



## The Radiation Oncology Case Rate (ROCR) Report

June 2023

## Executive Summary

It has long been recognized that Medicare fee-for-service payment systems do an inadequate job of encouraging value-based, high-quality care. These shortcomings are what led in part to the creation of the Center for Medicare and Medicaid Innovation (the Innovation Center), at the Centers for Medicare & Medicaid Services (CMS.) The Innovation Center is charged with testing alternative payment models that could look across payment systems and redesign the way care is paid for and to provide additional incentives for better outcomes and lower costs.

Radiation oncology services are a prime example of ways in which the Medicare payments systems do not incentivize the best type of care or the delivery of care in the most efficient setting. The volume-based payment systems incentivize the delivery of longer courses of radiation. In recent years, studies have demonstrated that for certain cancers shorter (hypofractionated) treatment course provide the same outcomes. Hypofractionation, when appropriate, should be incentivized not just only to reduce spending but more importantly to improve patient care and access. Further, Medicare pays different payment rates for the same services under the Medicare physician fee schedule (PFS) and the hospital outpatient prospective payment systems (OPPS). For radiation oncology services this means there are sometimes incentives to provide the care in higher-cost settings.

In 2017, CMS recognized that the Medicare payment systems were not adequately addressing radiation oncology services and the CMS Innovation Center released a Congressionally-requested report on pursuing an alternative payment model for radiation oncology (RO Model) to address the payment shortcomings in the PFS and OPPS. However, strong opposition to the methodology prompted Congress to delay implementation of the RO Model twice and the Innovation Center indefinitely delayed the model in 2022. Significant opposition to the RO Model stems from the payment reductions that did not prioritize value or quality.

Though the flaws in the PFS and OPPS system persist, and the RO Model was delayed, the American Society for Radiation Oncology (ASTRO) began developing an alternative payment approach for certain radiation therapies that would:

- Improve quality by removing perverse incentives to longer treatment course when they are not needed
- Increase access to radiation therapy for Medicare beneficiaries close to their homes
- Establish stable, site-neutral payments for radiation oncology
- Reduce disparities in radiation oncology for Medicare beneficiaries
- Achieve reasonable spending reductions in Medicare

The proposed approach is site-neutral and includes an episode-based radiation oncology case rate (ROCR) payment for 15 disease sites and the Health Equity Achievement in Radiation Therapy (HEART) payment to support payment for transportation services to treatments. Transportation is often a major barrier in accessing RT services. The ROCR program is expected to save more than \$200 million over the next five years while improving quality through increasing accreditation at sites providing these services.

**Table 1. Cancer Types included in ROCR**

Anal	Bladder	Bone Metastases
Brain Metastases	Breast	Cervical
Central Nervous System	Colorectal	Head and Neck
Lung	Lymphoma	Pancreatic
Prostate	Upper GI	Uterine

## Introduction

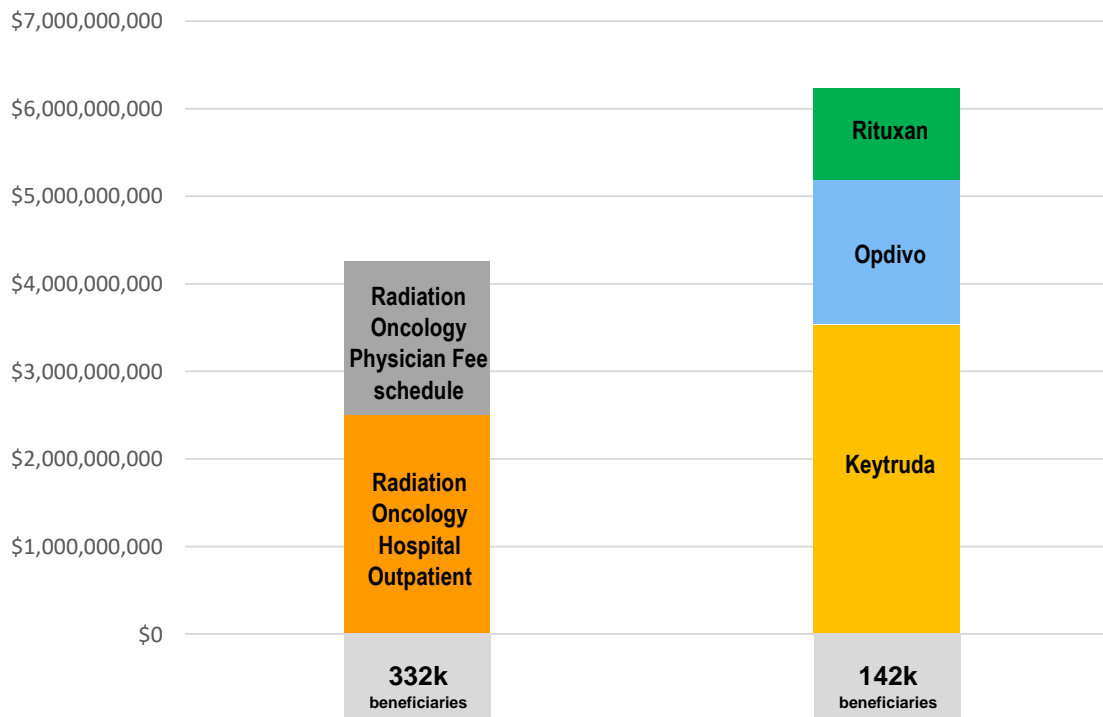
Radiation therapy applies therapeutic radiation through various delivery systems, such as with external beam radiation therapy, to treat cancer and other diseases safely and effectively. Radiation oncologists develop radiation treatment plans and coordinate with highly specialized care teams to delivery radiation therapy. Nearly 60 percent of cancer patients will receive radiation therapy during their treatment.<sup>1</sup> In 2020, CMS reported approximately \$4.3 billion total spending for radiation oncology services between the physician fee schedule and hospital outpatient departments.<sup>2</sup> That is \$2 billion less than Medicare Part B spending on just three drugs that are used to treat nearly half the number of Medicare beneficiaries.

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<sup>1</sup> RT Answers. (n.d.). What is Radiation Therapy? Retrieved March 21, 2023, from RT Answers: <https://rtanswers.org/What-is-Radiation-Therapy>

<sup>2</sup> <https://www.cms.gov/files/document/cy-2019-expenditures-and-services-specialty.pdf>

**Table 2. Medicare Part B Spending 2020: Radiation Oncology vs. Top 3 Cancer Drugs**



Radiation oncology is a unique medical specialty in that it has experienced rapid medical and technological advancement to improve treatment for certain diagnoses. Radiation therapy technologies require large capital investments. In its November 2017 Report to Congress, CMS acknowledged that it “faces certain challenges in determining accurate prices for services that involve expensive capital equipment. Consequently, PFS rates for services involving external beam radiation therapy have fluctuated.” Additionally, the Medicare fee-for-service payment system has inadequately recognized the professional expertise physicians and nonphysician professionals need to deliver radiation therapy. At present, Medicare pays varying rates for radiation therapy based on hospital or office setting for the same services. As a result of payment amounts differentiated by setting, the current payment system encourages radiation therapy to be concentrated in the highest-paid settings and delivered over longer periods of time, which increases total Medicare spending and beneficiary cost-sharing<sup>3</sup>.

ASTRO has been working with Congress and CMS to improve the way Medicare pays for radiation oncology services for many years. After multiple attempts at reforming the relevant payment systems, ASTRO determined that payment for radiation oncology services should no longer be tied to the setting in which these services are delivered. Instead, ASTRO has developed an episode-based, unified payment program that would exist outside of the statutory physician and outpatient hospital payment structures to ensure Medicare patients with cancer have access to the highest quality of care. The new Radiation Oncology Case Rate (ROCR) Payment Program would align financial incentives with evidence-based practices, improve access to care and health outcomes, and contain costs associated with overutilization. ROCR is a superior payment approach to the

<sup>3</sup> Medicare Payment Advisory Commission (MedPAC). (2022). Report to Congress: Medicare and the Health Care Delivery System. Retrieved from [https://www.medpac.gov/wp-content/uploads/2022/06/Jun22\\_MedPAC\\_Report\\_to\\_Congress\\_SEC.pdf](https://www.medpac.gov/wp-content/uploads/2022/06/Jun22_MedPAC_Report_to_Congress_SEC.pdf)

status quo and any demonstration projects that CMS may be able to implement under its limited authority. We call on Congress to pass legislation that would authorize CMS to implement this new high-value program and ensure Medicare beneficiaries have access to safe, high-quality radiation oncology treatments.

## **History of Innovation Center Initiatives and Radiation Oncology Alternative Payment Model Development Work**

### **Physician Fee Schedule and Outpatient History**

Radiation therapy is generally furnished in either a hospital outpatient department (HOPD) or a freestanding radiation therapy center. Medicare pays differently for the same services provided in the different settings because of differing statutory requirements and divides them between technical and professional services. The hospital OPSS pays for the technical services provided in an HOPD. Freestanding radiation therapy centers are paid under the technical component of the Medicare PFS. The professional component of the radiation therapy treatments also is paid under the PFS and is adjusted depending on whether the physician service is provided in an HOPD or freestanding center. The Medicare PFS is composed of relative value units (RVUs) for work, practice expenses, and liability.<sup>4</sup>

The technical component payment rate is largely driven by the calculation of practice expense RVUs, and stakeholders have expressed much concern in the last 15 years that the methodology to calculate these RVUs insufficiently reflects the resources needed to deliver high-quality services because of limitations in the data used in the methodology.<sup>5</sup> In particular, the practice expense is intended to reflect the higher cost of clinical staff, medical equipment, supplies, and additional overhead. In radiation oncology, a number of factors affect the practice expense component, including the high capital costs of the equipment (such as a linear accelerator), the specialized staffing needed to deliver the treatments (such as medical physicists), and additional regulatory requirements specific to working with radiation sources.

Over the years, CMS has proposed multiple approaches to address radiation oncology payments under the PFS. Often the impact was more negative than the status quo. In addition, over the past few decades CMS has sought to increase payments to primary care physicians and make other unrelated refinements to the PFS but by law these policy changes must be done in a budget neutral fashion. Most recently, CMS updated the Clinical Labor RVUs for 2022, which addressed the short comings in the existing clinical labor inputs used to determine the value of the work of non-physician practitioners but did so at the expense of several specialties, including radiation oncology. Figure 1 highlights some of these key policy issues.

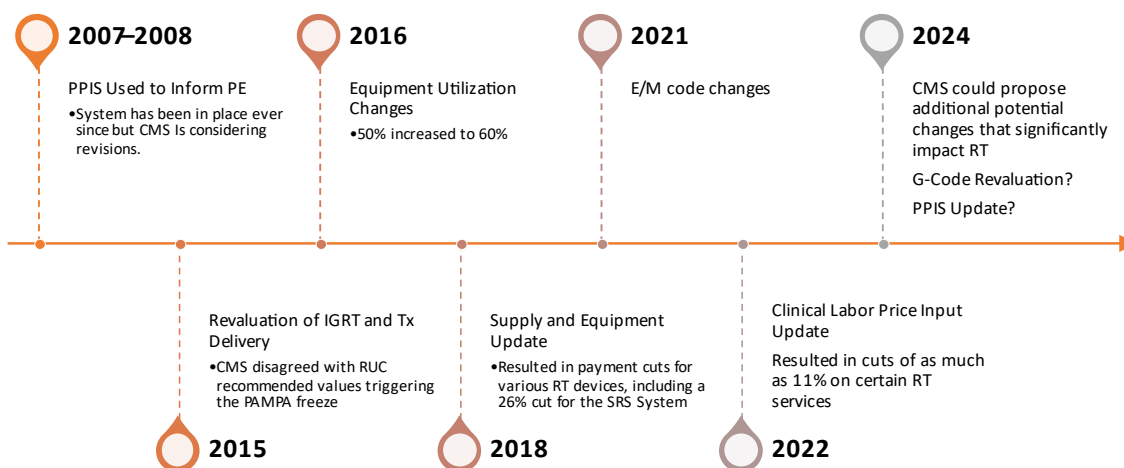
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<sup>4</sup> For a detailed description of the Medicare Physician Fee Schedule methodology see the CMS resources available here <https://www.cms.gov/medicare/medicare-fee-for-service-payment/physicianfeesched>

<sup>5</sup> Burgette, Lane F., Jodi L. Liu, Benjamin M. Miller, Barbara O. Wynn, Stephanie Dellva, Rosalie Malsberger, Katie Merrell, PhuongGiang Nguyen, Xiaoyu Nie, Joseph D. Pane, Nabeel Qureshi, Teague Ruder, Lan Zhao, and Peter S. Hussey, Practice Expense Methodology and Data Collection Research and Analysis. Santa Monica, CA: RAND Corporation, 2018. [https://www.rand.org/pubs/research\\_reports/RR2166.html](https://www.rand.org/pubs/research_reports/RR2166.html).

Figure 1: MPFS Changes Impacting RT

# MPFS Changes Impacting RT



As a result of the policy changes over the past decade plus, CMS has been systematically moving fee schedule dollars away from radiation oncology and other equipment-dependent specialties. Figure 2 below shows the cumulative impact of these policy changes on multiple physician specialties since 2007.<sup>6</sup> As a result, radiation oncology relative value units have decreased 25 percent in that time and other equipment dependent specialties have seen similar decreases. Average reimbursement for 16 of the most common radiation therapy treatment courses have also decreased significantly from 2010 – 2020.<sup>7</sup> The largest decrease was for Intensity Modulated Radiation Therapy (IMRT) with a 38-39 percent reduction for a course of treatment, despite growing evidence that it may deliver a higher therapeutic dose with fewer side effects of therapy<sup>8</sup>.

In addition to these changes, the statutory formula to update physician payments has generated negative or zero percent updates for many of the years during this timeline. During some of those years, Congress stepped in and overrode the payment updates, passing legislation that froze radiation oncology rates in 2017 and 2018 and made more general updates to the PFS in 2022 and 2023. It has become an annual routine for Congress to pass legislation that adjusts the fee schedule. No other Medicare payment system has required such regular statutory adjustments. The

<sup>6</sup> This figure represents a cumulation of CMS Medicare Physician Fee Schedule impact table estimates since 2006, but it does not account for changes in volume, mix or intensity of services, or site of service changes over the same timeframe.

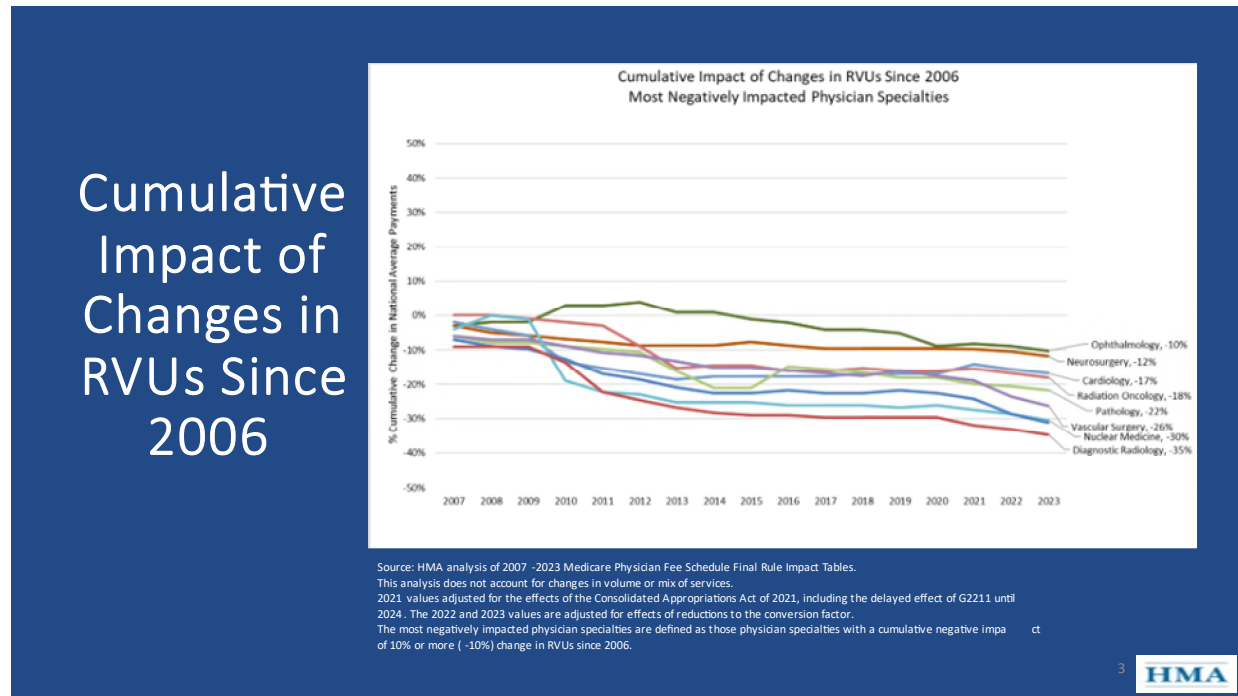
<sup>7</sup> Jake S. Hogan , Patricia Karraker , Benjamin W. Fischer-Valuck ,Ne ha Vapiwala , Minesh P. Mehta , Carlos A. Perez , John C. Baumann , Jeff D. Bradley , Brian C. Baumann, Benchmarking the Radiation Oncology Alternative Payment Model (RO-APM): Changes in Medicare Reimbursement for 16 Common Radiation Therapy Treatment Courses,

*Practical Radiation Oncology* (2023), doi: <https://doi.org/10.1016/j.prro.2023.04.012>

<sup>8</sup> Ibid.

American Medical Association and other healthcare organizations agree that the system is broken and needs a comprehensive overhaul.<sup>9</sup> The Medicare Payment Advisory Committee (MedPAC) and the Rand Corporation both recommended that differential payments for the same service based on the delivery location should be addressed to remove incentives that can drive increased Medicare spending.<sup>10,11</sup>

**Figure 2: Cumulative Impact of Changes in RVUs Since 2006**



The OPSS uses a different methodology to establish payments in the HOPD setting. Under the OPSS, services are assigned to payment groups called Ambulatory Payment Classifications (APCs), and all adjunctive items or services are packaged into the payments for the primary service. This methodology is designed to promote efficiency and the provision of high-quality care. Payment for each item and service is based on the average costs of the services within the APC. This approach presents challenges for radiation oncology because patients needing these services may be receiving concurrent and overlapping radiation therapy services. Providers of radiation therapy—particularly hospital outpatient providers—may submit monthly claims that include multiple encounters for reoccurring, nonrepetitive services. The monthly billing leads to undervaluation of

<sup>9</sup> <https://www.ama-assn.org/practice-management/medicare-medicaid/medicare-physician-pay-cuts-underscore-need-fix-broken-system>

<sup>10</sup> Burgette, Lane F., Jodi L. Liu, Benjamin M. Miller, Barbara O. Wynn, Stephanie Dellva, Rosalie Malsberger, Katie Merrell, PhuongGiang Nguyen, Xiaoyu Nie, Joseph D. Pane, Nabeel Qureshi, Teague Ruder, Lan Zhao, and Peter S. Hussey, Practice Expense Methodology and Data Collection Research and Analysis. Santa Monica, CA: RAND Corporation, 2018. [https://www.rand.org/pubs/research\\_reports/RR2166.html](https://www.rand.org/pubs/research_reports/RR2166.html).

<sup>11</sup> Medicare Payment Advisory Commission (MedPAC). (2022). Report to Congress: Medicare and the Health Care Delivery System. Retrieved from [https://www.medpac.gov/wp-content/uploads/2022/06/Jun22\\_MedPAC\\_Report\\_to\\_Congress\\_SEC.pdf](https://www.medpac.gov/wp-content/uploads/2022/06/Jun22_MedPAC_Report_to_Congress_SEC.pdf)

these services because multiple encounters for overlapping and concurrent therapies appear on the same claim and are not recognized as distinct encounters.

As a result of these different payment methodologies in PFS and OPFS, the amount Medicare will pay for the same services will fluctuate depending upon where the service is delivered. Consequently, services provided in freestanding offices often are reimbursed at lower rates than services provided in HOPDs. Additionally, HOPD services may be undervalued secondary to the manner of billing. These site of service differentials exist across a range of services outside of radiation oncology.<sup>12</sup>

## History of the Radiation Oncology Alternative Payment Model

As a result of the PFS payment issues discussed above, Congress recognized that the PFS payment system could not adequately pay for radiation oncology services. In 2015, Congress passed the Patient Access and Medicare Protection Act (PAMPA), which directed the Secretary of the US Department of Health and Human Services to submit a report to Congress on the development of an alternative payment model (APM) for Medicare payment for radiation therapy services provided in non-facility settings. The Innovation Center was assigned responsibility for drafting this report. ASTRO collaborated with the Innovation Center team on the concepts explored in the report and the factors that needed to be considered when designing a radiation oncology related APM. Other stakeholders in the radiation oncology community, advocates for people with cancer, and relevant interest groups also actively engaged with CMS as the agency researched and wrote the report.

CMS released the report in November 2017. It provided a comprehensive overview of radiation oncology services, described how Medicare pays for them in both facility and non-facility settings, and outlined the parameters of a voluntary APM.<sup>13</sup> The report indicated that an APM could establish long warranted rate stability to ensure continued access to this vital and high-value form of cancer care. Furthermore, the Agency stated that a model could test whether expenditures could be reduced while also maintaining or enhancing quality of care.

ASTRO was supportive of transitioning RT to value-based payment arrangements. Their goals of an RO model or any value-based arrangement for RT services should:

1. Reward radiation oncologists for participation and performance in quality initiatives that improve the value of health care for patients.
2. Ensure fair, predictable payment for the radiation oncologist in both hospital and freestanding cancer clinics to protect cancer patients' access to care in all settings.
3. Drive the appropriate use of patient-centered, evidence-based cancer treatments that result in the highest quality of care and best patient outcomes<sup>14</sup>.

In July 2019, CMS released a rule that proposed a mandatory radiation oncology model. CMS designed the RO Model to test whether changing payment for RT services from fee-for-service to a

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<sup>12</sup> Medicare Payment Advisory Commission (MedPAC). (2022). Report to Congress: Medicare and the Health Care Delivery System. Retrieved from [https://www.medpac.gov/wp-content/uploads/2022/06/Jun22\\_MedPAC\\_Report\\_to\\_Congress\\_SEC.pdf](https://www.medpac.gov/wp-content/uploads/2022/06/Jun22_MedPAC_Report_to_Congress_SEC.pdf)

<sup>13</sup>United States Department of Health and Human Services "REPORT TO CONGRESS: Episodic Alternative Payment Model for Radiation Therapy Services," November 2017 <https://innovation.cms.gov/files/reports/radiationtherapy-apm-rtc.pdf>

<sup>14</sup> ASTRO. (2019). Medicare Program: Specialty Care Models to Improve Quality of Care and Reduce. Retrieved from <https://www.astro.org/ASTRO/media/ASTRO/Daily%20Practice/PDFs/ASTRO-ROModelFinalCommentLetter.pdf>



prospective, site neutral, modality agnostic, episode-based model incentivizes physicians to deliver higher-value RT care. Under the model, the Innovation Center planned to:

- Make prospective, episode-based (i.e., bundled) payments based on a patient's cancer diagnosis, which cover RT services furnished in a 90-day episode for services delivered to people with cancers that meet the criteria described in the final rule
- Use unified payment by establishing a common, adjusted national base payment amount for the episode, regardless of setting
- Split episode payments into professional and technical components to allow the current claims systems for the Medicare PFS and OPSS to be used to adjudicate RO model claims and ensure consistency with existing business relationships
- Link payment to quality through reporting and performance on quality measures, clinical data reporting, and patient experience as factors when determining payment to RO participants
- Qualify as an Advanced APM and a Merit-Based Incentive Payment System (MIPS) APM under the Quality Payment Program (QPP) starting in performance year one (PY1)<sup>15</sup>

ASTRO was disappointed in this development, as a mandatory model was never part of the discussions with CMS and stakeholders. Further, the model had steep payment reductions that would have jeopardized access to high quality RT services and onerous reporting requirements that would have imposed significant burden on sites that were required to participate in the model.

Despite concerns from ASTRO, the American Hospital Association, the American Medical Association, and other key stakeholders, in September 2020, CMS finalized a rule to implement the mandatory RO model. While CMS did make some minor changes to the model design, the agency still required sites to comply with burdensome administrative requirements and mandated participation by approximately 30 percent of all radiation oncology specialists across the country. CMS also expected sites to be able to implement this during the middle of the COVID-19 pandemic. The new methodology was expected to reduce spending on radiation oncology services by \$250 million over the course of four years.<sup>16</sup>

ASTRO opposed the final rule based on multiple factors, including:

- **Mandatory participation:** As designed, the mandatory participation of providers within randomly selected zip codes that the Innovation Center selected raised concerns about competitive advantage that providers outside of the mandatory participation areas might gain, creating fragmentation in the delivery of radiotherapy.<sup>17</sup> The mandatory nature of the model, along with the reimbursement reductions, created a punitive structure for providers required to participate in the model and placed the quality of these services and patient access to care at risk.
- **Savings:** The model assessed a payment cut through a non-volume-based model. Opportunities exist to enhance quality by aligning payment with evidence-based, patient-centered treatment. The RO Model prioritized savings through payment reductions, rather than embedding value-based principles into a payment design that would reduce incentives for overutilization.

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<sup>15</sup> Centers for Medicare and Medicaid Innovation. (2022, August). Radiation Oncology Model. Retrieved from <https://innovation.cms.gov/innovation-models/radiation-oncology-model>

<sup>16</sup> 42 CFR Part 512. 61114-61381 <https://www.govinfo.gov/content/pkg/FR-2020-09-29/pdf/2020-20907.pdf>

<sup>17</sup> 84 Fed. Reg. 34478, 34568, and 4 84 Fed. Reg. 34478, 34494.

- **Unified Base Rates:** The RO Model payment methodology was complicated and difficult to implement at the clinical level, which would complicate a practice’s ability to understand, engage, and make necessary adjustments to be successful.
- **Discount Factor Cuts:** In the 2022 OPPS final rule, CMS finalized discount factors of 3.5 percent on the Professional Component payment and 4.5 percent on the TC payment. CMS anticipated that, based on these discounts, it would be able to save \$250 million in Medicare FFS spending over the five-year demonstration period. This discount would have created a punitive payment rate for providers who were required to participate in the model and did not factor in the substantial capital investments in the human and technological infrastructure to provide high-quality, state-of-the-art care. An episode-based model acknowledges risk; however, as designed, it created more “losers” than “winners” purely for the sake of reducing costs without any assurances of quality-of-care enhancements.

ASTRO’s opposition to the design of the model led Congress to twice delay implementation of the RO Model, and in 2022, CMS decided to indefinitely delay the Model. The payment issues still exist for RO services and have only worsened in recent years because of other PFS changes. As previously noted, Congress had to intervene in 2022 and 2023 to minimize the cuts all physicians were facing under the PFS. The American Hospital Association (AHA) supported the original intent of the RO Model, but said it was “marred by the incorporation of significant payment cuts and substantial administrative burdens for those participating in this mandatory model.”<sup>18</sup> AHA provided similar critiques of the deep discount factor cuts, convoluted payment calculations, significant provider burden of the Model requirements, and mandatory participation.

In 2021, the Innovation Center announced a refreshed strategy focused on having all Medicare beneficiaries move to accountable care arrangements.<sup>19</sup> In November 2022, they also announced a strategy to support specialty care.<sup>20</sup> In that document that reiterated their commitment to “implement models that focus on special populations or specific conditions where specialist providers typically provide the majority of care for beneficiaries over a defined period of time.”<sup>21</sup>

We concur with this approach to episode-based models and believe that radiation therapy is appropriate for episode-based payment and thus can be nested within a broader cancer care continuum. It involves a unique treatment, delivered over a specific period, that involves expensive capital resources that are not found elsewhere in medicine. Establishing nested episodes of care allows for better alignment of incentives that take into consideration the providers and costs involved in all related services. In many existing models, the initiating provider gets all the risk and reward for participation, whereas there is no risk or reward for the other care providers. For instance, post-acute care spending accounts for 43% of a Comprehensive Joint Replacement episode, 30% of a BPCI COPD episode, and 23% of a Hospital Readmission Reduction episode.<sup>22</sup> The savings generated from each of these models is based on reducing the cost of these post-acute

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<sup>18</sup> American Hospital Association. (2021). AHA Comments on the Centers for Medicare & Medicaid Services’ Radiation Oncology (RO) Model proposed rule. Retrieved from <https://www.aha.org/lettercomment/2022-06-06-aha-comments-centers-medicare-medicare-services-radiation-oncology-ro>

<sup>19</sup> “Innovation Center Strategy Refresh” <https://innovation.cms.gov/strategic-direction-whitepaper>

<sup>20</sup> The CMS Innovation Center’s Strategy to Support Person-centered, Value-based Specialty Care, November 7, 2022 <https://www.cms.gov/blog/cms-innovation-centers-strategy-support-person-centered-value-based-specialty-care>

<sup>21</sup> Ibid.

<sup>22</sup> Westhead, Monica. “Influence Downstream Provider Behavior: Key strategies to achieve success in an era of risk.” Advisory Board. Post Acute Collaborative. 2017.

services. While the initiating provider, in these cases the hospital, has plenty of incentive to reduce cost, the providers associated with these services do not, thus creating misaligned incentives.

According to the Bundled Payments for Care Improvement (BPCI) Advanced Model Fourth Evaluation report, this misalignment is playing out to the detriment of patients<sup>23</sup>. According to the report, patient reported change in functional status between BPCI Advanced and comparison respondents indicated unfavorable or declining functional status and ability to perform activities of daily living for several Clinical Episode Service Line Groups (CESLG). Of note, the orthopedics CESLGs were less likely than comparison respondents to report high levels of satisfaction with recovery. These findings support the concern that multi-service bundles may disincentivize adequate post-acute care. This misalignment can be addressed when distinct episodes are established recognizing the role and the cost associated with all related services.

Despite this evidence, in the past year, the Innovation Center also has announced a new Enhancing Oncology Model (EOM) and extended the Bundled Payments for Care Improvements Advanced (BPCI-A) model. They also have signaled their intent to launch at least three new prescription drug models. At the same time, CMS has effectively ended work on the RO Model and has in no way indicated that radiation oncology services are a priority for model development going forward.

## **The Case for Radiation Oncology Case Rate (ROCR) Program**

After more than five years of working with CMS on a radiation oncology alternative payment model, ASTRO and other stakeholders are disappointed that a new and better way of paying for these services was never assessed. A model test always will have participants who are in and out of the model, will be of a limited duration, and will be subject to changing requirements. The case has been made over many years as to why radiation oncology services are not an appropriate fit for either the PFS or OPFS. As ASTRO has learned more about payment system design, it has accepted responsibility for finding a better way to pay physicians and facilities that provide radiation oncology services.

ASTRO recommends that Congress adopt the Radiation Oncology Case Rate (ROCR) Value Based Payment Program for Medicare-covered radiation oncology services, regardless of setting, under a new Medicare unified payment program. A stand-alone site neutral payment program addresses the shortcomings of the PFS and OPFS payment systems, aligns financial incentives with guideline-concordant care, encourages quality assurance and improvement standards, and reduces known barriers to care for Medicare beneficiaries. ROCR builds on previous successful payment reforms, such as the end-stage renal disease (ESRD) prospective payment system (PPS) and bundled payment programs in orthopedics, that sought innovative ways to address payment for critical services that were not being delivered efficiently or effectively under the earlier payment schemes.

ROCR specifically addresses known disparities in care outcomes within the Medicare population. Black, Hispanic, and Native American Medicare beneficiaries were found to be less likely than White and Asian patients to initiate radiation treatment, and when radiation therapy was initiated, Black and Hispanic beneficiaries required more treatment days.<sup>24</sup> Additionally, rural cancer patients have a

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<sup>23</sup> CMS BPCI Advanced Evaluation – Fourth Evaluation Report. Prepared for CMS by The Lewin Group Inc. with Abt Associates, GDIT, and Telligen. March 2023. <https://innovation.cms.gov/data-and-reports/2023/bpci-adv-ar4>

<sup>24</sup> Mantz CA, Thaker NG, Deville C Jr, Hubbard A, Pendyala P, Mohideen N, Kavadi V, Winkfield KM. A Medicare Claims Analysis of Racial and Ethnic Disparities in the Access to Radiation Therapy Services. *J Racial Ethn Health Disparities*. 2022 Jan 21. doi: 10.1007/s40615-022-01239-0. Epub ahead of print. PMID: 35064522.

10% higher mortality rate due to missed treatments and treatment delays.<sup>25</sup> ROCR incorporates a Health Equity Achievement in Radiation Therapy (HEART) payment, which provides incentives for reducing transportation barriers to accessing care from programs that successfully reduced disparities in treatment access, initiation, and engagement.<sup>26</sup> The unified payment and addition of HEART positions ROCR to support broader access to lifesaving therapies for Medicare beneficiaries and improve outcomes in populations with known disparities in access and completion of treatment—a feat that is impossible to achieve under the disjointed PFS and OPFS structures. As policymakers confront the inequities and financial burdens associated with payment discrepancies for the same services performed in different sites, the ROCR approach can serve as a model for future unified payment reforms.

## Overview of ROCR

ROCR is a capitated, site-neutral payment program that will pay case rates for 15 different disease sites including the cancers most commonly treated with radiation (see table 1), will encourage the most appropriate treatment modality, and reduce disparities in access to care for Medicare beneficiaries. All other radiation therapy services, including those for other disease states, new technology and novel services, still will be paid under the relevant Medicare FFS payment system. Brachytherapy and proton beam therapy are excluded due to their relatively low clinical utilization and unique cost structures. In particular, proton beam therapy treatment delivery does not have national payment rates (CMS recently declined to set national payment rates given the significant capital expense of proton therapy units) and is provided in limited locations across the country, making it difficult to establish an appropriate case rate. As ROCR is implemented and the state of radiation oncology delivery evolves, it may be appropriate to consider adding in these treatment modalities. Other exclusions include services provided in Maryland and Vermont due to existing Medicare waivers. These states may elect to participate in ROCR if they make that request to CMS. PPS-exempt cancer hospitals also will be excluded because of their unique payment methodology. ASTRO expects that like any new Medicare payment approach, ROCR will be refined over time and some of these services or locations may be included in the future as the situation warrants. The system also will need to be monitored for changes in utilization that may take place as a result of changes in practice patterns.

ROCR uses the national case rates that CMS previously published as part of the 2022 PFS final rule as a basis for payment, but ASTRO has refined the rates to reflect updated costs and more sustainable savings goals. ASTRO commissioned Wakely Consulting Group to assist in modeling the ROCR program and payment impacts. Wakely estimated that the ROCR will save Medicare approximately \$212 million over the years 2024 – 2028 compared to reimbursement for the same services under the traditional Medicare Fee-for-Service (FFS) system. Wakely's modeling and savings estimates are based on replication of CMS base rates initially published in a September 2020 Radiation Oncology Model Rule and later modified in the 2022 Hospital Outpatient Prospective Payment Rule. Refinements from the RO model final rule include the removal of proton therapy services from the episode definition, application of a specified trend that defines future payment levels, and a proposed

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<sup>25</sup> Morris Bonnie, Hughes R, Fields E, Sabo R, Weaver K, Fuemmeler B. Sociodemographic and Clinical Factors Associated with Radiation Treatment Nonadherence and Survival among Rural and Nonrural Cancer Patients. *International Journal of Radiation Oncology, Biology, Physics* (2022), doi: <https://doi.org/10.1016/j.ijrobp.2022.06.075>

<sup>26</sup> Samuel Cykert, Eugenia Eng, Matthew A. Manning, Linda B. Robertson, Dwight E. Heron, Nora S. Jones, Jennifer C. Schaal, Alexandra Lightfoot, Haibo Zhou, Christina Yongue, Ziya Gizlice, A Multi-faceted Intervention Aimed at Black-White Disparities in the Treatment of Early Stage Cancers: The ACCURE Pragmatic Quality Improvement trial, *Journal of the National Medical Association*, Volume 112, Issue 5, 2020, Pages 468-477, ISSN 0027-9684, <https://doi.org/10.1016/j.jnma.2019.03.001>. (<https://www.sciencedirect.com/science/article/pii/S0027968418301913>)

Health Equity Achievement in Radiation Therapy (HEART) adjustment that would increase payment rates based on social determinants of health.

### ROCR Payment Methodology

Payments for each episode of care will be based on the HCPCS codes that CMS identified for use in the Radiation Oncology model. These “M codes” are listed below in table 3. To model the financial impact of the ROCR program, we began by replicating the September 2020 RO model base rates published by CMS using 2017 through 2020 Limited Data Set (LDS) Medicare FFS data. The M codes are necessary to identify the services and to ensure that they are paid under the new 90-day episode payment program and not the existing codes for these services. They also have the site-neutral payment amount applied to them and the codes will be used regardless of the setting. There are technical and professional components to separate payments between physicians and facilities as needed. CMS updated its claims processing systems to ensure these payments could be made for model participants, therefore, the infrastructure is already in place for CMS to make payments under the new ROCR system.

**Table 3. ROCR Episode of Care 2024 Case Rates**

Cancer Type	Professional Case Rate	Technical Case Rate
Anal	\$3,386.79	\$18,644.37
Bladder	\$3,417.56	\$17,154.03
Bone Metastases	\$1,594.85	\$6,838.15
Brain Metastases	\$1,854.98	\$10,142.12
Breast	\$2,289.14	\$10,770.55
Cervical	\$3,072.51	\$15,040.83
CNS Tumors	\$3,002.51	\$16,916.07
Colorectal	\$2,822.21	\$13,515.87
Head and Neck	\$3,329.19	\$19,006.74
Lung	\$2,587.18	\$14,075.30
Lymphoma	\$1,836.47	\$8,407.35
Pancreatic	\$2,661.11	\$15,361.40
Prostate	\$3,833.68	\$22,756.87

Upper GI	\$3,022.19	\$15,774.33
Uterine	\$2,133.19	\$10,869.04

One half of the payment will be issued prospectively at the initiation of care when treatment planning and delivery take place within 25 days of each other. The final payment will be made at the end of the course of treatment or on the 90<sup>th</sup> day of the episode, whichever comes first. All payments will be geographically adjusted depending on the location of the radiation oncology clinic. The radiation oncologist will receive a PC payment, and either the HOPD or freestanding radiation treatment center will receive a TC payment. Because this model uses a site-neutral payment methodology, the technical component payments would be the same regardless of setting.

To ensure payment incentivizes the best care for all patients, regardless of their health status, the practice still will be able to collect episode payments if a patient dies during treatment or is unable to complete treatment. This allows for providers to adjust to the patient’s care preferences, including a referral to hospice, as appropriate.

ROCR will apply the annual updates to the M code payment rates in accordance with the Medicare Economic Index (MEI) for professional component payments and the Hospital Inpatient Prospective Payment System (IPPS) market basket updates for TC payments. The MEI reflects the weighted average annual price change for various inputs needed to furnish physicians’ services and serves as a fixed-weight input under the current Medicare PFS, which makes it a reasonable benchmark for updating professional component payment rates. Use of the IPPS market basket for TC payments is consistent with the process used to update the hospital OPFS annually. The annual updates would continue to adjust ROCR payments after 2028 to ensure stable payments that reflect practice costs.

To produce program savings, the ROCR program includes annual savings adjustments. The final ROCR payments by year reflect an increasing savings adjustment rate phased in by year, ranging from -3.0% in 2024 to -8.0% in 2028. Wakely compared ROCR to comparable FFS payment rates to estimate program savings during 2024 to 2028, which resulted in a total of \$212 million from 2024-2028, after the removal of approximately \$40 million to fund HEART payments to reduce disparities (see below). ROCR’s savings total relative to FFS would be less than the RO Model’s \$250 million 5-year savings estimate and be spread over a much larger pool of practices, minimizing the impact on clinics and patients. To maintain a consistent level of savings after 2028, the savings adjustment would be set at -3% going forward.

### Health Equity Achievement in Radiation Therapy payment

To reduce health disparities and to support patients in accessing and completing their treatments, the M Code payment would be adjusted with a HEART payment. Delays in the time to treatment initiation are associated with absolute increased risk of mortality ranging from 1.2–3.2 percent per week, and Black, Hispanic, and Native American Medicare beneficiaries were less likely to initiate

radiation treatment.<sup>27,28</sup> Some Medicare beneficiaries also experience access challenges because of where they live. People who reside in isolated rural census tracts account for approximately 9.4 million people in the US and had a nearly one hour longer travel time to an RO provider than people in urban tracts.<sup>29</sup> Removing barriers, particularly transportation, can improve access to care and reduce the disparity in treatment completion across Medicare populations. Radiation treatments often occur multiple times a week and over a duration of six to 12 weeks. The frequent need for transportation can be burdensome to patients and caregivers who may have limited access to transportation, have fixed financial resources, live in rural areas, or have other health-related social needs that create barriers to care.

Transportation to radiation therapy improves treatment completion rates, and that conversely means fewer no-show rates for facilities. HEART payments will improve treatment completion rates for beneficiaries by reducing transportation barriers and the opportunity costs of no-shows for providers.

The HEART payment of \$500 per patient per episode would support transportation to radiation oncology treatment services for beneficiaries who are at risk because of transportation barriers. Beneficiary transportation need will be determined by the following transportation screening question from the Accountable Health Communities health-related social needs screening tool: *In the past 2 months, has a lack of reliable transportation kept you from medical appointments, meetings, work or from getting things needed for daily living?*<sup>30</sup> Providers will use a Z-Code for this screening question and the coded response will trigger the HEART payment. The HEART payment will not duplicate other transportation benefits provided under Medicare or Medicaid.

We estimated the number of beneficiaries that would trigger a HEART payment adjustment based on the percentage of dual eligible beneficiaries in the Medicare population. The proposed HEART adjustment for 2024 is \$500 per case for any of the 15 included cancer types, applied to the Technical payment, and adjusted each year for inflation. To fund this extra per-case amount for identified beneficiaries, we used \$40 million of the projected ROCR savings.

## Eligibility

Since ROCR will be a new stand-alone payment program, it will require practices and hospitals to have an enrollment process with CMS to be able to identify sites that can be paid under ROCR and that meet all the eligibility requirements. Since these will be already enrolled Medicare providers and

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<sup>27</sup> Khorana AA, Tullio K, Elson P, Pennell NA, et al. Time to initial cancer treatment in the United States and association with survival over time: An observational study. PLoS One. 2019 Mar 1;14(3):e0213209. doi: 10.1371/journal.pone.0213209. Erratum in: PLoS One. 2019 Apr 4;14(4):e0215108. PMID: 30822350; PMCID: PMC6396925.

<sup>28</sup> Samuel Cykert, Eugenia Eng, Matthew A. Manning, Linda B. Robertson, Dwight E. Heron, Nora S. Jones, Jennifer C. Schaal, Alexandra Lightfoot, Haibo Zhou, Christina Yongle, Ziya Gizlice, A Multi-faceted Intervention Aimed at Black-White Disparities in the Treatment of Early Stage Cancers: The ACCURE Pragmatic Quality Improvement trial, Journal of the National Medical Association, Volume 112, Issue 5, 2020, Pages 468-477, ISSN 0027-9684, <https://doi.org/10.1016/j.jnma.2019.03.001>. (<https://www.sciencedirect.com/science/article/pii/S0027968418301913>)

<sup>29</sup> Joshua N. Herb, Rachael T. Wolff, Philip M. McDaniel, G. Mark Holmes, Trevor J. Royce, Karyn B. Stitzenberg, Travel Time to Radiation Oncology Facilities in the United States and the Influence of Certificate of Need Policies, International Journal of Radiation Oncology\*Biophysics, Volume 109, Issue 2, 2021, Pages 344-351, ISSN 0360-3016, <https://doi.org/10.1016/j.ijrobp.2020.08.059>. (<https://www.sciencedirect.com/science/article/pii/S0360301620342188>)

<sup>30</sup> <https://innovation.cms.gov/files/worksheets/ahcm-screeningtool.pdf>

suppliers, CMS can establish an addendum to the existing enrollment requirements to ensure ROCR participants are appropriately identified, tracked and credentialed.

## Quality

The rapid and continuous technological advancement in radiation therapies creates a challenge for defining, operationalizing, and measuring quality across radiation oncology modalities.<sup>31</sup> Timely access to treatment and completion of treatment drives successful outcomes for patients. For this program, quality will be assured through the accreditation process, which is well accepted by radiation oncology clinics for assessing and improving quality of care. Physician offices and hospitals that have been accredited will be following the appropriate guidelines and will meet safety and other quality standards established by the accrediting body. CMS already utilizes accrediting requirements for imaging studies in a similar manner. We expect that CMS could establish the requirements for the radiation oncology providers consistent with their approach to imaging. In addition, providers would be expected to adhere to National Comprehensive Cancer Network (NCCN) or ASTRO guidelines for treatment. Participating practices would be required to certify that their electronic health record allows for documentation of adherence to one of these guidelines. Providers will not be required to report guideline adherence to CMS, but documented justification for non-concordant care must be available in the event of a CMS audit. Participating providers will have the option to submit documentation of participation in a patient safety organization and technical accreditation certified by an appropriate national credentialing body. These comprehensive quality systems feature important quality improvement mechanisms, such as regular peer review, to ensure patients receive the highest quality of care possible.

Currently, only about half of radiation oncology practices are accredited by a credentialing body and it costs about \$3,000 per practice to receive the accreditation. In recognition of the cost of accreditation and participation in quality improvement organizations, the first three years of ROCR will include a 0.5 percent increase for ROCR episode payments for practices participating in a technical accreditation program certified by an appropriate national credentialing body (e.g., APEx) and a patient safety organization (e.g., RO-ILS). In the fourth year of ROCR, the payment increase will be replaced with a penalty reduction of 1 percent in M Code payment for practices without accreditation or that abstain from participation in quality improvement organizations. This approach phases in the higher standards for practices with time-limited financial support. We estimate that accreditation will increase program savings by \$5-10 million. Since this impact is relatively small and uncertain, it is not reflected in the savings estimates.

## Summary

There is a long history regarding establishing adequate Medicare payment for RT services. The current system has cut physician payment by more than 22 percent over the past 10 years, includes inappropriate incentives to use lengthier treatment approaches and encourages care in more expensive settings. ASTRO has been working with CMS on these issues for multiple decades and now believes that the best way to address these long-standing and worsening issues is to pursue a new and separate payment program.

ROCR addresses these payment system flaws while saving Medicare more than \$200 million over the next five years and providing less costly care to beneficiaries as well. ROCR also addresses quality, health disparities and access concerns that are key priorities in the health care delivery

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<sup>31</sup> Harden, S.V., Chiew, K.-L., Millar, J, and Vinod, S.K. (2022), Quality indicators for radiation oncology. *J Med Imaging Radiat Oncol*, 66: 249-257. <https://doi.org/10.1111/1754-9485.13373>



system. It will ensure that Medicare beneficiaries receive state-of-the-art care close to home, reduce treatment disparities for underserved and rural patients through transportation support and access to shorter treatment regimens. RT providers will be incentivized to follow evidence-based care guidelines to improve outcomes, while the accreditation requirements provide a systematic and standardized approach to assuring safety and improving quality. Overall, this new program builds off previous payment reform initiatives in ESRD and value-based care bundled programs and tailors it for the needs of patients receiving radiation therapy. CMS has already built the foundations to implement ROCR and the transition to the new program can happen quickly. It also is a flexible program that can be modified in the future to ensure that incentives are still aligned to provide the best access to cutting edge radiation treatments regardless of where a beneficiary lives or their financial situation.