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FEATURE: HEALTH CARE PAYMENT REFORM IN THE UNITED STATES: TWO VIEWPOINTS:

Getting the Next Version of Payment Policy “Right” on the Road Toward Accountable Cancer Care

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The economist’s view of physician behavior is one in which the practice of medicine is motivated by tradeoffs among income, conscience, and leisure, with perhaps a nod to training or practice norms (1). As much as physicians might find such a caricature distasteful and inconsistent with their core beliefs and practices, empirical evidence supports the basic elements of this model of physician behavior (2). Moreover, policy makers have relied on this model to develop physician payment policies that attempt to balance the interests of physicians, patients, and payers.

Physician payment policies are typically described in terms of 2 extreme approaches. Piece-rate payment, known as fee-for-service reimbursement in health care, links payment directly to volume of services provided. In the context of radiation therapy, under fee-for-service reimbursement, providers are paid according to treatment complexity, intensity, and duration—the largest proportion of payment is per fraction of radiation therapy delivered (the technical reimbursement). The opposite alternative is pure prospective payment, which

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reimburses providers a fixed amount—a “lump sum”—that is independent of the volume of services delivered.

There are well-known problems with both approaches. Fee-for-service reimbursement may incentivize physicians to over-deliver care because such policies reward increases in service volume, regardless of health benefit. The consequences of the existing fee-for-service payment model for radiation oncology are clear: in 2012, a *New England Journal of Medicine* report observed that the radiation oncology specialty was an absolute outlier in exceeding the sustainable growth rate target, with excess expenditures from 2003 to 2009 as a percentage of 2002 expenditure in the 300% range (3).

On the other hand, pure prospective payment has been recognized as the extreme form of provider cost sharing: the marginal cost of care is born entirely by physicians—if treatment costs rise by \$1, physician income falls by \$1—and thus physicians assume substantial risk (4). Prospective payment can encourage efficiency but can also motivate providers to deliver less care than would optimally benefit the patient (“stinting on care”), to seek out patients at lower risk of complications or with fewer comorbidities and potentially higher expected profits (“cherry picking”), to avoid treating patients whose optimal treatment involves costly but effective therapy (which would lead to losses or lower profits), or to induce more patient volume to make up losses (“physician-induced demand”) (5).

Calibrating physician payment between these two extremes—that is, getting the next version of payment policy “right” on the road toward accountable cancer care—is no small matter. The lower bound of savings potentially achievable from this effort is nearly \$476 billion or 18% of US health expenditures in 2011 (an estimate that combines reducing overtreatment, poor-quality treatment, fragmented care, inefficient pricing, and administrative complexity) (6). An enduring question remains: How do we structure physician payment to incentivize better care and reduce costs—the goals of health reform—while avoiding harmful pressures that promote stinting on care, cherry picking, and the like (7)?

Into this reform landscape, Falit et al (8) present an overview of prospective payment reforms in radiation oncology, with a particular focus on an early pilot between 21st Century Oncology and Humana, Inc. In 2012 the companies entered into an annually renewable contract in which external beam radiation therapy services for 13 cancer diagnoses were reimbursed as a lump sum per patient. The price for the lump sum was calculated according to a weighted average sum of services billed per diagnosis over a prior period. According to the authors the effort has yielded efficiencies, minimizing claims processing, prior authorization, and cash flow fluctuations.

Both companies should be applauded for this first step forward. Such payment mini-experiments will allow providers and payers to refine contracting approaches away from the administrative and coding complexity endemic to fee-for-service radiation oncology and learn from their shared experience in implementing prospective payments in the outpatient setting. Moreover, reducing administrative waste is a substantial target in health reform, accounting for \$107 billion of the \$476 billion in estimated savings (6)

However, deriving efficiencies through per-patient lump sum payments does not, in and of itself, yield better care at reduced cost—the explicit and patient-centric goal of health reform. In the arrangement described by Falit et al (8), for example, providers in the 21st Century network would not have to deliver care any differently to earn financial returns from the new payment approach. In addition, without quality measurement as a major and transparent focus, economic theory suggests that the pressures of prospective payment could place perverse incentives on providers, which is why broader prospective payment efforts generally link payment reform with performance measurement (7).

Accelerated by provisions in the Affordable Care Act, providers, hospitals, and payers are considering new and innovative payment reform demonstrations to improve health care and reduce costs in cancer care. We offer 4 payment reform ideas for radiation oncology that could be implemented separately or as integrated programs. We illustrate the opportunities and challenges within the context of renewed consideration of hypofractionated postlumpectomy radiation for early-stage breast cancer, highlighted by the American Society for Radiation Oncology’s “Choosing Wisely” initiative (9)

Test and evaluate payment reform “experiments”

Payment reforms in radiation oncology should be tested, evaluated, and reported as any intervention would be in a learning health care system (10). The successes, failures, and lessons learned through evaluation of payment reform pilots will inform their scalability nationally. To that end, a more detailed description of the effects of the 21st Century/Humana bundled payment pilot on treatment patterns, patient satisfaction, and costs would be a welcome contribution.

Strong experimental design is the core of innovation and can use both randomized and quasi-experimental, nonrandomized approaches. The CMS Innovation Center was recently criticized because few of its payment reform demonstration projects are randomized experiments (11). Although not always feasible, the tool of randomization is the best approach to minimize selection bias and assess intended and unintended consequences of payment reform experiments. Selection bias is an important concern: provider groups that volunteer to participate in payment reform projects may have lower costs and/or higher quality at baseline.

How might randomization be executed in a hypothetical payment reform demonstration of postlumpectomy radiation for breast cancer? One possibility would be “group randomization” (known as cluster randomization), in which groups of physicians, facilities, hospitals, or practices, rather than individual patients, are randomly assigned to “usual payment” or “payment reform” groups (12, 13). The benefits of such trials, including administrative efficiency, real-world context, and feasibility for payment reforms directed at providers, are nearly equal to the barriers, including power and sample size concerns, enfranchising payers and providers to participate, and executing differential payments to various provider groups.

Develop “mixed” payment systems

In between the extremes of piece-rate and prospective payment, mixed payment systems blend lump-sum payments with piece-rate payments for complex or nonstandard cases (14). Mixed payment systems can also incorporate quality bonuses or shared savings that engage and reward providers for innovating within their own practices. This mixed approach may better align provider, patient, and payer interests than either fee-for-service or prospective payment alone because (1) it reduces incentives to stint on care, to induce unnecessary care, and to cherry pick low-cost or avoid high-cost care (relative to a pure prospective payment model); (2) it appropriately balances risk to providers and rewards providers for high-value care; and (3) it reduces utilization of low-value treatments without forcing patients to bear risk. The actual pricing of any new payment system requires active and meaningful stakeholder engagement of payers and providers, and a general commitment of all parties to iterate and refine pricing as the projects progress.

In the case of early-stage breast cancer, a hypothetical mixed payment system might provide (1) a prospective payment (ie, a lump sum payment); (2) a bonus payment for high-quality care; and (3) a smaller piece-rate payment. The lump sum payment could be calculated as the average cost of radiation-related expenditures for patients with early-stage breast cancer. An essential element of this lump sum payment would be that it prospectively accounts for the lower costs associated with patients who are eligible for hypofractionated whole-breast radiation. Given general underuse of hypofractionated breast radiation in the United States, the lump sum would be a discount to a simple average cost of radiation services rendered for early-stage breast cancer in a specified prior period.

The lump sum payment would have to strike a balance between promoting use of guideline-concordant and lesscostly hypofractionated treatment for eligible patients and inducing radical financial pressures for providers and hospitals participating in the pilot. This balance may be achieved through small steps in implementation, shared savings through quality bonuses, and a staged approach to pricing the lump sum over time.

The quality bonus can be used to promote high-quality care and as a form of shared savings. The concept of rewarding providers who demonstrate high-quality care is not new, shifts physician incentives in a limited fashion, and can be modestly effective in promoting high-quality care (15). For breast radiation, providers might receive a quality bonus for using hypofractionated whole-breast radiation in eligible patients. Leveraging the admittedly mixed experience of pay for performance programs, the magnitude of the bonus might be in mid-range of recommended bonus/shared savings payments of 5% to 20% of the lump sum payment, providing a balance between meaningful and excessive provider remuneration to promote high-quality care (16).

The additional piece-rate payment is a policy mechanism to balance the need to disincentivize overtreatment (eg, extended courses of whole-breast radiation when such courses represent unnecessary care) while still paying providers appropriately when clinical circumstances require more complex treatment or extended fractionation. Depending on which patients are included in the payment reform project and how payment is priced and

structured, a piece-rate payment in the context of breast cancer could be applied to patients who require, for example, nodal irradiation or specialized techniques to ensure appropriate homogeneity of radiation dose. To be most effective in achieving the goals of accountable cancer care, we must ensure that the total payment—lump sum, quality bonus, and piece-rate—does not discourage treatment that is appropriate or encourage treatment that is not needed.

Link payment reform and performance measurement

Performance measurement is a crucial aspect of payment reform. Performance measurement is consistent with best practices for quality improvement in health care, should leverage the efficient collection of data, and should compare providers with their peers (17).

Why is performance measurement needed as we test new models of payment? Because the primary goal is to make care better for patients, and the evidence shows that providers respond to changes in payment often in ways (both positive and negative) predicted by economic theory. The success of a hypothetical mixed payment reform demonstration for postlumpectomy radiation would be measured by the extent to which we observe (1) increases in guideline-concordant treatments like hypofractionated radiation; (2) steady or improved patient satisfaction; (3) reduced treatment-related or overall health care expenditures; and (4) that the potential adverse consequences of prospective payment do not manifest.

In the case of early-stage postlumpectomy breast cancer, the theoretical and unintended adverse consequences we might observe could include inappropriate use of whole-breast hypofractionation or accelerated partial-breast irradiation (potential manifestations of stinting on care among patients who are not eligible for such treatments or who should be treated on protocol) or increased treatment rates of elderly patients who may have been eligible for omission of radiation with acceptably low risks of recurrence (potential manifestation of demand inducement). The electronic infrastructure for quality improvement, risk adjustment, benchmarking, and provider assessment remains nascent and expensive, but we believe it will rapidly mature and decline in cost.

Engage patients

Patients should participate in the design and execution of payment reform demonstrations and should have the opportunity to share directly in savings (18) Sustained engagement of patients will foster transparency around the goals of payment reform, minimizing the possibility that demonstration project would be incorrectly perceived as withholding or limiting care. Moreover, rewarding patients for accessing care from higher-quality and less-costly providers through any of several recently proposed mechanisms, including reductions in copayments or savings cards that can be applied to future deductibles, has at least 2 important advantages: (1) shared savings would encourage patient engagement in decision making and would benefit patients personally; and (2) providers who participate in reform projects that involve shared savings for patients may be motivated to deliver higher-value care to attract more patients in competitive markets.

In our hypothetical illustration of payment reform opportunities for postlumpectomy radiation, patients should participate in shared decision making about their treatment and could be rewarded with shared savings for seeking treatment by providers who demonstrate higher-quality and less-costly breast cancer care. This would seem to be a triple win for patients, providers, and payers: evidence suggests that women who require postlumpectomy radiation prefer shortened treatment though often are not engaged in the decision regarding the duration of treatment (19).

In conclusion, payment reform in radiation oncology could take many forms. Some proposals may not be scalable in the end—the barriers to implementation too great. Others may be seen as too limited or too progressive in scope. Still others may lead to unintended outcomes and thus will require further iteration. To determine the next version of payment policy for radiation oncology, we must be willing to establish provider, patient, and payer consortiums to conduct payment reform experiments, testing which designs work and which do not and learning from the experience.

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