



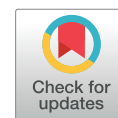
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## OPERATIONS AND ECONOMICS IN A PANDEMIC

# Future of Alternative Payment Models and Big Data Analytics in the Post—COVID-19 Era: Implications for Radiation Oncology

Nikhil G. Thaker, MD,\* Amar Rewari, MD, MBA,<sup>†</sup>  
and Anne Hubbard, MBA<sup>‡</sup>



\**Division of Radiation Oncology, Arizona Oncology, Tucson, Arizona;* <sup>†</sup>*Associates in Radiation Medicine, Rockville, Maryland;* and <sup>‡</sup>*American Society for Radiation Oncology, Arlington, Virginia*

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The COVID-19 pandemic will add a tremendous financial burden to the US health care system, with an estimated impact to Medicare in the next year alone ranging between \$38.5 and \$115.4 billion.<sup>1</sup> In recent years, there has been a significant push toward value-based care (VBC) to control burgeoning US health care expenditures. Radiation oncology, with its high ratio of fixed to variable costs, was seen as a natural fit for payment reform. However, the socioeconomic impact of COVID-19 threatens to not only change the practice and reimbursement of medicine going forward, but also to disrupt the long-term trend from volume to VBC, with significant implications for radiation oncology.

## Payment Reform

During the last decade, US health policy has gradually transitioned to VBC, shifting from fee-for-service to alternative payment models (APMs). VBC focuses on the quality of health outcomes, costs, and population health. Thirty-four percent of total US health care payments were associated with APMs in 2017,<sup>2</sup> with goals of 50% of Medicare and 25% of commercial by 2022.<sup>3,4</sup> Practices that remain in fee-for-service without adoption of VBC can expect reduced future revenues and negative payment adjustments.

The Medicare Access and CHIP Reauthorization Act of 2015 created the Quality Payment Program, which established the Merit-Based Incentive Payment System and Advanced APM pathways. APM programs, such as Accountable Care Organizations (ACO) and the Oncology Care Model (OCM), were established as advanced APMs.<sup>5</sup> In both the ACO and OCM models, the participating organization is responsible for the total cost of care (TCOC), such as outpatient (including radiation oncology), inpatient, radiology, laboratory, and pharmaceuticals, for all patients attributed to the organization during a performance period. The benefits of participating in an advanced APM model include a 5% incentive payment bonus, eligibility for APM-specific rewards, and exclusion from Merit-Based Incentive Payment System requirements.

Quantifying performance in these APMs is complex and multifactorial. APMs begin with a benchmark cost, which reflects risk-adjusted historical costs. This benchmark is discounted by a percentage (which reflects the Centers for Medicare and Medicaid Services' [CMS] savings) to calculate the target price. If actual expenditures (aggregated over all patients attributed to the organization during a performance period) were below the target price, the organization may share in a percentage of those savings based on quality measure performance (shared savings). Initially, organizations were eligible for these shared savings without being at risk for sharing in losses (1-sided risk). Eventually,

Corresponding author: Nikhil G. Thaker, MD; E-mail: [thakernikhil@gmail.com](mailto:thakernikhil@gmail.com)

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organizations have transitioned, either voluntarily or by mandate, into a 2-sided risk arrangement that includes downside risk, in which organizations would be obligated to make payments to CMS if expenditures exceed benchmarks.

In 2019, CMS proposed a mandatory 2-sided risk episode-based Radiation Oncology APM (RO-APM) that would qualify as an advanced APM.<sup>6</sup> The RO-APM focuses exclusively on radiation therapy–related costs and would not be a TCOC program. Practices selected for this model have an opportunity to keep savings, should episode expenditures fall below the episode payment, but would also be at full-risk for expenditures above the episode payment. RO-APM participants could also be participants within an OCM or ACO organization. RO-APM episode payment calculation begins with a national base rate that is then adjusted by a trend factor (based on episode costs outside the model), case mix, historical episode costs, discount factors, withholdings for quality and incorrect payments, geography, and sequestration, as previously described.<sup>7</sup> The RO-APM was proposed to begin in 2020.

## Impact of COVID-19 on APMs

Despite this momentum toward VBC, COVID-19 has threatened the long-term adoption of APMs. The financial impact of COVID-19, which is likely outside the purview of the participating organization, will place a burden on health care organizations that participate in 2-sided risk models linked to TCOC. In hotspots, practices in APMs have needed to divert resources from APM-related nurse navigation, social work, and quality data reporting to the clinical frontlines for managing COVID-19. Some APM programs have mitigation strategies for shared losses (eg, up to a percentage of revenue [stop-loss]) and adjustments for quality metrics (including the “extreme and uncontrollable circumstances” exception), but none has adjustments for benchmarks or expenditures. COVID-19–related expenditures will skew actual episode expenditures and compromise future financial benchmarks that are tied to historical costs and target prices. Quality-measure performance and benchmarks, such as hospitalizations, pain/depression score screening, and patient surveys, may also be affected if responses reflect care for COVID-19.

The RO-APM final rule was expected to be released earlier this year but has been delayed due to COVID-19. Professional societies, including the American Society for Radiation Oncology and American College of Radiology, have recently recommended a start date no earlier than January 1, 2021, given the upfront costs required to establish quality metric data collection, time to retool electronic health records, and inability of practices (that are already experiencing ~30% treatment volume declines and greater than 10% revenue declines<sup>8</sup>) to predict mandatory 2-sided risk model performance in an unstable environment. Although the RO-APM, which only includes

radiation therapy costs, is better positioned in the post–COVID-19 era than TCOC models, COVID-19–related reductions in patient volumes and increase in hypofractionation and active surveillance in 2020 will alter future payment calculations. Incorporating 2020 data into the trend factor, which incorporates costs outside the RO-APM to update RO-APM payments, may not accurately adjust episode prices, particularly if the 2020 trends represent only a temporary response to the pandemic and not a permanent shift in practice patterns.

Additionally, delays in cancer diagnostic testing due to COVID-19 may ultimately lead to fewer patients presenting with early stage disease.<sup>9,10</sup> The RO-APM’s practice-specific historical case mix methodology will not recognize this change, as COVID-19 may ultimately shift actual case mix toward more advanced disease requiring more complex treatments.

## Solutions and Implications for Radiation Oncology

Several immediate solutions can be adopted by CMS and other payers, whereas other solutions will require longer-term collaborations and technological innovations. On June 3, 2020, CMS released model-specific adjustments to current APMs.<sup>11</sup> In general, CMS will create an option for practices in APMs to forgo 1-sided or 2-sided risk during the public health emergency. For practices that elect to remain in their risk arrangement, CMS will work to remove COVID-19–related episodes during reconciliation for those performance periods. CMS will also allow reporting of quality measures and clinical/staging data to be optional for the affected periods and will remove upcoming deadlines for cost and resource use reporting. CMS has also extended the timeline for APMs, such as the OCM, for an additional year. Depending on future changes to the public health emergency, implementation of new APMs could be further delayed, but no specific details regarding the proposed RO-APM were released.

Although these adjustments will be beneficial, there are several additional immediate solutions to consider. First, 2020 data could be removed from benchmark and trend factor calculations for future payment rate calculations, unless filtered data meet stringent inclusion criteria consistent with historical trends. Similarly, practice-specific case mix methodology will need to be modified to account for more advanced disease requiring more complex care as a result of delays. Additionally, radiation oncology practices selected for the RO-APM should be provided with upfront financial support to maximize the probability of successfully entering into a risk-bearing APM arrangement—financial resources will be depleted for many radiation oncology practices due to COVID-19. CMS and other payers should also consider more flexibility and extension of timelines for future APMs.

In the longer term, population health management with Big Data, artificial intelligence, and predictive analytics will need to play a pivotal role in understanding the spread of disease, the effectiveness of clinical responses, impact on cost, and trend predictions. Population health experts are already working on integrated analytics approaches with aggregate polygenic (genetic risk) and polysocial (health and nonhealth sectors such as justice, transportation, housing, employment, environment, education, and sanitation) risk scores.<sup>12</sup> Such an approach is promising for managing TCOC and advanced APMs as well but will require linking of disparate data sets, minimizing biases in the captured data, and simultaneously integrating COVID-19 transmission risk data.

Providers and payers will also need to engage in closer collaborations and data sharing, with an emphasis on near real-time interoperability between clinical and administrative claims data. Continuously updated information will better inform artificial intelligence models and will allow more accurate and agile reattribution of resources. This effort would benefit from a national health information exchange infrastructure, which is not currently available, and successful navigation of the complexity of HIPAA security and privacy rules that could potentially impede data gathering and sharing efforts.

Similarly, APMs will require more robust and efficient approaches to reattribution of patients, episodes, and costs. Although CMS has agreed to remove COVID-19-related episodes from reconciled expenditures,<sup>11</sup> sophisticated and reliable data analytics platforms will be needed to make those adjustments and to appropriately recalculate benchmarks and quality performance scores. Currently, reconciliation in APMs may occur as late as 18 to 24 months after the performance period, but with advanced analytics, stakeholder collaborations, and interoperability, such reconciliation can and should be completed closer to the end of the performance period.

In conclusion, Big Data analytics holds promise for long-term episode attribution and more rapid reconciliation of claims data for APMs in the post-COVID-19 era. Future APMs should focus on costs that are controllable by practices, or practices in 2-sided risk APMs will remain in financial risk, threatening not only the

movement to VBC but also access to high-quality care in the United States.

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