

A BETTER WAY TO PAY FOR CANCER CARE

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EXECUTIVE SUMMARY

- Payment reform for cancer care is badly needed. National spending on cancer care has doubled in the past decade, and there are many opportunities to reduce spending without denying patients access to life-saving treatments. However, there is no accountability for costs or quality in the current payment system for cancer care, and the current system doesn't pay for the kinds of services oncology practices need to deliver better care at lower cost.
- Patient-Centered Oncology Payment (PCOP) is an Alternative Payment Model designed by the American Society of Clinical Oncology (ASCO) to support higher quality cancer care at lower cost. It provides more resources and greater flexibility to oncology practices in return for greater accountability for spending and quality. Implementing PCOP would be a win-win-win for patients, payers, and oncology practices because it would:
 - ◇ Significantly increase payments to oncology practices;
 - ◇ Reduce total spending for payers; and
 - ◇ Enable patients to receive the services they need to achieve the best outcomes and avoid complications, without fear of being denied essential services in order to achieve savings.
- The basic Patient-Centered Oncology Payment structure can be easily implemented by both practices and payers as part of their current billing and claims payment systems. Two optional versions – Consolidated Payments for Oncology Practice Services and Virtual Budgets for Oncology Care – would provide greater flexibility and accountability for oncology practices and payers that have the ability to manage more bundled payments.
- Patient-Centered Oncology Payment would be more effective in supporting the delivery of better patient care and assuring savings for payers than typical shared savings payment models. Patient-Centered Oncology Payment also avoids the problematic incentives and administrative complexities of the Oncology Care Model (OCM) proposed by the Center for Medicare and Medicaid Innovation, and PCOP more directly assures patients and purchasers that oncology practices will deliver higher-quality care at lower costs than OCM.
- The approach used by ASCO to develop Patient-Centered Oncology Payment can serve as a template for developing Alternative Payment Models for specialists who treat other types of health problems.

The Need for Meaningful Payment Reform for Specialty Care

There is widespread agreement that better ways of paying for health care are needed in order to improve quality and control costs. In January 2015, the Obama Administration announced a goal of moving 50% of Medicare payments to “Alternative Payment Models” by the end of 2018. In April 2015, Congress passed legislation authorizing higher payments for physicians who participate in Alternative Payment Models.

To date, however, most Alternative Payment Models have focused on primary care and on hospital-based procedures, with little attention to improving the payment systems used for services delivered by the majority of specialists. Moreover, most “payment reforms” to date have failed to actually change the fundamental way in which healthcare providers are paid. Most of the shared savings and value-based payment programs that have been implemented by Medicare and commercial health plans don’t actually fix the problems with the existing fee-for-service payment structure that impede the delivery of higher-quality, more affordable care. Better payment models are needed for physicians in every specialty in order to improve care for all patients and to successfully control total costs.

The Need for Payment Reform in Oncology

Cancer care is an area where true payment reform is badly needed. National spending on cancer care has doubled in the past decade and is projected to exceed \$150 billion by 2020. Although the high prices of new chemotherapy drugs is one factor driving this growth, there are many other factors that affect the cost of cancer care, and there are many opportunities to reduce spending that do not require denying patients access to life-saving treatments. For example, many patients experience expensive hospitalizations for side effects of treatment that could have been prevented or addressed more quickly and at lower cost.¹ Also, studies have shown that many patients receive expensive drugs and tests that are not necessary or not appropriate.²

Lack of Accountability for Costs and Quality

From the perspective of purchasers and patients, there is no accountability for costs or quality in the current payment system for cancer care. Oncology practices that deliver low-quality care are paid exactly the same amount as practices that deliver high-quality care, oncology practices are paid for unnecessary services as well as necessary services, and purchasers and payers are expected to pay for expensive emergency room visits, hospitalizations, and other services that could have been avoided through better care.

Lack of Support for High-Value Care

From the perspective of oncology practices, the current system doesn’t pay for the high-quality, appropriate care they want to deliver. Just like their colleagues in primary

care, oncologists don’t get paid for delivering the kinds of care management and rapid response services that could enable patients to avoid expensive hospitalizations during treatment. In addition, despite the cost and complexity of treating cancer, oncologists get paid very little for the extensive time needed to ensure an accurate diagnosis

SERVICES ONCOLOGY PRACTICES DELIVER	PAYMENTS ONCOLOGY PRACTICES RECEIVE UNDER FEE-FOR-SERVICE
<ul style="list-style-type: none"> • Review tests & pathology reports • Determine type and stage of cancer • Identify and evaluate treatment options • Identify clinical trial options • Discuss treatment options with patient and family • Develop plan of care • Coordinate care with other physicians and providers • Educate patient about treatment • Provide education to family • Provide genetic counseling • Provide psychological counseling • Provide nutrition counseling • Provide financial counseling • Determine insurance coverage • Obtain pre-authorization approvals • Document information in health records • Prescribe oral drugs • Administer IV therapy • Purchase and maintain inventory of drugs • Order tests • Review test results • Evaluate patient progress • Meet with patient to discuss progress • Answer calls from patients • Call patients at home to assess medication adherence and identify problems • Respond when patients experience complications • Manage patients’ pain • Keep detailed records for clinical trials • Discuss end-of-life planning with patient • Develop a survivorship or end-of-life plan • Respond to post-treatment complications • Supervise hospice care • Bill insurance companies • Collect required cost-sharing from patients 	<ul style="list-style-type: none"> • Payments for face-to-face visits with physicians • Payments to administer infusions and injections of chemotherapy and other drugs • Payments for the cost of drugs purchased and administered by the oncology practice <p><i>(No payments are made for services delivered by nurses, social workers, financial counselors, etc.)</i></p> <p><i>(No payments are made for time spent by physicians on phone calls with patients and other physicians, etc.)</i></p>

and to identify the right treatments, and oncology practices don't get paid at all to provide the wide range of education, counselling, and support services patients need when trying to cope with the burdens of cancer and when making tough decisions about what type of treatment to pursue.

These gaps in payment are huge – data from the National Practice Benchmark for Oncology³ indicate that current fee-for-service payments only cover 2/3 of the costs of the services that oncology practices provide. Oncology practices are currently being forced to subsidize the costs of their key patient services through the margins they receive for purchasing drugs and providing ancillary services, and inadequate payment makes it impossible for them to provide intensive care management and other services that would improve patient care and reduce overall spending. Moreover, the payments that practices do receive are heavily weighted toward delivery of infused chemotherapy, which makes the gaps between payments and costs even larger during the crucial diagnosis and treatment planning stage, for patients receiving oral chemotherapy regimens, and for the services patients need for good survivorship and end-of-life care after treatment ends.

Accountable Care Organizations and other efforts to control the total costs of care will not be successful without a strategy for addressing the costs of cancer care, and that will require better ways to pay oncology practices for the services they deliver.

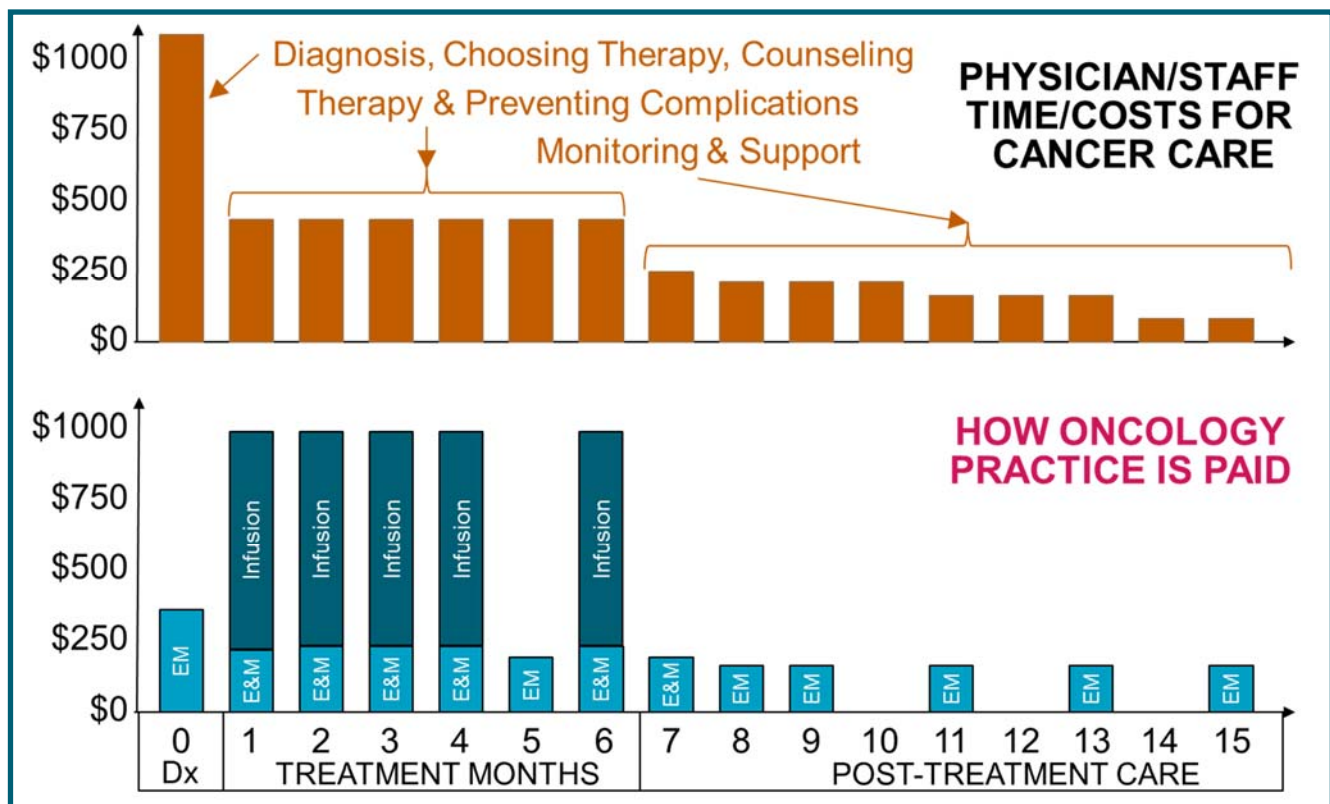
A Better Way to Pay for Cancer Care

To address these problems, the American Society of Clinical Oncology (ASCO) has developed an Alternative Payment Model that is designed to support high-value care for patients with cancer. Patient-Centered Oncology Payment (PCOP)⁴ represents genuine payment reform, rather than just pay-for-performance or shared savings tweaks to the current fee structure. PCOP was developed by practicing physicians who know what the barriers are in the current payment system, who know what they could achieve in terms of higher quality and lower costs if those barriers were removed, and who are willing to take accountability for the aspects of costs and quality they can control in return for a payment system that supports the care they want to deliver.

Incorporating the Four Building Blocks of Successful Payment Reform

The PCOP payment system contains all of the four building blocks that are essential to successful payment reform:⁵

- **Flexibility in Care Delivery.** Under Patient-Centered Oncology Payment, oncology practices will receive four new bundled payments that provide the flexibility to pay for services whether they are delivered by physicians or non-physicians and whether they are delivered electronically, in the home, or in a physician's office.
- **Appropriate Accountability for Spending.** Under PCOP, oncology practices would take accountability for helping their patients avoid the need for emergency room visits or hospitalizations during cancer treatment, and they would also be accountable for following accepted guidelines for appropriate treatments and tests.



- **Appropriate Accountability for Quality.** Under PCOP, oncology practices would also be accountable for delivering high-quality care to their patients, as determined by a range of quality measures specific to the kind of care each patient needs.
- **Adequacy of Payment.** Under PCOP, oncology practices would receive significant increases in payment, both to fill the big gaps that exist today between payments and the costs of services oncology practices currently deliver and to allow the addition of new services designed to improve care for patients and avoid unnecessary spending. Under PCOP, payments to oncology practices would be higher at the times when patients need more services.

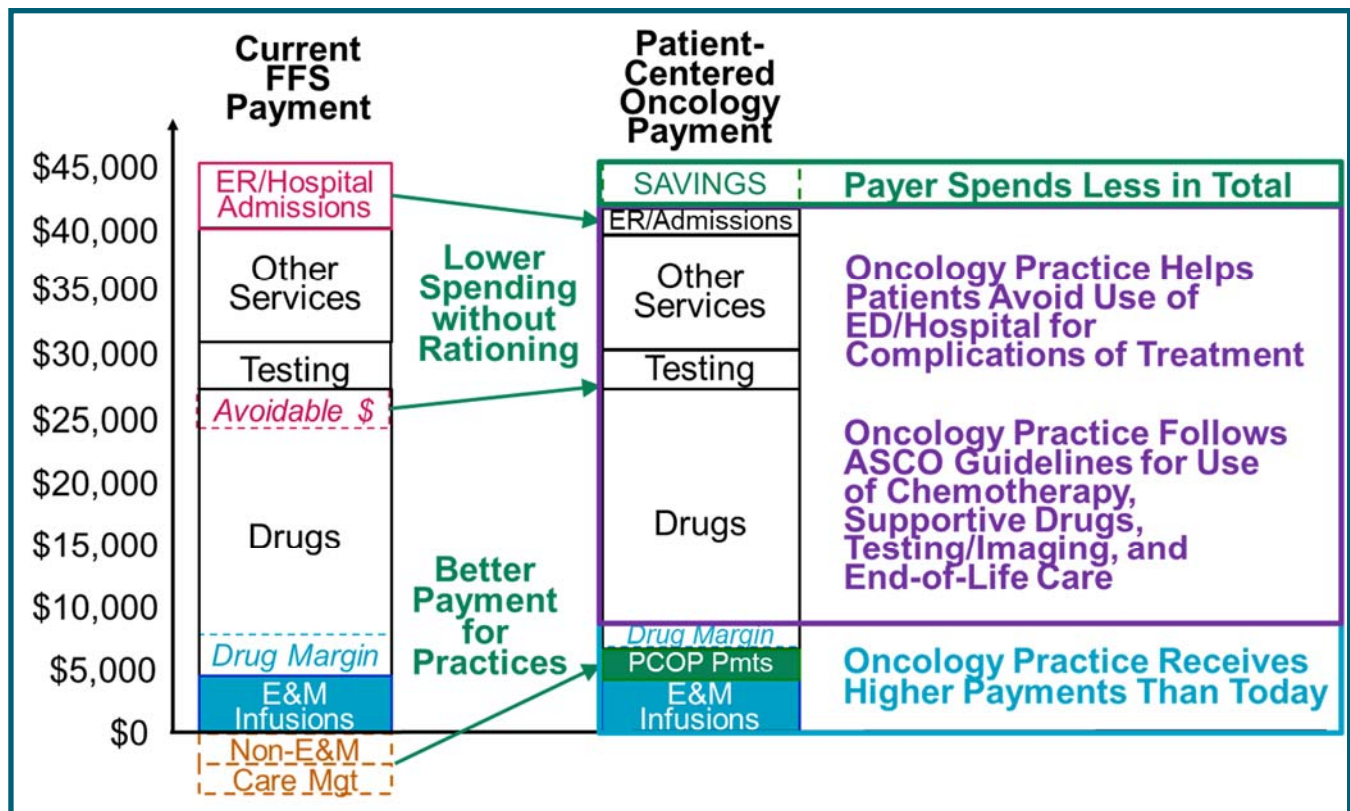
Creating a Win-Win-Win for Patients, Payers, and Oncology Practices

ASCO has done analyses demonstrating that PCOP will be a win-win-win for patients, payers, and oncology practices:

- **Higher payments for oncology practices.** In total, the proposed new payments to practices under PCOP would represent an approximately 50% increase in revenues for oncology practices compared to what they currently receive from fees for office visits and drug infusions during the treatment process. Although a 50% increase in payments to practices may sound unaffordably large, the current payments to oncology practices represent less than 10% of total spending during chemotherapy treatment, so a 50% increase in payment for the oncology practice's services represents less than a 5% increase in total spending. Increases of that magnitude are needed to both fill the

large current gaps in payment and also enable oncology practices to provide the additional services cancer patients need.

- **Net savings for payers.** The savings achieved for payers through better care delivery would more than offset the increased payments to practices. For example, spending on emergency room visits and hospitalizations represents more than 10% of total spending during chemotherapy treatment, and oncology practices that have received additional payments have shown they can reduce ER visits and hospitalizations as much as 50% or more by providing more intensive care management and triage services for patients.⁶ In addition, since studies have shown that a number of tests and non-chemotherapy drugs are being overused, following appropriate use criteria would also create significant savings.⁷ ASCO has estimated that even with higher payments to practices, payers should expect to see spending during chemotherapy treatment decrease by at least 4% if all oncology practices are paid using PCOP.
- **Better services and outcomes for patients.** PCOP's higher payments are specifically designed to ensure that patients can receive important services that are not supported by current fee-for-service payments. Because PCOP's accountability components are focused on reducing services that are undesirable for patients (e.g., hospitalizations due to complications of treatment) or unnecessary (e.g., duplicative or unnecessary tests), patients would not need to worry that savings are being generated at the expense of quality care.



Three Options Instead of a One-Size-Fits-All Solution, and a Transition Path to the Future

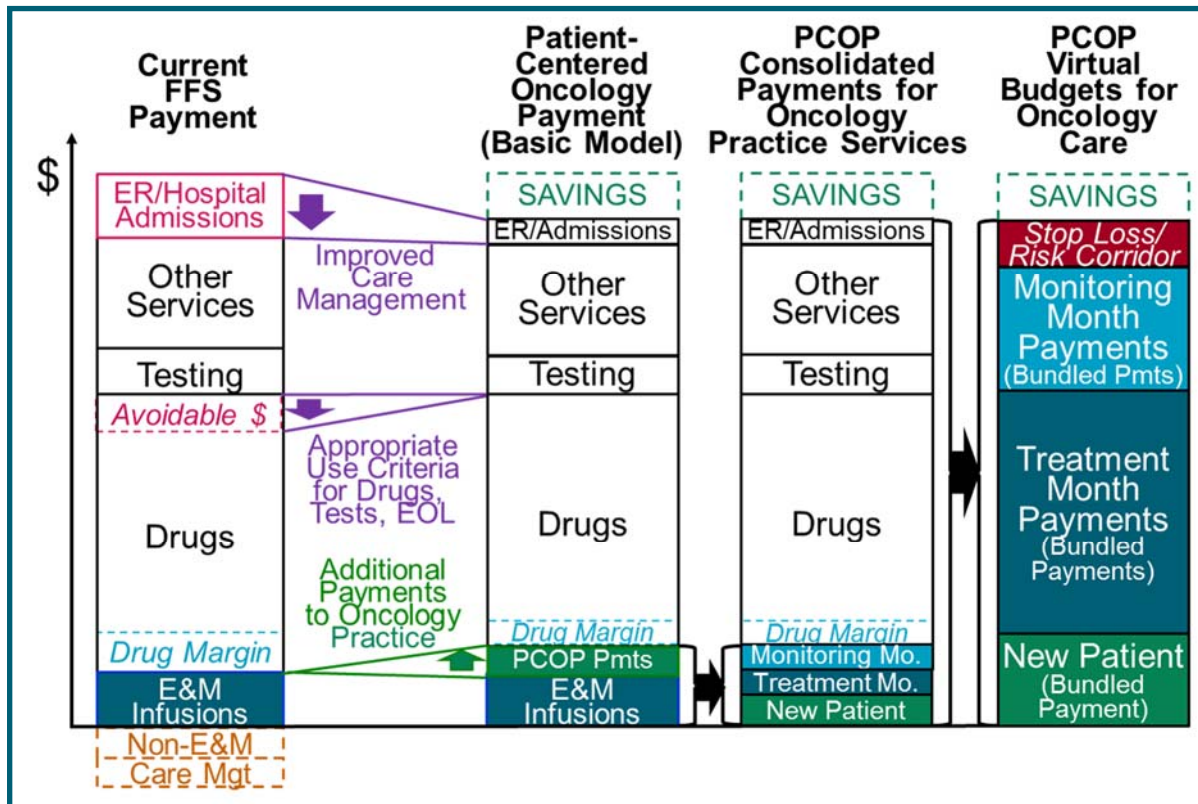
The physicians involved in designing PCOP recognized that oncology practices differ in their capabilities for managing more flexible and accountable payments. So PCOP includes a basic payment model that any practice and payer can implement as well as two more advanced options:

- Patient-Centered Oncology Payment.** The basic PCOP model fills the gaps in current fee-for-service payments by adding four new billing codes (New Patient Treatment Planning, Care Management During Treatment, Care Management During Active Monitoring, and Participation in Clinical Trials) to the current fee-for-service billing codes used to pay oncology practices. Unlike traditional narrowly-defined billing codes, each new code is intended to cover a range of services during a month of oncology care, but the new codes can still be easily implemented in any practice's billing system and any payer's claims payment system. In return for the additional payments, the oncology practice would take accountability for delivering high-quality, evidence-based care in four ways:
 - Avoiding emergency department visits and hospital admissions for complications of cancer treatment;
 - Following evidence-based guidelines for appropriate use of drugs, laboratory tests, and imaging;
 - Following evidence-based guidelines for high-quality end-of-life care; and
 - Providing care consistent with nationally-recognized standards of quality.

- Consolidated Payments for Oncology Practice Services.** One optional approach under PCOP would bundle the new billing codes with existing billing codes. The complex system of more than 50 billing codes that is used to pay oncology practices today would be replaced by fewer than a dozen billing codes. The new bundled payments would better match payments to patient needs and give oncology practices more flexibility to deliver high-value care, while also increasing practices' accountability for controlling the total costs of the services they deliver.
- Virtual Budgets for Oncology Care.** A second optional approach would go even further by creating virtual monthly budgets covering both the costs of the oncology practice's own services and other services such as hospitalizations, tests, and drugs. This would give oncologists the flexibility to customize a wide range of services to patient needs in order to achieve the best treatment outcomes at the lowest cost.

Not only will multiple options make it easier for a broad range of practices to participate in PCOP, they create a pathway that practices could use to transition to more flexible and accountable payment models over time.

The full details on each of the PCOP payment models are described in *Patient-Centered Oncology Payment: Payment Reform to Support Higher Quality, More Affordable Cancer Care*, which is available from ASCO.⁸



PCOP vs. Shared Savings

Would “shared savings” achieve similar results in a simpler way? For several years, policy-makers and payers have been led to believe that shared savings arrangements represent a quick and easy way to fix the payment system. But because the shared savings approach doesn’t actually change the underlying payment system, it doesn’t remove the barriers to better care that the payment system creates. This is a major reason why the Medicare shared savings program has had such a limited impact. Moreover, shared savings adds new undesirable incentives on top of the undesirable incentives that already exist in fee-for-service payment:

- Under typical shared savings models, an oncology practice would only receive higher payments to support improved care management for patients if the practice can first reduce spending. Under PCOP, oncology practices would receive adequate payment to cover the costs of high-value patient services regardless of how much the practice is able to reduce total spending.
- Under shared savings models, purchasers have no assurance that costs will be lower or that quality will improve, and there is no penalty for providers if inappropriate or low-quality care is delivered. Under PCOP, oncology practices explicitly take accountability for delivering appropriate, high-quality care and for controlling avoidable costs.
- Practices that are already prescribing tests and treatments appropriately and already successfully helping patients avoid hospitalizations will receive little or no additional revenue under shared savings programs. That’s because they will have fewer opportunities to create new “savings” beyond what they have already been saving for patients and payers. Under PCOP, high performing practices would be recognized for what they have already done and they would receive the resources they need to maintain that level of performance in the future.
- Under shared savings models, practices that have been ordering unnecessary services or failing to manage patient symptoms effectively would receive higher payments than practices that had already been delivering high-quality, efficient care. Under PCOP, practices that

have been delivering care inefficiently or inappropriately would be paid the same as other practices but would be expected to change care in ways that will return significant savings to payers.

- Under shared savings models, oncology practices could achieve savings by stinting on patient care as well as by reducing unnecessary care, whereas under PCOP, patients are protected because all savings are generated by delivery of more appropriate and effective care.
- Finally, under shared savings models, oncology practices are placed at risk for costs they cannot control and for random variation in spending. In contrast, under PCOP, oncology practices are only held accountable for services and costs they can control.

Medicare’s Oncology Care Model

In February 2015, the Center for Medicare and Medicaid Innovation (CMMI) announced a demonstration payment reform project called the Oncology Care Model (OCM).⁹ At first glance, OCM appears similar to PCOP because OCM also provides large, flexible new monthly payments to oncology practices. However, the other aspects of OCM are very different from PCOP and very problematic for patients, oncology practices, and purchasers.¹⁰

- **Significant Financial Risk for Oncology Practices in OCM.** The central part of OCM is a shared savings program with significant downside risk for the oncology practice. If an oncology practice fails to reduce total healthcare spending for its patients by at least 4% within 3 years, it will lose the new flexible payments completely, which could create a significant deficit for a practice that had been using the new payments to support expanded services. Alternatively, the practice could choose a lower savings target of 2.75% if it also agrees to cover increases in total spending on its patients. However, nine times as much is spent on drugs, tests, hospitalizations and other services to cancer patients during treatment as the oncology practice receives in fee-for-service payments for the services it delivers. This means that if the practice had to pay for even a 1% increase in total spending, the practice could be faced with a budget deficit of 10% or more.

SHARED SAVINGS PAYMENT MODELS	PATIENT-CENTERED ONCOLOGY PAYMENT
<ul style="list-style-type: none"> • Oncology practices only receive higher payment for improved care management if they can reduce spending • No guarantee of any savings for patients or purchasers • Already efficient practices receive little or no additional revenue and may be forced out of business • Practices that have been practicing inefficiently or inappropriately are paid more than already-efficient practices • Practices could be rewarded for denying needed care as well as by reducing overuse • Practices are placed at risk for costs they cannot control and for random variation in spending 	<ul style="list-style-type: none"> • Oncology practices receive adequate payment in return for delivering high-value patient care services • Accountability for delivering high-value care assures savings for purchasers • Already efficient practices receive the payments they need to continue delivering high quality, affordable care • Practices that have been practicing inefficiently improve care and generate significant savings for purchasers • Patients are protected because savings are generated by delivery of appropriate care • Practices are only accountable for services and costs they can control

- **Increased Costs With No Assurance of Savings for Payers.** At the same time, OCM provides no assurance that a payer's costs will decrease or that patient care will improve. Payments to practices could increase by \$960 or more per patient with no reduction in other spending since there is no requirement that spending be reduced for 3 years, and some practices will receive bonus payments beyond the basic \$960 payment due simply to random variation in costs. There is no reward for higher quality *per se* in OCM, and there is no penalty for lower quality unless savings are achieved.
- **Oncology Practices at Risk for Costs They Cannot Control.** CMMI has not explained how it will determine whether savings or spending increases have occurred for purposes of calculating the OCM bonuses and penalties, how it will ensure that oncology practices are not penalized if effective new drugs become available that are very expensive or if new evidence indicates that lower-cost drugs are less effective, and how it will ensure that individual practices are not penalized if they have patients with more complex or expensive-to-treat cancers. Moreover, CMMI is expecting the oncology practice to reduce spending on *all* services its patients receive, not just cancer-related services, even though most oncology practices will have little or no control over non-oncology services or their costs. Under OCM, an oncology practice that reduces spending on cancer-related services could be penalized if the costs of non-oncology services for their patients increase.
- **Windfall Bonuses and Unfair Penalties.** For small oncology practices, random variations in patient needs and the costs of services could cause the practice to be penalized or rewarded for reasons unrelated to the practice's efforts to deliver good care and control spending. A study conducted by the RAND Corporation for CMMI estimated that spending would decline by more than the 4% target in one out of every nine oncology practices due solely to random variation.¹¹ This also implies that an equivalent proportion of practices that actually reduced spending by more than 4% would not get credit for doing so and could be terminated from the program through no fault of their own.
- **Perverse Incentives to Delay Treatment and Penalties for Better Care.** OCM defines both the new payments and the savings calculations in terms of a six month "episode" starting on the first day a patient receives chemotherapy. If delays in delivering treatments (e.g., due to the patient experiencing serious side effects) cause a patient to receive their final treatment seven months after treatment begins, the oncology practice would receive two payments of \$960, whereas it would only have received a single \$960 payment if all treatments had been completed in six months. Moreover, in this situation, the total spending on the patient would be divided into two six-month episodes instead of one such episode for purposes of the savings calculation, which would make it appear that the cost per episode had been cut in half and that "savings" had occurred. This creates a perverse incentive for an oncology practice to delay treatments and it penalizes those practices that are able to help patients avoid complications and receive their treatment more quickly.

- **Financial Incentives to Deny Needed Treatment.** Under OCM, an oncology practice would receive a financial bonus if it avoided giving patients life-saving but expensive treatments, and the proposed quality measures in OCM would not be adequate to prevent that.

In contrast to OCM, the new payments that practices would receive in Patient-Centered Oncology Payment would not be dependent on how much savings a practice is able to achieve. In PCOP, the payments would depend on whether the practice is following accepted care guidelines and helping its patients avoid hospitalizations. Under PCOP, payers and patients would know from the beginning that they would be paying only for appropriate, high-value care, rather than wondering whether any savings would be achieved or whether quality would improve. No complex calculations to determine if savings had occurred would be needed in PCOP, avoiding the administrative costs of making those calculations and avoiding the possibility of inappropriately penalizing or rewarding a practice due to random variation. Also, instead of arbitrarily defined six month "episodes," PCOP payments would be made on a monthly basis, which is more consistent with the unpredictable variability in cancer treatment.

CMMI only plans to allow 100 practices to participate in OCM and it plans to take five years to evaluate the results before a decision is made as to whether to expand the program to other practices. This will be too little too late for the hundreds of other oncology practices that are struggling to deliver good care under the problematic fee-for-service payment system and for the thousands of people who develop cancer over the next several years and need high-quality, affordable care.¹² Consequently, a payment model like PCOP is needed now to fill the gap.

Lessons for Other Payment Reforms

The approach ASCO used to develop Patient-Centered Oncology Payment can serve as a template for developing Alternative Payment Models for other types of health problems. In designing a new payment model for cancer care, ASCO asked three basic questions:

- How should high quality care be delivered to patients in the most affordable way?
- What are the barriers in the current payment system that prevent physician practices from implementing that approach to delivering care?
- How can the payment system be changed to remove those barriers, without creating new problems or unnecessarily increasing the administrative burdens on physician practices?

This same approach can be used for any health condition and patient population. Designing an Alternative Payment Model in this way is far more likely to ensure the payment system supports effective patient care than blindly using a generic alternative payment model that still doesn't adequately support the services patients need.

It is possible to achieve higher quality and lower costs in services for most patient conditions if payers and providers work collaboratively to design and implement improvements in care and the payments needed to support them.

NOTES

1. Fitch K, Pyenson B. *Cancer Patients Receiving Chemotherapy: Opportunities for Better Management*. Milliman. March 30, 2010. Mayer DK et al. Why Do Patients With Cancer Visit Emergency Departments? *Journal of Clinical Oncology*, 2011.
2. Potosky AL et al. Use of Colony-Stimulating Factors with Chemotherapy: Opportunities for Cost Savings and Improved Outcomes. *Journal of the National Cancer Institute* 103:979-982. June 22, 2011.
3. Towle EL, Barr TR, Senese JL. "The National Practice Benchmark for Oncology, 2014 Report on 2013 Data," *Journal of Oncology Practice*, November 2014.
4. American Society of Clinical Oncology. *Patient-Centered Oncology Payment: Payment Reform to Support Higher Quality, More Affordable Cancer Care*, May 2015. Available at www.asco.org/paymentreform.
5. Miller HD. *The Building Blocks of Successful Payment Reform: Designing Payment Systems That Support Higher-Value Health Care*. Network for Regional Healthcare Improvement, Center for Healthcare Quality and Payment Reform, and Robert Wood Johnson Foundation, April 2015. Available at: <http://www.chqpr.org/downloads/BuildingBlocksofSuccessfulPaymentReform.pdf>.
6. Sprandio JD, Flounders BP, Tofani S. Data-Driven Transformation to an Oncology Patient-Centered Medical Home. *Journal of Oncology Practice* 9(3):130. May 2013.
7. Neubauer MA et al. Cost Effectiveness of Evidence-Based Treatment Guidelines for the Treatment of Non-Small-Cell Lung Cancer in the Community Setting. *Journal of Oncology Practice* 6 (1): 12. January 2010. Kreys ED. Koeller JM. Documenting the Benefits and Cost Savings of a Large Multistate Cancer Pathway Program from a Payer's Perspective. *Journal of Oncology Practice* 2013.
8. The detailed description of Patient-Centered Oncology Payment and other materials related to PCOP are available at www.asco.org/paymentreform.
9. Kline RM et al. "Centers for Medicare and Medicaid Services: Using an Episode-Based Payment Model to Improve Oncology Care," *Journal of Oncology Practice*, March 2015. Additional information is available at <http://innovation.cms.gov/initiatives/Oncology-Care/>
10. See also Polite BN, Miller HD. "Medicare Innovation Center Oncology Care Model: A Toe in the Water When a Plunge is Needed," *Journal of Oncology Practice*, March 2015.
11. White C et al. Oncology Simulation Report. RAND Corporation, 2014. Available at: http://www2.mitre.org/public/payment_models/Oncology_Simulation_Report_14-3380.pdf.
12. The schedule for implementing and expanding the Oncology Care Model will also be problematic in terms of federal timetables for implementation of Alternative Payment Models. The Medicare Access and CHIP Reauthorization Act (MACRA) passed by Congress in April 2015 authorizes higher payments in 2019 for physicians who receive at least 25% of their Medicare revenues from Alternative Payment Models. To qualify, oncologists would need to be paid by the Centers for Medicare and Medicaid Services under a different payment model that qualifies as an Alternative Payment Model by 2019. Since the OCM will not be implemented until Spring 2016, the evaluation needed to determine whether OCM should be expanded will not be completed until 2019 or later, so the Oncology Care Model will not be able to serve as an eligible Alternative Payment Model for most oncology practices.

About the Author

Harold D. Miller is the President and CEO of the Center for Healthcare Quality and Payment Reform, a national policy center that facilitates improvements in healthcare payment and delivery systems. He has authored a number of widely used papers and reports on health care payment and delivery reform, and he has given invited testimony to Congress on how to improve payment systems. He has worked in more than 30 states and metropolitan regions to help physicians, hospitals, employers, health plans, and government agencies design and implement payment and delivery system reforms. He has assisted the American Medical Association, the American Society of Clinical Oncology, and other medical societies to develop Alternative Payment Models for a variety of important health problems in ways that will improve patient care and control spending while maintaining and improving the financial viability of physician practices, hospitals, and other healthcare providers. He assisted the Centers for Medicare and Medicaid Services with the implementation of its Comprehensive Primary Care Initiative in 2012.

Miller also serves as Adjunct Professor of Public Policy and Management at Carnegie Mellon University. In previous positions, he served as President and CEO of the Network for Regional Healthcare Improvement, Associate Dean of the Heinz School of Public Policy and Management at Carnegie Mellon, and Director of the Pennsylvania Governor's Office of Policy Development.