

Enhancing Oncology Model Measure Specifications

EOM-1: Admissions and Emergency Department Visits for Patients Receiving Outpatient Chemotherapy (Respecified OP-35)

Note: This specification will be used by CMS for calculating claims-based measures.

SUMMARY OF CHANGES FROM OP-35 SPECIFICATIONS

- The change in attribution of patients from outpatient hospital department in the original OP-35 measure to provider in respecified measure resulted in an expansion of eligible chemotherapy claims to include provider claims and Part D claims. The original OP-35 measure identified chemotherapy events based on ICD-10, Revenue Center, and CPT/HCPCS codes in Medicare Part B claims from hospital outpatient centers. For the respecified measure, the number of ways chemotherapy events were identified expanded, and can be summarized in three categories: (1) The same ICD-10, Revenue Center, and CPT/HCPCS codes from the original measure were also identified in carrier and DME claims; (2) Additional HCPCS codes were used to find chemotherapy events in IP/OP, carrier, and DME claims; and (3) National Drug Codes (NDC) were used to find chemotherapy events in Part D claims.
- The original OP-35 measure excluded chronic leukemia patients while the respecified measure includes chronic leukemia as a qualifying cancer type.
- The original OP-35 measure had a requirement for one year of continuous Medicare Part A and B enrollment prior to a qualifying chemotherapy, but the respecified measure eliminates this requirement. In the respecified measure, risk factors were drawn from any available claims starting one year prior to the start of each patient's episode, and an indicator variable for whether a patient has less than one year of Medicare Part A and B enrollment was added to the risk model.

Description

The Centers for Medicare & Medicaid Services (CMS), through its Center for Medicare and Medicaid Innovation (The Innovation Center), respecified a quality measure to assess complications occurring for cancer patients receiving outpatient chemotherapy. This measure is intended for practices participating in the Enhancing Oncology Model (EOM).

Measure Scoring

Proportion of patients with at least one outcome event during a six-month episode period

Measure Type

Outcome

Improvement Notation

Low scores indicate better quality

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Definitions

Beneficiary Enrollment Data: A dataset that is used for the determination of the Part-A/B enrollment status and FFS status

Measure Cohort: Group of acute encounters included in the measure.

Enhancing Oncology Model (EOM): An Innovation Center model designed to drive transformation in oncology care by preserving or enhancing the quality of care furnished to beneficiaries undergoing treatment for cancer while reducing program spending under Medicare FFS.

Outcome: Result of care or endpoint in care (i.e., what happens to the patient) specific to this quality measure. In this measure, the outcome is defined as a patient receiving follow-up care in an inpatient hospitalization or ED visit/observation stay for one of ten conditions.

Medicare Fee-for-Service (FFS): A system of health care payment in which a provider is paid for each service they perform. These individuals have Medicare Part A and Part B healthcare coverage.

Risk Adjustment: Statistical model within a measure that accounts for how sick patients are so that providers can be fairly compared to each other, even if one provider takes care of patients who are sicker. The risk-adjustment model intends to “adjust for” factors so that differences in performance on the measure are due to quality of care rather than patient and provider characteristics. The goal of risk adjustment is to make the comparison of providers fairer and more meaningful

Guidance

The OP-35 Respecification Measure is part of the pay-for-performance quality measures for the EOM, which aims to drive transformation and improve care coordination in oncology care by preserving and enhancing the quality of care provided to beneficiaries undergoing treatment for cancer while reducing program spending under Medicare fee-for-service. The measure is claims-based and low-burden to align with this intent of the EOM, and reporting will not pose an additional cost to providers.

This is a patient-episode based measure and not a chemotherapy event measure. The outcomes are reported once per patient-episode per outcome and are dichotomous: Yes/No the patient had at least one chemotherapy-related inpatient hospitalization and Yes/No the patient had at least one chemotherapy-related ED visit or outpatient observation stay without having an inpatient hospitalization.

In order to allow for follow-up periods of equal duration after chemotherapy events, only chemo events occurring 31 or more days before the end of episode will be considered qualifying chemo events that trigger a 30-day outcome assessment period.

Initial Population

The population for this measure is Medicare Fee-for-Service (FFS) beneficiaries (patients) aged 18 years or older at the start of an episode.

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Denominator

The denominator is six-month patient-episodes for patients with a diagnosis of one of the following seven specific cancer types and receiving chemotherapy treatment. The seven cancer types are: breast cancer, chronic leukemia, lung cancer, lymphoma, multiple myeloma, prostate cancer, and small intestine/colorectal cancer.

Denominator Exclusions

The OP-35 Respecification Measure excludes encounters with the following characteristics:

1. Patients who do not have continuous enrollment in Medicare FFS Part A and Part B in the 30 days after the chemotherapy treatment (with the exception of enrollment truncation due to death).
2. Patients with CAR-T therapy at any point during the episode

Numerator

The numerator/outcome definitions are the number of patients admitted at least once as an inpatient or seen in an ED within 30 days after a qualifying chemotherapy treatment in an outpatient setting for one of ten qualifying conditions. The ten conditions are anemia, dehydration, diarrhea, emesis, fever, nausea, neutropenia, pain, pneumonia, and sepsis, and must be in the primary discharge diagnosis position or as a secondary diagnosis with cancer as primary diagnosis. Outcomes are counted separately for the inpatient and ED categories; a patient can qualify for an outcome in either category, but not both. Patients who experience both an inpatient admission and an ED visit during the performance period are counted towards the inpatient admission outcome.

Denominator Exceptions

None

Numerator Exclusions

Qualifying chemotherapy claims occurring less than 31 days before the end of the episode will not be considered as chemo events that could start a 30-day outcome assessment period.

Stratification

None

Risk Adjustment

The goal of risk adjustment is to account for differences among oncologists in patient demographic and clinical characteristics. The measure incorporates risk adjustment to account for factors that are associated with the outcome, vary across providers, and are unrelated to quality of care, so that measure scores reflect differences in care quality. The measure calculates the two mutually exclusive outcomes using two separate risk-adjustment models, both of which include patient-level variables, including age, clinical comorbidities, and cancer diagnosis

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categories. Risk factors were identified using a focused literature search, clinical experts' input, and empirical analysis.

The risk-adjustment model for inpatient admissions has 25 patient-level risk-adjustment variables:

- Age
- Sex
- Number of chemotherapy treatment events from the start date of the episode until 31 days prior to the end date of the episode
- Exposure to concurrent radiotherapy
- Nine comorbidities
 - Respiratory Disorders, Renal Disease, Diabetes, Other Injuries, Metabolic Disorder, Gastrointestinal Disorder, Psychiatric Disorders, Neurological Conditions, Cardiovascular Disease.
- 12 cancer diagnoses
 - Breast Cancer, Digestive Cancer, Respiratory Cancer, Lymphoma, Other Cancer, Prostate Cancer, Anal Cancer, Bladder Cancer, Ovarian Cancer, Pancreatic Cancer, Secondary Neoplasm of the Lymph Node, Secondary Neoplasm - Solid Tumor.
- Indicator variable for less than 12 months of continuous Medicare Part A & B enrollment prior to start of episode

The risk-adjustment model for ED visits and observation stays has 20 patient-level risk-adjustment variables:

- Age
- Sex
- Number of chemotherapy treatment events from the start date of the episode until 31 days prior to the end date of the episode
- Exposure to concurrent radiotherapy
- Six comorbidities
 - Respiratory Disorders, Other Injuries, Gastrointestinal Disorder, Psychiatric Disorders, Neurological Conditions, Cardiovascular Disease
- Ten cancer diagnoses
 - Breast Cancer, Digestive Cancer, Respiratory Cancer, Other Cancer, Anal Cancer, Bladder Cancer, Ovarian Cancer, Pancreatic Cancer, Secondary Neoplasm of the Lymph Node, Secondary Neoplasm - Solid Tumor.
- Indicator variable for less than 12 months of continuous Medicare Part A & B enrollment prior to start of episode

Comorbidities are identified through inpatient, outpatient, and professional carrier administrative claims during the 365 days prior to the start date of each episode. Concurrent cancer diagnoses are identified during each episode.

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Rationale

The intent of the OP-35 Respecification Measure is to encourage quality improvement efforts to reduce potentially preventable inpatient hospital admissions and ED visits for beneficiaries cared for by model participants. Evidence suggests that the measurement of admissions and ED visits for patients receiving outpatient chemotherapy should encourage facilities to take steps to prevent and improve the management of side effects and complications from cancer treatment. A 2007 study of commercial claims data for more than 14 million patients found that cancer patients average one admission per year; 40 percent of those admissions were chemotherapy related¹. We anticipate the OP-35 Respecification Measure will encourage a reduction in unplanned admissions and ED visits due to chemotherapy-related symptoms and complications, thereby reducing patient distress, ED crowding, and financial burden.

This is a patient-centered measure that will allow physicians to decrease chemotherapy-related admissions and emergency department visits. Recent studies of cancer patients show the most commonly cited symptoms and reasons for unplanned hospital visits following chemotherapy treatment are pain, anemia, fatigue, nausea and/or vomiting, fever and/or febrile neutropenia, shortness of breath, dehydration, diarrhea, and anxiety/depression^{2,3,4}. Improving care and better managing the ten conditions/symptoms featured in the numerator of this measure will improve patient outcomes and reduce unplanned hospital visits, reducing the financial burden on patients⁵. In addition to the decreased financial burden, the measure has the potential to improve the patients' quality of life as admissions and ED visits have been shown to affect physical and emotional well-being, disrupt schedules, decrease engagement in work and social activities, as well as increase the burden on family^{4,6}.

Guidelines from the American Society of Clinical Oncology, National Comprehensive Cancer Network, Oncology Nursing Society, Infectious Diseases Society of America, and other professional societies recommend evidence-based interventions to improve the quality of disease and symptom management. Management of symptoms associated with outpatient chemotherapy should curb admissions and ED visits for side effects and complications such as nausea and vomiting, anemia, and neutropenic fever.

Clinical Recommendation Statements

Not Applicable

References

1. Kolodziej, M., J.R. Hoverman, J.S. Garey, J. Espirito, S. Sheth, A. Ginsburg, M.A. Neubauer, D. Patt, B. Brooks, C. White, M. Sitarik, R. Anderson, and R. Beveridge. "Benchmarks for Value in Cancer Care: An Analysis of a Large Commercial Population." *Journal of Oncology Practice*, vol. 7, 2011.
2. Daly, B., Nicholas, K., Gorenshteyn, D., Sokolowski, S., Gazit, L., Adams, L., Matays, J., Katzen, L.L., Chiu, Y.O., Xiao, H., et al. (2018). Misery Loves Company: Presenting Symptom Clusters to Urgent Care by Patients Receiving Antineoplastic Therapy. *J Oncol Pract* 14, e484–e495. <https://doi.org/10.1200/JOP.18.00199>.

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3. Iihara, H., Fujii, H., Yoshimi, C., Yamada, M., Suzuki, A., Matsushashi, N., Takahashi, T., Yoshida, K., and Itoh, Y. (2016). Control of chemotherapy-induced nausea in patients receiving outpatient cancer chemotherapy. *Int J Clin Oncol* 21, 409–418. <https://doi.org/10.1007/s10147-015-0908-2>.
4. Hassett, M.J., O'Malley, A.J., Pakes, J.R., Newhouse, J.P., and Earle, C.C. (2006). Frequency and cost of chemotherapy-related serious adverse effects in a population sample of women with breast cancer. *J Natl Cancer Inst* 98, 1108–1117. <https://doi.org/10.1093/jnci/djj305>.
5. Fitch, K., and Pyenson, B. (2010). Cancer Patients Receiving Chemotherapy: Opportunities for Better Management. 32.
6. McKenzie, H., Hayes, L., White, K., Cox, K., Fethney, J., Boughton, M., and Dunn, J. (2011). Chemotherapy outpatients' unplanned presentations to hospital: a retrospective study. *Support Care Cancer* 19, 963–969. <https://doi.org/10.1007/s00520-010-0913-y>.
7. Jackson, K., Letton, C., Maldonado, A., Bodiford, A., Sion, A., Hartwell, R., Graham, A., Bondarenka, C., and Uber, L. (2019). A pilot study to assess the pharmacy impact of implementing a chemotherapy-induced nausea or vomiting collaborative disease therapy management in the outpatient oncology clinics. *J Oncol Pharm Pract* 25, 847–854. <https://doi.org/10.1177/1078155218765629>.
8. Taplitz, R.A., Kennedy, E.B., Bow, E.J., Crews, J., Gleason, C., Hawley, D.K., Langston, A.A., Nastoupil, L.J., Rajotte, M., Rolston, K., et al. (2018). Outpatient Management of Fever and Neutropenia in Adults Treated for Malignancy: American Society of Clinical Oncology and Infectious Diseases Society of America Clinical Practice Guideline Update. *J Clin Oncol* 36, 1443–1453. <https://doi.org/10.1200/JCO.2017.77.6211>.
9. Enhancing Oncology Model | CMS. Accessed July 5, 2022. <https://www.cms.gov/newsroom/fact-sheets/enhancing-oncology-model>
10. Hospitals data archive | Provider Data Catalog. Accessed July 5, 2022. <https://data.cms.gov/provider-data/archived-data/hospital>