, C43.71, C43.72, C43.8, C43.9, C44.00, C44.01, C44.02, C44.09, C44.101, C44.1021, C44.1022, C44.1091, C44.1092, C44.111, C44.1121, C44.1122, C44.1191, C44.1192, C44.121, C44.1221, C44.1222, C44.1291, C44.1292, C44.131, C44.1321, C44.1322, C44.1391, C44.1392, C44.191, C44.1921, C44.1922, C44.1991, C44.1992, C44.201, C44.202, C44.209, C44.211, C44.212, C44.219, C44.221, C44.222, C44.229, C44.291, C44.292, C44.299, C44.300, C44.301, C44.309, C44.310, C44.311, C44.319, C44.320, C44.321, C44.329, C44.390, C44.391, C44.399, C44.40, C44.41, C44.42, C44.49, C44.500, C44.50 1, C44.509, C44.510, C44.511, C44.519, C44.520, C44.521, C44.529, C44.590, C44.591, C44.599, C44.601, C44.602, C44.609, C44.611, C44.612, C44.619, C44.621, C44.622, C44.629, C44.691, C44.692, C44.699, C44.701, C44.702, C44.709, C44.711, C44.712, C44.719, C44.721, C44.722, C44.729, C44.791, C44.792, C44.799, C44.80, C44.81, C44.82, C44.89, C44.90, C44.91, C44.92, C44.99, C45.0, C45.1, C45.2, C45.7, C45.9, C46.0, C46.1, C46.2, C46.3, C46.4, C46.50, C46.51, C46.52, C46.7, C46.9, C47.0, C47.10, C47.11, C47.12, C47.20, C47.21, C47.22, C47.3, C47.4, C47. 5, C47.6, C47.8, C47.9, C48.0, C48.1, C48.2, C48.8, C49.0, C49.10, C49.11, C49.12, C49.20, C49.21, C49.22, C49.3, C49.A0, C49.A1, C49.A2, C49.A3, C49.A4, C49.A5, C49.A9, C49.4, C49.5, C49.6, C49.8, C49.9, C4A.0, C4A.10, C4A.111, C4A.112, C4A.121, C4A.122, C4A.20, C4A.21, C4A.22,
C4A.30, C4A.31, C4A.39, C4A.4, C4A.51, C4A.52, C4A.59, C4A.60, C4A.61, C4A.62, C4A.70, C4A.7 1, C4A.72, C4A.8, C4A.9, C50.011, C50.012, C50.019, C50.021, C50.022, C50.029, C50.111, C50.112, C50.119, C50.121, C50.122, C50.129, C50.211, C50.212, C50.219, C50.221, C50.222, C50.229, C50.311, C50.312, C50.319, C50.321, C50.322, C50.329, C50.411, C50.412, C50.419, C50.421, C50.422, C50.429, C50.511, C50.512, C50.519, C50.521, C50.522, C50.529, C50.611, C50.612, C50.619, C50.621, C50.622, C50.629, C50.811, C50.812, C50.819, C50.821, C50.822, C50.829, C50.911, C50.912, C50.919, C50.921, C50.922, C50.929, C51.0, C51.1, C51.2, C51.8, C51.9, C52, C53.0, C53.1, C53.8, C53.9, C54.0, C54.1, C54.2, C54.3, C54.8, C54.9, C55, C56.1, C56.2, C56.3, C56.9, C57.00, C57.01, C57.02, C57.10, C57.11, C57.12, C57.20, C57.21, C57.22, C57.3, C57.4, C57.7, C57.8, C57.9, C58, C60.0, C60.1, C60.2, C60.8, C60.9, C61, C62.00, C62.01, C62.02, C62.10, C62.11, C62.12, C62.90, C62.91, C62.92, C63.00, C63.01, C63.02, C63.10, C63.11, C63.12, C63.2, C63.7, C63.8, C63.9, C64.1, C64.2, C64.9, C65.1, C65.2, C65.9, C66.1, C66.2, C66.9, C67.0, C67.1, C67.2, C67.3, C67.4, C67.5, C67.6, C67.7, C67.8, C67.9, C68.0, C68.1, C68.8, C68.9, C69.00, C69.01, C69.02, C69.10, C69.11, C69.12, C69.20, C69.21, C69.22, C69.30, C69.31, C69.32, C69.40, C69.41, C69.42, C69.50, C69.51, C69.52, C69.60, C69.61, C69.62, C69.80, C69.81, C69.82, C69.90, C69.91, C69.92, C70.0, C70.1, C70.9, C71.0, C71.1, C71.2, C71.3, C71.4, C71.5, C71.6, C71.7, C71.8, C71.9, C72.0, C72.1, C72.20, C72.21, C72.22, C72.30, C72.31, C72.32, C72.40, C72.41, C72.42, C72.50,
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C84.A7, C84.A8, C84.A9, C84.Z0, C84.Z1, C84.Z2, C84.Z3, C84.Z4, C84.Z5, C84.Z6, C84.Z7, C84.Z8, C84.Z9, C85.10, C85.11, C85.12, C85.13, C85.14, C85.15, C85.16, C85.17, C85.18, C85.19, C85.20, C85.21, C85.22, C85.23, C85.24, C85.25, C85.26, C85.27, C85.28, C85.29, C85.80, C85.81, C85.82, C85.83, C85.84, C85.85, C85.86, C85.87, C85.88, C85.89, C85.90, C85.91, C85.92, C85.93, C85.94, C85.95, C85.96, C85.97, C85.98, C85.99, C86.0, C86.1, C86.2, C86.3, C86.4, C86.5, C86.6, C88.0,
C88.2, C88.3, C88.4, C88.8, C88.9, C90.00, C90.01, C90.02, C90.10, C90.11, C90.12, C90.20, C90.21, C90.22, C90.30, C90.31, C90.32, C91.00, C91.01, C91.02, C91.10, C91.11, C91.12, C91.30, C91.31, C91.32, C91.40, C91.41, C91.42, C91.50, C91.51, C91.52, C91.60, C91.61, C91.62, C91.90, C91.91, C91.92, C91.A0, C91.A1, C91.A2, C91.Z0, C91.Z1, C91.Z2, C92.00, C92.01, C92.02, C92.10, C92.11, C92.12, C92.20, C92.21, C92.22, C92.30, C92.31, C92.32, C92.40, C92.41, C92.42, C92.50, C92.51, C92.52, C92.60, C92.61, C92.62, C92.90, C92.91, C92.92, C92.A0, C92.A1, C92.A2, C92.Z0, C92.Z1, C92.Z2, C93.00, C93.01, C93.02, C93.10, C93.11, C93.12, C93.30, C93.31, C93.32, C93.90, C93.91, C93.92, C93.Z0, C93.Z1, C93.Z2, C94.00, C94.01, C94.02, C94.20, C94.21, C94.22, C94.30, C94.31, C94.32, C94.40, C94.41, C94.42, C94.6, C94.80, C94.81, C94.82, C95.00, C95.01, C95.02, C95.10, C95.11, C95.12, C95.90, C95.91, C95.92, C96.0, C96.20, C96.21, C96.22, C96.29, C96.4, C96.5, C96.6, C96.9, C96.A, C96.Z, D37.01, D37.02, D37.030, D37.031, D37.032, D37.039, D37.04, D37.05, D37.09, D37.1, D37.2, D37.3, D37.4, D37.5, D37.6, D37.8, D37.9, D38.0, D38.1, D38.2, D38.3, D38.4,

D38.5, D38.6, D39.0, D39.10, D39.11, D39.12, D39.2, D39.8, D39.9, D40.0, D40.10, D40.11, D40.12, D40.8, D40.9, D41.00, D41.01, D41.02, D41.10, D41.11, D41.12, D41.20, D41.21, D41.22, D41.3,
D41.4, D41.8, D41.9, D42.0, D42.1, D42.9, D43.0, D43.1, D43.2, D43.3, D43.4, D43.8, D43.9, D44.0,
D44.10, D44.11, D44.12, D44.2, D44.3, D44.4, D44.5, D44.6, D44.7, D44.9, D45, D46.0,D46.1, D46.20,
D46.21, D46.22, D46.4, D46.9, D46.A, D46.B, D46.C, D46.Z, D47.01, D47.02, D47.09, D47.1, D47.2, D47.3, D47.4, D47.9, D47.Z1, D47.Z2, D47.Z9, D48.0, D48.2, D48.3, D48.4, D48.5, D48.60, D48.61, D48.62, D48.7, D48.9, D49.0, D49.1, D49.2, D49.3, D49.4, D49.511, D49.512, D49.519, D49.59, D49.6, D49.7, D49.81, D49.89, D49.9

AND

At least two patient encounters during the performance period (CPT): 98000, 98001, 98002, 98003, 98004, 98005, 98006, 98007, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99242, 99243, 99244, 99245, 99495, 99496, 99441, 99442, 99443

NOTE: Both eligible patient encounters must include a diagnosis of cancer.

AND

Patients who died during performance period: G9846

1.15b Denominator Exclusions

This quality measure has no denominator exclusions, but does have a denominator exception and numerator exclusion. See 1.14a Numerator Details.

1.15c Denominator Exclusions Details

See 1.14a Numerator Details.

1.15d Age Group

Adults (18-64 years), Older Adults (65 years and older)

1.16 Type of Score

Ratio

1.17 Measure Score Interpretation

Better performance = Lower score

1.18 Calculation of Measure Score

The developer provided a Measure Calculation Diagram:

1.18a Attach measure score calculation diagram

SystemicCancerDirectedTx-Reg_Flow.pdf

1.19 Measure Stratification Details

This measure is stratified by the timeframe (lookback period) preceding the date of death to assess varying intensities of systemic therapy at the end of life.

Stratification Variables:

Lookback Period: Defined as the number of days prior to the patient's date of death.

Stratum Definitions:

- **Stratum 1 (14-Day Lookback):** Percentage of patients in the denominator who received one or more systemic cancer-directed therapies (chemotherapy, immunotherapy, or targeted therapy) within 14 days of the date of death.

- **Stratum 2 (30-Day Lookback):** Percentage of patients in the denominator who received one or more systemic cancer-directed therapies (chemotherapy, immunotherapy, or targeted therapy) within 30 days of the date of death.

Code and Value Sets:

The clinical identifying codes for "Systemic Cancer-Directed Therapy" are identical for both strata. These include HCPCS, CPT, and ICD-10-PCS codes for chemotherapy administration, immunotherapy, and targeted therapy agents.

Please refer to the numerator and denominator details sections of this form for coding specifications.

Risk Adjustment:

The measure is currently not risk-adjusted. Results are reported as observed rates for each stratum to identify clinical practice patterns across the population.

1.20 Types of Data Sources

Electronic Health Records, Paper Patient Medical Records, Registries

1.21a Data Collection Tool URL(s)

http://example.com

1.25 Data Source Details

This registry-based measure is currently operationalized within the Merit-based Incentive Payment System (MIPS). As a registry-based instrument, it supports a flexible data architecture encompassing Electronic Health Record (EHR) data, Qualified Clinical Data Registry (QCDR) inputs, and manual chart abstraction from paper records.

While CMS maintains confidentiality regarding which specific entities utilize these measures for MIPS reporting, it is established that registries are not subject to licensure requirements for submission. To date, ASCO has received no formal inquiries or concerns regarding administrative burden through official CMS channels. However, through rigorous measure testing and development, ASCO has verified the measure's active implementation within the US Oncology Network (USON)/McKesson registry, which has successfully achieved full electronic specification within their EHR system.

1.26 Minimum Sample Size

Minimum of five (5) patients.

2.1 Attach Logic Model

SCDT_Registry_LogicModel.docx

2.2 Evidence of Measure Importance

In the United States, cancer is the second leading cause of death overall and the leading cause of death among people younger than 85 years (Siegel et al., 2026). It is projected that in 2026 there will be approximately 2.1 million *new* cancer cases and over half a million cancer deaths (Siegel et al., 2026). While individual patients have their own preferences that can change over time, consistently across various populations, most patients nearing end of life wish to die at home (Gomes et al., 2013). Patients with early referral to palliative care (90 days or more prior to death) are less likely to receive chemotherapy in the last 30 days of life (Woldie et al., 2022) and cancer-directed therapy received near the end of life continues to be associated with higher rates of hospitalizations, ED visits, ICU stays, hospital deaths, and lower hospice use (Canavan et al., 2025, Garg et al., 2024 & Adelson et al., 2024). Furthermore, cancer-directed therapy received at the end of life does not affect overall survival - a recent cohort study specifically looking at overall survival amongst the highest and lowest CBE 0210 quintiles at the practice level found no

statistically significant difference in survival rates (Canavan et al., 2024).

The goal of *Percentage of Patients who Died with Cancer Receiving Systemic Cancer-Directed Therapy in the Last 14 Days of Life (lower score – better)* is to, alongside ASCO's suite of EOL measures, highlight performance trends over time and encourage timely enrollment in palliative care that focuses on symptom management, rather than low utility and aggressive treatments, among people dying with cancer. The seminal NAM report *Dying in America* states that a palliative approach often offers the best chance of maintaining the highest possible quality of life for those living with advanced serious illness (IOM, 2015) and proposes, as a core component to quality end-of-life care, to offer palliative care services and a personalized revision of the care plan, as well as access to services based on the changing needs of the patient and family (IOM, 2015). A 2023 systematic review of cancer-specific studies published from 1990 to 2022 found that advance care planning (ACP) significantly reduces the odds of aggressive end-of-life care. Analyzing a cohort of approximately 33,500 patients, researchers found that ACP was associated with a lower likelihood of chemotherapy, ICU stays, hospitalizations, and in-hospital deaths, as well as fewer late-stage hospice referrals of less than seven days (Levoy et al.).

Timely enrollment in palliative care also reduces resource utilization costs and aligns with MedPAC's goal to reduce high-intensity, low-value care at the end of life by promoting hospice and palliative care (MedPAC, 2025). Studies show that the integration of palliative care into the cancer care continuum improves patient outcomes in many ways, including quality of life, symptoms intensity, and end-of-life care (NCCN, 2026).

ASCO, Choosing Wisely, and NCCN guidelines contain the following recommendations:

- Patients with months to weeks to live should be provided with guidance regarding the anticipated course of the disease. Physicians should reassess prognostic awareness and goals of therapy. As functional status worsens, these patients may become more concerned about the side effects of cancer-directed treatment and consider focusing their care on maintaining quality of life. The option of discontinuing cancer treatment aligned with goals of care and initiating goal-directed supportive care should be discussed. (Category 2A) (NCCN, 2026)
- In general, patients with weeks to days to live (eg, dying patients) and comfort-oriented goals should discontinue all treatments not directly contributing to patient comfort. Intensive palliative care focusing on symptom management should be provided in addition to preparation for the dying process. Referral for hospice care should be placed, if not already done. (Category 2A) (NCCN, 2026)
- Clinicians should refer patients with advanced solid tumors and hematologic malignancies to specialized interdisciplinary palliative care teams that provide inpatient and outpatient care early in the course of disease, alongside active treatment of their cancer. (Moderate, Strong) (Sanders et al., 2024)
- Don't use cancer-directed therapy for solid tumor patients with the following

characteristics: low performance status (3 or 4), no benefit from prior evidence-based interventions, and no strong evidence supporting the clinical value of further anti-cancer treatment. (Schnipper et al., 2012)
    - Cancer directed treatments are likely to be ineffective and more toxic for solid tumor patients who meet the above-stated criteria.
    - Exceptions may include when disease characteristics (e.g., an extremely chemo-sensitive tumor, or a sensitive and targetable alteration in the tumor) suggest a high likelihood of a response to therapy that may reverse functional limitations related to the cancer.
    - While this Choosing Wisely statement originally referred to cytotoxic chemotherapy, it also applies to novel, purportedly less-toxic treatments such as immunotherapy and off-label targeted therapy in patients who meet the above-stated criteria.

Definitions of Categories of Evidence and Ratings:

- Category 2A: Based upon lower-level evidence, there is uniform NCCN consensus (≥85% support of the Panel) that the intervention is appropriate. *Note there are no Category 1 recommendations within NCCN's guidelines on Palliative Care.*
- Strong Strength of Recommendation: In recommendations for an intervention, the desirable effects of an intervention outweigh its undesirable effects. In recommendations against an intervention, the undesirable effects of an intervention outweigh its desirable effects. All or almost all informed people would make the recommended choice for or against an intervention
- Moderate Quality of Evidence: We are moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different

In addition to the literature, ASCO received positive feedback on measure importance via its May 2025 public comment; almost all respondents strongly agreed or agreed with the following statements across all of ASCO's updated EOL measures: "I believe this measure captures what it intends to capture, i.e., promoting early palliative care among dying patients and reducing aggressive interventions at the end of patients' lives" and "I believe this measure differentiates good from poor quality care among providers of healthcare services."

References:

1. Adelson, K. B., Canavan, M., Niu, J., Zhao, H., Nortje, N., Xiang, J. J., Giordano, S. H., & Cheng, L. (2024). Systemic anti-cancer treatment and healthcare utilization at end of life: A SEER Medicare analysis. *JCO Oncology Practice*, *20*(10_suppl), 276. https://doi.org/10.1200/OP.2024.20.10_suppl.276
2. Canavan, M. E., Cheng, L., Xiang, J. J., Lin, J. K., Hui, D., Zhao, H., Nortje, N., Ratan, R., Cherny, N., Pham, T., Giordano, S. H., Niu, J., & Adelson, K. B. (2025). Association Between

Systemic Anticancer Therapy Administration Near the End of Life With Health Care and Hospice Utilization in Older Adults: A SEER Medicare Analysis of End-of-Life Care Quality. *Journal of Clinical Oncology: Official Journal of the American Society of Clinical Oncology*, *43*(31), 3391–3402. https://doi.org/10.1200/JCO-25-00530

3. Canavan, M. E., Wang, X., Ascha, M. S., Miksad, R. A., Showalter, T. N., Calip, G. S., Gross, C. P., & Adelson, K. B. (2024). Systemic Anticancer Therapy and Overall Survival in Patients With Very Advanced Solid Tumors. *JAMA Oncology*, e241129. Advance online publication. https://doi.org/10.1001/jamaoncol.2024.1129
4. Garg, V., Ruiz Buenrostro, A., Heuniken, K., Bagnarol, R., Yousef, M., Sajewicz, K., Dhanju, S., Wentlandt, K., Kuruvilla, J., Lheureux, S., Zimmermann, C., & Hannon, B. (2024). Novel Systemic Anticancer Therapy and Healthcare Utilization at the End of Life: A Retrospective Cohort Study. *Cancer medicine*, *13*(23), e70450. https://doi.org/10.1002/cam4.70450
5. Gomes, B., Calanzani, N., Gysels, M., Hall, S., & Higginson, I. J. (2013). Heterogeneity and changes in preferences for dying at home: a systematic review. *BMC palliative care*, *12*, 7. https://doi.org/10.1186/1472-684X-12-7
6. Institute of Medicine. (2015). *Dying in America: Improving Quality and Honoring Individual Preferences Near The End of Life*. National Academies Press. https://doi.org/10.17226/18748
7. Levoy, K., Sullivan, S. S., Chittams, J., Myers, R. L., Hickman, S. E., & Meghani, S. H. (2023). Don't throw the baby out with the bathwater: Meta-analysis of advance care planning and end-of-life cancer care. *Journal of Pain and Symptom Management*, *65*(6), e715–e743. https://doi.org/10.1016/j.jpainsymman.2023.02.003
8. Medicare Payment Advisory Commission. (2025, March). *Report to the Congress: Medicare payment policy*. https://www.medpac.gov/wp-content/uploads/2025/03/Mar25_MedPAC_Report_To_Congress_SEC.pdf
9. National Comprehensive Cancer Network. (2026). *NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®): Palliative Care* (Version 1.2026). https://www.nccn.org/guidelines/guidelines-detail?id=1454
10. Sanders, J. J., Temin, S., Ghoshal, A., Alesi, E. R., Ali, Z. V., Chauhan, C., Cleary, J. F., Epstein, A. S., Firn, J. I., Jones, J. A., Litzow, M. R., Lundquist, D. M., Mardones, M. A., Nipp, R. D., Rabow, M. W., Rosa, W. E., Zimmermann, C., & Ferrell, B. R. (2024). Palliative Care for Patients with Cancer: ASCO guideline Update. *Journal of Clinical Oncology*, *42*(19), 2336–2357. https://doi.org/10.1200/JCO.24.00542
11. Schnipper, L. E., Smith, T. J., Raghavan, D., Blayney, D. W., Ganz, P. A., Mulvey, T. M., & Wollins, D. S. (2012). American Society of Clinical Oncology Identifies Five Key Opportunities to Improve Care and Reduce costs: The Top Five List For Oncology. *Journal of Clinical Oncology: Official Journal of the American Society of Clinical Oncology*, *30*(14), 1715–1724. https://doi.org/10.1200/JCO.2012.42.8375
12. Siegel, R. L., Kratzer, T. B., Wagle, N. S., Sung, H., & Jemal, A. (2026). Cancer statistics, 2026. *CA: A Cancer Journal for Clinicians*, *76*(1), Article e70043. https://doi.org/10.3322/caac.70043
13. Woldie, I., Elfiki, T., Kulkarni, S., Springer, C., McArthur, E., & Freeman, N. (2022). Chemotherapy during the last 30 days of life and the role of palliative care referral, a single center experience. *BMC palliative care*, *21*(1), 20. https://doi.org/10.1186/s12904-022-00910-x

2.4 Performance Gap

Individual Clinician Performance (158 Entities)

ASCO evaluated performance on the "Percentage of Patients who Died with Cancer Receiving Systemic Cancer-Directed Therapy in the Last 14 Days of Life" measure. Using combined data from January 2023 to December 2024, the study included 158 physicians who met the minimum requirement of five eligible patients (refer to Sections 1.26 and 5.1.1 for details on sample size and testing).

Because this measure tracks aggressive treatment at the end of life, a lower percentage reflects stronger performance in end-of-life care. Results spanned from 0% to 40%, showing a broad spectrum in how physicians manage systemic therapy transitions. The mean performance was 10% (±7%) with a 95% confidence level of ±1%; the median was slightly lower at 10%.

The distribution shows a strong positive skew of 1.19, indicating that while many physicians are performing near or below the mean, there is a tail of entities with significantly higher rates of treatment near death. Notably, the mode is 0%, meaning that the most frequent outcome across individual physicians was a complete avoidance of systemic therapy in the final 14 days of life. These results show that while the highest-performing physicians (0%) have eliminated this intervention, those at the top of the range (40%) exceed the median rate of aggressive treatment by 319% (4.19 times). For physicians performing above the median, these results highlight a clear opportunity to reassess the timing of therapy cessation and ensure patients are transitioned to comfort-focused care.

ASCO also evaluated performance on the "Percentage of Patients who Died with Cancer Receiving Systemic Cancer-Directed Therapy in the Last 30 Days of Life" measure. Using combined data from January 2023 to December 2024, the study included 158 physicians who met the minimum requirement of five eligible patients (refer to Sections 1.26 and 5.1.1 for details on sample size and testing).

Because this measure tracks aggressive treatment at the end of life, a lower percentage reflects stronger performance in end-of-life care. Results spanned from 0% to 60%, showing a wide variation in how physicians manage the cessation of systemic therapy. The mean performance was 25% (±9%) with a 95% confidence level of ±1.5%; the median was slightly lower at 24%.

The distribution shows a moderate positive skew of 0.48, indicating that while many physicians are clustered around the mean, there is a distinct group with higher rates of treatment in the final month of life. Notably, the mode is 25%, meaning the most frequent outcome across individual physicians was that one-quarter of their patients received systemic therapy in their last 30 days. These results show that while the highest-performing physicians (0%) successfully avoided systemic interventions in this window, those at the top of the range (60%) exceed the median rate of aggressive treatment by 150% (2.5 times). For physicians performing above the median, these

results highlight a clear opportunity to improve the transition to palliative care and reduce the utilization of aggressive therapies as death approaches.

Practice Performance (10 Entities)

ASCO evaluated performance on the "Percentage of Patients who Died with Cancer Receiving Systemic Cancer-Directed Therapy in the Last 14 Days of Life" measure. Using combined data from January 2023 to December 2024, the study included 10 practices that met the minimum requirement of five eligible patients (refer to Sections 1.26 and 5.1.1 for details on sample size and testing).

Because this measure tracks aggressive treatment at the end of life, a lower percentage reflects stronger performance in end-of-life care. Results spanned from 6% to 12%, showing a relatively narrow spectrum in how these practices manage systemic therapy transitions. The mean performance was 10% (±2%) with a 95% confidence level of ±1%; the median was identical to the mean at 10%.

The distribution shows a negative skew of -0.71, indicating that the tail of the distribution extends toward the lower (better-performing) percentages, though the majority of scores are clustered near the higher end of this specific range. Notably, there was no single mode recorded, meaning no specific performance rate occurred more frequently than others in this sample.

These results show that while the highest-performing practices in this group reached a rate of 6%, those at the top of the range (12%) exceed the median rate of aggressive treatment by 20% (1.2 times). For practices performing above the median, these results highlight a continued opportunity to reassess the timing of therapy cessation and ensure patients are transitioned to comfort-focused care.

ASCO also evaluated performance on the "Percentage of Patients who Died with Cancer Receiving Systemic Cancer-Directed Therapy in the Last 30 Days of Life" measure. Using combined data from January 2023 to December 2024, the study included 10 practices that met the minimum requirement of five eligible patients (refer to Sections 1.26 and 5.1.1 for details on sample size and testing).
Because this measure tracks aggressive treatment at the end of life, a lower percentage reflects stronger performance in end-of-life care. Results spanned from 20% to 32%, showing a relatively narrow variation in how practices manage the cessation of systemic therapy. The mean performance was 25% (±4%) with a 95% confidence level of ±3%; the median was identical at 25%.
The distribution shows a slight positive skew of 0.22, indicating that while many practices are clustered around the mean, there is a small tail of entities with higher rates of treatment in the final month of life. Notably, there was no single mode recorded (#N/A), meaning no specific performance rate occurred more frequently than others in this sample.

These results show that while the highest-performing practices reached a rate of 20%, those at

the top of the range (32%) exceed the median rate of aggressive treatment by 28% (1.28 times). For practices performing above the median, these results highlight a clear opportunity to improve the transition to palliative care and reduce the utilization of aggressive therapies as death approaches.

Table 1. Performance Scores by Decile

Mean Performance Score by Decile (Percentage of Patients who Died with Cancer Receiving Systemic Cancer-Directed Therapy in the Last 14 Days of Life - Registry) - Clinician Level

	Overall	Min	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10	Max
Mean Performance Score	9.42%	0.00%	0.00%	2.59%	4.60%	6.09%	7.45%	8.81%	10.42%	12.11%	14.12%	21.84%	40.00%
Number of Entities	153	1	16	16	16	15	15	15	15	15	15	15	1
Number of Persons	10,268	5	247	1,113	1,027	1,119	1,036	1,009	952	1,059	1,217	1,489	5

Mean Performance Score by Decile (Percentage of Patients who Died with Cancer Receiving Systemic Cancer-Directed Therapy in the Last 30 Days of Life - Registry) - Clinician Level

	Overall	Min	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10	Max
Mean Performance Score	24.97%	0.00%	8.84%	15.68%	19.34%	21.92%	24.37%	27.20%	29.74%	32.14%	35.39%	45.63%	60.00%
Number of Entities	153	1	16	16	16	15	15	15	15	15	15	15	1
Number of Persons	10,268	5	1,223	911	1,018	837	955	1,263	1,029	864	1,327	841	5

Mean Performance Score by Decile (Percentage of Patients who Died with Cancer Receiving Systemic Cancer-Directed Therapy in the Last 14 Days of Life - Registry) - Practice Level

	Overall	Min	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10	Max
Mean Performance Score	9.80%	6.00%	6.00%	8.00%	9.00%	9.00%	10.00%	10.00%	11.00%	11.00%	12.00%	12.00%	12.00%
Number of Entities	10	1	1	1	1	1	1	1	1	1	1	1	1
Number of Persons	13,812	703	703	2,515	1,051	1,416	3,350	1,261	959	880	1,009	668	668

Mean Performance Score by Decile (Percentage of Patients who Died with Cancer Receiving Systemic Cancer-Directed Therapy in the Last 30 Days of Life - Registry) - Practice Level

	Overall	Min	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10	Max
Mean Performance Score	25.40%	20.00%	20.00%	21.00%	22.00%	24.00%	24.00%	26.00%	27.00%	29.00%	29.00%	32.00%	32.00%
Number of Entities	10	1	1	1	1	1	1	1	1	1	1	1	1
Number of Persons	13,812	703	703	1,416	1,051	959	2,515	3,350	1,009	880	1,261	668	668

2.6 Meaningfulness to Target Population

ASCO's end-of-life quality measures were originally developed in 2003 using a patient-centered methodology to capture outcomes meaningful to those with advanced illness (Earle et al., 2003). This included:

- Focus groups consisting of patients with incurable cancer and family members of deceased patients. These participants identified and vetted potential EOL quality measures to ensure they reflected patient-centered priorities.
- Expert Consensus: A multidisciplinary expert panel applied a modified Delphi approach to rank the importance and meaningfulness of potential measures based on the focus group input. Measures that did not resonate with patient and family values (such as those focused solely on economic efficiency) were excluded.
- Literature searches.

ASCO has continued to integrate the patient and caregiver voice into the current versions of these measures:

- Expert Panel Participation: A family caregiver representative served as a formal member of the 2023–2024 ASCO EOL Expert Panel, providing direct input during the review and updating of the measures.
- May 2025 Public Comment Period: Following the updates, ASCO held a public comment period to ensure the measures remained valuable to stakeholders. Of the respondents, which included a patient representative, a significant majority agreed that the measures effectively differentiate between high- and low-quality care and assess what they intend to assess (i.e., quality of end-of-life care). The patient representative specifically "strongly agreed" that 1) this measure captures what it intends to capture , i.e., promoting early palliative care among dying patients and reducing aggressive interventions at the end of patients' lives and 2) this measure differentiates good from poor quality care among providers of healthcare services.

References:

Earle, C. C., Park, E. R., Lai, B., Weeks, J. C., Ayanian, J. Z., & Block, S. (2003). Identifying potential indicators of the quality of end-of-life cancer care from administrative data. *Journal of Clinical Oncology: Official Journal of the American Society of Clinical Oncology*, *21*(6), 1133–1138. https://doi.org/10.1200/JCO.2003.03.059

3.1 Contributions Towards Closing Care Gaps

A recent systematic review and meta-analysis looked at aggressive EOL cancer care among ~2.7 million patients across 129 studies, and found that aggressive EOL care is a common global practice (Ma et al., 2024):

- Repeated hospital admissions (>1) in the last 30 days of life: 17.9%.
- Repeated emergency room visits (>1) in the last 30 days of life: 14.8%.
- Intensive care unit (ICU) stays in the last 30 days of life: 14.4%.
- Hospice enrollment less than 3 days before death: 14.4%.
- **Chemotherapy in the last 14 days of life: 11.6%.**

Additionally, of the studies using a composite score, more than half of the patients experienced at least one measure of aggressive care at the end of their lives. The research also showed that patients with hematologic malignancies were significantly more likely to receive aggressive care, including higher rates of late hospice enrollment, ICU stays, and chemotherapy in the last weeks of life, compared to those with solid tumors (Ma et al., 2024).

Another study analyzed EMR data from ~60,000 patients with advanced cancer who died between 2015 and 2019 and found that over 30 percent of patients received systemic treatment within 30 days of death (Canavan et al., 2023). Study authors found disparities as well; White patients were more likely to receive EOL systemic therapy within 30 days of death than Black patients (36.6% v 32.7% [P<.001]) and within 14 days of death (15.7% v 13.6% [P < .001]). Commercially insured patients were more likely to receive EOL systemic therapy within 30- and 14-days compared with those covered by Medicare or Medicaid (30-day rates were 43.3% v 37.3% and 37.0%, respectively (P <.001), and 14-day rates were 18.6% v 15.6% and 14.9%, respectively (P < .001)) (Canavan et al., 2023). A retrospective cohort study looked at EMR data from deceased adult patients with cancer and found that ~12 percent received cancer treatment in the last two weeks of life. Among these 92 patients, almost 60% had metastatic disease and 60% died in the hospital. Only about 30 % had advanced directives or dedicated palliative care that lasted longer than one week (Wilkerson et al., 2021).

CMS launched the Enhancing Oncology Model (EOM) in July 2023. EOM is a voluntary, episode-based model that 44 oncology practices treating patients with high-risk cancer participate in. Per the *2025 Enhancing Oncology Model – First Evaluation Report*, both EOM and non-EOM practices had a high share of episodes where patients received systemic cancer-directed treatment in the last 14 days of life (16.8% and 15.6% respectively), indicating room for improvement on this measure (CMS, 2025).

References:

1. Canavan, M., Wang, X., Ascha, M., Miksad, R., Showalter, T. N., Calip, G., Gross, C. P., & Adelson, K. (2023). End-of-Life Systemic Oncologic Treatment in the Immunotherapy Era: The Role of Race, Insurance, and Practice Setting. *Journal of Clinical Oncology: Official Journal of the American Society of Clinical Oncology*, *41*(30), 4729–4738. https://doi.org/10.1200/JCO.22.02180

2. Centers for Medicare & Medicaid Services. (2025). *EOM First Evaluation Main Report*. https://www.cms.gov/priorities/innovation/data-and-reports/2025/eom-1st-eval-report
3. Ma, Z., Li, H., Zhang, Y., Zhang, L., Huang, G., Zhang, Y., Shi, L., Liu, W., An, Z., & Guan, X. (2024). Prevalence of aggressive care among patients with cancer near the end of life: a systematic review and meta-analysis. *EClinicalMedicine*, *71*, 102561. https://doi.org/10.1016/j.eclinm.2024.102561
4. Wilkerson, D. H., Santos, J. L., Tan, X., & Gomez, T. H. (2021). Too Much Too Late? Chemotherapy Administration at the End of Life: A Retrospective Observational Study. *The American journal of hospice & palliative care*, *38*(10), 1182–1188. https://doi.org/10.1177/1049909120966619

4.1a Data Structure and Availability

The measure is designated as a Clinical Quality Measure (CQM), with all underlying data elements fully aligned with USCDI (United States Core Data for Interoperability) and USCDI+ Quality standard definitions. Calculation is performed via digital methodology, utilizing electronic sources where key data elements are captured within defined, structured fields.

4.1b Implementation Costs and Burden

The measure’s high level of utilization and successful reporting within the Merit-based Incentive Payment System (MIPS) demonstrate its low administrative burden and overall ease of reporting. By adhering to the national interoperability standards and leveraging existing electronic data fields, the measure ensures high data fidelity and standardized reporting across clinical environments.

4.1c Confidentiality

Data collection for this measure is conducted in strict accordance with HIPAA Privacy and Security Rules. Confidentiality is maintained because the measure utilizes de-identified Electronic Health Record (EHR) data sourced from clinical systems. Direct identifiers are removed or masked prior to the data being made available for measure calculation, ensuring that the analysis remains focused on clinical patterns and outcomes rather than individual patient identities.

To mitigate the risk of re-identification in small patient populations (the "Small N" problem), a minimum threshold of five (5) patients is suggested for performance reporting. This recommended suppression guideline is intended to prevent "deductive disclosure," where an individual’s identity could potentially be inferred from a very small data set or outlier results within a specific clinical facility. By suggesting this minimum volume, the measure balances the need for transparent, data-driven reporting with the highest standards of patient privacy.

Finally, confidentiality risks associated with patient surveys are not applicable to this measure, as it relies entirely on clinical data extracted from EHRs with no direct patient interaction or survey-based data collection.

4.3 Feasibility Informed Final Measure

The continued use of the measure reflects a mature, data-driven tool that leverages existing electronic health record capabilities to ensure efficient reporting and reliable performance. This long-standing measure is fully optimized for contemporary clinical environments.

4.4 Proprietary Information

Proprietary measure or components with fees

4.4a Fees, Licensing, or Other Requirements

As the world's leading professional organization for physicians and others engaged in clinical cancer research and cancer patient care, American Society of Clinical Oncology, Inc. ("Society") and its affiliates1 publishes and presents a wide range of oncologist-approved cancer information, educational and practice tools, and other content. The ASCO trademarks, including without limitation ASCO®, American Society of Clinical Oncology®, JCO®, Journal of Clinical Oncology®, Cancer.Net™, QOPI®, QOPI Certification Program™, and Conquer Cancer®, are among the most highly respected trademarks in the fields of cancer research, oncology education, patient information, and quality care. This outstanding reputation is due in large part to the contributions of ASCO members and volunteers. Any goodwill or commercial benefit from the use of ASCO content and trademarks will therefore accrue to the Society and its respective affiliates and further their tax-exempt charitable missions. Any use of ASCO content and trademarks that may depreciate their reputation and value will be prohibited.

ASCO does not charge a licensing fee to not-for-profit hospitals, healthcare systems, or practices to use the measure for quality improvement, research or reporting to federal programs. ASCO encourage all of these not-for-profit users to obtain a measure library license so ASCO can:

- Keep users informed about measure updates and/or changes
- Learn from measure users about any implementation challenges to inform future measure updates and/or changes
- Track measure utilization (outside of federal reporting programs) and performance rates

ASCO has adopted the Council of Medical Specialty Society's Code for Interactions with Companies (https://cmss.org/wp-content/uploads/2026/04/CMSS-Code-for-Interactions-...), which provides guidance on interactions with for-profit entities that develop produce, market or distribute drugs, devices, services or therapies used to diagnose, treat, monitor, manage, and alleviate health conditions. The Society's Board of Directors has set Licensing Standards of American Society of Clinical Oncology (https://cdn.bfldr.com/KOIHB2Q3/as/bsrth8mwgbsrpvrsbt6gxqb/2023-ASCO-Lic...) to guide all licensing arrangements.

In addition, ASCO has adopted the Council of Medical Specialty Society's Policy on Antitrust Compliance (https://cmss.org/statements/cmss-policy-on-antitrust-compliance/), which provided guidance on compliance with all laws applicable to its programs and activities, specifically including federal and state antitrust laws, including guidance to not discuss, communicate, or make announcements about fixing prices, allocating customers or markets, or unreasonably restraining trade.

5.1.1 Data Used for Testing

Testing for this measure was conducted using Electronic Health Record (EHR) data sourced from The US Oncology Network (USON)/McKesson databases. This data provided comprehensive national geographic coverage, spanning urban, suburban, and rural regions. The analysis included a total of 158 physicians and 10 practices identified within the USON network.

5.1.1a Dates of Testing Data

The testing period for both data sources encompassed the timeframe from January 1, 2023, to December 31, 2024. This two-year window ensures the measure was validated against the most current coding standards and clinical practice patterns, providing a stable and contemporary baseline for analysis.

5.1.2 Differences in Data

There are specific differences in the sample sizes used for various aspects of testing, driven by the clinical sensitivity of the measure and the statistical requirements of the analysis:

Performance Gap and Validity Testing

Threshold: Entities with a minimum of five (5) patients meeting the measure denominator.

Sample Size:

- At the individual clinician level, the analysis included 158 reporting entities (derived from USON/McKesson Electronic Health Record (EHR) data, Jan 1, 2023 – Dec 31, 2024).
- At the practice level, the analysis included 10 reporting entities (derived from USON/McKesson Electronic Health Record (EHR) data, Jan 1, 2023 – Dec 31, 2024).

Rationale: This is an end-of-life systemic cancer directed therapy utilization measure. Because harmful systemic cancer directed therapy in the last days of life is a critical quality indicator in oncology, ASCO determined that "each patient matters" in the assessment of care delivery. A lower threshold of $N \geq 5$ was utilized to prioritize "Visibility over Volatility."

- **Health Equity:** Utilizing a broader inclusion criteria prevents quality "blind spots" in community-based or rural oncology settings where EOL events are significant but may occur

less frequently. High thresholds would effectively penalize these practices by making their care invisible to the measure.
- **Clinical Significance:** While smaller denominators inherently have a higher standard error, the clinical priority of avoiding systemic cancer directed therapy in the last days of life outweighs the statistical risk of "noisy" scores at the individual entity level.

Reliability Testing

Threshold: Entities with a minimum of twelve (12) patients meeting the measure denominator.

Sample Size:

- At the individual clinician level, the analysis included 147 reporting entities (a subset of the EHR dataset described above).
- For practice-level reporting, 10 entities were identified. This group represents the full aggregate of the aforementioned cohort, as all practices met or exceeded the 12-patient minimum threshold.

Rationale: A higher threshold of N ≥ 12 was applied specifically for reliability testing to maintain psychometric rigor.

- **Signal-to-Noise Ratio:** For a measure's reliability coefficient (Beta) to be stable, there must be enough patient volume to distinguish true clinical variation from random statistical noise.
- **Instrument Validation:** Using these 271 higher-volume entities ensures that the reliability of the "measurement instrument" itself is validated on a stable data set before being applied to the broader clinical population.

Exclusions and Risk Adjustment

No other differences in data sources or timeframes were utilized for exclusions or risk-adjustment testing.

5.1.3 Characteristics of Measured Entities

Performance on this measure was assessed for a cohort of 158 physicians and 10 practices affiliated with the US Oncology Network (USON)/McKesson across the United States.

5.1.4 Characteristics of Units of the Eligible Population

To ensure patient privacy, characteristics of the eligible population were not attributed to specific practices or physicians. We obtained aggregate demographic data from USON for patients who reported gender and race; the demographic profile for the overall sample is detailed in the tables

below.

Characteristic	Category	Patient Count (n)	Percentage (%)
Gender (N=9,023)	Male	4,999	55.4%
	Female	4,024	44.6%
Race (N=8,468)	White	7,010	82.8%
	Black or African American	436	5.1%
	Other	305	3.6%
	Asian	149	1.8%
	American Indian or Alaska Native	30	0.4%
	Native Hawaiian or Other Pacific Islander	11	0.1%
	Declined to Specify	520	6.1%
	Unknown	7	0.1%

Note: *Race data was available for 93.8% (n=8,468) of the total eligible population (N=9,023). The discrepancy reflects instances of missing or undocumented values in the source dataset and does not impact the statistical integrity of the overall analysis.*

5.2.1 Level(s) of Reliability Testing Conducted

Person or encounter level (i.e., data element) (e.g., inter–abstractor reliability), Accountable entity level (i.e., measure score) (e.g., signal-to-noise analysis)

5.2.2 Method(s) of Reliability Testing

Person or Encounter Level (Data Element) Testing

Firstly, To verify the reliability of the data elements in this measure, a random sample of 105 patients was selected across 8 different test sites. Scoring for each data element was performed by both a measure abstractor and an automated algorithm, with the Kappa statistic used to evaluate the level of agreement between the two methods. The denominator, numerator, denominator exception, and numerator exception data elements were assessed for all 105 patients.

Accountable Entity Level (Measure Score) Testing

Secondly, An assessment of the measure's reliability was performed through the utilization of signal-to-noise analysis, a method that determines the precision of the actual construct in comparison to the random variation. The signal-to-noise ratio is determined by calculating the ratio of between-unit variance to total variance. This analysis provides valuable insight into the measure's reliability and its ability to produce consistent results by describing how well one can

confidently distinguish the performance of one clinician from another.

Based on the hierarchical modeling approach for provider profiling, the following steps were taken:

- **Data Aggregation:** Patient-level data were captured as binary (pass/fail) events and aggregated to the clinician level to determine the numerator and denominator for each physician.
- **Model Selection:** We utilized a Beta-Binomial model, which is the natural fit for estimating the reliability of simple pass/fail rate measures.
- **Variance Partitioning:** The model partitioned the total observed variability in practice scores into two components: between-unit variance (the "signal," or true differences in physician quality) and within-unit variance (the "noise," or random sampling error).
- **Reliability Calculation:** For each clinician, a reliability coefficient (R) was calculated using the ratio of the estimated provider-to-provider variance to the sum of the provider-to-provider variance and the binomial error variance (p(1-p)/n).
- **Threshold Application:** The analysis focused on identifying the stability of these scores for physicians meeting a minimum patient count of 12.

5.2.3 Reliability Testing Results

Person or Encounter Level (Data Element) Testing

Percentage of Patients who Died with Cancer Receiving Systemic Cancer-Directed Therapy in the Last 14 Days of Life

Measure Data Element	Kappa Estimate	Standard Error	95% Confidence Limits	
Denominator	1.000	0.0000	1.0000	1.0000
Numerator	0.9619	0.0187	0.9053	0.9895
Denominator Exception	1.0000	0.0000	1.0000	1.0000
Numerator Exception	0.9905	0.0095	0.9481	0.9998

Percentage of Patients who Died with Cancer Receiving Systemic Cancer-Directed Therapy in the Last 30 Days of Life

Measure Data Element	Kappa Estimate	Standard Error	95% Confidence Limits	
Denominator	1.000	0.0000	1.0000	1.0000
Numerator	0.9619	0.0187	0.9053	0.9895
Denominator Exception	1.0000	0.0000	1.0000	1.0000
Numerator Exception	0.9905	0.0095	0.9481	0.9998

Accountable Entity Level (Measure Score) Testing

At the clinician level, the 14-day measure yielded an overall reliability of 0.446, with all deciles

(0.275–0.584) falling below the 0.60 threshold alongside a mean performance of 9.9%. The 30-day clinician-level measure demonstrated an overall reliability of 0.468 (range 0.218–0.647), where only the highest volume decile exceeded the 0.60 benchmark as mean performance rose to 24.8%. Reliability scores improved significantly when aggregated at the practice level; the 14-day measure reached an overall score of 0.685 (range 0.513–0.864) and met the 0.60 threshold from Decile 3 onward. The 30-day practice-level measure showed the highest stability with an overall reliability of 0.860, with every decile (0.762–0.947) exceeding the 0.60 reporting standard at a mean performance rate of 25.4%.

5.2.4 Interpretation of Reliability Results

Person or Encounter Level (Data Element) Testing

The results show very strong agreement across all data elements. The measure abstractor and the automated algorithm agreed completely on the Denominator and Denominator Exception, scoring a perfect 1.0. Agreement was also nearly perfect for the Numerator (0.9619) and Numerator Exception (0.9905). This high level of agreement is directly attributable to the long-standing operationalization of these measures. Rather than relying on subjective clinical interpretation or manual abstraction, these measures are built upon highly specific, structured data fields that have been refined over several years of use. By utilizing standardized coding sets and discrete data elements, these measures eliminate the "noise" typically associated with human error or varying clinical documentation styles.

Accountable Entity Level (Measure Score) Testing

Percentage of Patients who Died with Cancer Receiving Systemic Cancer-Directed Therapy in the Last 14 Days of Life - Clinician Level
This measure shows moderate reliability (0.446), indicating noisy clinician-level data. Reliability scales with volume from 0.275 to 0.584, remaining below the 0.60 accepted threshold for high-stakes reporting. Despite a 9.9% mean performance (8.8%–12.7% range) suggesting practice variation, the moderate reliability warrants caution when ranking individual clinicians.

Percentage of Patients who Died with Cancer Receiving Systemic Cancer-Directed Therapy in the Last 30 Days of Life - Clinician Level
Reliability for the 30-day measure is slightly higher (0.468) but remains noisy overall. However, reliability scales from 0.218 to 0.647, with high-volume clinicians in Decile 10 successfully exceeding the 0.60 threshold. Mean performance rose to 24.8% (23.4%–28.2% range). While high-volume data is more stable, overall moderate reliability still warrants caution when using this measure for definitive accountability.

Percentage of Patients who Died with Cancer Receiving Systemic Cancer-Directed

Therapy in the Last 14 Days of Life - Practice Level

At the practice level, the 14-day measure demonstrates significantly higher stability with an overall reliability of 0.685, comfortably exceeding the 0.60 threshold for performance reporting. Reliability scales from 0.513 in the lowest decile to 0.864 in the highest. Notably, from Decile 3 onward, all practices meet or exceed the 0.60 standard, and the top three deciles (Deciles 8–10) achieve high-confidence scores above 0.74. These results suggest the measure is very robust for accountability and definitive ranking when aggregated at the practice level with greater patient numbers.

Percentage of Patients who Died with Cancer Receiving Systemic Cancer-Directed Therapy in the Last 30 Days of Life - Practice Level

The 30-day practice-level measure demonstrates excellent overall reliability (0.86), with every decile significantly exceeding the 0.60 threshold. Reliability remains exceptionally robust across the sample, ranging from a minimum of 0.762 to a maximum of 0.947, indicating that nearly all observed variation reflects true differences in clinical practice rather than random noise. With a mean performance score of 25.4%, these results are highly stable and well-suited for high-stakes reporting, definitive ranking, and practice-level accountability.

Table 2a. Accountable Entity Level Reliability Testing Results by Denominator, Target Population Size

Reliability and Performance Score by Denominator Decile: Percentage of Patients who Died with Cancer Receiving Systemic Cancer-Directed Therapy in the Last 14 Days of Life (Registry version), Clinician Level, Jan 2023 – Dec 2024

	Overall	Min	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10	Max
Reliability	0.446	0.57	0.275	0.342	0.366	0.365	0.463	0.449	0.536	0.549	0.552	0.584	0.599
Mean Performance Score	9.9%	4.0%	12.7%	10.5%	9.4%	11.2%	8.8%	9.3%	8.8%	8.8%	9.5%	10.4%	16.0%
Number of Entities	147	2	15	15	15	15	15	15	15	14	14	14	1
Number of Persons	8,939	24	272	415	524	665	830	943	1,093	1,184	1,308	1,705	195

Reliability and Performance Score by Denominator Decile: Percentage of Patients who Died with Cancer Receiving Systemic Cancer-Directed Therapy in the Last 30 Days of Life (Registry version), Clinician Level, Jan 2023 – Dec 2024

	Overall	Min	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10	Max
Reliability	0.468	0.132	0.218	0.301	0.334	0.38	0.439	0.49	0.528	0.569	0.595	0.647	0.703

Mean Performance Score	24.8%	33.0%	28.2%	23.4%	24.4%	25.1%	24.2%	24.4%	24.5%	26.2%	24.6%	26.1%	37.0%
Number of Entities	147	2	15	15	15	15	15	15	15	14	14	14	1
Number of Persons	8,939	24	272	415	524	665	830	943	1,093	1,184	1,308	1,705	195

Reliability and Performance Score by Denominator Decile: Percentage of Patients who Died with Cancer Receiving Systemic Cancer-Directed Therapy in the Last 14 Days of Life (Registry version), Practice Level, Jan 2023 – Dec 2024

	Overall	Min	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10	Max
Reliability	0.685	0.513	0.513	0.665	0.597	0.623	0.62	0.686	0.695	0.74	0.847	0.864	0.864
Mean Performance Score	9.8%	12.0%	12.0%	6.0%	11.0%	11.0%	12.0%	9.0%	10.0%	9.0%	8.0%	10.0%	10.0%
Number of Entities	10	1	1	1	1	1	1	1	1	1	1	1	1
Number of Persons	13,812	668	668	703	880	959	1,009	1,051	1,261	1,416	2,515	3,350	3,350

Reliability and Performance Score by Denominator Decile: Percentage of Patients who Died with Cancer Receiving Systemic Cancer-Directed Therapy in the Last 30 Days of Life (Registry version), Practice Level, Jan 2023 – Dec 2024

	Overall	Min	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10	Max
Reliability	0.86	0.762	0.762	0.821	0.818	0.846	0.843	0.864	0.864	0.898	0.935	0.947	0.947
Mean Performance Score	25.4%	32.0%	32.0%	20.0%	29.0%	24.0%	27.0%	22.0%	29.0%	21.0%	24.0%	26.0%	26.0%
Number of Entities	10	1	1	1	1	1	1	1	1	1	1	1	1
Number of Persons	13,812	668	668	703	880	959	1,009	1,051	1,261	1,416	2,515	3,350	3,350

Table 2b. Accountable Entity Level Reliability Testing Results by Reliability Score

Percentage of Patients who Died with Cancer Receiving Systemic Cancer-Directed Therapy in the Last 14 Days of Life - Clinician Level

	Overall	Min	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10	Max
Reliability	0.446	0.059	0.138	0.221	0.297	0.371	0.432	0.46	0.512	0.583	0.638	0.855	1

Percentage of Patients who Died with Cancer Receiving Systemic Cancer-Directed Therapy in the Last 30 Days of Life - Clinician Level

	Overall	Min	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10	Max
Reliability	0.468	0.132	0.18	0.277	0.334	0.385	0.433	0.485	0.54	0.582	0.627	0.71	0.761

Percentage of Patients who Died with Cancer Receiving Systemic Cancer-Directed Therapy in the Last 14 Days of Life - Practice Level

	Overall	Min	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10	Max
Reliability	0.685	0.513	0.513	0.597	0.62	0.623	0.665	0.686	0.695	0.74	0.847	0.864	0.864

Percentage of Patients who Died with Cancer Receiving Systemic Cancer-Directed Therapy in the Last 30 Days of Life - Practice Level

	Overall	Min	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10	Max
Reliability	0.86	0.762	0.762	0.818	0.821	0.843	0.846	0.864	0.864	0.898	0.935	0.947	0.947

5.3.1 Level(s) of Validity Testing Conducted

Accountable entity level (i.e., measure score) (e.g., criterion validity)

5.3.2 Type of Accountable Entity Level Validity Testing Conducted

Empirical validity testing at the accountable entity-level (e.g., criterion validity, construct validity, known groups analysis)

5.3.3 Method(s) of Validity Testing

We evaluated the construct validity of three oncology performance measures focused on end-of-life care at both the physician and practice levels. By examining the Pearson correlation coefficients and their statistical significance, we determined whether the empirical relationships reliably align with expected clinical logic and theoretical frameworks regarding end-of-life care pathways.

Measures Evaluated

1. **Hospice ≥ 3 Days:** Percentage of patients who died with cancer enrolled in hospice for at least 3 days immediately before death.
2. **Therapy Last 14 Days:** Percentage of patients who died with cancer receiving systemic cancer-directed therapy in the last 14 days of life.
3. **Therapy Last 30 Days:** Percentage of patients who died with cancer receiving systemic cancer-directed therapy in the last 30 days of life.

Physician-Level Analysis (N = 158)

Hypothesized Relationships

At the individual provider level, we expect a convergent (positive) relationship between the two aggressive systemic therapy measures, and a divergent/inverse (negative) relationship between meaningful hospice enrollment and end-of-life systemic therapy.

Practice-Level Analysis (N = 10)

Hypothesized Relationships

Consistent with the physician-level analysis, we expect practices with a high propensity to administer late systemic therapy to show strong positive correlations between the two therapy timelines, and strong negative correlations regarding timely hospice enrollment, as meaningful hospice care requires the cessation of curative therapies.

5.3.4 Validity Testing Results

Physician-Level Analysis (N = 158)

Empirical Findings & Significance

- **Evidence of Convergent Validity (Therapy vs. Therapy)**
  - **Result:** A strong, highly significant positive correlation ($r = 0.6669$, $p < 0.0001$) exists between Therapy Last 14 Days and Therapy Last 30 Days.
  - **Interpretation:** Individual physicians who tend to prescribe systemic therapy within the last month of life are also highly likely to prescribe it within the final two weeks of life. The incredibly low p-value confirms with near absolute certainty that these two measures are capturing the same underlying physician behavioral construct regarding aggressive end-of-life treatment.
- **Evidence of Divergent/Inverse Validity (Hospice vs. Therapy)**
  - **Result:** Statistically significant negative correlations were observed between Hospice ≥ 3 Days and both systemic therapy measures ($r = -0.2478$, $p = 0.0017$ for 14 Days; $r = -0.1950$, $p = 0.0141$ for 30 Days).
  - **Interpretation:** The relationships are highly statistically significant due to the large sample size. This confirms the clinical trade-off holds true at the provider level: physicians with a higher tendency to utilize late-stage systemic treatments systematically display lower rates of effectively transitioning patients to hospice care for at least 3 days prior to death.

Practice-Level Analysis (N = 10)

Empirical Findings & Significance

- **Evidence of Convergent Validity (Therapy vs. Therapy)**
  - **Result:** A strong, highly significant positive correlation ($r = 0.7998$, $p = 0.0055$) was observed between Therapy Last 14 Days and Therapy Last 30 Days.
  - **Interpretation:** As expected, practices that frequently administer systemic therapy in the final month of life also frequently administer it in the final two weeks. The high

statistical significance indicates there is less than a 1% probability that this strong alignment occurred by random chance.

- **Evidence of Divergent/Inverse Validity (Hospice vs. Therapy)**
  - **Result:** Strong, significant negative correlations were observed between the Hospice ≥ 3 Days measure and both therapy measures (r = -0.8045, p = 0.0050 for Therapy Last 30 Days; r = -0.6446, p = 0.0442 for Therapy Last 14 Days).
  - **Interpretation:** This inverse relationship provides excellent, statistically backed validation. It demonstrates that the measures successfully capture the clinical trade-off between palliative/hospice care and aggressive systemic treatment at the aggregate organizational level. Practices with higher utilization of end-of-life systemic therapy are demonstrably and non-randomly delaying or underutilizing hospice care.

5.3.4a Attach Additional Validity Testing Results

Scatterplots-and-Correlation-Matrices.pdf

5.3.5 Interpretation of Validity Results

Physician-Level Analysis (N = 158)

The analysis of 158 individual providers strongly supports the construct validity of these measures. The empirical data reliably reflects expected clinical pathways, demonstrating that timely hospice enrollment and late-stage systemic therapy act as competing, inverse clinical priorities at the physician level.

Practice-Level Analysis (N = 10)

The correlation data provides robust, statistically significant evidence for the construct validity of these three performance measures. Even with a smaller sample size of 10 practices, the strength of the clinical relationships drives highly significant results.

- **Overall Summary**
  Across both individual physician behaviors (N=158) and aggregated practice patterns (N=10), these three measures interact exactly as predicted by established clinical pathways. The empirical data mathematically and significantly reflects the reality that aggressive systemic treatment and timely hospice enrollment are competing clinical events. Stakeholders can be highly confident that these measures are accurately and reliably capturing valid dimensions of end-of-life oncology care quality across different levels of attribution.

5.4.1 Methods Used to Address Risk Factors

No risk adjustment or stratification

5.4.1b Rationale For No Adjustment or Stratification

The decision to maintain unadjusted performance scores for these end-of-life measures is rooted in the philosophy that quality palliative care and clinical stewardship represent universal standards that should not fluctuate based on patient complexity. Unlike outcomes heavily influenced by biological variance, metrics such as systemic therapy administration and ICU utilization reflect direct clinical decision-making and provider agency; therefore, risk adjustment could inadvertently "normalize" aggressive care by suggesting that medical complexity justifies a departure from palliative best practices. Furthermore, because these measures are calculated using a denominator of patients who have already deceased, the cohort is inherently characterized by high clinical risk, making additional adjustment statistically redundant and potentially misleading. By prioritizing unadjusted data, ASCO maintains a transparent view of the raw clinical reality, ensuring that gaps in service and health inequities remain visible rather than being masked by statistical smoothing. Ultimately, this approach upholds the principle that every patient, regardless of their diagnosis or comorbidities, deserves a timely transition to hospice and a coordinated, comfort-focused end-of-life experience.

6.1.1 Current Status

In use

6.1.2 Current or Planned Use(s)

Payment Program, Professional Certification or Recognition Program, Other

6.1.3 Program Details

Name of the program and sponsor
14-day version of the measure used in Merit-based Incentive Payment System (MIPS) reporting program, Center for Medicare and Medicaid Services (CMS)
URL of the program
https://qpp.cms.gov/mips/explore-measures
Purpose of the program

MIPS takes a comprehensive approach to payment by basing consideration of quality on a set of evidence-based measures that were primarily developed by clinicians, thus encouraging improvement in clinical practice and supporting advances in technology that allow for easy exchange of information.

Geographic area and percentage of accountable entities and patients included

MIPS eligible providers may earn performance-based payment adjustments for the services provided to Medicare patients in the USA. For the 2023 MIPS reporting year, 3,368 individual clinicians reported on MIPS 453. Of these, 3,288 practice in urban or suburban locations, while 80 practice in rural locations. The Northeast has the highest overall volume of reporting clinicians (2,300), led by New York with 1,775 practitioners and New Jersey with 508. Following the Northeast in total volume are the South (481), the West (330), and the Midwest (257). Notably, the South has the highest number of clinicians practicing at rural locations with 50, a concentration primarily driven by Arkansas (47).

Applicable level of analysis and care setting

Clinician/Group Level; Registry Data Source; Outpatient Services/Ambulatory Care Setting

6.1.4 Attributes for Accountability Use

1. Target Populations
The measure is applicable to adult patients (aged 18 and older) with a confirmed diagnosis of cancer.

2. Accountable Entities
Accountability is attributed at the level of the individual clinician or physician.

- Attribution Logic: Patients are attributed to the entity that provides the plurality of oncology-related services or manages the "episode of care" (e.g., the six-month period following the initiation of chemotherapy).
- Responsibility: The entity is held accountable for the patient's clinical outcomes, resource utilization (such as avoidable ER visits), and adherence to evidence-based pathways.

3. Care Settings
The primary care setting is the Outpatient Oncology Clinic, including:

- Community-based oncology practices.
- Hospital Outpatient Departments (HOPDs).
- Infusion Centers.

Note on Care Settings: *Clinical oncologists provide care within the outpatient setting; however, this measure set monitors related clinical outcomes across multiple sites of service. Evaluated events include, but are not limited to, inpatient/outpatient hospital infusions, ICU stays, and emergency department encounters stemming from complications of the outpatient treatment.*

6.2.1 Actions of Measured Entities to Improve Performance

There is evidence that there are interventions that can be put in place to reduce unnecessary systemic cancer-directed therapies in the last weeks of life:

- Patients with months to weeks to live should be provided with guidance regarding the anticipated course of the disease. Physicians should reassess prognostic awareness and goals of therapy. As functional status worsens, these patients may become more concerned about the side effects of cancer-directed treatment and consider focusing their care on maintaining quality of life. The option of discontinuing cancer treatment aligned with goals of care and initiating goal-directed supportive care should be discussed. (Category 2A) (NCCN, 2026)
- In general, patients with weeks to days to live (eg, dying patients) and comfort-oriented goals should discontinue all treatments not directly contributing to patient comfort. Intensive palliative care focusing on symptom management should be provided in addition to preparation for the dying process. Referral for hospice care should be placed, if not

already done. (Category 2A) (NCCN, 2026)

- Clinicians should refer patients with advanced solid tumors and hematologic malignancies to specialized interdisciplinary palliative care teams that provide inpatient and outpatient care early in the course of disease, alongside active treatment of their cancer. (Moderate, Strong) (Sanders et al., 2024)
- Don’t use cancer-directed therapy for solid tumor patients with the following characteristics: low performance status (3 or 4), no benefit from prior evidence-based interventions, and no strong evidence supporting the clinical value of further anti-cancer treatment. (Schnipper et al., 2012)
    - Cancer directed treatments are likely to be ineffective and more toxic for solid tumor patients who meet the above-stated criteria.
    - Exceptions may include when disease characteristics (e.g., an extremely chemo-sensitive tumor, or a sensitive and targetable alteration in the tumor) suggest a high likelihood of a response to therapy that may reverse functional limitations related to the cancer.
    - While this Choosing Wisely statement originally referred to cytotoxic chemotherapy, it also applies to novel, purportedly less-toxic treatments such as immunotherapy and off-label targeted therapy in patients who meet the above-stated criteria.

The below outlines the difficulty of the actions described above and how measured entities can overcome those difficulties:

Action	Difficulty Level	Why it is Difficult	How to Overcome

Providing guidance on disease trajectory, reassessing prognostic awareness, and discussing the discontinuation of treatment.	High	• Clinicians often feel inadequately trained to deliver bad news or navigate the "prognostic transition." There is a fear that being too honest will destroy a patient's hope. • Even in 2026, predicting the exact "months to weeks" window remains an imprecise science. Clinicians may wait for "perfect certainty" before having the talk, which often results in the talk happening too late. • These are not quick conversations. They require emotional space and time that the standard 15-minute oncology follow-up appointment does not provide.	• Implement mandatory training modules that give oncologists "scripts" for navigating these conversations. • Use a dedicated "Goals of Care" tab in the Electronic Health Record (EHR) to track these discussions. If the tab isn't updated every 30–60 days for advanced patients, the system can trigger a reminder. • Frame these talks as a standard part of high-quality care rather than a "crisis intervention."
Stopping all treatments not contributing to comfort, initiating intensive symptom management, and placing hospice referrals.	High	• Family members often view the cessation of therapy as "giving up" or "letting the patient die," leading to intense pressure on the physician to continue futile treatments. • Once a patient is on a systemic therapy cycle, it is logistically easier to keep the next appointment than it is to stop everything, coordinate hospice, and manage the emotional fallout. • Patients in the "weeks to days" phase often experience sudden symptoms (shortness of breath, pain) that lead them to the Emergency Room, where the default is "stabilize and treat" rather than "comfort and release."	• For hospitalized patients, a mandatory palliative care consult for any stage IV patient with an acute decline ensures that comfort is prioritized over further diagnostic testing. • Using non-physician staff to support the family's emotional transition helps the physician focus on the clinical transition to comfort meds. • Use prognostic tools and multidisciplinary team reviews (doctors, nurses, social workers) to assess decline more holistically.

Early Referral	Moderate	Shortage of specialist palliative care clinicians and the stigma that palliative care means "giving up." Clinician reluctance to initiate "hospice" talk, often due to a desire to pursue further curative lines of therapy.	In addition to physicians, oncology nurses can be positioned to provide primary palliative care and provide increased advance care planning with patients with advanced cancer (NCCN, 2026). The <NCCN> Panel emphasizes the importance of initiating or continuing advance care planning conversations and systematically reviewing advance care plans to ensure ongoing accuracy as illness or situation evolves. To avoid demeaning the value of end of life care, palliative and/or hospice care should not be framed as “giving up” but instead refocusing the care plan to achieve a better quality of life (NCCN, 2026) Frame hospice as an "extra layer of support" that maximizes quality of life (QOL) alongside or following treatment.
ACP Documentation	High	These conversations are time-intensive and clinicians often lack training in high-stakes communication.	Embed ACP templates in the EHR. Use a "primary care/oncology" shared model where social workers or nurses lead initial goals of care discussions.

References:

1. National Comprehensive Cancer Network. (2026). *NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®): Palliative Care* (Version 1.2026). https://www.nccn.org/guidelines/guidelines-detail?id=1454
2. Sanders, J. J., Temin, S., Ghoshal, A., Alesi, E. R., Ali, Z. V., Chauhan, C., Cleary, J. F., Epstein, A. S., Firn, J. I., Jones, J. A., Litzow, M. R., Lundquist, D. M., Mardones, M. A., Nipp, R. D., Rabow, M. W., Rosa, W. E., Zimmermann, C., & Ferrell, B. R. (2024). Palliative Care for Patients with Cancer: ASCO guideline Update. *Journal of Clinical Oncology*, *42*(19), 2336–2357. https://doi.org/10.1200/JCO.24.00542
3. Schnipper, L. E., Smith, T. J., Raghavan, D., Blayney, D. W., Ganz, P. A., Mulvey, T. M., & Wollins, D. S. (2012). American Society of Clinical Oncology Identifies Five Key Opportunities to Improve Care and Reduce costs: The Top Five List For Oncology. *Journal of Clinical Oncology: Official Journal of the American Society of Clinical Oncology*, *30*(14), 1715–1724. https://doi.org/10.1200/JCO.2012.42.8375

6.2.2 Feedback on Measure Performance

ASCO has not received any feedback on measure performance or implementation.

6.2.3 Consideration of Measure Feedback

N/A

6.2.4 Progress on Improvement

Per the 2024-2026 MIPS Quality Benchmark reports, the average performance rates on the 14-day version of this registry measure are 10.71 (2024), 10.74 (2025), and 8.37 (2026) (CMS, n.d.), indicating modest improvements in the most recent year. Since the updated measure has exceptions for patients getting stem cell transplants and/or CART T-cell therapy and exclusions for patients getting hydroxyurea and/or BTK inhibitors, we anticipate performance rates will continue to improve. However, the 30-day version of the measure will have more substantive gaps.

Centers for Medicare & Medicaid Services. (n.d.). *2024-2026 Quality Benchmarks*. Quality Payment Program. https://qpp.cms.gov/reporting-requirements/measures-activities/benchmarks

6.2.5 Unexpected Findings

As part of its May 2025 call for public comments on ASCO's updated EOL measures, ASCO did receive feedback from respondents to add more exclusions and exceptions for treatment intent, clinical trial enrollment, patient preferences, and barriers to access palliative care and hospice. ASCO's End of Life Measures Technical Expert Panel emphasizes that performance is not expected to be perfect on these quality measures. A margin of error should be expected to account for the above.

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