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CMS Enhancing Oncology Model

First Annual Evaluation Report Appendices

Prepared for: **Centers for Medicare & Medicaid Services**

Submitted by: **The Lewin Group, Inc., with our partner Westat**

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CMS Enhancing Oncology Model: First Annual Evaluation Report Appendices

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with our partner Westat

Authors:

Rachel Henke, Juan Castro, Anissa Chan, Eli Cutler, Nina Ding, Colin Doyle, Kassandra Fate, Projesh Ghosh, Cody Hopewell, Erin Huffstetler, Niklaus Julius, Alexander Kappes, Soumita Lahiri, Annalise Maillet, Jessica Nelson, Lorissa Pagán, Ashe Peters, Jia Pu, David Ross, Mary Beth Schaefer, Carol Simon, Sararat Tosakoon, Shannon Reefer, Andreea Balan-Cohen, Michael Bentz, Eva Brady, Willow Burns, Mikayla Davis, Susan Denton, Stephanie Fry, Margaret Glos, Courtney Hall, Brandon Hesgrove, Grace Huang, Nina Kreiger, Lisa Lentz, Chantel Lewis, Lauren Mercincavage, Sandra Paredes, Jessica Richards, Tina Shah, Natalie Teixeira Bailey, Meti Tesfaye, Sophia Tsakraklides, Sandra Zelaya

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Lewin's address:

3237 Airport Rd, La Crosse, WI 54603

Federal Project Officer:

Caroline Ly
Research and Rapid Cycle Evaluation Group (RREG),
Center for Medicare and Medicaid Innovation (CMMI),
Centers for Medicare & Medicaid Services (CMS)

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Appendix A: Glossary of Terms and List of Acronyms

Exhibit A-1. Glossary of Terms

Term	Definition
Accountable Care Organization	A group of doctors, hospitals, and other health care providers that are held accountable for the cost and quality of care delivered to a defined population.
Adjuvant Therapy	Systemic treatment given after primary treatment (usually surgery) to reduce the risk that the cancer will come back.
Advance Care Planning	A conversation between a physician (or other qualified health care professional) and a patient to discuss the patient's wishes regarding their medical treatment, if they should become unable to make their own medical decisions. The patient's family member, caregiver, or surrogate is typically included in the conversation.
Advanced Alternative Payment Model (APM)	A subset of APMs that require participants to take on greater risk related to quality and cost outcomes. Advanced APMs are defined by the Quality Payment Program and allow qualifying participants to be excluded from reporting and earn APM incentive payments.
Advanced Practice Provider	Clinicians that have at least 6 to 8 years of education and are board certified and licensed but are not a medical doctor or doctor of osteopathic medicine. This includes physician assistants, advanced practice registered nurses, certified nurse practitioners, nurse practitioners, clinical nurse specialists, certified registered nurse anesthetists, and certified nurse-midwives.
Antiemetic, Emetic	Medications used to either control or induce emesis (vomiting). Antiemetics control vomiting; emetics induce vomiting.
Baseline Period	The evaluation's analytic time period during which outcomes are assessed prior to the implementation of EOM. Also referred to as the pre-EOM period.
Biosimilar	A biologic drug that is very similar to, but not an exact formulaic match of, another biologic drug (called the reference drug) that has already been approved by the FDA. Biosimilar drugs and reference drugs are made from living organisms, but they may be made in different ways and of slightly different substances. To be called a biosimilar, a biologic drug must be shown to be as safe as, work as well as, and work in the same way as its reference drug. It must also be used in the same way, at the same dose, and for the same condition as the reference drug. Biosimilar drugs must be approved by the FDA and may cost less than the reference drugs.[a]
Cancer Types, EOM Cancer Types, EOM-Included Cancer Types	A reference to the seven cancer types included in EOM: breast cancer, chronic leukemia, small intestine/colorectal cancer, lung cancer, lymphoma, multiple myeloma, and prostate cancer.
Care Plan	A summary of a patient's individualized treatment plan. Practices participating in EOM are required to document a care plan for every EOM patient that includes 13 components as outlined by the National Academy of Medicine: (1) patient information (for example, name, date of birth, medication list, allergies); (2) diagnosis, including specific tissue information, relevant biomarkers, and stage; (3) prognosis; (4) treatment goals; (5) initial plan for treatment and proposed duration, including surgeries and radiation therapy; (6) expected response to treatment; (7) treatment benefits and harms; (8) information on quality of life and patient's likely experience with treatment; (9) who will take responsibility for specific aspects of a patient's care; (10) advance care plans, including advance directives and other legal documents; (11) estimated total and out-of-pocket costs of treatment; (12) a plan for addressing a patient's psychosocial health needs, including psychological, vocational, disability, legal, and financial concerns; and (13) a survivorship plan.

Term	Definition
Certified Electronic Health Record (EHR) Technology	EHR systems that have been certified by the Office of the National Coordinator for Health Information Technology as meeting specific standards and criteria. This certification ensures that the EHR technology can support the exchange of health information, improve care coordination, and facilitate quality measurement.
Clinical Guidelines	Systematically developed statements to assist practitioner and patient decisions about appropriate treatment in specific clinical circumstances. Guidelines contain recommendations based on evidence from a rigorous systematic review and synthesis of the published medical literature and define the role of specific diagnostic and treatment modalities in the diagnosis and management of patients. A clinical guideline may be broad, with several acceptable treatment regimens considered as compliant with the guideline. While clinical guidelines identify and describe generally recommended courses of treatment, they are not presented as a substitute for the advice of a physician or other knowledgeable health care professional or provider.
Clinical Pathways	A structured, multidisciplinary plan of care designed to standardize care for a specific group of patients with a predictable clinical course. It translates evidence-based clinical guidelines into a practical framework, outlining the steps and timelines of care for a specific condition or procedure.
Coinsurance	The patient's share of costs of a covered health care service, calculated as a percentage. For example, a patient may pay 20% of the allowed cost of a lab test.
Comparison Practice	A non-EOM oncology practice (identified by its TIN) selected to be in the evaluation comparison group. The evaluation team selected comparison practices to be similar to participating EOM practice(s) using propensity score matching methods.
Cost-Sharing	What a patient pays for medical services covered by their health insurance. Typical cost-sharing arrangements include a deductible, copayments, and coinsurance.
Cohort 1	The first cohort of EOM practices, which entered the model on July 1, 2023.
Cohort 2	The second cohort of EOM practices, which entered the model on July 1, 2025.
Deductible	The amount a patient must spend on covered health care services before their health insurance begins to pay. For example, if a patient's deductible is $1,000, their plan will not pay anything until the patient has incurred $1,000 on covered health care services. Some services are excluded from the deductible requirements.
Difference-in-Differences	A statistical technique that quantifies the impact of an intervention by comparing changes in outcomes in a treatment group (EOM episodes) with changes in outcomes in a comparison group (comparison episodes), from before to after the intervention.
Dually Eligible	A patient who is enrolled in Medicare and is also receiving full or partial Medicaid benefits.
Enhanced Services	A set of participant redesign activities under EOM that participating practices are required to provide to eligible EOM patients. EOM participants can receive MEOS payments from CMS for the provision of these services. Enhanced Services include 24-7 access to clinicians, patient navigation, care planning, treatment consistent with nationally recognized clinical guidelines, screening for health-related social needs, and use of electronic Patient-Reported Outcomes.
EOM Practice, EOM Participant	Practices that voluntarily join EOM. Practices may voluntarily or be required to form "pools" of two or more practices for financial reconciliation.
EOM Practitioner	A Medicare-enrolled physician or nonphysician practitioner (for example, nurse practitioner or physician assistant) identified by an individual NPI who furnishes evaluation and management services to Medicare patients receiving systemic cancer therapy for a cancer diagnosis, bills under the TIN of the practice for such services, has reassigned their right to receive Medicare payments to the practice, and appears on the practice's EOM practitioner list. To be eligible to participate in EOM as an EOM participant, an oncology practice must be composed of at least one EOM practitioner.

Term	Definition
Episodes	In the context of EOM, a 6-month period of care. EOM episodes are triggered by the provision of a systemic cancer therapy and are tracked to assess quality, cost, and health outcomes.
Electronic Patient-Reported Outcomes	The collection of health data directly from patients, using electronic methods such as online questionnaires, mobile apps, or wearable devices, rather than traditional paper-based methods.
Evaluation and Management	The billing code for a specific type of patient visit with a physician or advanced practice provider. The visit typically involves assessing medical history, examination, and medical decision-making.
Evidence-Based Care	Care that incorporates three fundamental components: (1) individual clinical expertise, (2) best external evidence, and (3) patient values and expectations. Also referred to as evidence-based practice.
Fee-for-Service	A method of payment by health insurance companies in which doctors and other clinicians are paid for each service provided.
Generic Drugs	Nonproprietary drugs that have the exact same dosage, intended use, effects, side effects, route of administration, risks, safety, and strength as brand-name drugs. Their pharmacological effects are exactly the same as those of their brand-name counterparts.
Gross Drug Costs	Total spending for prescription drug claims, including payments from Medicare, Part D plans, supplemental insurance, and patients.
Growth Factors	Proteins that help the body produce white blood cells. They are also called hematopoietic, meaning blood-forming, colony-stimulating factors. White blood cells help fight infection and can be destroyed during some types of cancer treatment. Growth factors can be administered to patients with cancer to prevent neutropenia and infection.
Guideline-Based Care	Care that is based on systematically developed statements from a highly regarded professional society (guidelines) designed to help clinicians and patients make informed decisions about appropriate health care for specific circumstances. These guidelines provide recommendations based on a review of evidence and aim to improve patient care outcomes.
Health-Related Social Needs	Social and economic needs that affect a person's ability to maintain their health and well-being, such as housing instability, food insecurity, lack of transportation, or difficulty accessing utilities. They are distinct from traditional medical conditions but can significantly affect health outcomes and health care utilization.
Hierarchical Condition Categories	Risk scores used to adjust capitation payments to Medicare Advantage plans for the health expenditure risk of their enrollees. Risk scores are based on clinical diagnoses and comorbidities documented in claims.
Hold-Out Period	The 1-year period prior to the start of EOM that is not included in the evaluation baseline or intervention period.
Hospice Care	A type of palliative care that is focused on patient comfort and quality of life at the end of life. To qualify for hospice care, Medicare enrollees must have a prognosis of 6 months or less and stopped curative treatment.
Immunotherapy	A type of systemic cancer therapy that uses substances to stimulate or suppress the immune system to help the body fight cancer.
Inflation Reduction Act	A U.S. federal law enacted in 2022 that included provisions for lowering prescription drug prices and patients' responsibility for catastrophic drug costs.
Malignant	A term used to describe tumors that have cancerous cells.

Term	Definition
Managed Care Organization	A type of health insurance plan that contracts with a network of health care providers to deliver services to a defined group of enrollees. Managed care organizations often use processes such as utilization review and prior authorization to manage costs.
Medicare Advantage	A health plan offered by a private insurance company to provide coverage for Medicare beneficiaries. Medicare Advantage plans include health maintenance organizations, preferred provider organizations, and private fee-for-service plans.
Merit-based Incentive Payment (MIPS)	One of the participation options under the CMS Quality Payment Program. Performance is measured in four areas: (1) quality, (2) improvement activities, (3) promoting interoperability of electronic health information, and (4) cost. All eligible clinicians were required to participate in MIPS starting in 2017 or be subject to a negative 4% payment adjustment on Medicare Part B reimbursements starting in 2019.
Monthly Enhanced Oncology Service (MEOS) Payment	Payments that are made to EOM participants for the provision of Enhanced Services to EOM patients during each 6-month episode. In the first performance period (PP1), the MEOS payment amounts equaled $70 per patient per month. Starting in January 2025, the MEOS amounts increased to $110. EOM includes an additional MEOS payment of $30 for patients dually eligible for Medicare and Medicaid.
National Comprehensive Cancer Network (NCCN)	A not-for-profit alliance of leading cancer centers devoted to patient care, research, and education. NCCN is dedicated to improving and facilitating quality, effective, efficient, and accessible cancer care. The network develops resources that present valuable information to the numerous stakeholders in the health care delivery system, promotes the importance of continuous quality improvement, and creates/updates clinical practice guidelines for cancer care.
National Provider Identifier	A unique identification number assigned to health care providers in the United States, used for administrative and financial transactions, such as submitting claims to Medicare for payment of services rendered to Medicare patients.
Palliative Care	A specialized form of medical care that focuses on providing comfort and support to patients with serious or life-threatening illnesses.
Patient Navigation	Individualized assistance provided to patients, families, and caregivers to help them overcome barriers within the health care system and access timely, quality care. This involves guiding patients through the system, connecting them with needed resources, and ensuring they receive the support they require to appropriately access health care and related services.
Part A	Medicare fee-for-service coverage for inpatient care in a hospital, skilled nursing facility care, inpatient rehabilitation facility care, or long-term care hospital care, as well as hospice care and home health care.
Part B	Medicare fee-for-service coverage for outpatient services, including medically necessary physician and other professional services and therapies, preventive services, durable medical equipment, and professionally administered prescription drugs, such as chemotherapy infusions.
Part D	Optional insurance coverage to help Medicare patients pay for self-administered prescription drugs. Medicare Part D plans are offered by private insurance companies.
Performance-Based Payment, Performance-Based Recoupment	Amount owed to or from EOM participants, depending on their financial performance in the model. EOM participants have the potential to earn a performance-based payment or owe CMS a performance-based recoupment. These amounts are adjusted based on quality performance.
Performance Period	A 6-month period containing a cohort of episodes that began during that window. For example, PP1 includes 6-month episodes that began during July 1, 2023–December 31, 2023. EOM is set to be active from July 1, 2023, through June 30, 2030, and consists of 13 performance periods.

Term	Definition
Practice, Oncology Practice	Oncology practices identified by a single TIN and composed of one or more practitioners who treat Medicare patients who have been diagnosed with cancer. Oncology practices under this definition can include a variety of entities, including independent groups, hospitals, and health systems.
Propensity Score, Propensity Score Matching	A statistical method that is used to select a comparison group that is statistically similar to an intervention/treatment group. Propensity scores can be used to minimize the potential for selection bias in observational studies by balancing observed covariates (the characteristics of participants' practices, markets, and attributed episodes) between treatment and comparison groups.
Quality Payment Program	A program that CMS is required to operate by the Medicare Access and CHIP Reauthorization Act of 2015. There are two ways clinicians can participate in the Quality Payment Program): MIPS or Advanced APMs.
Shared Decision-Making	A process in which clinicians and patients work together to make decisions and select tests, treatments, and care plans based on clinical evidence that balances risks and expected outcomes with patient preferences and values.
Standardized Payments	Payments that are calculated based on the actual allowed and paid amounts in Medicare claims but have been adjusted to remove the effects of geographic differences in wages, extra amounts to account for teaching programs, and other policy factors.
Systemic Cancer Therapy	Cancer treatments that affect a patient's whole body rather than a specific area. Under EOM, these can include cytotoxic chemotherapies, certain hormonal therapies, biologic therapies, immunotherapies, and combinations of these therapies. Systemic therapies are identified using the union of available drug lists provided on the EOM web page.[b]
Survivorship Plan	A detailed plan given to a patient after successful treatment ends that contains a summary of the patient's treatment, along with recommendations for follow-up care. In cancer care, the survivorship plan is based on the type of cancer and the treatment the patient received. A survivorship care plan may include schedules for physical exams and medical tests (also called surveillance) to detect whether the cancer has recurred or spread to other parts of the body. This follow-up care and surveillance usually continues for several years. A survivorship plan may also include information to help meet the emotional, social, legal, and financial needs of the patient, such as referrals to specialists and recommendations for a healthy lifestyle.
Taxpayer Identification Number	IRS-assigned numbers used by CMS to identify hospitals, physicians, and others that submit claims for payment for services delivered to Medicare patients. The TIN is the same as the Federal Employer ID Number or Employer Identification Number. In EOM, TINs are used to identify oncology practices.
Third-Party Administrator	An organization or individual that handles the administrative tasks for an insurance policy, such as claims processing, member enrollment, and premium collection, on behalf of an insurance company or self-funded employer group.
Value-Based Payment Models	A type of payment structure that rewards health care providers with incentive payments for the quality of care they provide to patients and efficiency, rather than the volume of services they provide.

Note: APM = Alternative Payment Model; CHIP = Children's Health Insurance Program; EHR = electronic health record; FDA = Food and Drug Administration; IRS = Internal Revenue Service; MEOS = Monthly Enhanced Oncology Services; NCCN = National Comprehensive Cancer Network; NPI = National Provider Identifier; PP = performance period; TIN = Taxpayer Identification Number.

[a] Food and Drug Administration. (2023). *Biosimilars.* https://www.fda.gov/drugs/therapeutic-biologics-applications-bla/biosimilars

[b] Centers for Medicare & Medicaid Services. (n.d.). Enhancing Oncology Model. https://www.cms.gov/priorities/innovation/innovation-models/enhancing-oncology-model

Exhibit A-2. List of Acronyms

Acronym	Definition
ACH	acute care hospital
ACO	Accountable Care Organization
ADI	Area Deprivation Index
APP	Advanced Practice Provider
APM	Alternative Payment Model
AR	annual report
ASCO	American Society for Clinical Oncology
CAH	critical access hospital
CAHPS	Consumer Assessment of Healthcare Providers and Systems
CCW	Chronic Conditions Data Warehouse
CEHRT	certified electronic health record technology
CI	confidence interval
CML	chronic myeloid leukemia
COVID	coronavirus disease
CMMI	Center for Medicare and Medicaid Innovation
CMS	Centers for Medicare & Medicaid Services
CQI	continuous quality improvement
COPD	chronic obstructive pulmonary disease
DiD	difference-in-differences
DME	Durable Medical Equipment
E&M	evaluation and management
ED	emergency department
EHR	electronic health record
EOM	Enhancing Oncology Model
ePRO	electronic Patient-Reported Outcome
FFS	fee-for-service
FQHC	Federally Qualified Health Centers
GDCA	Gross Drug Cost Above Part D Out-of-Pocket Threshold
HCC	Hierarchical Condition Category
HCPCS	Healthcare Common Procedure Coding System
HHA	home health agency
HER2	human epidermal growth factor 2
HHS	Department of Health and Human Services
HPSA	Health Professional Shortage Area
HRSN	health-related social need
HSA	health service area
ICU	intensive care unit

Acronym	Definition
IOM	Institute of Medicine
IRA	Inflation Reduction Act
IRF	inpatient rehabilitation facility
ITT	intent-to-treat
IV	intravenous
KII	key informant interview
LCI	lower confidence interval
LIS	low-income subsidy
LTCH	long-term care hospital
MA	Medicare Advantage
MBSF	Master Beneficiary Summary Files
MCO	managed care organization
MDM	Master Data Management
MD-PPAS	Medicare Data on Provider Practice and Specialty
MEOS	Monthly Enhanced Oncology Services [payment]
MIPS	Merit-based Incentive Payment System
NAM	National Academy of Medicine
NCI	National Cancer Institute
NCCN	National Comprehensive Cancer Network
NPI	National Provider Identifier
NP/PA	nurse practitioner/physician assistant
NPPES	National Plan and Provider Enumeration System
OCM	Oncology Care Model
PAC	post-acute care
PBP	performance-based payment
PBR	performance-based recoupment
PDE	Prescription Drug Event
PECCS	Patient Experience of Cancer Care Survey
PECOS	Provider Enrollment, Chain, and Ownership System
PET	positron emission tomography
PHE	public health emergency
PP	performance period
PPPM	per patient per month
PSM	propensity score matching
QPP	Quality Payment Program
REACH	Realizing Equity, Access, and Community Health
SDOH	social determinants of health
SEER	Surveillance, Epidemiology, and End Results

Acronym	Definition
SMD	standardized mean difference
TIN	Taxpayer Identification Number
TPA	third-party administrator
UCI	upper confidence interval

Appendix B: Episode Definition and the Patient Journey

B.1 The Patient Cancer Care Journey

Patients have described their cancer care journey as starting with symptoms prior to diagnosis, with subsequent milestones including diagnosis, treatment planning, treatment, and survivorship or end-of-life care (**Exhibit B-1**).[1] EOM episodes only cover a portion of a patient's cancer journey, as they span six-months after the patient formally enters EOM in the treatment phase by receiving an initiating cancer therapy with a qualifying EOM cancer diagnosis. However, EOM is designed to reshape cancer care and the impact of the model may extend beyond the episode time frame.

Under EOM, an episode of care is initiated with the administration of systemic cancer therapy for a qualifying cancer diagnosis and extends for the following 6 months. Practices are held accountable for the cost and quality of care during this episode. Some EOM care redesign activities affect the patient outside the 6-month treatment episode, such as the use of care plans that include 13 key components outlined by the National Academy of Medicine (NAM)[2,3] to improve treatment planning and shared decision-making, which begins prior to systemic cancer therapy initiation.[4] Similarly, patients may also be affected by EOM after the 6-month episode ends through supportive care initiatives including those aimed at improving end-of-life care.

Systemic Cancer Therapy Administration

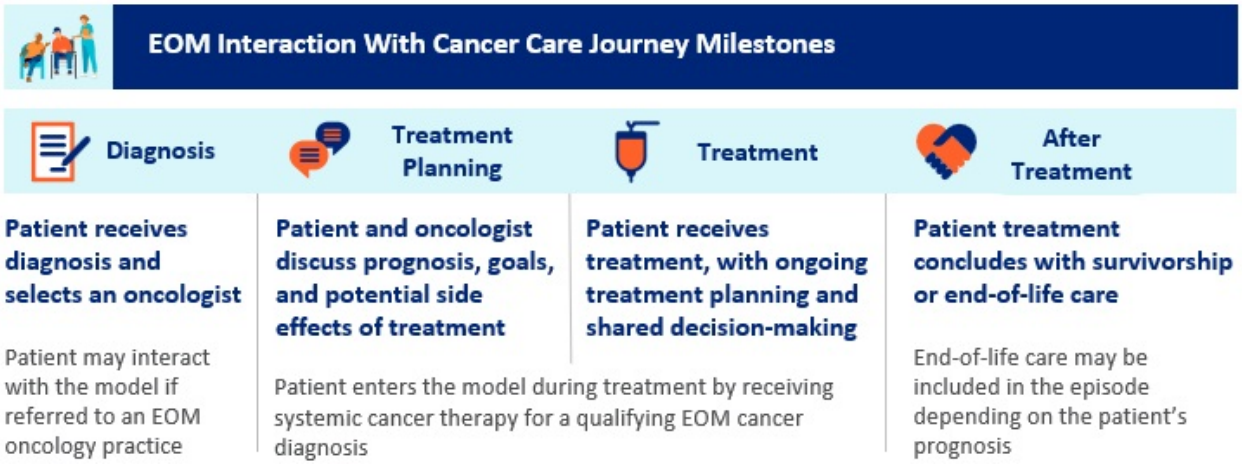
Physician Administered

Setting: In clinic under provider supervision
Coverage: Medicare Part B
Route of administration: Infusion, injection

Self-Administered

Setting: At home or brought to clinic
Coverage: Medicare Part D
Route of administration: Oral, injection

Exhibit B-1. Key Milestones on the Cancer Care Journey



[1] Abt Global. (2024). *Evaluation of the Oncology Care Model*. Prepared for the Centers for Medicare & Medicaid Services. *Cancer Care Experiences Among People Covered by Medicare.* https://www.cms.gov/priorities/innovation/data-and-reports/2024/ocm-final-eval-report-2024-patient-persp

[2] National Academy of Medicine. *About the NAM.* https://nam.edu/about-the-nam/

[3] The National Academy of Medicine (NAM) was under the name of the Institute of Medicine (IOM) until 2015.

[4] National Institute on Aging. (2023). *Advance care planning: A conversation guide.* https://order.nia.nih.gov/sites/default/files/2023-04/nia-advance-care-planning.pdf

B.2 Services Included in EOM Episodes

EOM practices are held financially accountable for all services[5] paid for by Medicare fee-for-service (FFS) that a patient receives during the 6-month episode, including cancer treatments (systemic cancer therapy and other types of treatment), supportive care, and care for other chronic and acute conditions, as described below.

Active cancer treatment. All EOM episodes begin with systemic cancer therapy for one of the seven high-risk cancer types included by EOM. Patients may also receive additional types of cancer treatments based on factors such as cancer type, diagnosis (stage, biomarker histology), intent of treatment (curative, life-prolonging, or palliative), health status, and patient preferences. Other treatments may include cancer surgery and radiation therapy. Whether these treatments are included in an EOM episode depends on whether they happen before, during, or after the administration of systemic cancer therapy.

What Is Palliative Care?

According to the National Cancer Institute, *palliative care* is used to reduce pain and improve quality of life for people with a serious or life-threatening condition. Palliative care is considered a type of *supportive care*, but it employs a specialized medical framework and includes conversations about advance directives, hospice transitions, and family coping strategies.

Palliative care can be provided by interdisciplinary care teams or advanced practice nurses providing care in coordination with the patient's oncologist. Cancer treatments may be provided with palliative intent. For example, a patient may opt to receive noncurative chemotherapy to shrink a painful tumor.

Supportive care. Most EOM episodes will include supportive care to help manage the symptoms and side effects from cancer. Supportive care includes palliative care and hospice care. Palliative care can help improve patient quality of life by managing pain, providing emotional support, and addressing side effects of cancer therapies.[6] Examples include antinausea medication, mental health services, and nutrition counseling. Hospice care is a distinct subtype of palliative care that is focused specifically on the patient's comfort and quality of life at the end of life. Patients with a prognosis of 6 months or less may be referred to hospice care.

Acute and post-acute care. Patients receiving cancer treatment may need acute care, including ED visits, observational stays, and inpatient stays for treatment, to address side effects or serious symptoms of cancer and to provide care for other non-cancer-related acute conditions as well as complications of treatment. The patient may require post-acute care at home or in a facility after discharge. Some ED, acute care, and post-acute care use may be avoidable by providing improved coordination and timely communication with patients and care in less intensive settings.

Non-cancer-related health care. Patients undergoing cancer treatment often have preexisting or treatment-related comorbid conditions and may receive medications and other treatment for these conditions during the EOM episode. Patients may also receive care for preventive services during

[5] Expenditures for inpatient care related to certain Medicare Severity-Diagnosis Related Groups, such as those related to certain transplant and trauma procedures, are excluded from all performance period episode expenditures.

[6] National Cancer Institute. (2021). *Palliative care in cancer*. https://www.cancer.gov/about-cancer/advanced-cancer/care-choices/palliative-care-fact-sheet

the episode. EOM providers are held financially accountable for all services, including those that are unrelated to cancer treatment and provided by non-EOM clinicians.

In **Exhibit B-2**, we present a simplistic example of a combination of services provided before and during an EOM episode. In this example, Vera is a Medicare FFS patient with a diagnosis of breast cancer. The treatment plan that Vera decided on with her oncologist included surgery followed by 3 months of chemotherapy and then 4 weeks of radiation. She also received mental health counseling. Vera completed curative-intent treatment and saw her primary care provider for a routine visit toward the end of the 6 months. Because the surgery occurred prior to the administration of chemotherapy, it is not included in the episode. However, the chemotherapy, radiation, mental health support, and primary care visit are all included.

Exhibit B-2. Services Included in Vera's EOM Episode

Appendix C: Qualitative Methods and Analysis

This report draws on four qualitative data sources, which are detailed in **Sections C.1–C.4**. All data sources were analyzed using qualitative coding software, as described in **Section C.5**.

C.1 Site Visit Data Collection

We conducted interviews and observed EOM-related processes to understand how participants are implementing the model and to identify the drivers of impact on quality, utilization, and cost.

Sampling and site of care selection. The Lewin team selected 6 practices from the population of 44 EOM practices with the goal of maximizing variation across key practice characteristics including practice type, practice size, geographic location, practice rurality, OCM participation, US Oncology Network membership, and patient mix (**Exhibit C-1**). We conducted interviews with representatives from one to five sites of care per practice.

Protocol development. We developed the site visit interview protocol to include interview topics designed to address relevant evaluation research questions and Centers for Medicare & Medicaid Services Innovation (CMMI) Center priorities, particularly the health care transformation framework and quality pathways. The site visit interview protocol topics were as follows:

- Motivation for participation
- Perceptions of financial incentives and value-based care
- Organizational structure
- Workforce
- Reorganized workflow
- Participant redesign activity implementation
- Workplace culture
- Affiliations, partnerships, and agreements
- Care coordination
- Shared decision making
- Relationships with other practices
- Relationships with payers

During the development of the protocol, the Lewin team requested review from clinical experts, who provided insight on questions relating to participant redesign activities, care coordination, and other patient care activities and helped inform questions for clarity and to ensure they elicited rich answers from interviewees.

Exhibit C-1. Characteristics of EOM Sites Visited

Provider Type	Size[a]	No. of Practice Locations	Census Region	OCM	US Oncology Network	% of Practices Located in Rural/Micropolitan/Small Town[b]	Patient Mix	
							Dually Eligible	Part D LIS
Academic Medical Center	Medium	1	South	No	No	0.00%	5.40%	3.54%
Community Based (US Oncology)	Medium	6	Midwest	Yes	Yes	0.00%	9.19%	1.84%
Community Based/ Health Care System	Large	85	Multiple Regions	Yes	No	34.12%	5.77%	4.68%
Hospital Based	Small	1	South	No	No	100.00%	4.55%	1.52%
Community Based/ Independent	Medium	3	West	Yes	No	0.00%	23.20%	1.57%
Community Based/ Group Practice	Large	7	South	Yes	No	28.57%	7.16%	11.18%

Note: [a] Size defined as baseline episode volume; Small (<200), Medium (200–999), Large (1,000+). LIS = low-income subsidy; OCM = Oncology Care Model.

[b] The percentage of practices in the oncology practice located in a rural, micropolitan, or small town. This number was calculated using rural-urban commuting area (RUCA) codes, which classify U.S. census tracts using measures of population density, urbanization, and daily commuting. The classification delineates metropolitan, micropolitan, small town, and rural commuting areas based on the size and direction of the primary (largest) commuting flows.

Source: Characteristics provided by EOM Implementation and Monitoring Contractor on April 4, 2024.

Data collection. Working in teams of three, including a senior health services researcher, cancer researcher, and junior researcher, we conducted site visits from October 2024 through February 2025. A team of oncology clinical experts partnered with the EOM evaluation contractor and co-moderated interviews with EOM practice physicians. Interviews were conducted in-person and virtually using Zoom for Government. The number and positions of staff we interviewed depended on the practice's size and structure. For each site visit, we spoke with respondents from some or all of the following categories:

- Clinical and administrative leadership
- Medical oncologists and specialty oncologists
- Palliative care physicians
- Nurse practitioners, physician assistants, nurses, and pharmacists
- Patient navigators, social workers, and financial counselors
- Staff for data management and analytics
- Value-based care and quality improvement staff
- IT staff (for example, electronic health records)

In total, we conducted interviews with 93 key informants. We recorded and transcribed all site visit interviews. During site visits we observed practice facilities and key processes related to EOM implementation (for example, infusion and radiation center, EHR workflows).

C.2 Patient Interview Data Collection

To understand the impact of EOM on patients, the Lewin team conducted interviews with patients receiving cancer care at sites selected for site visits. We designed interviews to assess patient awareness of the model and gather patient perspectives of participant redesign activities. We conducted virtual interviews with EOM patients. This report presents findings from Cohort 1 patient interviews.

Sample and recruitment. The Lewin team asked the six sites selected for site visits to assist with identifying active EOM patients for interview recruitment. Practices securely shared contact information for EOM patients with the Lewin team for follow up or elected to distribute fliers with information about the interviews to EOM patients. At one practice, the Lewin team mailed interview invitations and recruitment information to a sample of EOM patients because the practice did not participate in recruitment. To ensure interviews included a diverse set of patients, including those with different cancer types and other patient characteristics, we administered a brief screener during the recruitment process.

To be considered eligible, a patient had to have a cancer type included in EOM, be actively receiving care from a targeted practice's site of care, and be enrolled in FFS Medicare. Further, we excluded patients who reported working in a clinical role in a health care setting since their experiences may not be representative of the broader EOM patient population. Caregivers were

allowed to participate with the patient ("dyad interview") or in lieu of the patient ("caregiver interview") if the patient was unable to participate due to health or disability.

Included in this report are findings from interviews with 40 EOM patients (including four dyad interviews and three caregiver interviews) from six practices included in Cohort 1 site visits. On average, we completed 7 interviews per practice. We present characteristics of the patient interview participants in **Exhibit C-2**.

Exhibit C-2. Characteristics of Patient Interview Participants

Patient Characteristics		Number of Interview Participants (N=40)
Cancer Type	Breast Cancer	12
	Chronic Leukemia	2
	Small Intestine or Colorectal Cancer	4
	Lung Cancer	6
	Lymphoma	6
	Multiple Myeloma	7
	Prostate Cancer	2
	Unclear or Not Ascertained	1
Sex	Female	20
	Male	20
Age, Years	Under 65	2
	65–69	8
	70–74	6
	75–79	11
	80–84	6
	85 or Older	7
Education	Less Than High School or GED	3
	High School or GED	9
	Some College or 2-Year Degree	10
	College Graduate/4-Year College Degree	7
	More Than 4-Year College Degree	11
Location (Patient Residence)[a]	Rural Area	11
	Urban Area	29
Dual Eligibility	Yes, Dually Eligible for Medicare and Medicaid	5
	No, Not Dually Eligible for Medicare and Medicaid	33
	Not sure	2
Preferred Language	English	38
	Spanish	2

Note: Patient characteristics were self-reported in a preinterview screener; characteristics reflect the patient even when the interview was conducted with a caregiver.

[a] Rural/urban derived from patient-reported zip code using Rural Urban Commuting Areas (RUCAs) by 2010 census tract. RUCA codes 1–3 = urban and RUCA codes 4–10 = rural.

Protocol development. The Lewin team developed the patient interview protocol to align with the site visit protocol and elicit patient experiences, particularly as related to EOM participant redesign activities. During development of the protocol, we solicited feedback from patient advocates and clinical experts and incorporated their input into the final protocol. Based on site visit findings, we made minor modifications to the protocol, such as mentioning specific site or patient-facing approaches and tools to prompt recall during the interview. Once the English protocol was finalized, we prepared a parallel Spanish version. Patient interview topics included the following:

- Accessing cancer care:
  - Scheduling appointments
  - Telehealth appointments
  - Getting answers to questions
  - Getting urgent or after-hours care
- Communication and care planning:
  - Care planning
  - Patient-centered care delivery
  - Shared decision-making
  - Medication changes
- Coordination and supportive care:
  - Coordination with other providers
  - Patient education
  - Health-related social need (HRSN) screening and support
  - Financial toxicity and counseling
  - Psychosocial and supportive care screening
- Language support (Spanish only):
  - Interpreter services
  - Education and materials available in Spanish
  - Signage in Spanish

Data collection. We conducted patient interviews via phone or Zoom for Government from December 2024 through March 2025. Interviews lasted up to 60 minutes and were conducted in either English or Spanish. Qualitative researchers from the Lewin team served as interviewers, using the protocol as a guide. With participant consent, we recorded the discussions and transcribed them for analysis. Participants received $50 as an e-gift card or check as a token of appreciation for their time.

C.3 EOM Participating Payer Data Collection

We conducted EOM participating payer interviews to elicit information on value-based care arrangements with oncology practices among commercial payers who were payer partners during

Performance Period 1 (PP1) and to determine how these value-based care strategies and trends may influence EOM.

Sample. The Lewin team recruited a census of three payers with experience participating in EOM.[7] We conducted interviews with two EOM payers. In lieu of an interview, we provided a list of questions to one EOM payer that did not have a key informant available for an interview.

Protocol development. The Lewin team developed the payer interview protocol based on the evaluation research questions, CMMI priorities, and review of the EOM Memorandum of Understanding and EOM payer applications. The EOM payer interview protocol addressed topics of interest and built on findings from the OCM evaluation,[8] the learning system's EOM payer one-on-one calls, and affinity group takeaways. Prior to each payer interview, the Lewin team tailored the protocol based on background information on the payer (for example, applications, EOM implementation plans, information from site visits related to payer VBC programs and initiatives, publicly available information).

EOM participating payer interview protocol topics included the following:

- Overview of value-based care
- Motivation for participation in EOM
- Oncology value-based care program
- Payment methodology
- Attribution and episode definition
- EOM payer performance period
- Data sharing
- Quality measures

Data collection. We conducted virtual interviews via Zoom for Government with two payers and collected written feedback from one payer at their request in February 2025.

C.4 Model Documents

In preparation for site visits, the Lewin team reviewed background information on the oncology practices including preliminary evaluation analyses (for example, practice characteristics, patient experience survey), practice websites, and participant documents (for example, applications, the Participant Transformation Plan Survey). During site visit planning meetings, we requested artifacts related to EOM implementation from each practice (for example, patient education and

[7] As of October 2024, 2 payers are participating in EOM, and 1 payer that initially participated in EOM has exited the model.

[8] Abt Global. (2024). *Evaluation of the Oncology Care Model*. Prepared for the Centers for Medicare & Medicaid Services. https://www.cms.gov/priorities/innovation/data-and-reports/2024/ocm-final-eval-report-2024

outreach materials, staff training materials). We also reviewed payer implementation plans and applications prior to conducting participating payer interviews.

Participant applications. Applications from EOM participants (n=44) were reviewed and analyzed to understand participants' planned activities and baseline readiness for EOM participation. Applications were analyzed for content related to topics such as motivation for participation, organizational structure and staffing, participant redesign activity implementation plans, and financial plans for use of MEOS payments, PBPs, PBRs, and other incentives. Qualitative coding software NVivo 13 was leveraged to assess frequency across coded data and examine connections between themes. A team of coders independently applied codes to a sample application to ensure consistency and agreement in interpretation and address any discrepancies. Once agreement was established, the remaining applications were coded by a single coder, following the codebook. Disagreements were discussed and reconciled by a senior analyst. Outputs were interpreted and summarized by topic to synthesize findings on participants' planned activities and baseline readiness. Cross-cutting themes, such as staffing needs, were also captured and incorporated into the synthesis of findings for this report.

Participant Transformation Plan Survey. The Lewin team reviewed findings from the practice survey to understand participants' baseline operations related to care planning and management, access to coordinated care, and continuous quality improvement. Relevant survey findings were identified across topics including guidelines-based care, 24-7 access to care, patient navigation, implementation of ePROs, HRSN screening, care planning, use of data for continuous quality improvement, and patient engagement. Baseline survey findings were summarized and reported with the participant application data.

EOM participating payer implementation plans and applications. The Lewin team reviewed existing documentation for EOM participating payers to gain an initial understanding of each payer's implementation approach. The EOM payer applications and EOM payer implementation plans were coded systematically in NVivo 13 using a codebook developed by the research team. The codes represented themes related to payers' motivation for participation and experience with oncology value-based care, payment methodology, and program structure.

EOM Patient Experience of Cancer Care Surveys. The Lewin team analyzed survey data and reviewed methodological documentation for the first two waves of Patient Experience of Cancer Care Surveys (PECCS).[9] The PECCS were conducted by the EOM implementation contractor. Surveys were fielded by web and mail to a sample of patients receiving care under EOM between July and December 2023. Data collection took place from January to July 2024. Survey responses were weighted to account for sampling and survey nonresponse.

The Lewin team conducted our own analysis of survey response data. This independent analysis of PECCS data included univariate and bi-variate analysis by cancer type and key patient characteristics. We calculated composite scores for survey domains designed for multi-item measurement. We identified survey items most relevant to topics included in the site visit and

[9] The surveys are based on the Agency for Healthcare Research and Quality's (AHRQ's) Cancer Consumer Assessment of Healthcare Providers and Systems (CAHPS) for Drug Therapy instrument. They also include additional questions developed by CMMI to assess aspects of care specific to EOM.

patient interviews, including access to care and the cancer team, care planning, symptom management, emotional well-being, and financial need. For ease of interpretation, we calculated the percentage of survey respondents who selected the most favorable response to relevant questions and presented these data alongside patient interview findings to provide a more comprehensive picture of patient experience under EOM.

C.5 Analysis

Interview data from site visits, payer interviews, and patient interviews were coded and analyzed in NVivo 13. We reviewed interview transcripts for accuracy and completeness prior to analysis. We developed codebooks based on research questions and model design (for example, financial and performance incentives, participant redesign activities) to evaluate motivation for participation in EOM, the impact of EOM, and challenges in implementation. We also conducted thematic analysis to report on common trends and key findings across patient interviews. We organized all qualitative data into analytic categories and refined codes based on an iterative review of the data. Team members reviewed each other's coding and resolved discrepancies through consensus. We reviewed excerpts and identified themes within and across codes to describe relationships between participant characteristics, model features, outcomes, and how other payers are implementing EOM to identify processes that drive care transformation. Senior researchers iteratively reviewed the coded qualitive data and key findings for accuracy and quality of synthesis.

Appendix D: Quantitative Methods and Analysis

This appendix includes details on data sources and methods used for claims-based analyses presented in **Chapters 3**, **4**, and **5** in the first evaluation report. It has five main sections: Secondary Data Sources, Study Sample and Measures, Baseline Descriptive Methods, Comparison Group Construction, and Impact Analysis Methods.

D.1 Secondary Data Sources

We present data sources used in our claims-based analyses in **Exhibit D-1**.

Exhibit D-1. Data Sources Used in the Claims Analysis

Data Source	Years	Contents	Purpose
Area Health Resource File (AHRF)	2021–2023	Health care provider and resident population characteristics at the county level	Creation of market-level characteristics for use in risk-adjustment and comparison group construction
Association of American Medical Colleges (AAMC) Organizational Characteristics Database (OCD)	2024	Name, affiliated teaching hospital, location information, and structural information for U.S. medical schools registered with AAMC	Identification of practices that are affiliated with medical centers for use in risk adjustment and comparison group construction
CMS Medicare Advantage County Penetration	2016–2023	Counts of Medicare Advantage enrollees, eligible beneficiaries, and penetration rates by county	Creation of market-level characteristics for use in risk-adjustment and comparison group construction
CTData Connecticut ZIP to Planning Region Crosswalk	2022	Crosswalk of Connecticut (CT) ZIP Codes to planning regions	Linkage of historic CT county FIPS codes to updated CT planning region codes for creation of market-level characteristics for use in risk adjustment and comparison group construction
Enrollment Database (EDB)	2016–2024	Medicare beneficiary enrollment information	Identification of beneficiary exclusions for the episode identification process and beneficiary demographics; also identification of election of hospice benefit
EOM Program Data	2023–2024	EOM application and participation status; reconciliation data, including MEOS payments, performance-based payments, performance-based recoupments, and scoring on quality measures	Identification of EOM participation and characteristics of participants; calculation of estimated net savings to Medicare
EOM Technical Payment Resources and Initiating Therapies Lists	2023–2024	EOM documentation, including lists of qualifying cancers and initiating therapies	Identification of episodes, identification of exclusions, and construction of outcomes

Data Source	Years	Contents	Purpose
Master Data Management (MDM) Beneficiary Extracts	2016–2024	Beneficiary alignment with Medicare Shared Savings Program and Innovation Center initiatives	Identification of patient alignment to the following CMS initiatives: Medicare Shared Savings Program, Vermont All-Payer ACO Model, ACO REACH, Pioneer ACO, Maryland Total Cost of Care Model, Kidney Care Choices Model, ESRD Treatment Choices Model, Comprehensive ESRD Care Model, Making Care Primary, Primary Care First Model, Comprehensive Primary Care Initiative, Comprehensive Primary Care Plus, Independence at Home
Medicare Beneficiary Summary File (MBSF)	2016–2024	Summary of beneficiary demographic and enrollment information	Patient demographics and episode characteristics, including enrollment in Part D, dual eligibility, and Part D LIS
Medicare Data on Provider Practice and Specialty (MD-PPAS)	2016–2022	Medicare provider NPI, NPI specialty classification, billing patterns, top two most billed to TIN legal names, top two most billed to TINs	Construction of practice characteristics, including legal name, number of NPIs, practice specialty, and specialty of providers billing to the practice
Medicare FFS Claim Files	2016–2024	Medicare FFS claims: inpatient facility, outpatient facility, carrier, and DME	Identification of episodes including Part B triggering events; construction of outcomes and episode-level covariates
NBER SSA to FIPS Crosswalk	2022	Crosswalk of SSA county codes to FIPS county codes	Linkage of episodes to patient county of residence characteristics for use in risk - adjustment and comparison group construction
OCM Program Data	2016–2022	OCM participation status and dates of practice participation	Identification of practice participation in OCM; construction of covariates for risk adjustment
Part D Event Files	2016–2024	Information on Part D drug fills, including NDC codes and fill dates	Identification of Part D triggering events; construction of outcomes including Part D payments
SEER Health Service Area (HSA) Dataset	2023	Crosswalk of counties to SEER HSAs	Definition of practice markets and construction of market-level variables for use in comparison group development and risk adjustment
Standardized Payment Files	2016–2024	Standardized payments for Medicare FFS claims paid under Parts A and B[b]	Construction of Part A and Part B payment outcomes
USDA Rural-Urban Continuum Codes (RUCC)	2023	Rural-Urban Continuum Codes by county	Identification of patient rural status for use in risk adjustment and practice-level variables for comparison group construction

Data Source	Years	Contents	Purpose
Welch and Bindman (2016)[a]	2016	List of TINs confirmed as belonging to academic medical centers	Identification of practices that are affiliated with medical centers for use in risk adjustment and comparison group construction

Note: AAMC = Association of American Medical Colleges; ACO = Accountable Care Organization; AHRF = Area Health Resource File; CT = Connecticut; DME = Durable Medical Equipment; EDB = Enrollment Database; ESRD = end-stage renal disease; FFS = fee-for-service; FIPS = Federal Information Processing Standards; HSA = health service area; LIS = low-income subsidy; MBSF = Medicare Beneficiary Summary File; MDM = Master Data Management; MD-PPAS = Medicare Data on Provider Practice and Specialty; MEOS = Monthly Enhanced Oncology Services; NBER = National Bureau of Economic Research; NDC = National Drug Code; NPI = National Provider Identifier; OCD = Original Characteristics Database; OCM = Oncology Care Model; REACH = Realizing Equity, Access, and Community Health; RUCC = Rural-Urban Continuum Codes; SEER = Surveillance, Epidemiology, and End Results Program; SSA = Social Security Administration; TIN = Taxpayer Identification Number; USDA = United States Department of Agriculture. 2016–2024 MDM data were retrieved from cumulative data available in 2025

[a] Welch, W. P., & Bindman, A. B. (2016). Town and gown differences among the 100 largest medical groups in the United States. *Academic Medicine, 91*(7), 1007–1014. [b] Standardized Payments were pulled on February 24, 2025.

D.2 Study Sample and Measures

D.2.1 Observation Period for This Report

EOM focuses on patients with Medicare FFS who are receiving treatment for seven high-risk cancers. EOM began July 1, 2023, and includes 6-month episodes of care triggered by systemic cancer treatment. This report covers claims-based EOM impacts through PP1 (episodes initiated 7/1/2023–12/31/2023). For the evaluation, we constructed historic episodes prior to the start of EOM (to establish a baseline) and through PP1. We divided the baseline into 6-month periods to mirror the EOM performance periods. We present the periods included in our episode construction in **Exhibit D-2**. We also present the periods used within the model payment methodology to identify benchmark prices.

Exhibit D-2. Initiation Dates Used for Episode Construction

Episode Initiation Dates	Evaluation Period	Model Period
7/1/2016–12/31/2016	N/A	Benchmark
1/1/2017–6/30/2017	N/A	Benchmark
7/1/2017–12/31/2017	N/A	Benchmark
1/1/2018–6/30/2018	N/A	Benchmark
7/1/2018–12/31/2018	Baseline	Benchmark
1/1/2019–6/30/2019	Baseline	Benchmark
7/1/2019–12/31/2019	Baseline	Benchmark
1/1/2020–6/30/2020	Baseline	Benchmark
7/1/2020–12/31/2020	Baseline	N/A
1/1/2021–6/30/2021	Baseline	N/A
7/1/2021–12/31/2021	Baseline	N/A
1/1/2022–6/30/2022	Baseline	N/A

Episode Initiation Dates	Evaluation Period	Model Period
7/1/2022–12/31/2022	N/A	N/A
1/1/2023–6/30/2023	N/A	N/A
7/1/2023–12/31/2023	Intervention	Performance Period 1

D.2.2 Episode Identification

EOM cancer episodes. The process of identifying episodes includes the following steps. First, the patient must have had an initiating systemic cancer therapy, which is billed through either Medicare Part B or Medicare Part D, and be receiving treatment for one of the cancer types included in EOM. This triggering event may become the start of an episode, if no other episode for the patient is ongoing and other patient criteria are met. The episode spans 6 months from either the administration of the initiating therapy (for therapies under Part B) or the fill date (if the episode is initiated through a Part D drug). We identified initiating therapies using the initiating therapies lists in the EOM Payment Technical Resources as well as the final list for the first three performance periods of EOM. Episodes are assigned to a particular cancer type based on the plurality of diagnosis codes indicated in cancer-related evaluation and management (E&M) visits. International Classification of Diseases, Tenth Revision (ICD-10) codes used to identify each cancer type are listed in **Exhibit D-3**.

Exhibit D-3. Cancer Types Used in Episode Construction

Cancer Type	Included ICD-10 Codes
Breast Cancer	C50.xx
Chronic Leukemia	C91.1x C92.1x
Lung Cancer	C34.xx C39.xx C45.xx
Lymphoma	C81.xx–C86.xx C88.xx C91.4x
Multiple Myeloma	C90.xx
Prostate Cancer	C61.xx
Small Intestine/Colorectal Cancer	C17.xx-C20.xx

Note: ICD-10 = International Classification of Diseases 10th Revision.

In EOM, oncology practices are defined at the TIN level; thus, we use the term *oncology practice* to refer to a TIN that has at least one medical oncologist or hematologist oncologist who has billed at least one E&M visit under the TIN for Medicare FFS patients with EOM-included cancer types. Episodes are attributed to the oncology practice where the patient has an EOM cancer-related E&M visit after the triggering event, as long as the practice provided at least 25% of all EOM cancer-related E&M visits during the episode. If this criterion is not met, then the episode is assigned to a practice based on a plurality rule. After constructing the national sample of EOM-included cancer episodes, we applied a set of criteria to align with EOM rules for impact and descriptive analyses. For example, we excluded episodes with a COVID-19 diagnosis at any point

during the episode, use of CAR-T, or use of BsAbs.[10] We also restrict the sample to episodes where the initiating therapy was on the relevant lists (baseline period: both the initiating therapy list in the EOM Payment Technical Resources and the PP1 initiating therapy list; PP1: PP1 initiating therapy list only).

Non-EOM cancer episodes. The model only considers episodes for the seven EOM cancer types. However, the broader panel of FFS patients receiving cancer care provides additional context to understand the practices. We identified non-EOM cancer episodes by applying the same approach we employed to identify EOM cancer episodes, using the broader list of diagnoses included in the EOM payment resources. To better align with the model's payment methodology, we let EOM episodes take precedence when assigning an episode to a specific cancer type. As a result, the inclusion of non-EOM cancer episodes does not alter the timing of EOM cancer episodes.

D.2.3 Outcome Measures

We present episode-level outcome measures included in impact estimates or descriptive analyses in **Exhibit D-4**. All payment outcomes refer to Medicare paid amounts and exclude MEOS payments issued for EOM and OCM. Standardized Part A and Part B payments are used to adjust for geographic differences in regional labor costs and practice expenses. We further adjusted payments to remove the effects of sequestration.

Exhibit D-4. Claims-Based Payment, Utilization, and Quality of Care Outcome Measures

Domain	Episode-Level Outcome	Description
Payments	Total Medicare Episode Payments Excluding MEOS	The sum of standardized Medicare Part A, standardized Medicare Part B, and Medicare Part D payments during the episode.
	Medicare Part A Standardized Episode Payments	Standardized Medicare Part A payments during the episode. Includes payments from inpatient claims that began during the episode, even if services continued beyond the end of the episode.
	Medicare Part B Standardized Episode Payments	Standardized Medicare Part B payments during the episode.
	Medicare Part B Systemic Cancer Therapy Standardized Episode Payments	Standardized Medicare Part B payments for systemic cancer therapy drugs during the episode. Systemic cancer therapies are identified using codes included in the EOM Payment Technical Resources as well as the PP1–PP3 initiating therapy lists.
	Medicare Part B Other Standardized Episode Payments	Standardized Medicare Part B payments for other (not systemic cancer therapy) drugs and services during the episode.

[10] EOM did not exclude BsAbs for the first performance period of the model (PP1); however, to maintain consistency across periods, we exclude BsAbs from all time periods included in the national sample of episodes. As appropriate for evaluation purposes, the evaluation episode identification algorithm sometimes differed from those used in the payment methodology. For example, for payment purposes, the algorithm to identify episodes begins on July 1, 2023; however, this would interrupt the natural flow of patient episodes in the evaluation sample. Thus, we start the algorithm prior to our evaluation baseline period and do not restart it at the beginning of the model. We also use a broader, forward-looking list of initiating therapies (based on a combination of the therapies in the EOM Payment Technical Resources, and the PP1, PP2, and PP3 initiating therapy lists for this report), to allow for monitoring of the use of newly approved therapies that may not be on the PP1 initiating therapy list. For additional details of model payment methodology, see Enhancing Oncology Model (EOM) Payment Methodology.

Domain	Episode-Level Outcome	Description
	Medicare Part D Episode Payments	Medicare Part D payments for prescriptions filled during the episode. Calculated as 80% of Gross Drugs Cost Above Part D Out-of-Pocket Threshold (GDCA) plus low-income cost-sharing subsidy amount.
Utilization	Number of Assigned Cancer-Related E&M Visits	Number of E&M visits during the episode with a diagnosis code for the assigned EOM cancer type.
	Any IP Stay During the Episode, Number of IP Stays During the Episode	*Any IP stay*: Binary indicator of whether the patient had an IP stay that began during the episode. IP stays are defined as inpatient claims where the provider is an acute care or critical access hospital, with overlapping claims or those separated by at most 1 day (to link transfers) grouped into single stays. *Number of IP stays*: Count of IP stays that began during the episode.
	Any ED Visits During the Episode, Number of ED Visits During the Episode	*Any ED visit*: Binary indicator of whether the patient presented at the ED at any point during the episode. *Number of ED visits*: Count of times the patient presented to the ED during the episode.
	Any Readmissions During the Episode, Number of Readmissions During the Episode	*Any readmission*: Binary indicator of whether the patient had an IP stay that began within 30 days of discharge following an index admission that began during the episode. An index admission is an IP stay the patient survived that resulted in discharge to a non-acute-care setting. *Number of readmissions*: Count of index admissions that began during the episode and resulted in at least one readmission. If no index admissions began during the episode, then the measures are set to missing.
Quality of Care	Patient Received Hospice Care During All 3 Days Preceding Death	Among patients who died during the episode, binary flag capturing whether the patient was receiving hospice care for all 3 days prior to death and on the date of death.
	Patient Received Systemic Cancer Therapy During Any of the 14 Days Preceding Death	Among patients who died during the episode, binary flag capturing whether the patient was receiving systemic cancer therapy for any of the 14 days prior to death or on the date of death. Receipt of systemic cancer therapies is identified as receipt of treatments included in the EOM Payment Technical Resources as well as the PP1–PP3 initiating therapy lists, from any claim type. For treatment identified by Part D claims, only the fill date is included as a treatment date.
	Number of Systemic Cancer Therapy–Associated ED Visits	Number of ED visits for qualifying systemic cancer therapy side effects for patients receiving treatment in the previous 30 days. Receipt of systemic cancer therapies is identified as receipt of treatments included in the EOM Payment Technical Resources as well as the PP1–PP3 initiating therapy lists. The most recent systemic cancer treatment service must occur prior to the ED visit, and both the treatment and ED visit must occur within the episode. Qualifying side effects included anemia, dehydration, diarrhea, vomiting, fever, nausea, low white blood cell counts, pain, pneumonia, and sepsis.

Domain	Episode-Level Outcome	Description
	Number of Systemic Cancer Therapy–Associated Hospitalizations	Number of IP admissions for qualifying systemic cancer therapy side effects for patients receiving treatment in the previous 30 days. Receipt of systemic cancer therapies is identified as receipt of treatments included in the EOM Payment Technical Resources as well as the PP1–PP3 initiating therapy lists. The most recent systemic cancer therapy service prior to the IP stay and the IP stay both must occur within the episode. Qualifying side effects included anemia, dehydration, diarrhea, vomiting, fever, nausea, low white blood cell counts, pain, pneumonia, and sepsis.

Note: ED = Emergency Department; GDCA = Gross Drugs Cost Above Part D Out-of-Pocket Threshold; IP = Inpatient; MEOS = Monthly Enhanced Oncology Services; PP = performance period.

D.2.4 Episode-Level Characteristics

We present definitions for episode-level characteristics used in the evaluation in **Exhibit D-5**.

Exhibit D-5. Definition of Episode-Level Characteristics

Episode-Level Characteristics	Description
Cancer Type	Assigned EOM cancer type for the episode.
Full Dual Eligibility Status	Binary indicator of whether the patient was considered fully Medicare–Medicaid dually eligible at the start of the episode.
Partial Dual Eligibility Status	Binary indicator of whether the patient was considered partially Medicare–Medicaid dually eligible at the start of the episode.
Age Group	For age bins (<65, 65–74, 75–84, 85+ years): whether the patient's age was within the given bin at the start of the episode.
Part D Low-Income Subsidy (LIS)	Binary indicator of whether the patient was eligible for any Part D LIS at the start of the episode.
Part D Enrollment, Any	Binary indicator of whether the patient was enrolled in Part D at the start of the episode. *Measure used in risk adjustment.*
Part D Enrollment, Not Through Dual Eligibility	Binary indicator of whether the patient was enrolled in Part D at the start of the episode, where coverage through Part D is not through being dually eligible for Medicare and Medicaid. *Measure used in descriptive analyses.*
Recent Medicare Advantage	Binary indicator of whether the patient was enrolled in Medicare Advantage in the month the episode started or during any of the 11 months prior.
Female	Binary indicator of whether the patient was female for the year the episode started.
Rural	Binary indicator of whether the patient resided in a rural county, defined as a Rural-Urban Continuum Codes (RUCC) nonmetro county (RUCC codes 4–9).
OCM Episode	Binary indicator of whether the episode was attributed to a practice that was actively initiating OCM episodes.
ACO Overlap	Binary indicator of whether the patient was attributed to an ACO (Medicare Shared Savings Program, REACH ACO, Next Generation ACO, KCC) at any point during the episode.
Primary Care Model Overlap	Binary indicator of whether the patient was attributed to a primary care model (PCF or CPC+) at any point during the episode.
ACO REACH Overlap	Binary indicator of whether the patient was attributed to ACO REACH at any point during the episode.

Episode-Level Characteristics	Description
Kidney Care Choices (KCC) Model Overlap	Binary indicator of whether the patient was aligned to the KCC Model at any point during the episode.
Medicare Shared Savings Program Overlap	Binary indicator of whether the patient was aligned to the Medicare Shared Savings Program at any point during the episode.
Next Generation ACO Overlap	Binary indicator of whether the patient was aligned to the Next Gen ACO at any point during the episode.
Vermont All-Payer ACO Overlap	Binary indicator of whether the patient was aligned to the Vermont All-Payer ACO at any point during the episode.
Comprehensive Primary Care Plus (CPC+) Model Overlap	Binary indicator of whether the patient was aligned to the CPC+ Model at any point during the episode.
Primary Care First (PCF) Model Overlap	Binary indicator of whether the patient was aligned to the PCF Model at any point during the episode.
Maryland Total Cost of Care (TCOC) Overlap	Binary indicator of whether the patient was attributed to the Maryland TCOC Model at any point during the episode.
Independence at Home Overlap	Binary indicator of whether the patient was attributed to the Independence at Home Model at any point during the episode.
Primary Comorbidity Group	Binary indicator of whether the patient had a given comorbidity at the start of the episode, based on a 365-day lookback from the start of the episode. Primary comorbidities include autoimmune disorder, COPD, dementia, endocrine disorder, heart disease, hematological disorder, hypertension, and obesity. A patient may have more than one primary comorbidity.
Prior Systemic Cancer Therapy	Binary indicator of whether the patient received systemic cancer therapy over the 730 days preceding the start of the episode.
Prior Cancer Episode	Binary indicator of whether patient had at least one 6-month episode triggered by systemic cancer therapy that occurred prior to EOM, between July 1, 2016, and June 30, 2023.
Hierarchical Condition Category (HCC) Score	HCC score of the patient, based on a 365-day lookback from the start of the episode.
COVID-19 Hospitalization Rate	Proportion of inpatient admissions that contained a COVID-19 diagnosis in the patient's county of residence at the start of the episode.
Primary Care Health Professional Shortage Area (HPSA)	Binary indicator of whether the patient's county of residence was designated as a full primary care HPSA.
Census Division of Care	Census division based on the state in which the patient most frequently received oncology care during the episode.
Census Region of Residence	Census region in which the patient resides during the episode.
Specialists per Capita, 2020	Ratio of specialty physicians to population in 2020 in the county in which the patient resided at the start of the episode.
Bone Marrow Transplant	Binary indicator of whether the patient received a bone marrow transplant during the episode; based on codes included in the EOM Technical Payment Resources.
Clinical Trial Participation	Binary indicator of whether the patient was part of a clinical trial during the episode.

Episode-Level Characteristics	Description
Cancer Surgery	Binary indicator of whether the patient received cancer-related surgery during the episode; based on codes included in the EOM Technical Payment Resources.
Radiation Therapy	Binary indicator of whether the patient received radiation therapy during the episode; based on codes included in the EOM Technical Payment Resources.

Note: ACO = Accountable Care Organization; COPD = chronic obstructive pulmonary disease; CPC+ = Comprehensive Primary Care Plus; HCC = Hierarchical Condition Category; HPSA = Health Professional Shortage Area; KCC = Kidney Care Choices; LIS = low-income subsidy; PCF = Primary Care First; REACH = Realizing Equity, Access, and Community Health; RUCC = Rural-Urban Continuum Codes; TCOC = Total Cost of Care.

D.2.5 Practice Characteristics

We present practice-level characteristics used in the evaluation to describe EOM participants and non-EOM oncology practices in **Exhibit D-6**.

Exhibit D-6. Definition of Practice-Level Characteristics

Practice Characteristics	Description
Ever Active in OCM	Binary indicator of whether the attributed oncology practice was ever an active participant in OCM.
Academic Medical Center	Binary indicator of whether the practice is affiliated with an academic medical center. Practices were defined as academic medical centers if they were affiliated with an accredited medical school or its teaching hospital. Affiliated practices were identified by applying 2022 MD-PPAS data to the 2024 AAMC Organizational Characteristics Database using an adapted version of the method used in the following article: Welch, W.P., & Bindman, A. B. (2016). Town and gown differences among the 100 largest medical groups in the United States. *Journal of American Medical Colleges, 91(7),* 1007–1014. https://doi.org/10.1097/ACM.0000000000001240. Being affiliated with an academic medical center and being hospital based are not mutually exclusive.
Hospital Based	Binary indicator of whether a practice is identified as hospital based, based on billing patterns of NPIs. A practice is identified as hospital based (1) if greater than 20% of services are billed in an inpatient, outpatient hospital, or emergency department setting, per weighted average services of NPIs billing to the practices and if the practice employs at least one NPI specializing in emergency medicine, cell transplantation and cellular therapy, or surgical oncology specialties; (2) if greater than 30% of services are billed in an inpatient, outpatient hospital, or emergency department setting, per weighted average services of NPIs billing to the practices; or (3) if greater than 30% of services are billed in an inpatient, outpatient hospital, or emergency department setting, per weighted average services of oncology NPIs billing to the practice. The 2022 MD-PPAS data are used as the data source.
Community Based	Binary indicator of whether practice is identified as community based. Practices that are not defined as being hospital based or affiliated with an academic medical center are defined as being community based.
Oncology Only	Binary indicator of whether all NPIs billing to the TIN over the duration of the episode had an oncology specialty.
Number of NPIs	Number of NPIs billing to the TIN over the duration of the episode.
Number of Oncology NPIs	Number of NPIs with an oncology specialty billing to the TIN over the duration of the episode.
Proportion of Nurse Practitioners or Physician Assistants	Average proportion of NPIs billing to the TIN that are nurse practitioners or physician assistants over the duration of the episode.

Practice Characteristics	Description
Number of Markets	Number of SEER HSAs in which the practice provided oncology services.
Multimarket	Binary indicator of whether the practice provided oncology services in multiple SEER HSAs over the period in which the episode started.
Practice Growth	Binary indicator of whether the number of counties where the practice provided cancer-related E&M services for EOM-included cancers increased by three or more during the period considered.
Episode Volume	Average total number of episodes attributed to the practice.
Census Region	Census region in which the practice was located based on where the practice provided services to patients.

Note: AAMC = Association of American Medical Colleges; E&M = evaluation and management; HSA = health service area; MD-PPAS = Medicare Data on Provider Practice and Specialty; NPI = National Provider Identifier; OCM = Oncology Care Model; SEER = Surveillance, Epidemiology, and End Results Program; TIN = Taxpayer Identification Number.

D.2.6 Market Characteristics

We present market-level characteristics used in the evaluation to describe EOM practices and non-EOM practices in **Exhibit D-7**. We defined a market as a SEER HSA comprising a single county or a cluster of counties that are considered self-contained with respect to hospital care. Prior studies have used SEER HSAs to define oncology markets.[11,12]

Exhibit D-7. Definition of Market-Level Characteristics

Market-Level Characteristic	Description
Average Market Population	Average population over the HSA(s) in which the practice provided oncology services, weighted by the share of oncology E&M services the TIN provided in each HSA during the first half of 2022.
Medicare Advantage Penetration	Average Medicare Advantage penetration rate over the HSA(s) in which the practice provided oncology services, weighted by the share of oncology E&M services the TIN provided in each HSA during the first half of 2022.
Percent Poverty	Average percentage of residents in poverty over the HSA(s) in which the practice provided oncology services, weighted by the share of oncology E&M services the TIN provided in each HSA during the first half of 2022. Poverty is defined in accordance with the Office of Management and Budget Statistical Policy Directive 14. A person is determined to be in poverty if their total family income over the last 12 months is less than the poverty threshold for a family of the same size.
Percent of Residents Aged 65+ Years in Market	Average percentage of residents aged 65+ years over the HSA(s) in which the practice provided oncology services, weighted by the share of oncology E&M services the TIN provided in each HSA during the first half of 2022.

Note: E&M = evaluation and management; HSA = health service area; TIN = Taxpayer Identification Number.

D.3 Baseline Descriptive Methods

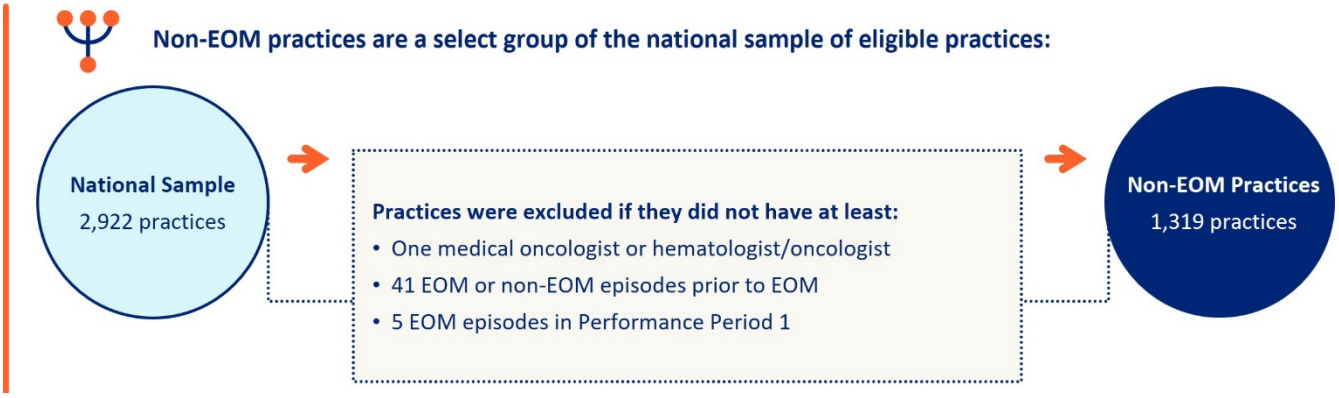
To explore how EOM practices compared with practices that did not participate, we identified a national set of non-EOM oncology practices that regularly provided cancer care and employed at

[11] Guadagnolo, B. A., Huo, J., Liao, K. P., Buchholz, T. A., & Das, P. (2013). Changing trends in radiation therapy technologies in the last year of life for patients diagnosed with metastatic cancer in the United States. *Cancer*, *119*(5), 1089–1097.

[12] Jacobs, B. L., Zhang, Y., Skolarus, T. A., Wei, J. T., Montie, J. E., Schroeck, F. R., & Hollenbeck, B. K. (2012). Managed care and the diffusion of intensity-modulated radiotherapy for prostate cancer. *Urology*, *80*(6), 1236–1242.

least one medical oncologist or hematologist oncologist during the years prior to the announcement of EOM. There were 2,922 practices where at least one hematologist/oncologist or medical oncologist billed at least one EOM-included cancer E&M visit between July 2016 and June 2024. As shown in **Exhibit D-8**, we also applied volume restrictions to the sample to ensure the practices used in the analyses were regularly providing oncology care services to patients during the latter portion of the period prior to the announcement of EOM (episodes initiated from January 2020 through June 2022) as well as during PP1 of EOM (episodes initiated from July 2023 through December 2023). The resulting samples included 1,319 non-EOM practices in our trend analyses and 1,317 practices with EOM episodes during the final year of the baseline period for other analyses.

Exhibit D-8. Selection Criteria for Non-EOM Practices



Note: Performance Period 1 is July 2023 through December 2023. The national sample was based on Medicare claims data from July 2016 through June 2024. The latter portion of the period included episodes initiated from January 2020 through June 2022. Of the 1,319 non-EOM practices included, there were 1,317 non-EOM practices in the final year of the baseline. EOM was announced on June 27, 2022.

We compared EOM practices with non-EOM practices in terms of practice and patient characteristics as well as outcomes and trends. We tested whether characteristics were meaningfully different between groups using a two-sided t-test. We calculated statistics as the average of two 6-month periods (July 2021–December 2021 and January 2022–June 2022). Because we focused on the period prior to the announcement of EOM, only 43 EOM practices are included in the statistics, as 1 practice did not have observations during the periods used.

D.4 Comparison Group Construction

D.4.1 Overview of Comparison Group Construction

To estimate the impact of EOM, we used a difference-in-differences (DiD) approach, which is a statistical method that quantifies the impact of an intervention or policy by comparing changes in a treatment group (EOM) with changes in a comparison group across baseline (preintervention) and intervention periods. The *changes* in risk-adjusted average outcomes over time for the comparison group are meant to serve as a *counterfactual* for the EOM group, mirroring changes that participant practices *would have* experienced had they not joined EOM.

EOM is a voluntary model, and it is likely that practices that joined the model differ from the average nonparticipant practice. Therefore, we constructed a comparison group of practices that were similar to EOM practices on a variety of preintervention characteristics. We constructed a comparison group for practices in the first cohort of EOM by estimating the likelihood of joining

EOM as a function of practice and market characteristics and matching participating practice to nonparticipating potential comparison practices with the most similar estimated propensity scores, allowing replacement in the matches.[13] Practices with similar propensity scores should have similar distributions of the characteristics that are correlated with the decision to join the model.

D.4.2 Period Used for Propensity Score Estimation

To construct the claims-based practice-level characteristics for propensity score matching, we aggregated episode-level data to the practice level. To do this, we first averaged the episode-level characteristics over episodes up to the practice-by-period level, where "period" refers to 6-month intervals based on episode start date. We then averaged these intermediate aggregations over the baseline periods to the practice level. We also constructed practice and market characteristics from other secondary data sources, including the Area Health Resource Files, Medicare Data on Provider Practice and Specialty, Medicare Advantage information, and the Master Beneficiary Summary File.

Although our evaluation baseline includes episodes that started between July 2018 and June 2022, we used the period of January 2020 through June 2022 to measure characteristics for the propensity score estimation because we hypothesized that practices' experiences in the latter portion of this period may have been more influential on their decision to join. We also found statistical evidence of distributional differences in payments between the pre-COVID-19 and COVID-19 eras. Thus, for estimating the propensity score, we limited the periods to episodes that started January 2020 through June 2022.

One EOM practice was newly established and did not have episodes during the period used for matching. For this reason, we matched 43 EOM practices.

D.4.3 Comparison Pool Exclusions

We used several criteria to exclude certain practices from the pool of potential comparators. The criteria are intended (1) to ensure that there is close similarity between participant and comparator practices on highly important characteristics, (2) to ensure that we are focusing on practices that routinely provide oncology care, and (3) to remove practices that may be influenced by EOM practices. After applying these exclusions, 938 practices remained in the potential comparison pool. [14]

- ***Low volume.*** We excluded practices with fewer than five EOM episodes during PP1, to ensure that the comparators continued to provide cancer services into the intervention period. We also restricted the sample to practices that had greater than 40 total episodes (both EOM and non-EOM cancer types) during the matching period.

[13] A second cohort of EOM practices joined the model on July 1, 2025.

[14] The 938 practices are a subset of the 1,319 practices used in the descriptive analyses. As shown in the section on exclusions, we applied additional requirements for practices to be included in the propensity score model, including cut points based on the distribution of EOM practices (number of medical oncologists or hematologists/oncologists), prior TINs used by EOM participants, and practices that had applied for Cohort 2 and had not withdrawn as of March 15, 2025.

- ***Hematologists/oncologists.*** We excluded practices with fewer than two hematologists/oncologists or medical oncologists billing during the matching period. This exclusion excludes any practices with fewer hematologists/oncologists than the smallest Cohort 1 EOM practice.
- ***Cohort 2 applicants.*** To avoid matching to practices that may join the model in Cohort 2, we excluded the TINs for Cohort 2 EOM applicant practices that had not withdrawn as of March 15, 2025.
- ***Legacy TINs.*** Within the claims data, we identified practices by their TIN. Per model rules, practices are defined as one active TIN; however, practices may have one or more "legacy" TINs. A legacy TIN is a TIN the practice used previously or a TIN that had been used by a practice that was acquired. To prevent matching EOM practices to one of their legacy TINs, we excluded any TIN that was a legacy TIN for an EOM Cohort 1 participant or Cohort 2 applicant.
- ***Hospitals exempt from the Prospective Payment System (PPS).*** We excluded practices that had a large share of patients treated by PPS-exempt cancer hospitals (75% or more episodes in a period), as practices that regularly referred patients to PPS-exempt hospitals were not eligible to join EOM.

Exhibit D-9 details all exclusion rules for the comparison pool.

Exhibit D-9. Exclusions Sequentially Applied to Comparison Pool

Exclusion	Practices Remaining in Sample
Starting Sample: Practices Where At Least One Hematologist/Oncologist or Medical Oncologist Billed At Least One EOM-Included Cancer E&M Visit From July 1, 2016, to December 31, 2023	2,922
Fewer Than 41 Episodes Between January 1, 2020, and June 30,2022	1,694
Fewer Than 2 Hematologists/Oncologists or Medical Oncologists Billing Across the Matching Periods	1,154
Fewer Than 5 EOM PP1 Episodes	1,004
EOM Cohort 1 Participant Legacy TIN	998
EOM Cohort 2 Applicant[a]	963
EOM Cohort 2 Applicant Legacy TIN	962
Missing Covariate Values	960
Large Share of Patients Treated by PPS-Exempt Cancer Hospitals	938

Note: E&M = evaluation and management; TIN = Taxpayer Identification Number; PP = performance period; PPS = Prospective Payment System

[a] There were 47 practices in the initial Cohort 2 applicant set; Cohort 2 practices and legacy TINs that withdrew their application prior to March 15, 2025 were not excluded.

We applied two additional exclusions after the match. First, we excluded practices that operated in markets saturated by EOM practices. Second, we excluded oncology practices identified as critical access hospitals. Below we present our rationale and process, however no matched comparator was excluded for these two criteria.

- EOM redesign activities may spread to non-EOM practices operating in markets with a significant EOM presence. If these non-EOM practices were included as comparators, our impact estimates may be biased because of this exposure. We defined a potential comparison practice as "contaminated" when it operates in a market in which a large share of market activity comes from one or more EOM participants. We identified contaminated practices using a two-step approach, based on E&M services with attached cancer diagnoses provided during the first half of 2022. First, we defined a *market* as contaminated if at least 75% of services in the market were provided by an EOM participant. Second, we defined a *practice* as contaminated if at least 75% of services the practice provided were in a contaminated market. We allowed contaminated practices to contribute to the estimation of the propensity score model and retrospectively verified that none of the selected comparison practices were contaminated.
- Critical access hospitals are not eligible to join EOM. We reviewed our matched comparison sample to identify practices with high shares of rural patients with EOM-included cancers and conducted a manual review to identify whether the oncology practice was a critical access hospital. If the name of the TIN matched that of a critical access hospital, the practice would be removed from the sample.[15] There were no such practices identified in our matched comparison group.

D.4.4 Propensity Score Estimation and Data

An oncology practice's propensity score represents the probability that they joined EOM, accounting for the practice's characteristics. The propensity score is a single scalar number that is used as the metric for matching EOM participants to comparison oncology practices. We estimated propensity scores using logistic regression with L2 regularization. We also considered alternate algorithms, including logistic regression without regularization and ElasticNet logistic regression, which uses a linear combination of L1 and L2 regularization.

We selected matching covariates to reflect practice- and market-level characteristics that informed the environment that an oncology practice faced when making the decision to join EOM or that were likely to directly affect outcomes we studied. We present the practice- and market-level characteristics used as matching covariates in **Exhibit D-10**. We assessed the correlation between the matching covariates as a preprocessing step to mitigate multicollinear issues in propensity score model specification, an eventuality also mitigated by the use of regularization. We inspected pairwise correlation values and a correlation plot and found no indication of severely collinear covariates used for the propensity score model.

Exhibit D-10. Matching Covariates Used to Specify the EOM Propensity Score Model

Domain	Matching Covariates Used at Practice Level to Specify the EOM PSM
Patient Mix, Cancer Mix, and Other Episode Characteristics	Cancer mix measures including shares of EOM cancer episodes for each EOM cancer type: breast cancer, chronic leukemia, lung cancer, lymphoma, multiple myeloma, prostate cancer, and small intestine/colorectal cancer
	Average HCC score

[15] We cross-referenced the TIN name with hospitals included in the Flex Monitoring Critical Access Hospitals Location List (https://www.flexmonitoring.org/critical-access-hospital-locations-list). We did not exclude a TIN if it was used for a health system that had both critical access hospitals and other providers.

Domain	Matching Covariates Used at Practice Level to Specify the EOM PSM
	Patient age group proportions: Under 65, 65–74, over 75 years
	Patient demographic characteristics, percentages
	Patient primary comorbidity group proportions, for each comorbidity: autoimmune disorder, chronic obstructive pulmonary disease, dementia, endocrine disorder, heart disease, hematological disorder, hypertension, obesity
	Patient full dual-eligibility status, percentage
	Patient Part D low-income subsidy, percentage
	Patient rurality, percentage
	Patient Primary Care Health Professional Shortage Area, percentage
	Patient ACO overlap, percentage
	Patient Part D enrollment, percentage
	Average total payments (average period-over-period trend)
	Average Part B payments (average period-over-period trend)
	Episode volume (period-over-period trend)
Practice-Level Characteristics	Academic medical center
	Oncologist proportion bins: 0–<4%, 4–<20%, 20–<95%, 95–100%
	Hospital based
	Practice growth in number of counties served (3+ additional counties)
Market-Level Characteristics	Average market population
	Percentage of residents aged 65+ years in market
	Medicare Advantage penetration
	Number of markets the practice operates in

Note: ACO = Accountable Care Organization; HCC = Hierarchical Condition Category; PSM = propensity score model. Oncologist proportion bins based on empirical analysis of probability mass concentrations within the oncologist proportion distribution. Patient characteristic percentages and proportions are calculated using EOM episodes as the denominator.

We considered matching on prior OCM participation to balance EOM and comparison practices on exposure to value-based care prior to EOM start. We opted against doing so because the OCM indicator may have different meaning for participants and nonparticipants. For example, OCM practices that voluntarily joined EOM after participating in OCM may have successfully transformed care under OCM, thus providing the motivation to join the model. OCM practices that decided not to join EOM after participating in OCM may not have been successful at changing care under OCM. As an alternative, we incorporated total and Part B payment trends, defined as the average change between periods included in the match, as matching covariates to serve as a proxy for unobserved information related to care transformation, such as care transformation under OCM.[16]

Informed by subject-matter knowledge and data exploration, we applied calipers on two variables to ensure the credibility of our match. (1) We required comparators to have an average period-

[16] There is in general a concern that matching on preintervention outcomes like this can introduce bias caused by regression to the mean. However, in practice, this concern is valid only if the DiD assumptions are met *without* matching, which is not the case here. See Ryan A. M. (2018). Well-balanced or too matchy-matchy? the controversy over matching in difference-in-differences. *Health Services Research*, *53*(6), 4106–4110. https://doi.org/10.1111/1475-6773.13015

over-period trend in total payments within 20 percentage points of their matched participant. (2) For participants operating in 14 or more markets, we required that their comparators be operating in at least 7 markets; for smaller participants, we required that their comparators be operating in no more than 7 markets beyond the number of markets the participant operated in.

D.4.5 Matching Strategy

We matched each EOM participant to the eight comparison practices with propensity scores nearest to that of the given participant. We used a one-to-eight strategy to ensure a reasonable number of matches for each participant, even with practice attrition in the comparison pool. We matched *with* replacement, allowing potential comparators to be matched to more than one participant. Matching with replacement ensures that the closest matches are selected for every participant, which makes the comparison group as similar as possible.

D.4.6 Assessing the Quality of Match

We evaluated covariate balance for each comparison group we constructed. We assessed balance across covariates used to specify the propensity score model through standardized mean differences (SMDs) and the Kolmogorov–Smirnov test. We consider a SMD with an absolute value of less than 0.2 to have good balance. The Kolmogorov–Smirnov test compares the empirical distribution function of two samples to determine whether they come from the same distribution. We present balance SMD results for a range of characteristics for the matched comparison group and the potential comparison pool in **Exhibit D-11**. The resulting comparison group is well balanced across characteristics. The Kolmogorov–Smirnov tests broadly indicated that the practice covariate distributions among the matched comparison group were not statistically different from those of the participants.[17] To better understand the characteristics of the final matched comparison practices, we also assessed the prevalence of OCM in this group, presented in **Exhibit D-12**.

Exhibit D-11. Standardized Mean Differences for Matched Comparison Group

Variable	SMD for Matched Sample	SMD for Comparison Pool
HCC Score	0.057	-0.106
Academic Medical Center	-0.072	-0.063
Hospital Based	-0.078	-0.742
Market Growth	0.108	0.125
Breast Cancer Proportion	0.003	0.165
Chronic Leukemia Proportion	0.081	0.027
Lung Cancer Proportion	0.143	-0.321
Lymphoma Proportion	-0.059	0.145
Multiple Myeloma Proportion	-0.138	0.041
Prostate Cancer Proportion	-0.050	0.012
Small Intestine/Colorectal Cancer Proportion	0.116	0.050

[17] The Kolmogorov-Smirnov statistics indicated that among continuous variables in **Exhibit D-11**, only two (breast cancer proportion and average episode volume) had p-values under 0.10. As matching was performed with replacement, comparison practices were included in the sample the number of times they were matched.

Variable	SMD for Matched Sample	SMD for Comparison Pool
Episode Volume[a]	0.327	0.545
Age <65 Years Proportion	-0.068	-0.219
Age 65–74 Years Proportion	0.018	-0.081
Age >74 Years Proportion	0.053	0.198
Female Proportion	0.035	0.187
Full Dual Eligibility Proportion	0.026	-0.283
Part D Low-Income Subsidy Proportion	0.050	-0.096
Part D Enrollment Proportion	0.013	-0.154
Rural	0.068	-0.223
ACO	-0.011	0.147
Oncology NPI Proportion Bin: 0 – <4%	0.000	-0.319
Oncology NPI Proportion Bin: 4 – <20%	0.060	-0.347
Oncology NPI Proportion Bin: 20 – <95%	0.018	0.576
Oncology NPI Proportion Bin: 95 – 100%	0.049	0.067
Autoimmune Disorder Proportion	-0.047	0.001
COPD Proportion	0.184	-0.140
Dementia Proportion	0.056	-0.254
Endocrine Disorder Proportion	0.016	0.031
Heart Disease Proportion	0.117	-0.113
Hematological Disorder Proportion	0.047	0.087
Obesity Proportion	0.025	-0.224
Primary Care HPSA Proportion	0.040	0.047
Total Standard Payment Trends	0.141	-0.089
Part B Payment Trends	0.190	-0.090
Episode Trends	0.082	-0.129
Market Population	-0.033	0.014
Residents Aged 65+ Years in Market	0.101	-0.102
Medicare Advantage Penetration	0.002	0.167
Number of Markets	0.235	0.425
Average Over All Matching Variables	0.074	0.172

Note: ACO = Accountable Care Organization; COPD = chronic obstructive pulmonary disease; HCC = Hierarchical Condition Category; HPSA = Health Professional Shortage Area; NPI = National Provider Identifier; SMD = standardized mean difference. [a] We assessed balance on average episode volume, which was not included as a matching covariate. Other matching covariates included additional demographic and cancer mix measures. SMDs are presented for evaluating balance across EOM participants and matched comparison practices. As matching was performed with replacement, comparison practices are included the number of times they were matched. A SMD value <0.2 is considered to be well balanced across samples. The comparison pool reflects the 938 practices that remained as potential comparators after applying exclusion rules.

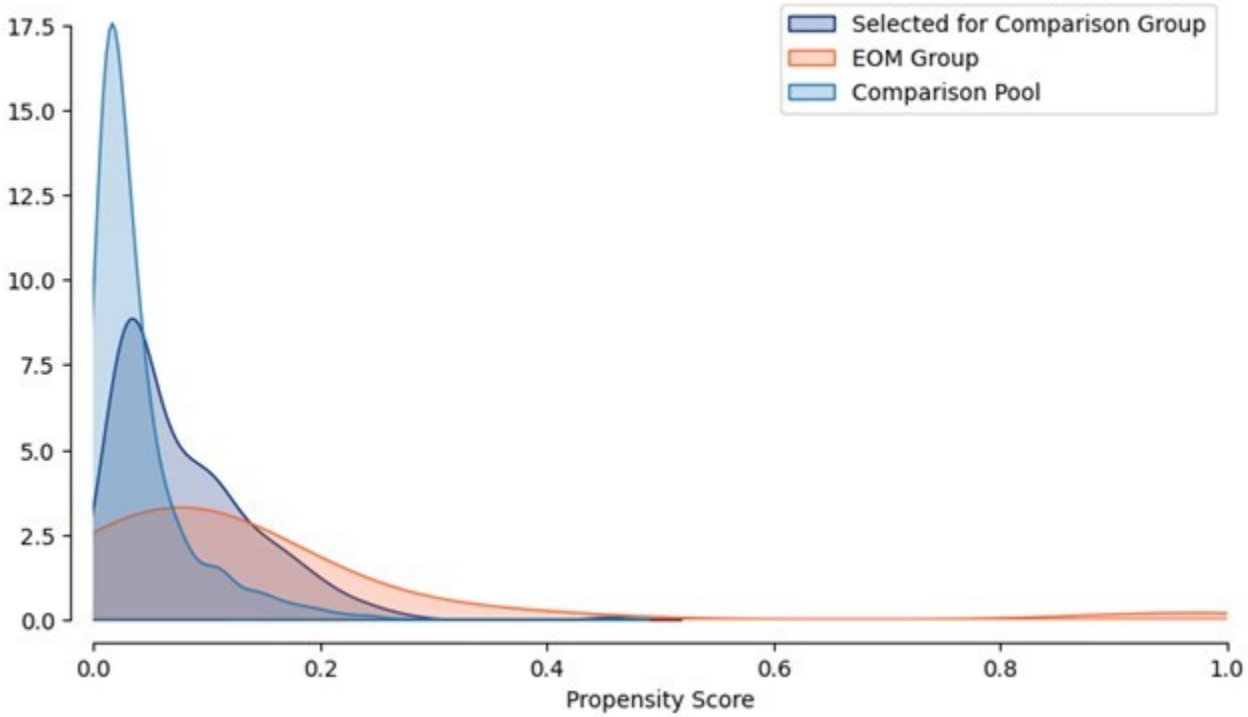
Exhibit D-12. OCM Composition in Matched Set of Comparison Practices

OCM Participation	Number of Unique Comparators	Share of Unique Comparators
No OCM Experience	202	82%
OCM Experience, Not to End	20	8%
OCM to the End	23	9%

Note: OCM = Oncology Care Model. Matched comparison practices are stratified by OCM experience, whether they participated in OCM until the end of the model or whether they were a participant but dropped out of the model. "No OCM experience" is defined as matched comparison practices that never participated in OCM. OCM experience was not used as a variable in the matching algorithm.

We present the distributions of propensity scores for EOM practices, comparison pool practices, and practices selected for the matched comparison group in **Exhibit D-13**. Propensity score matching shifted the comparison practice propensity score distribution to better overlap with EOM participant practices. The matched comparison group provides common support for most EOM participants, and the SMDs presented above offer assurance that, on average, the two groups are similar across covariates. Four EOM practices had propensity scores greater than 0.3, and two comparison practices had propensity scores greater than 0.3. Two EOM practices had very high propensity scores. These high scores were driven by the practices' operation in a large number of markets and growth in the number of counties where the practices provided care. We manually inspected their eight matches to make sure that the selected matches seemed reasonable. We also conducted internal estimates of our PP1 impacts removing each individual practice and found that our impact findings were robust to the inclusion of these outlier practices.

Exhibit D-13. EOM and Comparison Pool Propensity Score Distribution Before and After Matching



Note: Propensity scores are estimated using logistic regression and specified with covariates in **Exhibit D-10**, and distributions are plotted against each other across all EOM practice participants and the full comparison pool sample.

D.5 Impact Analysis Methods

D.5.1 Difference-in-Differences Estimation

We used episode-level regression analyses to estimate the impact of EOM on several key outcomes, while controlling for differences between the EOM and comparison episodes in patient, practice, and market characteristics. The difference-in-differences (DiD) approach estimates the impact of EOM by comparing two differences:

1. The difference between outcomes for EOM participants during the intervention period and during the baseline (pre-EOM) period
2. The difference between outcomes for comparison oncology practices during the intervention period and during the baseline period

Formally, the two-period DiD estimator is:

$$(1) DiD = \left[E(Y|t = 1, \widehat{EOM} = 1, X) - E(Y|t = 0, \widehat{EOM} = 1, X)\right] - \left[E(Y|t = 1, \widehat{EOM} = 0, X) - E(Y|t = 0, \widehat{EOM} = 0, X)\right]$$

Where:

$$E(Y|t, \widehat{EOM}, X)$$

is the estimate of the expected value of outcome *Y* conditional on values of *t*, *EOM*, and *X*, which respectively indicate the period (baseline or intervention), treatment assignment (EOM participant or comparison group), and control covariates. The key advantage to this approach is that any time-invariant factors that affect the outcome are removed by the differencing (under the assumption of parallel trends).

D.5.2 Baseline, Intervention, and Hold-Out Periods

The baseline period for our evaluation encompasses 6-month episodes that were initiated between July 1, 2018, and June 30, 2022, as shown in **Exhibit D-14**. We note that this is a different baseline period than that used in the model for construction of target amounts.

Exhibit D-14. EOM Evaluation Baseline Period

Note: OCM = Oncology Care Model; PHE = Public Health Emergency.

The intervention period for this annual report encompasses 6-month episodes that were initiated during the first model performance period, between July 1, 2023, and December 31, 2023.

For the evaluation, episodes that were initiated between July 1, 2022, and June 30, 2023, fall into neither the baseline nor the intervention. Episodes ending in this "hold-out" period are omitted from the DiD analysis entirely, to avoid bias caused by anticipatory care redesign or other changes to care delivery in response to the model undertaken by participants.

D.5.3 Regression Specification

For a given outcome *Y*, the DiD analysis estimates the differential change in *Y* between EOM participant episodes between the baseline and the intervention periods and contrasts that change with the same change estimated over comparison group episodes.

The linear specification of the episode-level DiD regression is:

$$(2)\ Y_{ijt} = \alpha + \beta EOM_{i,j} + \delta Post_t \cdot EOM_{ij} + \mu_c + \theta_t + \psi' X_{ijt} + \varepsilon_{ijt}$$

Where:

- Y_{ijt} is the outcome for the i^{th} episode aligned with oncology practice *j* in period *t*.
- $Post_t$ is an indicator equal to 1 if period *t* is part of the intervention period and 0 otherwise.
- EOM_{ij} is an indicator equal to 1 if oncology practice *j* (to which episode *i* is attributed) is an EOM participant and 0 otherwise.
- μ_c is a vector of cancer-specific fixed effects that captures cancer-specific differences in outcome *Y*.
- Θ_t is a vector of time period–specific fixed effects that captures any time period–specific shocks that affect both EOM and comparison group practices.
- X_{ijt} is a vector of time-varying patient-level, practice-level, and market-level covariates.
- $\mathcal{E}_{ijt}$ is an error term clustered at the practice (TIN) level.

In this linear specification, δ is the coefficient of interest, capturing the impact of EOM on outcome *Y* ,after controlling for time-period fixed effects and patient-, provider-, and market-level covariates. We used linear regression models to estimate the DiD impact analyses for the payment outcomes included in this first annual report. For the binary utilization and quality outcomes, we estimated the logistic regression analog of equation (2). For both linear and binary models, the DiD impact is presented as the average marginal effect of EOM on EOM episodes during PP1. Because the comparison group was constructed using matching with replacement, in each DiD regression, comparison episodes are weighted by the number of times their attributed oncology practice was matched to an EOM oncology practice.

D.5.4 Covariate Adjustments

The structure of the DiD model itself controls for time-varying changes that are experienced by all patients, as well as time-invariant differences between EOM and comparison patients. We also

included covariates, vector X_{ijt} in equation (2), to account for time-varying differences in patient, practice, and market characteristics (**Exhibit D-15**). Including these in the regression enhances precision and partially accounts for any leftover imbalance between EOM and comparison group practices. For more details on the definition of covariates, see **Exhibits D5**–**D7**.

To select covariates for the DiD model, we considered relationships with the outcome of interest, the degree of imbalance between the EOM and comparison groups during the baseline period, and potential confounders that could have emerged over time. Covariate selection was informed by discussions with clinicians, the academic literature on oncology outcomes, the OCM evaluation, and the set of risk-adjusters included in the EOM price prediction model. To ensure unbiased estimates, we did not include any covariates that could have been influenced by EOM.

Exhibit D-15. Covariates and Adjustments Included in the DiD Models

Domain	Covariates Included in the DiD Models
Patient and Episode Level	EOM cancer type indicators: Breast cancer, chronic leukemia, lung cancer, lymphoma, multiple myeloma, prostate cancer, and small intestine/colorectal cancer
	Age group: Under 65, 65–74, 75–84, 85+ Years
	Other patient demographic characteristics
	Full or partial Medicare–Medicaid dual eligibility
	Rural
	Part D low-income subsidy
	Part D enrollment, any
	Recent Medicare Advantage
	Primary care HPSA
	HCC score quartiles
	Comorbidity indicators: Obesity, COPD, hypertension, hematological disorders, autoimmune disorders, endocrine disorders, dementia, and heart disease
	ACO overlap
	OCM episode
	Primary care model overlap
	Census division of care—time period interaction terms
	COVID-19 hospitalization rate in county of residence
	Specialists per capita, 2020 in county of residence
	Quarter of episode start indicators
Practice Level	Academic medical center
	Hospital based
	Oncology only
	Ever active in OCM
	Multimarket
	Baseline EOM cancer type episode volume quartiles
Market Level	Medicare Advantage penetration
	Percent poverty

Domain	Covariates Included in the DiD Models
	Percentage of residents aged 65+ years in market

Note: ACO = Accountable Care Organization; COPD = chronic obstructive pulmonary disease; DiD = difference-in-differences; HCC = Hierarchical Condition Category; HPSA = Health Professional Shortage Area; OCM = Oncology Care Model.

D.5.5 Parallel Trends

The critical identifying assumption for a DiD analysis is the assumption of parallel trends. This assumption implies that if EOM had not occurred, the outcomes for the treated and comparison group would have evolved parallel to each other over time (in the counterfactual). Because EOM did occur, this assumption cannot be directly tested. However, there are statistical tests for evaluating the parallel trends assumptions, such as testing whether outcome trends were parallel during the baseline period. The reasoning underlying this test is that trends during the baseline are informative about the counterfactual trends.

We assessed the validity of the parallel trends assumption by visually inspecting unadjusted trends over time and estimating an event-study variation of the DiD specification in equation (2) to statistically test for deviations. The event-study design allows us to estimate a separate impact of EOM for time periods before and after the implementation of the model. For the purpose of parallel trends testing, we estimated the impact of EOM for each 6-month period prior to the start of the model using the following regression equation:

$$(3) Y_{ijt} = \alpha + \beta EOM_{i,j} + \sum_{t=-8}^{1} \delta_t PP_t \cdot EOM_{ij} + \mu_c + \theta_t + \psi' X_{ijt} + \varepsilon_{ijt}$$

The coefficients $(\delta_t S)$ on the interactions between the EOM indicator and the baseline periods represent placebo tests—since the model had not yet been implemented, statistically significant impacts of EOM constitute evidence of differential trends during the baseline.

Event-study designs require that one period be set as the reference period, for which an impact is not estimated. The remaining period-specific impact estimates can be interpreted as deviation from the difference during the reference period. It is typical in the economics literature to set the last pretreatment period as the reference period, and we have followed this practice.[18] Under the parallel trends assumption, each baseline difference between the EOM and comparison groups would be the same as the difference between the two groups in the omitted reference period. Statistically significant baseline estimates would thus indicate that the difference between the two groups was meaningfully different from the difference during the reference period, suggesting a violation of parallel trends. We created coefficient plots of the baseline δ_t estimates for each outcome (see **Appendix F**). A baseline deviation from trends can be identified in the plot if the 90% confidence interval does not contain zero.

D.5.6 Net Savings to Medicare

We estimated net savings to Medicare by combining a DiD-based estimate of *gross* savings (total change in Medicare episode payments) with the performance-based payments and recoupments

[18] Miller, D. L. (2023). An introductory guide to event study models. *Journal of Economic Perspectives, 37*(2), 203–230. https://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.37.2.203

and MEOS payments made to EOM participants. Data on the latter are provided by the implementation contractor.

We construct the DiD-based estimate of gross savings by estimating the EOM impact on standardized paid amounts. We then multiply this impact by the average ratio between standardized and unstandardized paid amounts over EOM episodes, to convert into "real" dollars. The net savings impact is then the unstandardized gross savings impact minus the net payments made by CMS to EOM participants:

$$Net\ Savings = Gross\ Savings - MEOS\ Payments - (PBR - PBP)$$

In the above, we cast "savings" as positive numbers—that is, if *Net Savings* or *Gross Savings* or are positive, they reflect reductions in Medicare spending, and if they are negative, they reflect increases in Medicare spending. Thus, accounting for MEOS payments requires subtracting them, and accounting for incentive payments requires subtracting performance-based payments from performance-based recoupments to find net Medicare outlays due to performance-based payments/recoupments. **Exhibit D-16** highlights the components of the PP1 estimated net impact of EOM.

Exhibit D-16. Components of the Net Savings Calculation

Savings Component		Value	90% CI
Gross Savings Calculation	[A] Gross Savings per Episode (Standardized Dollars, Estimated)	$646	-$433 to $1,724
	[B] Ratio of Average Unstandardized Payments to Standardized Payments	1.01	N/A
	[C] Gross Savings per Episode (Unstandardized Dollars, Estimated), Calculated as A x B	$653	-$438 to $1,744
	[D] Number of Reconciled Episodes	19,989	N/A
	[E] Total Gross Savings, Calculated as C x D	$13,060,255	-$8,747,533 to $34,868,035
Model Payments to and From Medicare	[F] Total PBP, Paid to Practices	$26,500,746	N/A
	[G] Total PBR, Paid to Medicare	$5,288,461	N/A
	[H] Total MEOS, Paid to Practices	$5,118,034	N/A
Net Savings Calculation	[I] Total Net Savings (Estimated), Calculated as E–- F + G – H	-$13,270,064	-$35,077,852 to $8,537,716
	[J] Net Savings per Episode (Estimated), Calculated as G/D	-$664	-$1,755 to $427

Note: CI = confidence interval; MEOS = monthly enhanced oncology services; PBP = performance-based-payment; PBR = performance-based-recoupment.

Source: The EOM evaluation team's analysis of Medicare claims and enrollment data for 6-month episodes attributed to EOM practices or matched comparison oncology practices and reconciliation data provided to us by the implementation contractor.

Appendix E: Baseline Descriptive Results

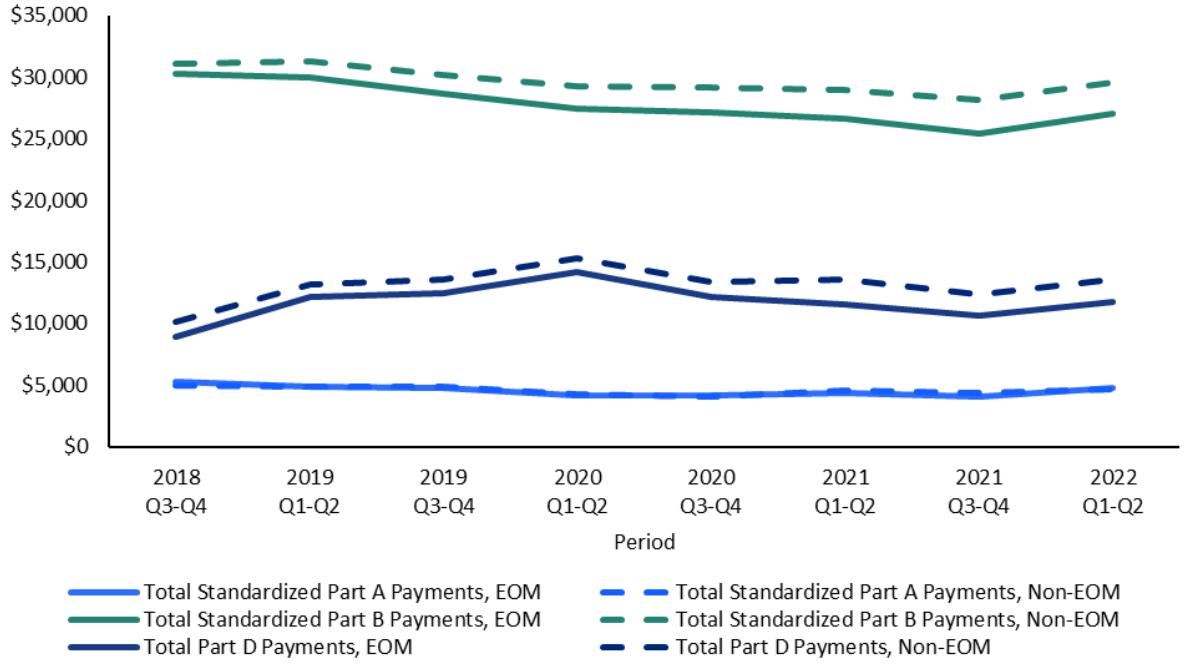
In this appendix, we present descriptive results for EOM practices compared with a broad sample of nonparticipant practices, including results by cancer type. For details on the samples used, see **Appendix D**.

Exhibit E-1. Volume and Share of Excluded Episodes

Practice Type	Volume of Excluded Episodes					
	COVID-19		CAR-T		BsAb	
	N	%	N	%	N	%
EOM	7,294	4.49%	103	0.06%	42	0.03%
Non-EOM	57,435	4.70%	1,586	0.13%	340	0.03%

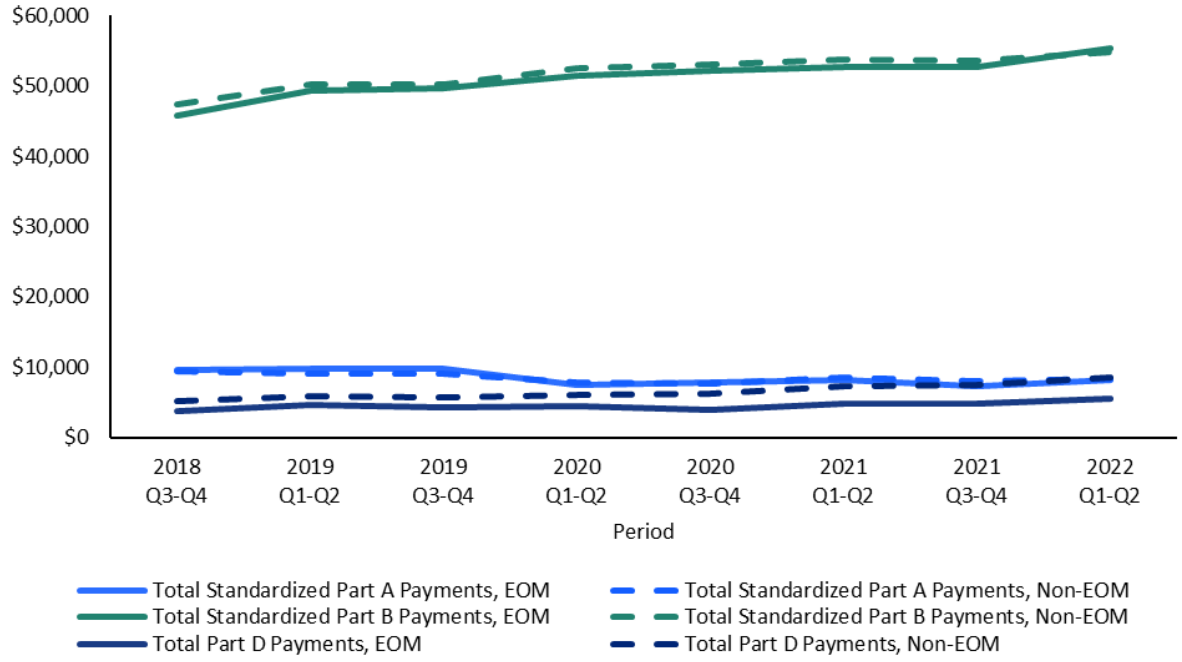
Note: BsAb = bispecific antibodies; CAR-T = chimeric antigen receptor T-cell.
Source: The EOM evaluation team's analysis of Medicare claims and enrollment data for 6-month cancer care episodes during the baseline period (July 1, 2018, through June 30, 2022).

Exhibit E-2. Baseline Trends: Payment Components for Breast Cancer Episodes



Note: Q = quarter.
Source: The EOM evaluation team's analysis of Medicare claims and enrollment data for 6-month cancer care episodes during the baseline period (July 1, 2018, through June 30, 2022).

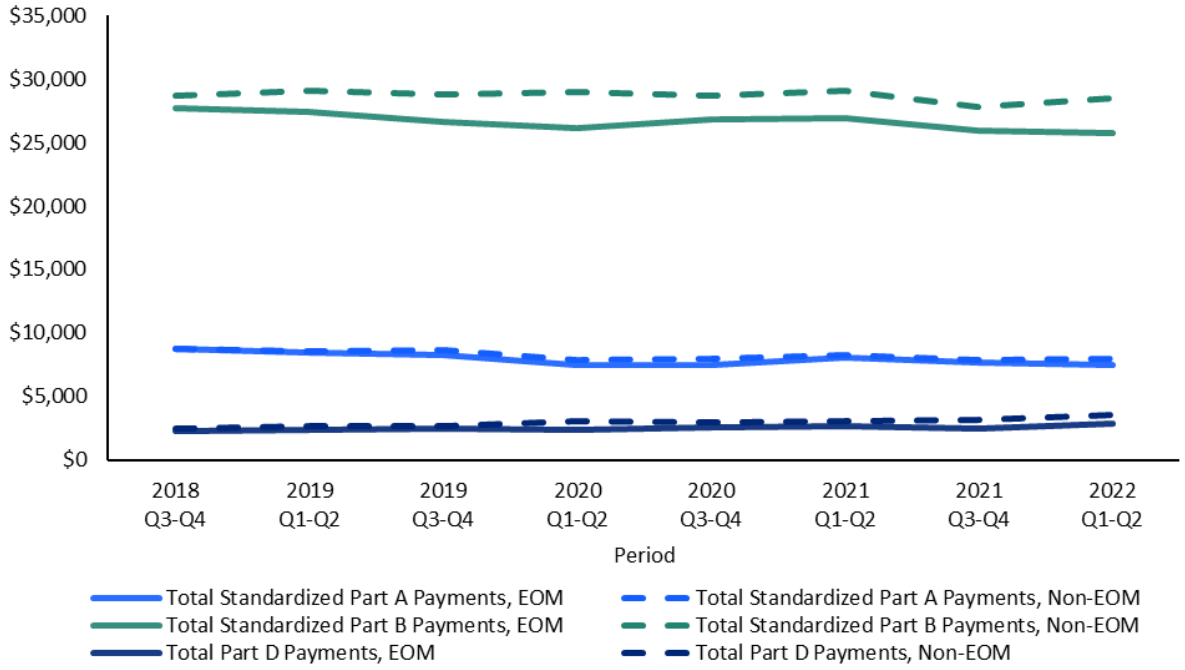
Exhibit E-3. Baseline Trends: Payment Components for Lung Cancer Episodes



Note: Q = quarter.

Source: The EOM evaluation team's analysis of Medicare claims and enrollment data for 6-month cancer care episodes during the baseline period (July 1, 2018, through June 30, 2022).

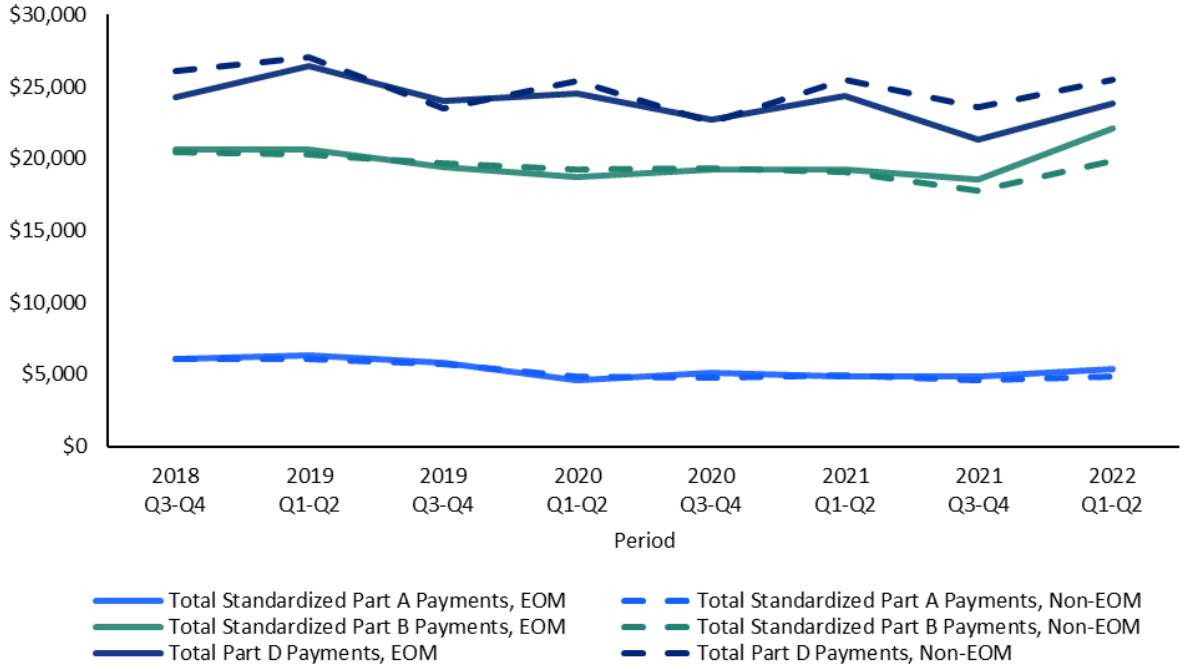
Exhibit E-4. Baseline Trends: Payment Components for Small Intestine/Colorectal Cancer Episodes



Note: Q = quarter.

Source: The EOM evaluation team's analysis of Medicare claims and enrollment data for 6-month cancer care episodes during the baseline period (July 1, 2018, through June 30, 2022).

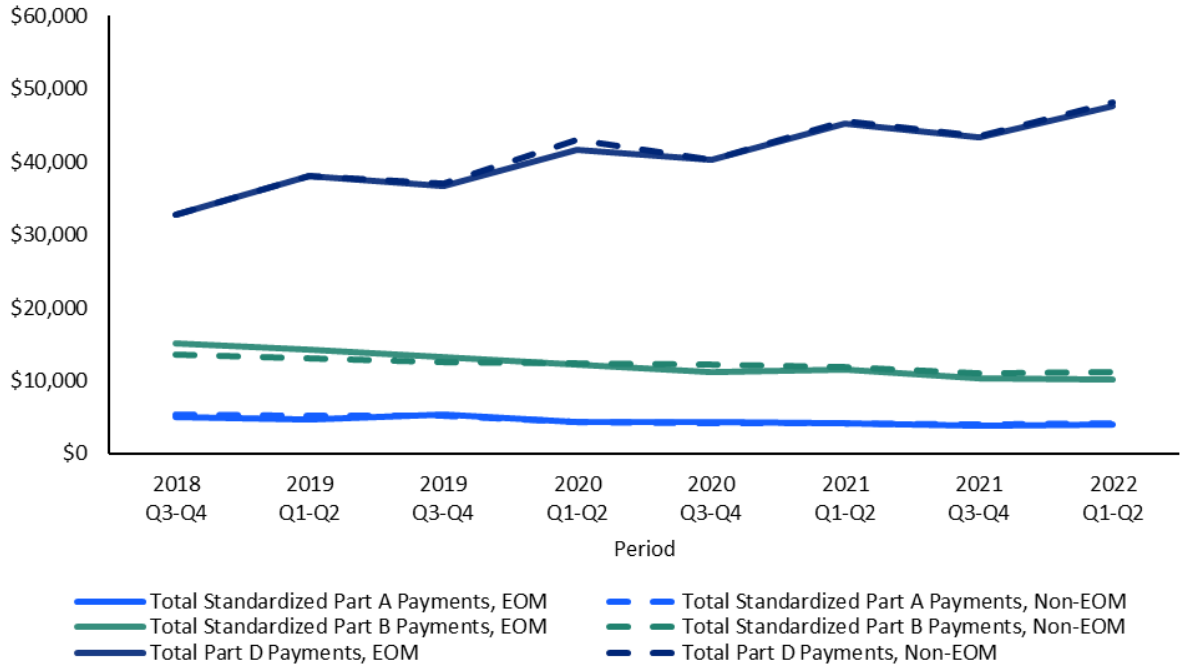
Exhibit E-5. Baseline Trends: Payment Components for Prostate Cancer Episodes



Note: Q = quarter.

Source: The EOM evaluation team's analysis of Medicare claims and enrollment data for 6-month cancer care episodes during the baseline period (July 1, 2018, through June 30, 2022).

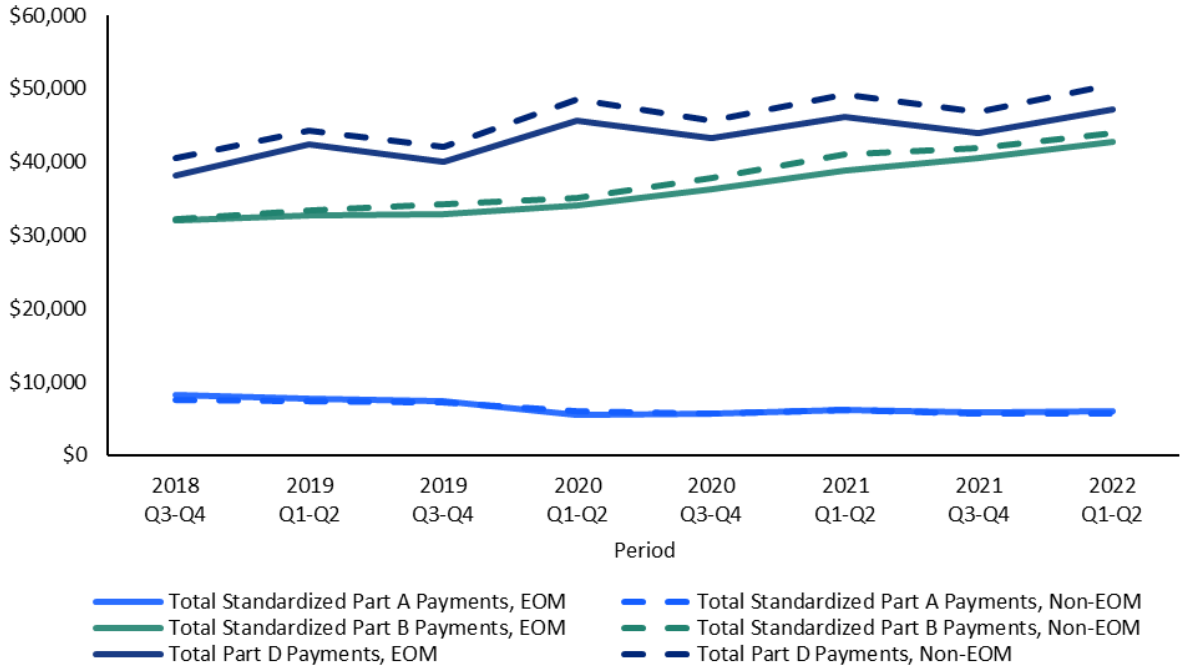
Exhibit E-6. Baseline Trends: Payment Components for Chronic Leukemia Episodes



Note: Q = quarter.

Source: The EOM evaluation team's analysis of Medicare claims and enrollment data for 6-month cancer care episodes during the baseline period (July 1, 2018, through June 30, 2022).

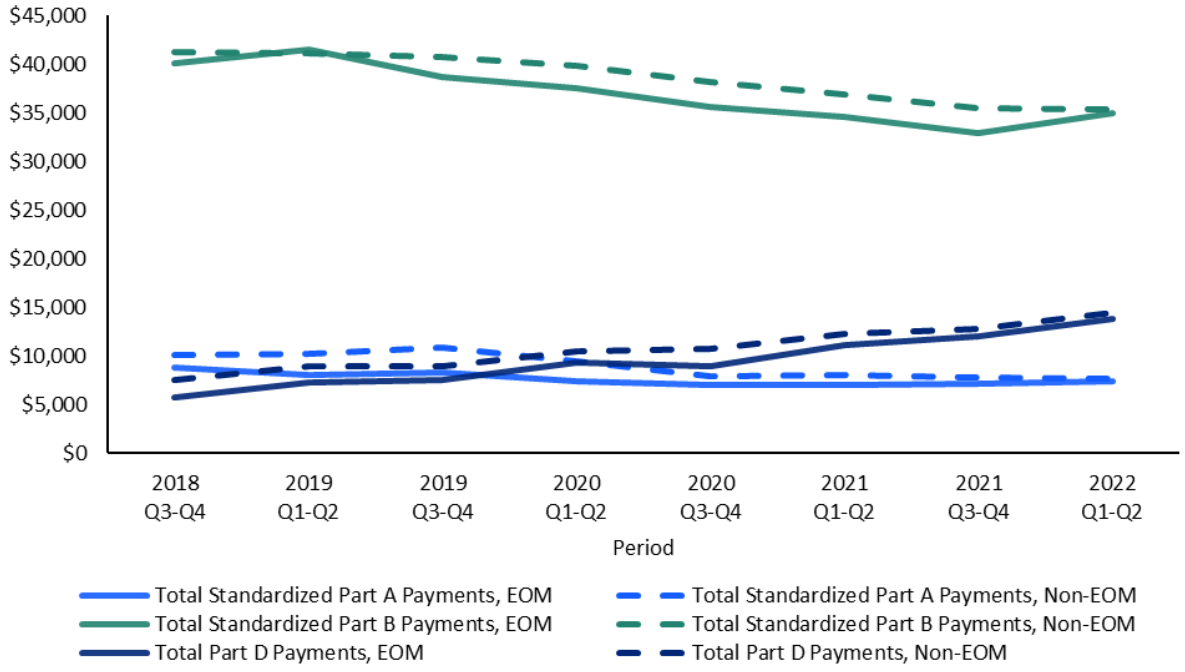
Exhibit E-7. Baseline Trends: Payment Components for Multiple Myeloma Episodes



Note: Q = quarter.

Source: The EOM evaluation team's analysis of Medicare claims and enrollment data for 6-month cancer care episodes during the baseline period (July 1, 2018, through June 30, 2022).

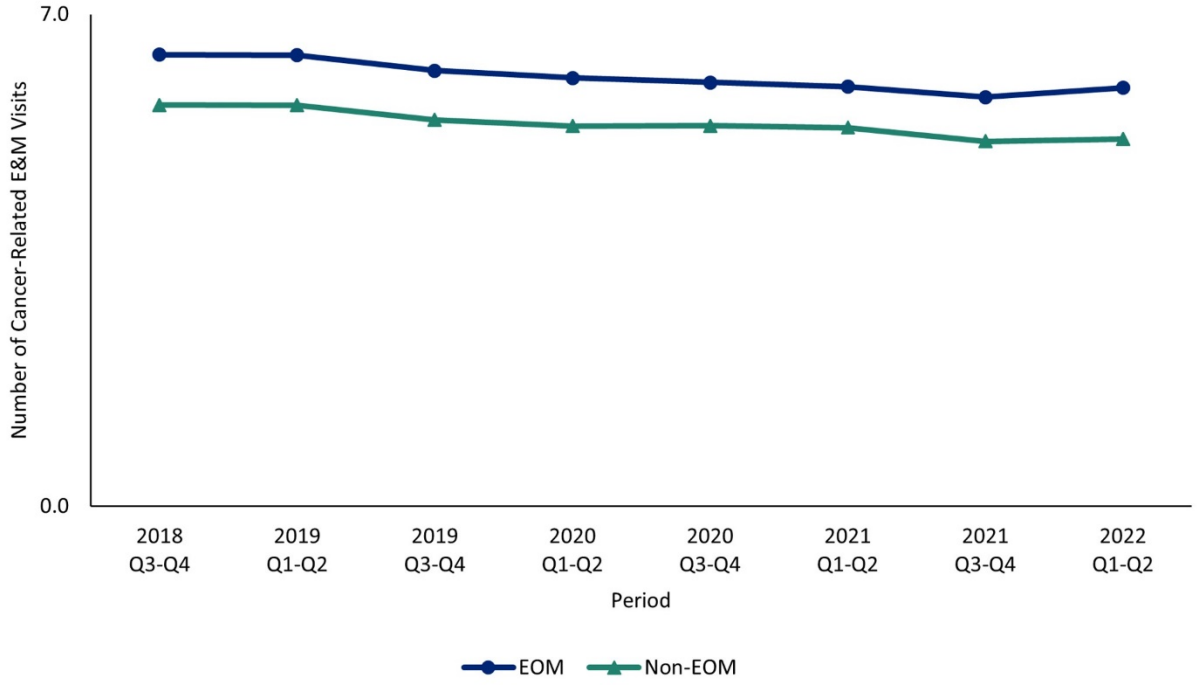
Exhibit E-8. Baseline Trends: Payment Components for Lymphoma Episodes



Note: Q = quarter.

Source: The EOM evaluation team's analysis of Medicare claims and enrollment data for 6-month cancer care episodes during the baseline period (July 1, 2018, through June 30, 2022).

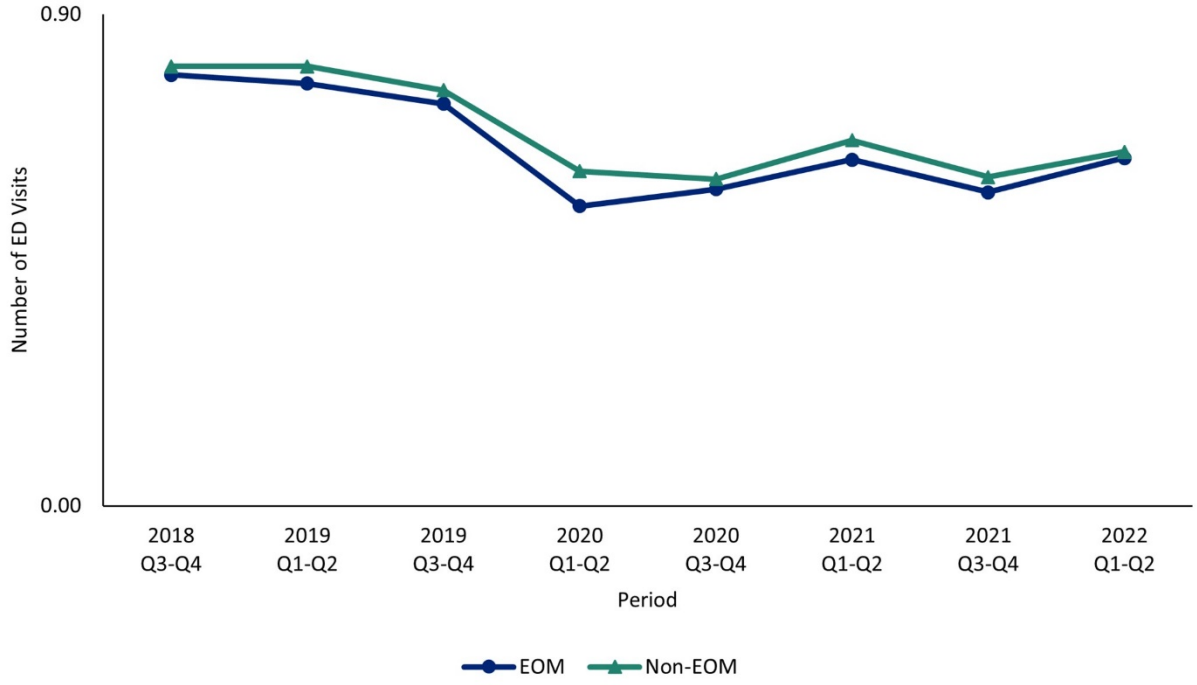
Exhibit E-9. Baseline Trends: Average Number of Assigned Cancer-Related E&M Visits per Episode



Note: E&M = evaluation and management; Q = quarter.

Source: The EOM evaluation team's analysis of Medicare claims and enrollment data for 6-month cancer care episodes during the baseline period (July 1, 2018, through June 30, 2022).

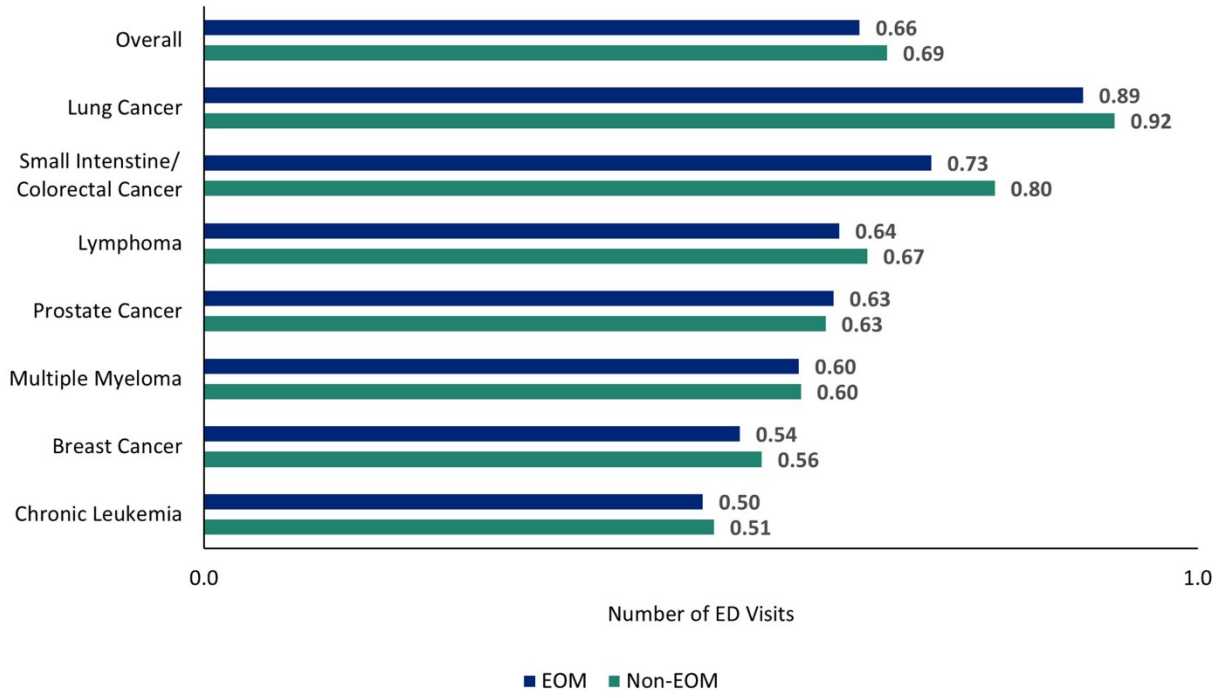
Exhibit E-10. Baseline Trends: Average Number of ED Visits per Episode



Note: ED = emergency department; Q = quarter.

Source: The EOM evaluation team's analysis of Medicare claims and enrollment data for 6-month cancer care episodes during the baseline period (July 1, 2018, through June 30, 2022).

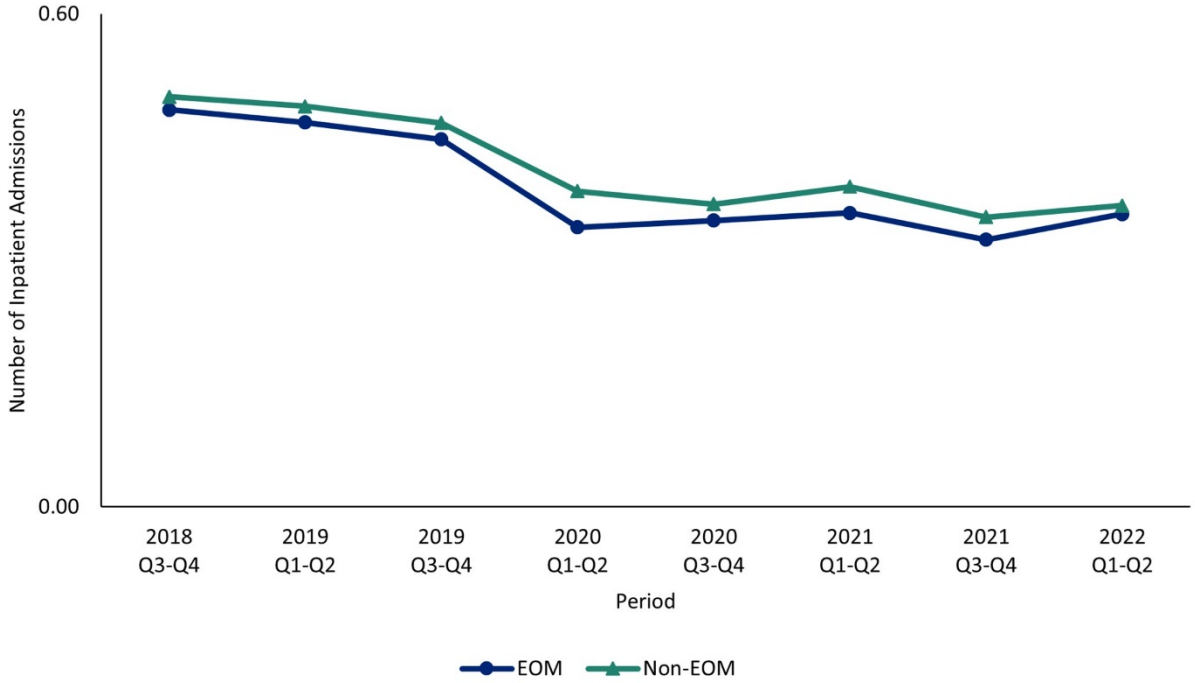
Exhibit E-11. Baseline Trends: Average Number of ED Visits per Episode by Cancer Type



Note: ED = emergency department.

Source: The EOM evaluation team's analysis of Medicare claims and enrollment data for 6-month cancer care episodes during the baseline period (July 1, 2018, through June 30, 2022).

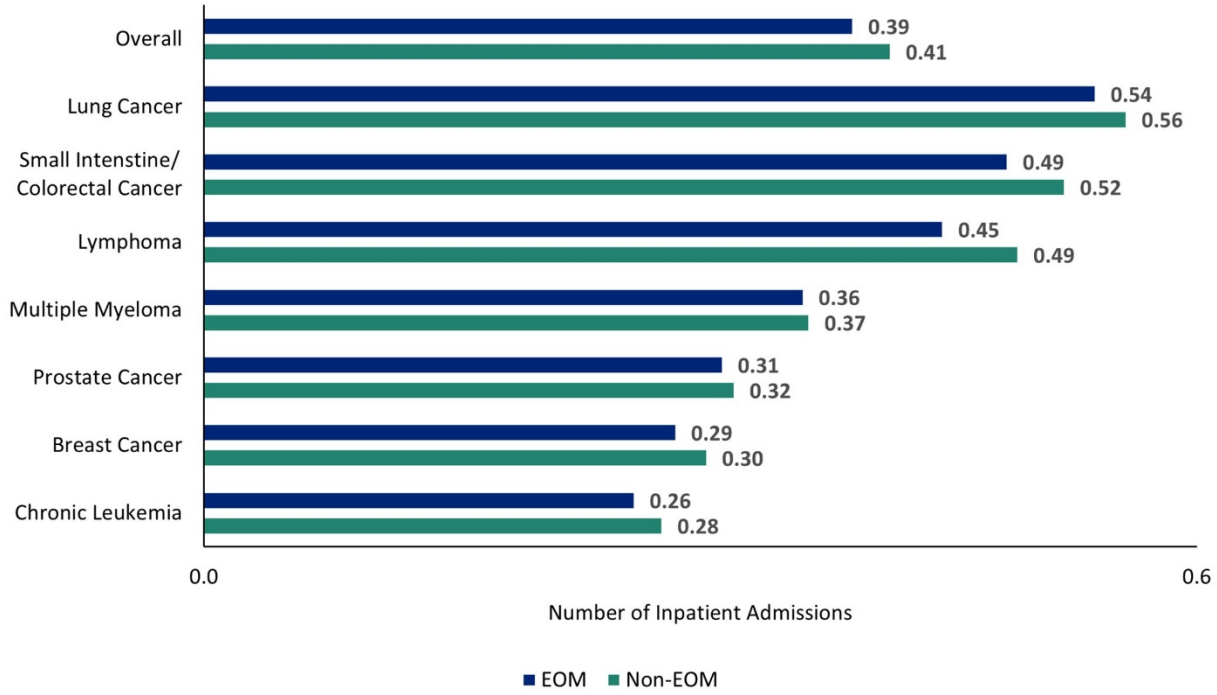
Exhibit E-12. Baseline Trends: Average Number of Inpatient Admissions per Episode



Note: Q = quarter.

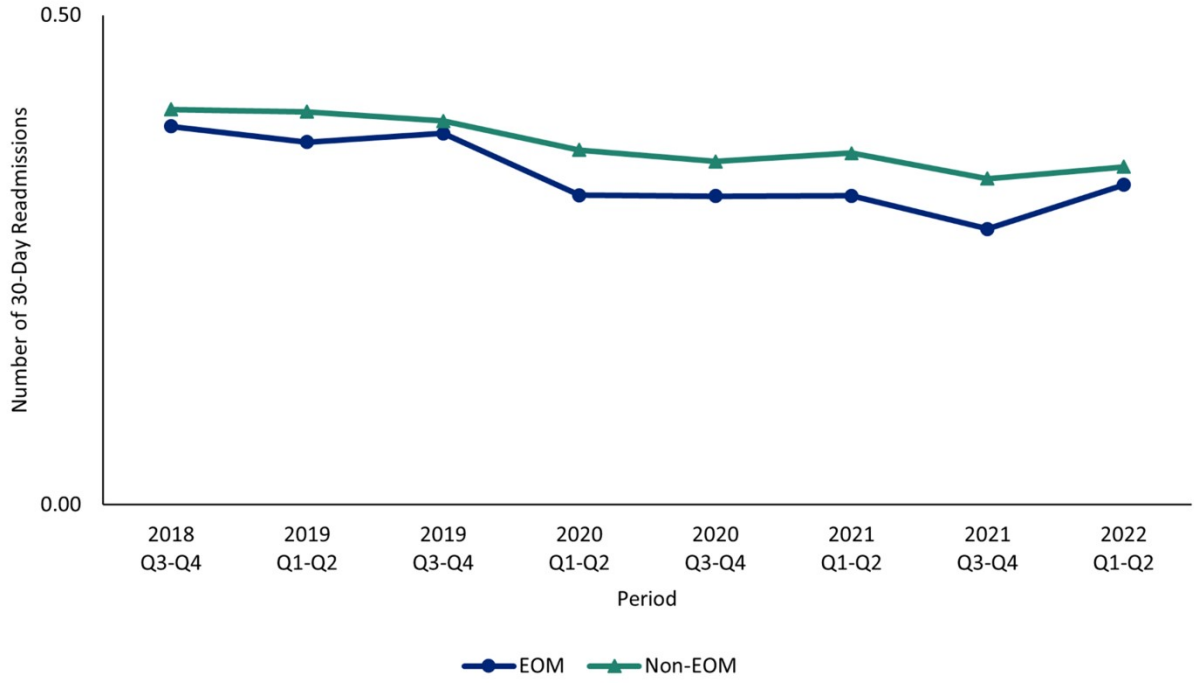
Source: The EOM evaluation team's analysis of Medicare claims and enrollment data for 6-month cancer care episodes during the baseline period (July 1, 2018, through June 30, 2022).

Exhibit E-13. Baseline Trends: Average Number of Inpatient Admissions per Episode by Cancer Type



Source: The EOM evaluation team's analysis of Medicare claims and enrollment data for 6-month cancer care episodes during the baseline period (July 1, 2018, through June 30, 2022).

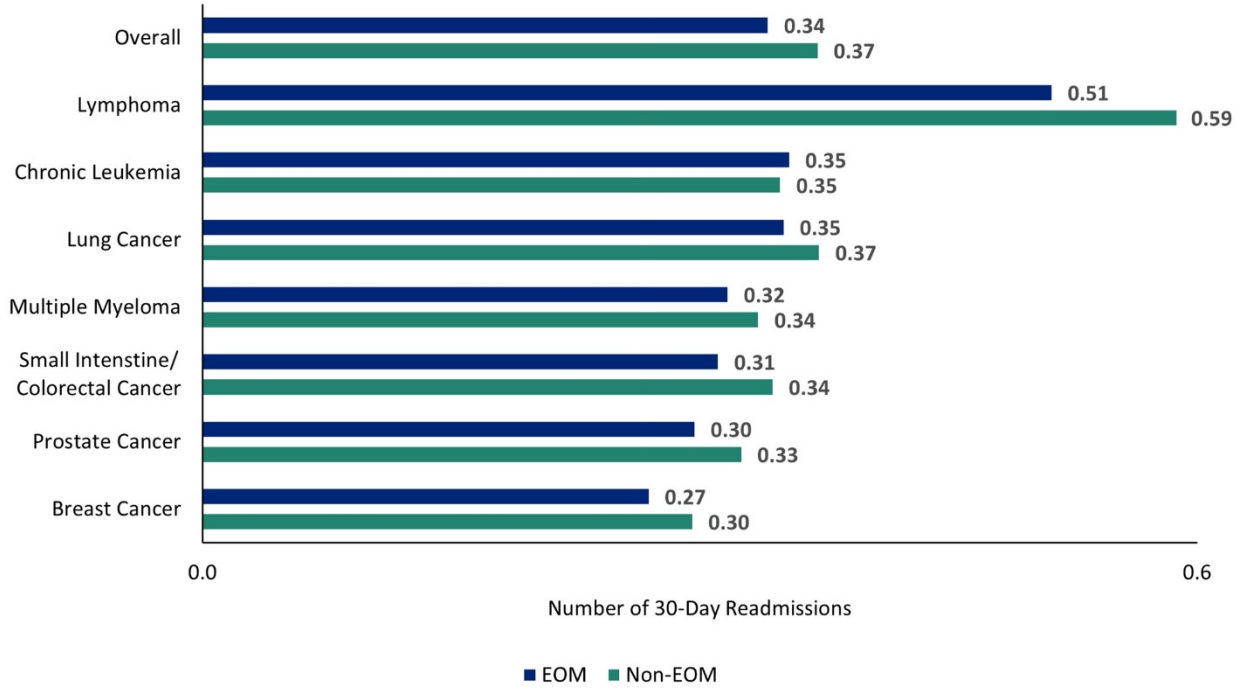
Exhibit E-14. Baseline Trends: Average Number of 30-Day Readmissions per Episode



Note: Q = quarter. The sample for any 30-day readmission was restricted to episodes with at least one index hospitalization.

Source: The EOM evaluation team's analysis of Medicare claims and enrollment data for 6-month cancer care episodes during the baseline period (July 1, 2018, through June 30, 2022).

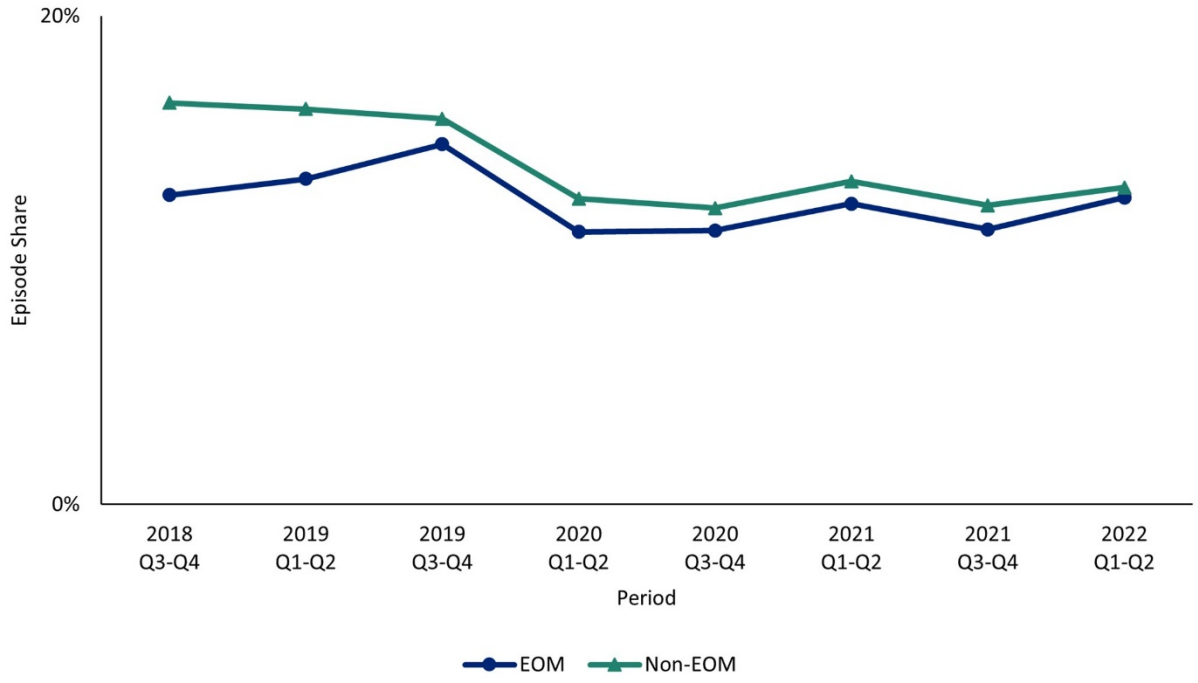
Exhibit E-15. Baseline Trends: Average Number of 30-Day Readmissions per Episode by Cancer Type



Note: The sample for any 30-day readmission was restricted to episodes with at least one index hospitalization.

Source: The EOM evaluation team's analysis of Medicare claims and enrollment data for 6-month cancer care episodes during the baseline period (July 1, 2018, through June 30, 2022).

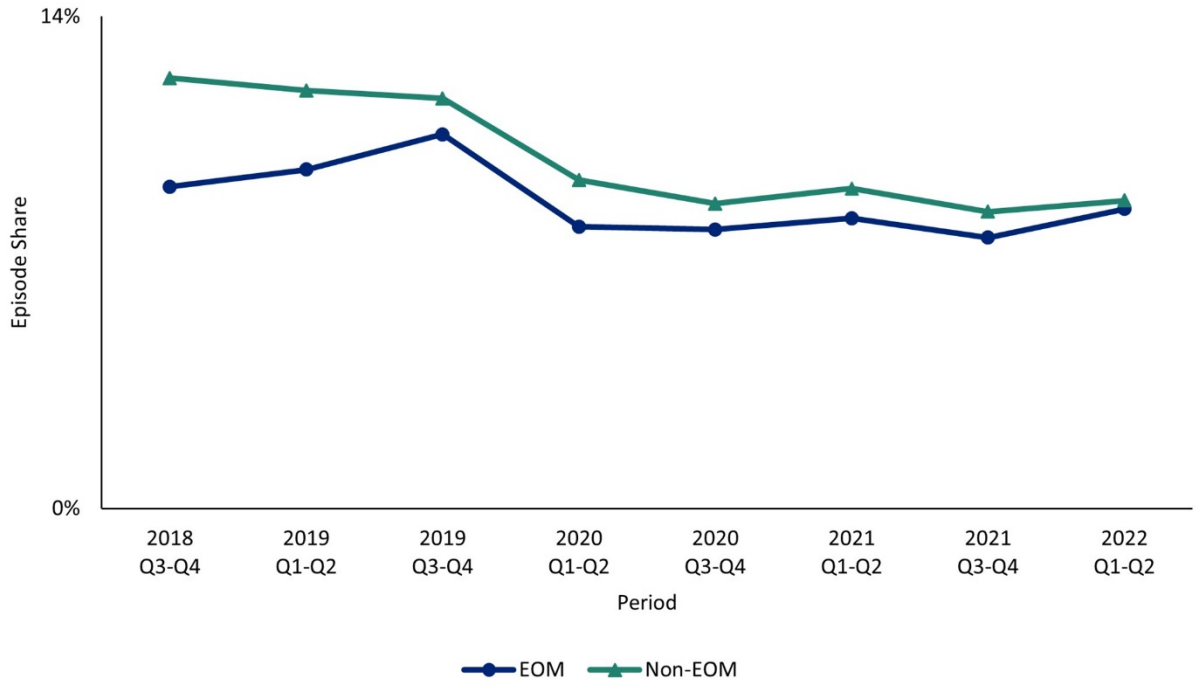
Exhibit E-16. Baseline Trends: Systemic Cancer Treatment-Associated ED Visits



Note: Q = quarter.

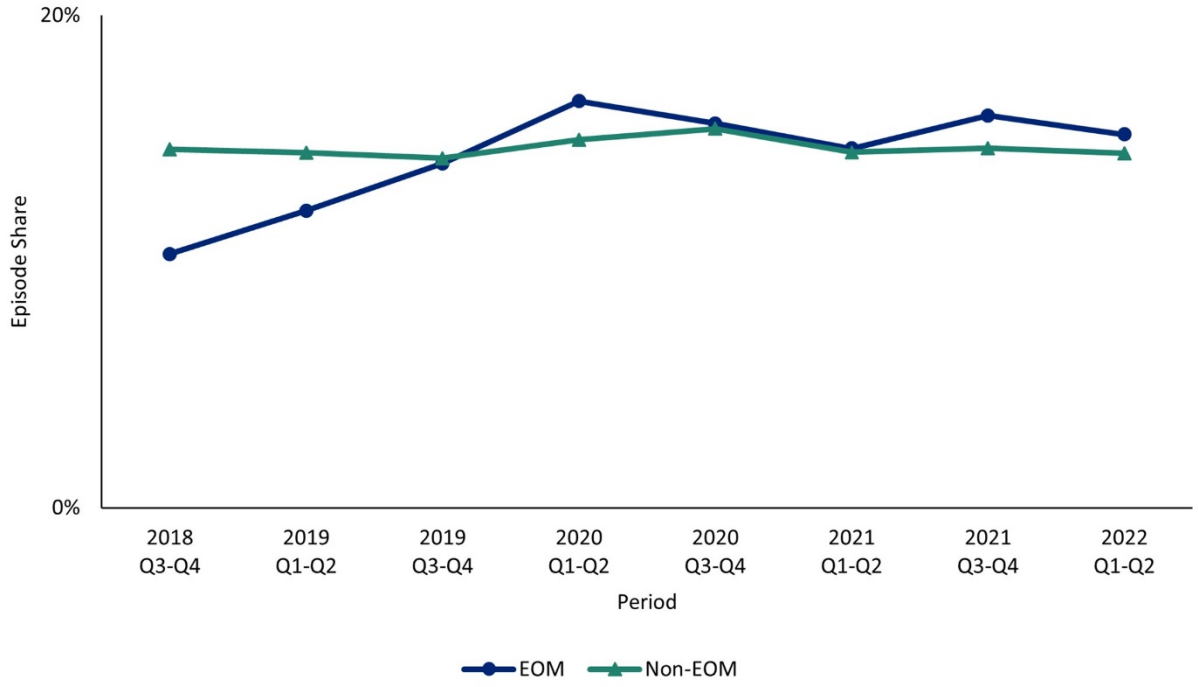
Source: The EOM evaluation team's analysis of Medicare claims and enrollment data for 6-month cancer care episodes during the baseline period (July 1, 2018, through June 30, 2022).

Exhibit E-17. Baseline Trends: Systemic Cancer Treatment-Associated Inpatient Admissions



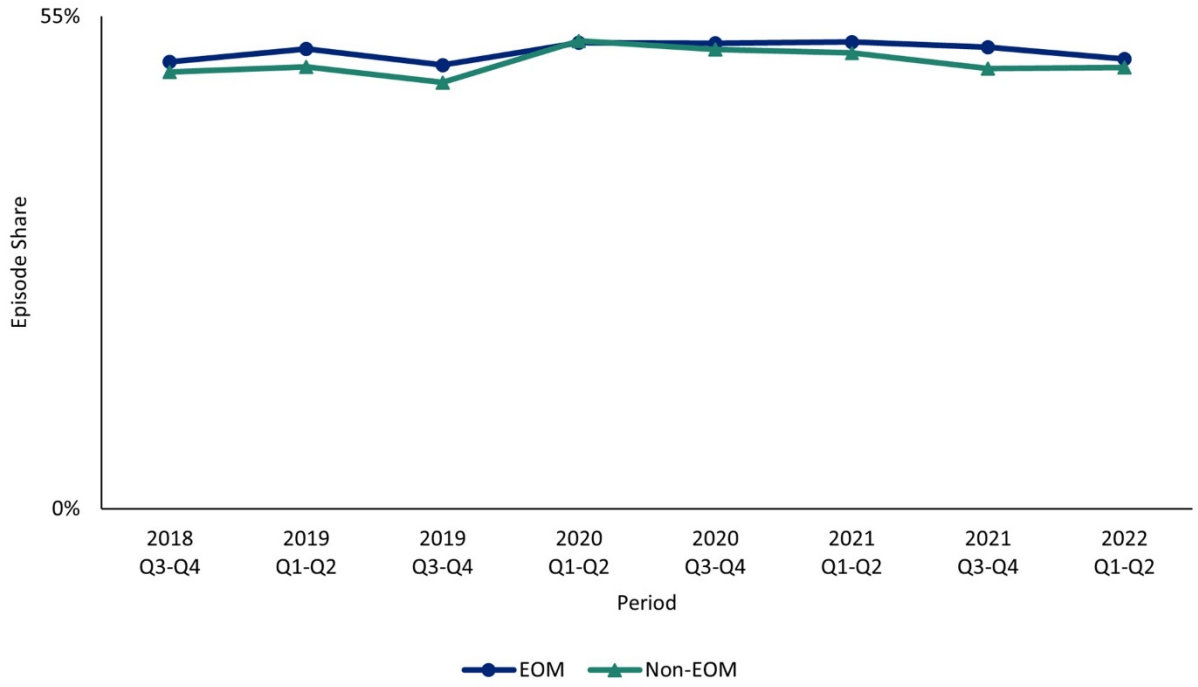
Note: Q = quarter.
Source: The EOM evaluation team's analysis of Medicare claims and enrollment data for 6-month cancer care episodes during the baseline period (July 1, 2018, through June 30, 2022).

Exhibit E-18. Baseline Trends: Systemic Cancer Treatment in the Last 14 Days of Life



Note: Q = quarter. The sample for systemic cancer treatment in the last 14 days of life was restricted to episodes with in-episode mortality.
Source: The EOM evaluation team's analysis of Medicare claims and enrollment data for 6-month cancer care episodes during the baseline period (July 1, 2018, through June 30, 2022).

Exhibit E-19. Baseline Trends: Hospice Enrollment for At Least 3 Days Prior to Death



Note: Q = quarter. The sample for hospice enrollment at least 3 days prior to death was restricted to episodes with in-episode mortality.
Source: The EOM evaluation team's analysis of Medicare claims and enrollment data for 6-month cancer care episodes during the baseline period (July 1, 2018, through June 30, 2022).

Appendix F: Impact Estimates

In this appendix, we present detailed impact estimate results. In section F.1, we present the characteristics of 43 EOM practices and the 245 selected comparison practices to provide context for the model impact estimates. In section F.2, we provide detailed results for unadjusted and adjusted impact estimates for payment, utilization, and quality outcomes. EOM excludes patients who have a COVID-19 diagnosis[19]; however, it is possible that a patient with COVID-19 was affected by EOM, thus we also provide detailed sensitivity results that include episodes where the patient had a confirmed COVID-19 diagnosis during the episode.

In F.3, we present findings used to support our assessment of the validity of the parallel trends assumption, which includes unadjusted trends over time and estimates from an "event-study" variation of the DiD specification. We used this information to assess potential parallel trends failures on a case-by-case basis by considering whether the violation may have been evidence of a transitory shock (for example, a one period deviation from the difference in outcomes between the EOM participants and comparison group) or if instead the evidence suggested persistent differences between the two groups over time. Persistent differences between treatment and comparison prior to the start of the model would suggest that they were already on diverging paths, violating the parallel trends assumption which could bias our DiD estimates. On the other hand, a brief transitory shock is unlikely to reflect systematic differences in underlying trends. While there are some outcomes that indicate a transitory, one period deviation, we concluded that we do not have evidence of persistent parallel trends failures, supporting that the EOM group and comparison group were following similar trends prior to the start of EOM.

Because we allowed comparison practices to match to multiple EOM Participants, we apply weights to the comparison practice observations for all analyses in this appendix. See **Appendix D** for details on methods.

F.1 Characteristics of EOM and Matched Comparison Group

Exhibit F-1. EOM and Matched Comparison Group Characteristics During Baseline Period and First Performance Period (PP1)

Characteristics	Pre-EOM Period Episode Initiating: (7/1/18–6/30/22)		Intervention Period Episode Initiating: (7/1/23–12/31/23)	
	EOM	Comparison	EOM	Comparison
Number of Practices	43	245	43	245
Number of Episodes	155,157	646,880	17,165	71,464
Number of Unique Patients	75,479	179,855	17,165	42,950
Average Number of Episodes per Patient	2.1	3.6	1.0	1.7
Average Number of Days in the Episodes	173.9	175.1	174.5	176.1

[19] COVID-19 diagnoses were identified using an ICD-10 diagnosis of B97.29 during the period of January 27, 2020 through March 31, 2020, an ICD-10 diagnosis of U07.1 on or after April 1, 2020, or an ICD-10 diagnosis of J12.82 on or after January 1, 2021.

Characteristics		Pre-EOM Period Episode Initiating: (7/1/18–6/30/22)		Intervention Period Episode Intiating: (7/1/23–12/31/23)	
		EOM	Comparison	EOM	Comparison
Cancer Type	Breast Cancer	23.3%	22.0%	23.3%	21.9%
	Chronic Leukemia	8.3%	8.1%	7.8%	8.1%
	Lung Cancer	21.0%	21.4%	19.6%	19.0%
	Lymphoma	12.0%	12.2%	10.7%	10.4%
	Multiple Myeloma	15.0%	15.3%	15.9%	15.9%
	Prostate Cancer	8.9%	10.5%	11.3%	14.5%
	Small Intestine/Colorectal Cancer	11.5%	10.6%	11.3%	10.2%
Regions	Northeast	9.6%	20.4%	7.8%	23.7%
	South	59.8%	44.8%	60.8%	42.1%
	Midwest	11.7%	20.4%	11.5%	19.7%
	West	19.0%	14.3%	19.9%	14.5%
Age Groups, Years	<65	7.9%	8.3%	5.8%	6.5%
	65–74	47.2%	46.0%	46.8%	45.6%
	75–84	35.4%	35.7%	37.6%	37.7%
	85+	9.5%	10.1%	9.9%	10.2%
Female		55.2%	54.2%	54.1	52.1%
Dually Eligible	Fully Dually Eligible	7.9%	8.6%	7.7%	8.5%
	Partially Dually Eligible	4.3%	4.5%	3.2%	3.0%
Rural		15.6%	15.2%	16.4%	14.4%
Part D Enrollment		80.0%	82.6%	81.4%	84.4%
Low-Income Subsidy		15.0%	15.1%	13.2%	13.3%
Recent MA		2.2%	2.0%	1.5%	1.7%
Average HCC Score		3.7	3.7	3.7	3.8
Primary Comorbidities	Autoimmune Disorder	15.3%	15.2%	16.5%	16.5%
	COPD	29.8%	29.1%	27.8%	27.6%
	Dementia	5.7%	5.3%	5.3%	5.9%
	Endocrine Disorder	51.9%	52.1%	54.1%	53.6%
	Heart Disorder	45.4%	45.7%	48.2%	48.7%
	Hematological Disorder	18.7%	20.8%	20.5%	23.2%
	Hypertension	66.1%	65.6%	67.7%	67.9%
	Obesity	6.3%	5.9%	6.9%	6.8%
Participated in a Clinical Trial		3.0%	2.1%	2.2%	1.6%
Radiation Oncology Treatment		14.0%	14.4%	13.3%	13.3%
Cancer Surgery Treatment		3.2%	2.9%	3.5%	3.0%
Episodes initiated by a Prior OCM Participant		91.4%	40.4%	90.9%	38.7%
Prior Cancer Episode[a]		65.6%	66.9%	68.8%	70.6%
Part D Systemic Cancer Therapy Episode Trigger		27.8%	29.3%	28.8%	32.5%

Characteristics		Pre-EOM Period Episode Initiating: (7/1/18–6/30/22)		Intervention Period Episode Initiating: (7/1/23–12/31/23)	
		EOM	Comparison	EOM	Comparison
Alignment to an ACO and Innovation Center Models	ACO REACH	1.6%	1.7%	13.8%	12.4%
	Kidney Care Choices	0.2%	0.1%	1.5%	1.0%
	Medicare SSP	40.0%	47.1%	44.8%	53.2%
	Next Gen ACO	4.4%	3.3%	0.0%	0.0%
	Vermont All-Payer ACO	0.0%	0.1%	0.0%	0.1%
	CPC Plus	6.9%	5.0%	0.0%	0.0%
	Independence at Home	0.0%	0.0%	0.0%	0.0%
	Maryland TCOC	0.0%	0.3%	0.2%	0.3%
	Primary Care First	1.9%	2.4%	6.0%	7.4%

Note: ACO = Accountable Care Organization; CPC = Comprehensive Primary Care; COPD = chronic obstructive pulmonary disease; HCC = Hierarchical Conditions Category; MA = Medicare Advantage; OCM = Oncology Care Model; REACH = Realizing Equity, Access, and Community Health; SSP = Shared Savings Program; TCOC = Total Cost of Care; TIN = Taxpayer Identification Number. All means in this table are based on the analytic sample created for impact analyses. Comparison group observations are weighted for matching. Regions are based on patient county of residence.

[a] Prior cancer episode indicates that the patient had at least one 6-month episode triggered by systemic cancer therapy that occurred prior to EOM, during the time period of July 1, 2016, through June 30, 2023.

Source: The EOM evaluation team's analysis of Medicare claims for 6-month EOM and comparison cancer care episodes during the baseline (pre-EOM) period (July 1, 2018, through June 30, 2022) and PP1 (July 1, 2023, through December 31, 2023).

F.2 Detailed Impact Estimate Results

Exhibit F-2. Unadjusted DiD Estimates of EOM and Matched Comparison Group Over the Baseline Period and PP1

Outcome Measure		Pre-EOM N		PP1 N		Pre-EOM Mean		PP1 Mean		DiD	90% LCI	90% UCI	Relative % Change
		EOM	Comp	EOM	Comp	EOM	Comp	EOM	Comp				
Payments	Total Episode Payments	155,157	646,880	17,165	71,464	$56,569	$59,694	$59,761	$62,672	$214	-$783	$1,211	0.38%
	Total Part A Payments	155,157	646,880	17,165	71,464	$6,521	$6,481	$6,868	$6,454	$374	-$20	$768	5.73%
	Total Part B Payments	155,157	646,880	17,165	71,464	$32,940	$34,942	$35,240	$36,892	$351	-$707	$1,408	1.06%
	Total Part B Systemic Cancer Therapy Payments	155,157	646,880	17,165	71,464	$21,240	$22,141	$23,681	$24,398	$185	-$773	$1,143	0.87%
	Total Part B Other Payments	155,157	646,880	17,165	71,464	$11,700	$12,801	$11,559	$12,494	$166	-$178	$509	1.42%
	Total Part D Payments	124,070	534,113	13,979	60,345	$21,355	$22,081	$21,595	$22,782	-$462	-$1,356	$431	-2.16%
Utilization	Any Acute Care Hospitalization	155,157	646,880	17,165	71,464	26.26%	26.62%	25.65%	24.61%	1.38 pp**	0.33 pp	2.44 pp	5.27%
	Any ED Visit	155,157	646,880	17,165	71,464	36.61%	36.63%	36.83%	35.67%	1.19 pp*	0.03 pp	2.35 pp	3.26%
	Any 30-Day Readmission	37,288	158,881	3,983	16,207	23.98%	24.94%	22.90%	24.50%	-0.66 pp	-1.99 pp	0.68 pp	-2.74%
Quality of Care	Proportion of Episodes Receiving Hospice Care 3 Days or More Before Death	16,359	64,337	1,651	5,992	51.10%	49.66%	49.12%	47.15%	0.54 pp	-2.42 pp	3.49 pp	1.05%

Note: Comp = comparison group; DiD = Difference-in-Differences; ED = emergency department; LCI= lower confidence interval; PP= Performance Period; UCI= upper confidence interval. Part A and Part B payment outcomes were standardized to remove the effect of geographic and other payment adjustments. Part D payments include Medicare payments for low-income cost sharing in addition to 80% of gross drug costs above the out-of-pocket threshold. The regression sample for Part D payments are restricted to episodes with Part D coverage at the beginning of the episode. The regression sample for any 30-day readmission was restricted to episodes with an index hospitalization. The regression sample for the quality of care measure is restricted to the sample with in-episode mortality. The payment measures were estimated using ordinary least squares. The utilization and quality outcomes were estimated using logistic models. Comparison group observations are weighted for matching. Statistical significance of the DiD impact estimate is denoted with an asterisk next to the value, where * implies significance at the 10% level, ** at the 5% level, and *** at the 1% level assuming a two-tailed test.

Source: The EOM evaluation team's analysis of Medicare claims for 6-month EOM and comparison cancer care episodes during the baseline (pre-EOM) period (July 1, 2018, through June 30, 2022) and PP1 (July 1, 2023, through December 31, 2023).

Exhibit F-3. Adjusted DiD Estimates of EOM and Matched Comparison Group Over the Baseline Period and PP1

Outcome Measure		Pre-EOM N		PP1 N		Pre-EOM Mean		PP1 Mean		DiD	90% LCI	90% UCI	Relative % Change
		EOM	Comp	EOM	Comp	EOM	Comp	EOM	Comp				
Payments	Total Episode Payments	155,157	646,878	17,165	71,464	$57,673	$59,448	$60,095	$62,516	-$646	-$1,724	$433	-1.12%
	Total Part A Payments	155,157	646,878	17,165	71,464	$6,445	$6,499	$6,612	$6,530	$137	-$237	$510	2.12%
	Total Part B Payments	155,157	646,878	17,165	71,464	$32,415	$34,930	$35,070	$38,260	-$675	-$1,742	$392	-2.08%
	Total Part B Systemic Cancer Therapy Payments	155,157	646,878	17,165	71,464	$20,716	$22,168	$23,361	$25,458	-$645	-$1,622	$332	-3.11%
	Total Part B Other Payments	155,157	646,878	17,165	71,464	$11,700	$12,762	$11,708	$12,802	-$31	-$396	$335	-0.26%
	Total Part D Payments	124,070	534,111	13,979	60,345	$22,775	$21,875	$22,260	$21,526	-$167	-$994	$661	-0.73%
Utilization	Any Acute Care Hospitalization	155,156	646,859	17,164	71,459	26.50%	26.49%	25.47%	24.85%	0.62 pp	-0.15 pp	1.38 pp	2.33%
	Any ED Visit	155,157	646,866	17,165	71,464	37.26%	36.41%	36.85%	35.91%	0.10 pp	-0.88 pp	1.09 pp	0.27%
	Any 30-Day Readmission	37,288	158,881	3,983	16,207	24.79%	24.80%	22.90%	23.82%	-0.91 pp	-2.41 pp	0.58 pp	-3.69%
Quality of Care	Proportion of Episodes Receiving Hospice Care 3 Days or More Before Death	16,359	64,333	1,651	5,992	51.56%	49.66%	47.58%	46.18%	-0.50 pp	-3.30 pp	2.30 pp	-0.97%

Note: Comp = comparison group; DiD = Difference-in-Differences; ED = emergency department; LCI= lower confidence interval; PP= Performance Period; UCI= upper confidence interval. Part A and Part B payment outcomes were standardized to remove the effect of geographic and other payment adjustments. Part D payments include Medicare payments for low-income cost sharing in addition to 80% of gross drug costs above the out-of-pocket threshold. The regression sample for Part D payments are restricted to episodes with Part D coverage during the episode. The regression sample for any 30-day readmission was restricted to episodes with an index hospitalization. The regression sample for the quality of care measure is restricted to the sample with in-episode mortality. The payment measures were estimated using ordinary least squares. The utilization and quality outcomes were estimated using logistic models. Comparison group observations are weighted for matching. Statistical significance of the DiD impact estimate is denoted with an asterisk next to the value, where * implies significance at the 10% level, ** at the 5% level, and *** at the 1% level assuming a two-tailed test.

Source: The EOM evaluation team's analysis of Medicare claims for 6-month EOM and comparison cancer care episodes during the baseline (pre-EOM) period (July 1, 2018, through June 30, 2022) and PP1 (July 1, 2023, through December 31, 2023).

Exhibit F-4. Sensitivity Analysis Including COVID-19 Episodes

Outcome Measure		Pre-EOM N		PP1 N		Pre-EOM Mean		PP1 Mean		DiD	90% LCI	90% UCI	Relative % Change
		EOM	Comp	EOM	Comp	EOM	Comp	EOM	Comp				
Payments	Total Episode Payments	162,451	676,584	18,357	76,702	$58,262	$59,975	$60,931	$63,206	-$563	-$1,613	$488	-0.97%
	Total Part A Payments	162,451	676,584	18,357	76,702	$6,890	$6,900	$7,255	$7,140	$125	-$254	$504	1.82%
	Total Part B Payments	162,451	676,584	18,357	76,702	$32,450	$34,942	$35,178	$38,268	-$597	-$1,660	$465	-1.84%
	Total Part B Systemic Cancer Therapy Payments	162,451	676,584	18,357	76,702	$20,682	$22,130	$23,286	$25,376	-$642	-$1,604	$319	-3.11%
	Total Part B Other Payments	162,451	676,584	18,357	76,702	$11,768	$12,812	$11,893	$12,892	$45	-$312	$402	0.38%
	Total Part D Payments	130,161	559,597	14,944	64,853	$22,871	$21,976	$22,312	$21,585	-$168	-$1,020	$685	-0.73%
Utilization	Any Acute Care Hospitalization	162,450	676,564	18,356	76,697	27.66%	27.54%	27.08%	26.44%	0.53 pp	-0.20 pp	1.25 pp	1.91%
	Any ED Visit	162,451	676,573	18,357	76,702	38.56%	37.63%	38.78%	37.76%	0.08 pp	-0.86 pp	1.02 pp	0.22%
	Any 30-Day Readmission	40,598	172,083	4,527	18,610	25.46%	25.52%	24.14%	24.99%	-0.78 pp	-2.29 pp	0.72 pp	-3.07%
Quality of Care	Proportion of Episodes Receiving Hospice Care 3 Days or More Before Death	17,618	68,826	1,783	6,521	49.97%	48.27%	45.84%	45.04%	-0.89 pp	-3.54 pp	1.77 pp	1.77%

Note: Comp = comparison group; DiD = Difference-in-Differences; ED = emergency department; LCI= lower confidence interval; PP= Performance Period; UCI= upper confidence interval. Part A and Part B payment outcomes were standardized to remove the effect of geographic and other payment adjustments. Part D payments include Medicare payments for low-income cost sharing in addition to 80% of gross drug costs above the out-of-pocket threshold. The regression sample for Part D payments are restricted to episodes with Part D coverage at the beginning of the episode. The regression sample for any 30-day readmission was restricted to episodes with an index hospitalization. The regression sample for the quality of care measure is restricted to the sample with in-episode mortality. The payment measures were estimated using ordinary least squares. The utilization and quality outcomes were estimated using logistic models. Comparison group observations are weighted for matching. Statistical significance of the DiD impact estimate is denoted with an asterisk next to the value, where * implies significance at the 10% level, ** at the 5% level, and *** at the 1% level assuming a two-tailed test.

Source: The EOM evaluation team's analysis of Medicare claims for 6-month EOM and comparison cancer care episodes during the baseline (pre-EOM) period (July 1, 2018, through June 30, 2022) and PP1 (July 1, 2023, through December 31, 2023).

F.3 Event Study Results and Unadjusted Trends

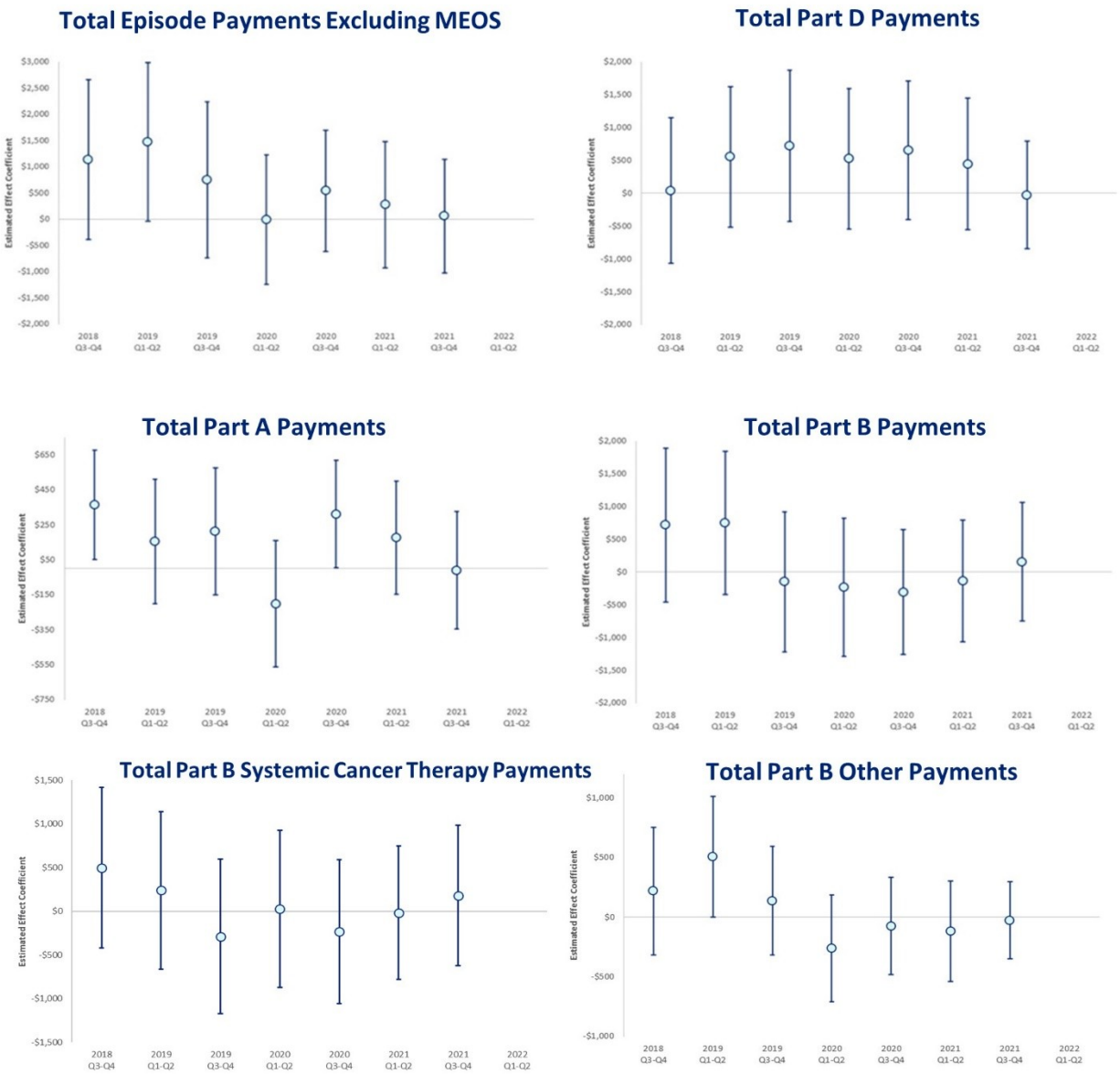
Exhibit F-5. Baseline Event Study Estimates

Outcome Measure		2018 Q3–Q4	2019 Q1–Q2	2019 Q3–Q4	2020 Q1–Q2	2020 Q3–Q4	2021 Q1–Q2	2021 Q3–Q4
Payments	Total Episode Payments	$1,134	$1,471	$746	-$8	$540	$277	$58
	Total Part A Payments	$364*	$154	$211	-$202	$311	$176	-$10
	Total Part B Payments	$716	$746	-$151	-$234	-$308	-$137	$15
	Total Part B Systemic Cancer Therapy Payments	$497	$239	-$288	$25	-$234	-$17	$178
	Total Part B Other Payments	$218	$507	$137	-$260	-$74	-$119	-$26
	Total Part D Payments	$38	$551	$716	$522	$652	$445	-$29
Utilization	Proportion of Episodes With At Least One Inpatient Stay	-0.005	0.006	-0.007	-0.08**	-0.002	-0.02	-0.05
	Proportion of Episodes With At Least One ED Visit	-0.01	-0.03	-0.02	-0.07**	-0.01	0.002	-0.02
	Proportion of Episodes With At Least One 30-Day Readmission	0.05	-0.05	0.002	-0.04	-0.06	0.05	-0.12*
Quality of Care	Proportion of Episodes Receiving Hospice Care 3 Days or More Before Death	-0.01	0.02	0.02	-0.05	0.04	-0.02	0.07

Note: ED = emergency department; Q = quarter. This table presents event-study estimates of the relative baseline differences between the EOM episodes and comparison group during the baseline (pre-EOM) period. The last period of the baseline period, episodes that initiated in 2022 Q1–Q2 are the omitted group. Each estimate represents the relative difference between the EOM and comparison group in that baseline relative to the difference in the omitted period. Part A and Part B payment outcomes were standardized to remove the effect of geographic and other payment adjustments. Part D payments include Medicare payments for low-income cost sharing in addition to 80% of gross drug costs above the out-of-pocket threshold. The regression sample for Part D payments are restricted to episodes with Part D coverage during the episode. The regression sample for the quality of care measure is restricted to the sample with in-episode mortality. Comparison group observations are weighted for matching. Statistical significance of the DiD impact estimate is denoted with an asterisk next to the value, where * implies significance at the 10% level, ** at the 5% level, and *** at the 1% level assuming a two-tailed test.

Source: The EOM evaluation team's analysis of Medicare claims for 6-month EOM and comparison cancer care episodes during the baseline (pre-EOM) period (July 1, 2018, through June 30, 2022) and PP1 (July 1, 2023, through December 31, 2023).

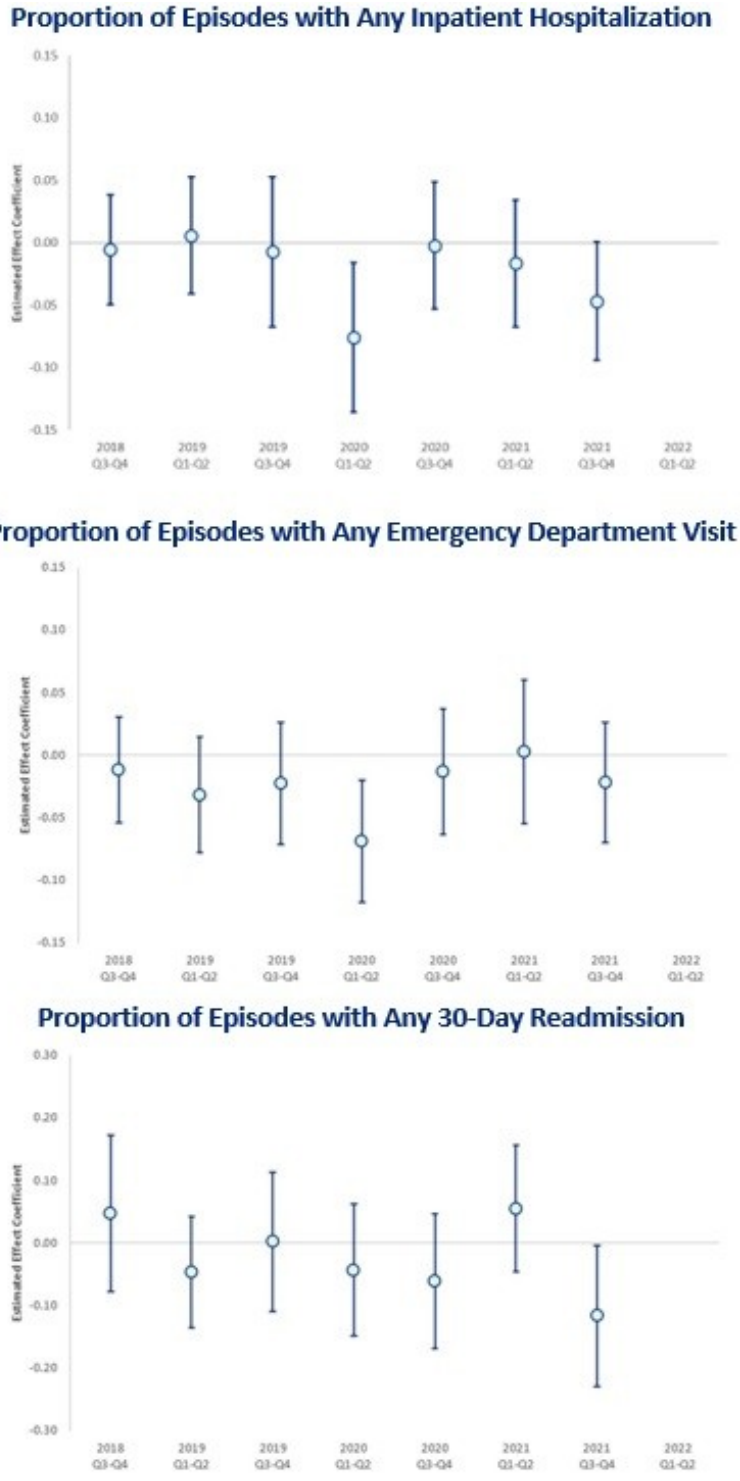
Exhibit F-6. Baseline Event Study Estimates for Payment Outcomes



Note: MEOS = Monthly Enhanced Oncology Services; Q = quarter. These figures present point estimates and corresponding 90% confidence intervals of the changes in relative baseline differences between the EOM episodes and comparison group during the baseline (pre-EOM) period. The last period of the baseline period, episodes that initiated in 2022 Q1–Q2 are the omitted group. Each estimate represents the relative difference between the EOM and comparison group in that baseline relative to the difference in the omitted period. Comparison group observations are weighted for matching. Part A and Part B payment outcomes were standardized to remove the effect of geographic and other payment adjustments. Part D payments include Medicare payments for low-income cost sharing in addition to 80% of gross drug costs above the out-of-pocket threshold. The regression sample in the Part D event study regression was limited to episodes with Part D coverage.

Source: The EOM evaluation team's analysis of Medicare claims for 6-month EOM and comparison cancer care episodes during the baseline (pre-EOM) period (July 1, 2018, through June 30, 2022) and PP1 (July 1, 2023, through December 31, 2023).

Exhibit F-7. Baseline Event Study Estimates for Utilization Outcomes

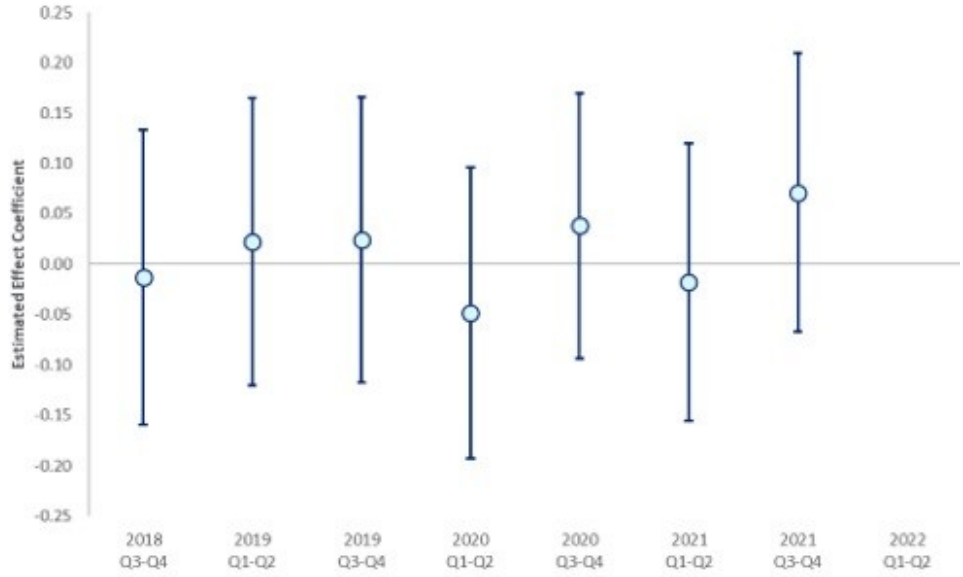


Note: Q = quarter. These figures present point estimates and corresponding 90% confidence intervals of the changes in relative baseline differences between the EOM episodes and comparison group during the baseline (pre-EOM) period. The last period of the baseline period, episodes that initiated in 2022 Q1–Q2 are the omitted group. Each estimate represents the relative difference between the EOM and comparison group in that baseline relative to the difference in the omitted period. Comparison group observations are weighted for matching. The regression sample in the readmissions event study is restricted to episodes with an index admission.

Source: The EOM evaluation team's analysis of Medicare claims for 6-month EOM and comparison cancer care episodes during the baseline (pre-EOM) period (July 1, 2018, through June 30, 2022) and PP1 (July 1, 2023, through December 31, 2023).

Exhibit F-8. Baseline Event Study Estimates for Quality Outcomes

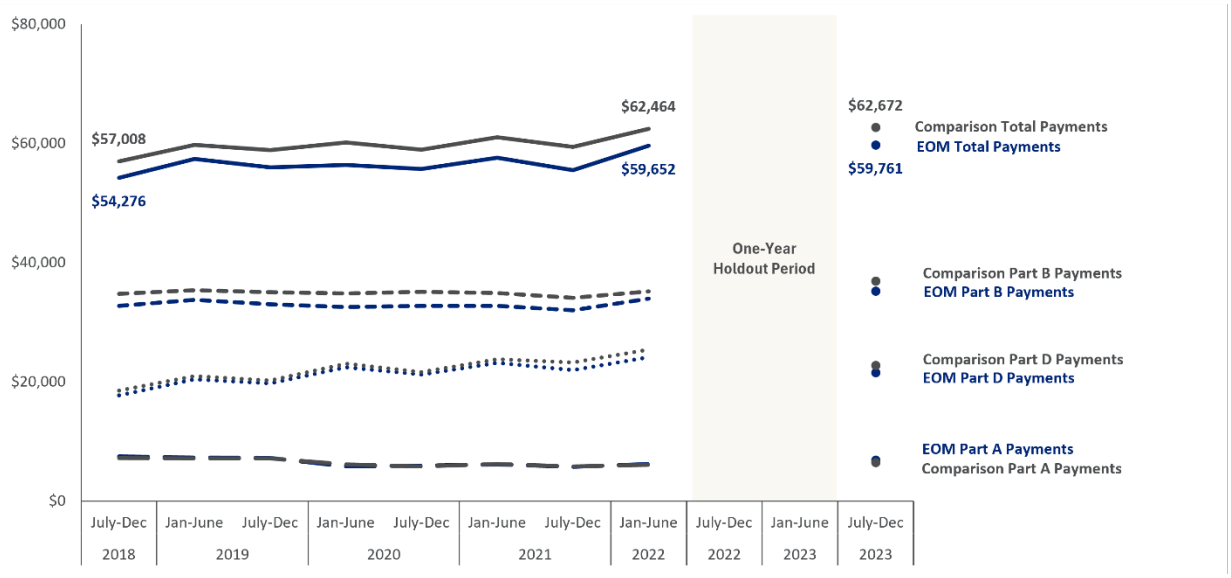
Proportion of Episodes Receiving Hospice Care 3 Days or More Before Death



Note: Q = quarter. These figures present point estimates and corresponding 90% confidence intervals of the changes in relative baseline differences between the EOM episodes and comparison group during the baseline (pre-EOM) period. The last period of the baseline period, episodes that initiated in 2022 Q1–Q2 (January 2022–June 2022) are the omitted group. Each estimate represents the relative difference between the EOM and comparison group in that baseline relative to the difference in the omitted period. Comparison group observations are weighted for matching. The regression sample is restricted to episodes with in-episode mortality.

Source: The EOM evaluation team's analysis of Medicare claims for 6-month EOM and comparison cancer care episodes during the baseline (pre-EOM) period (July 1, 2018, through June 30, 2022) and PP1 (July 1, 2023, through December 31, 2023).

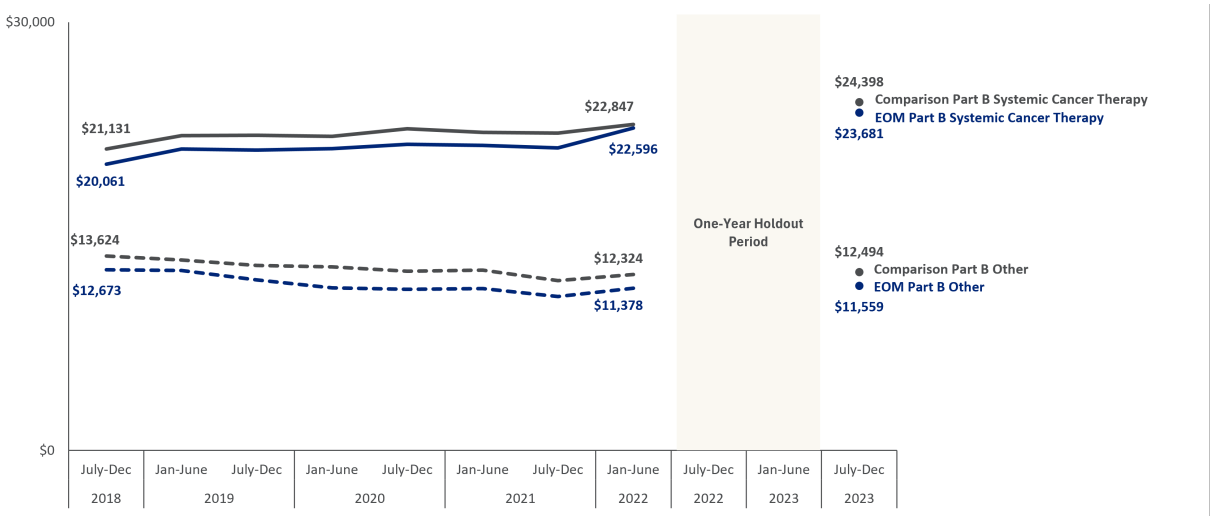
Exhibit F-9. Unadjusted Trends in Total Payments and Payment Components



Note: The horizontal axis represents the period in which the episode initiated. To ensure no overlap between baseline (pre-EOM) period and intervention episodes, the evaluation omitted episodes in a one-year hold-out period, including episodes that initiated between July 1, 2022, and June 30, 2023. Part A and Part B payment outcomes were standardized to remove the effect of geographic and other payment adjustments. Part D payments include Medicare payments for low-income cost sharing in addition to 80% of gross drug costs above the out-of-pocket threshold.

Source: The EOM evaluation team's analysis of Medicare claims and enrollment data for 6-month episodes attributed to EOM participants or matched comparison oncology practices.

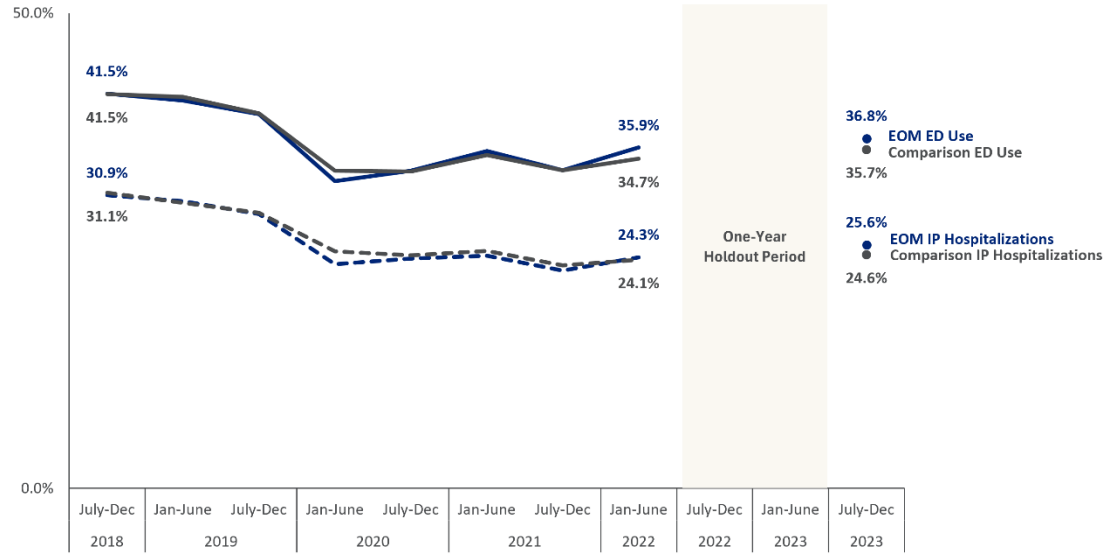
Exhibit F-10. Unadjusted Trends in Part B Payment Components



Note: The horizontal axis represents the period in which the episode initiated. To ensure no overlap between the baseline (pre-EOM) episodes and intervention episodes, the evaluation omitted episodes in a one-year hold-out period, including episodes that initiated between July 1, 2022, and June 30, 2023. Part B systemic cancer therapy and Part B other payment outcomes were standardized to remove the effect of geographic and other payment adjustments.

Source: The EOM evaluation team's analysis of Medicare claims and enrollment data for 6-month episodes attributed to EOM participants or matched comparison oncology practices.

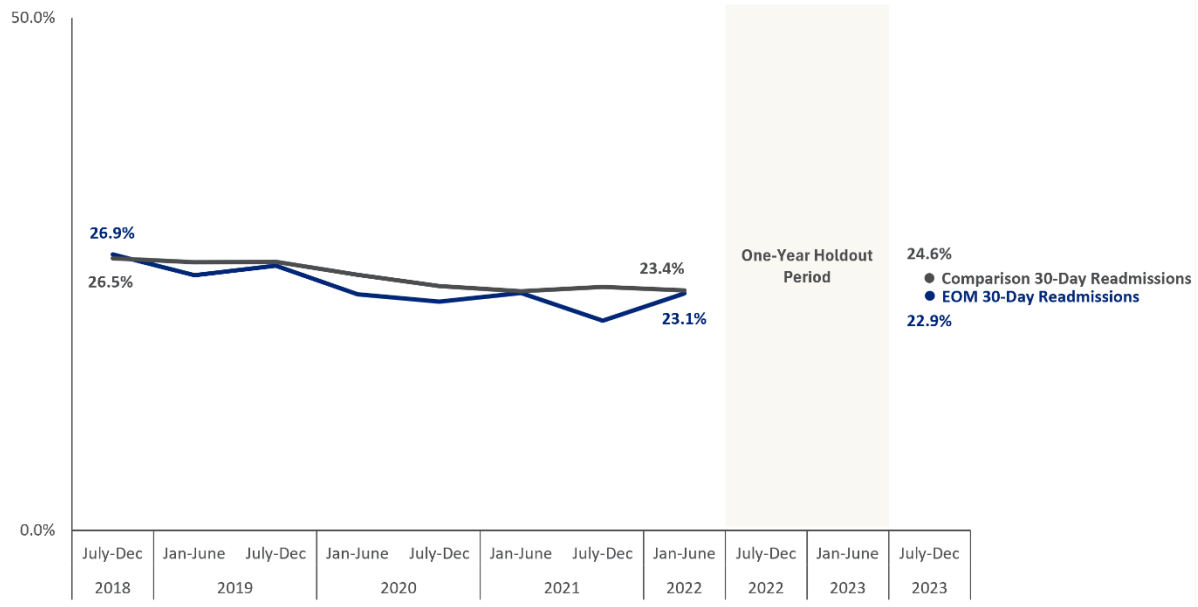
Exhibit F-11. Unadjusted Trends in ED Use and IP Hospitalizations



Note: ED = emergency department; IP = inpatient. The horizontal axis represents the period in which the episode initiated. To ensure no overlap between baseline (pre-EOM) and intervention episodes, the evaluation omitted episodes in a one-year hold-out period, including episodes that initiated between July 1, 2022, and June 30, 2023.

Source: The EOM evaluation team's analysis of Medicare claims and enrollment data for 6-month episodes attributed to EOM participants or matched comparison oncology practices.

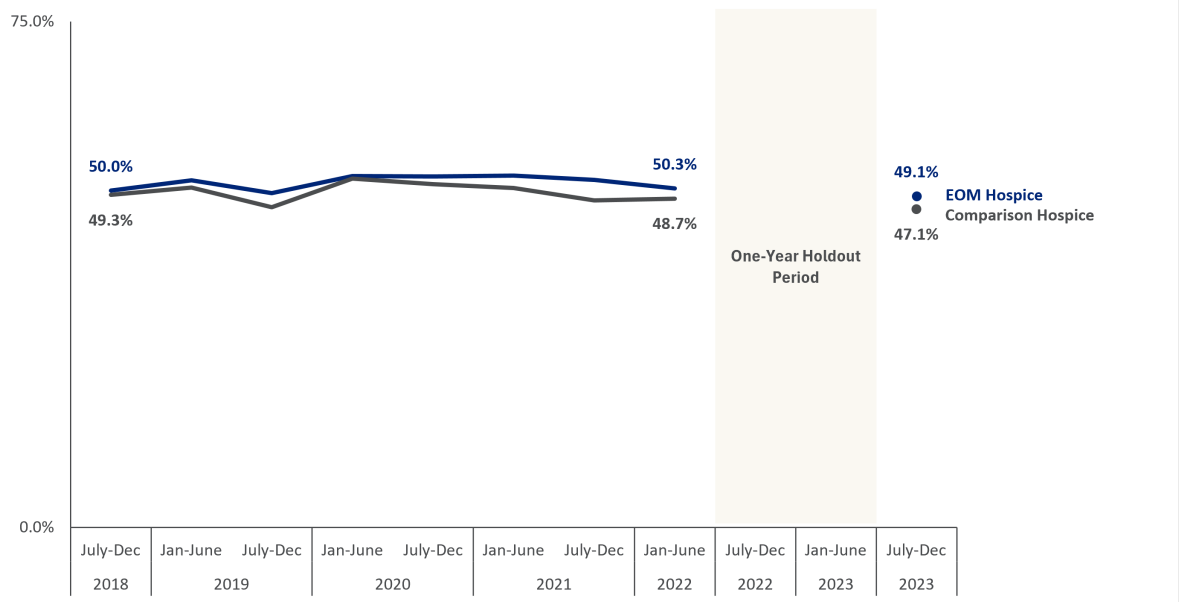
Exhibit F-12. Unadjusted Trends in 30-Day Readmissions



Note: The horizontal axis represents the period in which the episode initiated. To ensure no overlap between baseline (pre-EOM) and intervention episodes, the evaluation omitted episodes in a one-year hold-out period, including episodes that initiated between July 1, 2022, and June 30, 2023. The denominator is restricted to episodes with an index hospitalization stay.

Source: The EOM evaluation team's analysis of Medicare claims and enrollment data for 6-month episodes attributed to EOM participants or matched comparison oncology practices.

Exhibit F-13. Unadjusted Trends in the Proportion of Episodes Receiving Hospice Care 3 or More Days Before Death



Note: The horizontal axis represents the period in which the episode initiated. To ensure no overlap between baseline (pre-EOM) and intervention episodes, the evaluation omitted episodes in a one-year hold-out period, including episodes that initiated between July 1, 2022, and June 30, 2023. The denominator is restricted to episodes with in-episode mortality.

Source: The EOM evaluation team's analysis of Medicare claims and enrollment data for 6-month episodes attributed to EOM participants or matched comparison oncology practices.

Appendix G: Participating Payers and Other Commercial Initiatives

G.1 Participating Payers in EOM

EOM focuses primarily on Medicare FFS patients but allows other payers to participate across their different lines of business. Broader payer engagement helps align incentives and extend the reach of value-based oncology care. EOM practices serve patients who are insured by a diverse payer mix; therefore, payers other than Medicare FFS, including commercial insurers, Medicare Advantage plans, state Medicaid agencies, and Medicaid managed care organizations, are eligible to apply to partner with CMS in the model as EOM participating payers.

Payers participate in the model by partnering with at least one EOM practice and implementing their own oncology alternative payment model (APM). While payers have flexibility to design their oncology APM, they are encouraged to align with EOM's two-pronged payment approach (payment for Enhanced Services and payment for performance) and model design such as episode definition and attribution, performance periods, participant redesign activities, data sharing, and quality measures. The oncology APMs for EOM participating payers include features that both align with and differ from EOM (**Exhibit G-1**).

During PP1, three commercial payers participated in EOM (**Exhibit G-2**).[20] EOM payers cited the importance of oncology value-based care as a strategy to support their organization's efforts to improve quality and reduce costs for their members as a reason for participating in EOM. EOM payers also reported wanting to learn from CMS and other payers that are implementing oncology value-based care programs as a motivation to participate. Some payers decided to participate in EOM because it was a continuation of their involvement in OCM or because they developed an oncology value-based care program.

The EOM participating payers varied in size and market reach. Two of the payers covered regional jurisdictions, and one was a national payer. EOM payers had agreements with one to four EOM practices, and two EOM payers extended their program to 28 additional (non-EOM) practices. Product lines included in these payers' programs were commercial, Medicare Advantage, direct purchaser/business, and third-party administrator/administrative services only.

[20] As of October 2024, two payers were participating in EOM, and one payer that initially participated in EOM had exited the model.

Exhibit G-1. Comparison of EOM and EOM Payer Value-Based Care Program Features

Feature	EOM	EOM Payer Programs
Cancer Types	EOM includes seven cancer types: high-risk breast cancer, chronic leukemia, small intestine/colorectal cancer, lung cancer, lymphoma, multiple myeloma, and high-intensity prostate cancer.	All EOM participating payers included at a minimum the seven cancer types, and some payers included additional cancers in their programs.
Episode Triggers	EOM episodes are triggered if a patient is administered a qualifying systemic cancer therapy.	All EOM payer episodes are triggered by systemic cancer therapy administration.
Practice Requirements	To be eligible for EOM, practices have to be a registered Medicare provider, have a unique TIN, and have at least one oncology practitioner (Physician or APP) on staff who billed at least one cancer-related E&M service to the practice's TIN.	Some EOM payers closely aligned their criteria for attributing members to EOM criteria, but others did not require the oncology practice to provide qualifying E&M services.
Quality Measures	EOM includes quality measures in the following domains: Avoidable acute care utilization Management of end-of-life care Management of symptom toxicity Management of psychosocial health Patient experience	The most common core quality measures among EOM payers pertained to the management of end-of-life care domain. All EOM payers looked at additional quality measures, primarily related to pathway adherence or ensuring proper documentation.
Enhanced Services	EOM practices are required to implement participant redesign activities aimed at enhancing services, including 24-7 access to care, patient navigation, care planning, use of evidence-based guidelines, and use of ePROs.	All EOM payers required some, if not all, the Enhanced Services that are required as part of EOM. Most common enhanced services included 24-7 access to care and guideline-based care.
Payments	EOM practices are eligible to receive Monthly Enhanced Oncology Services payments and performance-based payments or performance-based recoupments.	All EOM payers paid their practices based on performance. Some EOM payers offered payment for enhanced services. Payment structures and performance criteria varied based on payer-selected quality measures.
Data Sharing	EOM participants have access to monthly claims data, quarterly updates to feedback reports and dashboards, and semiannual reconciliation reports, attribution lists, and episode-level files.	All EOM payers shared data with their practices; however, the data topics and the cadence of delivery varied.
Other Features	N/A	EOM payers had different requirements from one another for prior authorization and different approaches for managing pharmacy costs, but this was not explicitly part of their implementation. Though not a main component of EOM payers APMs, these payers used preferred drug lists to guide prescriber behavior and manage costs.

Note: APM = alternative payment model; APP = Advanced Practice Provider; E&M = evaluation and management; ePRO = electronic Patient-Reported Outcome; N/A = not applicable; TIN = Taxpayer Identification Number.

Exhibit G-2. EOM Participating Payer Characteristics

Characteristics	Payer 1	Payer 2	Payer 3
Total Number of Practices Participating	11	1	24
EOM Practices	3	1	4
Non-EOM Practices	8	0	20
Product Lines Included in APM	4	1	2
Commercial	Yes	Yes	Yes
Medicare Advantage	Yes	No	Yes
Direct Purchaser/Business	Yes	No	No
TPA/ASO	Yes	No	No

Note: APM = Alternative Payment Model; ASO = administrative services only; TPA = third-party administrator.

G.2 Other Payer Initiatives

The shift toward value-based care is not limited to partnerships with CMS; commercial insurers are also experimenting in the value-based care space by piloting their own value-based oncology programs. Commonalities across these programs include a focus on incentivizing National Comprehensive Cancer Network (NCCN) guideline adherence, particularly through rapid authorization of guideline-concordant regimens, and financial incentives for clinical pathway compliance. Some commercial programs leverage data and analytics to track and financially reward high-value care that successfully reduces costs and meets patient-centered quality benchmarks.

Clinical Pathways

Clinical pathways for cancer care are detailed, evidence-based treatment protocols built into the EHR that are associated with improved outcomes for patients with cancer. Commercial insurers design and implement clinical pathways in oncology to reach the goal of value-based care and improve quality of care while reducing costs.

One commercial pay-for-performance program provides oncology practices with a financial incentive to achieve quality benchmarks and provide guideline-concordant care.[21] Another commercial program created a designation that physicians and practices can earn by participating in a value-based reimbursement program such as EOM.[22] The oncology medical home program is another strategy commonly used by commercial payers to provide patient-centered oncology care.[23] Participation in both EOM and one or more commercial payer program may allow a practice to amplify financial incentives to transform care in line with value-based care goals.

[21] UnitedHealthcare. (n.d.). *Oncology Pay for Performance (P4P) program*. https://www.uhcprovider.com/en/resource-library/oncology-pay-for-performance.html

[22] Blue Cross Blue Shield Association. (n.d.). *Blue Distinction Centers for Cancer Care selection criteria.* https://www.bcbs.com/dA/d29e65d20b/fileAsset/Cancer.Care_.Selection.Criteria.pdf

[23] Oncology Medical Home: ASCO and COA Standards. JCO Oncology Practice https://ascopubs.org/doi/10.1200/OP.21.00167