Introduction

Payment Reform

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In 2008, the Agency for Healthcare Research and Quality (AHRQ) was pleased to sponsor the first theme issue for *Health Services Research (HSR)*, a new feature whereby excellent and ground-breaking health services research is gathered around an important “theme” and published in a dedicated issue of the journal. The first theme chosen was “Improving efficiency and value in health care,” which informed the dialogue on measuring and improving efficiency (Fraser, Encinosa, and Glied 2008). In this second theme issue, “Payment reform,” AHRQ and *HSR* aim to present some of the best research in an area that will undoubtedly be of critical importance as the nation gears up to implement one of the largest American health reform initiatives in history.

Amidst the perfect storm of rising health care costs, failing access, widespread underinsurance, and uncertain quality, President Obama signed into law the Affordable Care Act (ACA) on March 23, 2010 (United States Congress 2010). A key feature of the reform legislation is the realization that changes in the payment system must be part of the solution. For example, in Medicare, payments will no longer just be linked to quality reporting, but to quality outcomes. The ACA will implement such value-based payments for physicians (section 3007), hospitals (section 3001), ambulatory surgery centers (section 10301), psychiatric hospitals and rehabilitation hospitals (section 10326), and skilled nursing facilities (SNFs) (section 3006). Other ACA reforms will encourage other types of payment innovations to better coordinate and integrate care, such as a national pilot program on bundling payments (section 3023), a Medicaid global payment demonstration project (section 2705), Medicaid payment reforms for hospital-acquired conditions (section 2702), Medicaid payment reforms for the medical home concept of care (section 2703), and payment reforms to reduce excess readmissions (section 3025). In addition, the ACA will establish the Center for Medicare and Medicaid Innovation within CMS specifically “to test innovative payment and service delivery models to reduce program expenditures . . . while preserving or en-

hancing the quality of care.” Some models mentioned involve promoting broad payment reform in primary care through patient-centered medical home models, varying payments to physicians who order advanced diagnostic imaging services, and allowing states to test and evaluate systems of all-payer payment reform (section 3021).

The hopes for these kinds of innovations are high, but, as is the case with many policy reforms, some uncertainty surrounds the optimal ways to translate concepts into practice and develop deployable solutions to the challenges we face. The Institute of Medicine (2000) and other observers have recognized for years that the current payment system is dysfunctional, but our understanding of exactly what will work better, and under what circumstances, remains limited. Despite widespread experimentation with pay for performance, as documented by AHRQ’s many research programs, conferences, and reports (Agency for Healthcare Research and Quality 2006), there is still much to be learned about what works and when, and there is even less certainty about what some of the broader reforms such as bundling, accountable care organizations, medical homes, episode-based payments, and gain-sharing can accomplish.

The goal of this theme issue is to provide new information about how to best design and implement payment reforms, with a particular focus on four major challenges to payment reform:

1. Structuring payment bundles that reduce regional variation without hurting quality.
2. Selecting performance measures that really measure performance.
3. Fine-tuning pay-for-performance models.
4. Factoring in external market factors.

We have selected seven state-of-the-art papers that provide new evidence on one or more of these thorny issues. Together, as a set of papers, they reveal that creating payment systems that truly work to improve quality and value will be much more complicated than choosing one approach over another, but will require a sophisticated and nuanced approach. The real question they attempt to address is not simply which payment system works best,

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but when and under what circumstances does it work to achieve certain objectives.

The first two papers in this theme issue focus on the implications of the huge regional variations in utilization, cost and quality, and the potential for bundled payments to reduce these variations and improve health care value. In “Managing chronic care with the Prometheus payment model,” Francois de Brantes, Amita Rastogi, and Michael Painter (2010) document the fact that regional variations in quality and cost are enormous, and therefore provide an equally large opportunity for improvement. They find that potentially avoidable complications are responsible for 29 percent of the total medical costs for six chronic conditions among those with employer-sponsored insurance. A bundled payment reform for procedural care, acute care, and chronic care that could reduce the rate of potentially avoidable complications down to the 20th percentile in the geographical distribution of these rates would not only provide a major boost to quality but also potentially save 3.8 percent in total costs for these chronically ill patients.

Another source for the geographical variation in costs has been variation in the aggressiveness of treatment styles, with some studies suggesting that such aggressiveness does not improve patient care but does increase costs. Payment reform could therefore seek to reduce costs by implementing incentives to discourage intensive treatments that occur at the end of life, for example, through bundled payments for chronic care. However, the value of such a reform is questioned in the second paper. Jeffrey Silber, Robert Kaestner, Orit Even-Shoshan, Yanli Wang, and Laura Bressler, in “Aggressive treatment style and surgical outcomes,” examine the Dartmouth Atlas’ intensive treatment measure for nine chronic conditions among end-of-life Medicare patients. They find that an increase in aggressive treatments, as measured by a U.S.\$10,000 increase in medical expenditures associated with the end-of-life cohorts, did not alter complications, but did reduce the odds of dying by 6 percent. This suggests that payment reform cannot correctly assume that better quality will always cost less. Since this paper raises controversial concerns about the value of payment reforms that seek to reduce costs, this paper is followed by two commentaries, one by Elliot Fisher and Jonathan Skinner (2010) and one by Amber Barnato (2010). From these first two papers and their commentaries, we see that payment efforts to reduce geographic variation through use of bundled payments while maintaining quality will require careful consideration in order to avoid unintended consequences.

In our third paper, we address another critical issue in payment design: selecting a performance measure that really measures performance. Most performance measures to date, particularly for physicians, have focused on a

specific measure of performance based on patients undergoing care relevant to the measured individual outcome of interest. Most primary care physicians simply do not have a sufficient number of patient cases on an individual measure for a reliable assessment of their performance. Moreover, using a few individual measures poses a problem for many new innovations such as the patient-centered medical home and bundled payments in which the physicians' comprehensive performance over multiple diseases matters more than their performance on individual measures.

These issues are addressed in "The comprehensive care project: Measuring physician performance in ambulatory practice," by Eric Holmboe et al. (2010). While this measurement dilemma has been noted before, the critical advance of this article is that the authors offer a solution to this conundrum. They examine the feasibility, reliability, and validity of making a comprehensive assessment of general internists using 46 performance measures across multiple conditions. They show that medical home pay-for-performance models can successfully measure physician performance using composite measures for chronic care and preventive care. This can eliminate one major concern with individual measures, that they incentivize physicians to "perform to the test." With composite measures, it is all on the test. But, the authors found that their composite measures did not work for acute care, as a physician's performance on chronic care measures and preventive care measures is not generally related to her performance on acute care measures. Moreover, they show that basing measures on medical record audits rather than claims data produces higher reliability, which means physician performance can be measured requiring fewer patient cases per physician. Electronic medical records must be a vital component in the successful design and implementation of payment reforms, at least for physician payment.

The fourth and fifth papers address a third issue in payment design: fine-tuning pay-for-performance programs to limit unintended consequences. A major concern of many pay-for-performance schemes is that they reward those providers who are already performing well, creating no incentive for improvement. At the same time, many of these schemes provide little incentive for providers who are at the very low end of the scale, because the level of effort required to reach the threshold for an award is perceived to be too high. Another concern is that many pay schemes may induce providers to avoid high-risk patients in order to avoid poor performance scores.

In "Improving timely childhood immunizations through pay for performance in Medicaid managed care," Alyn Chien, Zhonghe Li, and Meredith Rosenthal (2010) demonstrate that piece-rate pay-for-performance schemes

avoid these two problems of weak incentives and risk selection. Such piece-rate schemes pay providers a bonus for each patient meeting a performance goal. In a natural experiment of Medicaid piece-rate schemes for childhood immunizations, the authors found that the health plan with the piece-rate schemes had immunization rates 7 percent higher over 3 years, and 11 percent higher over 5 years, than those plans that did not. This demonstrates the ability of piece-rate schemes to induce continual improvement. Moreover, no risk selection occurred; children with chronic conditions had 20 percent higher odds of being immunized than healthy children in the piece-rate plan.

However, piece-rate plans might not successfully prevent risk selection when the costs of treating the high-risk group are very high. One such example is children with special health care needs (CSHCN) in Medicaid. Very little research has been done on risk adjusting payments for such high-risk pediatric groups. This is the topic researched by Hao Yu and Andrew Dick in "Risk-adjusted capitation rates for children: How useful are the survey-based measures?" They develop a new method of risk adjusting CSHCN patients using CSHCN screener survey instrument data from the medical expenditure panel survey administered by AHRQ. They find that other commonly used risk adjusters would underpay providers for CSHCN patients. Augmenting those common risk adjusters with CSHCN screener data would increase payments for CSHCN patient and mitigate the risk selection incentives. Enhancing pay-for-performance programs and other programs that rely on risk adjustment with data that can best distinguish patients according to health status could lead to be better pay-for-performance approaches.

The final two papers in this theme issue investigate a vital but rarely discussed issue in payment design: the impact of external market factors on payment reform. In "Medicaid bed-hold policy and Medicare skilled nursing facility rehospitalizations," David C. Grabowski et al. (2010) investigate how one payer's reimbursement design can impact another payer's reform. Many state Medicaid programs offer a "bed-hold" policy to nursing homes, in which the nursing home gets reimbursed a number of days while the Medicaid nursing home patient is hospitalized. This payment policy induced more rehospitalizations among Medicaid patients because it removed the fear that a hospitalized patient would "lose" their bed in the nursing home. But, as the authors show, as the generosity of this Medicaid bed-hold policy increases, it also has a spillover effect on the nursing home's Medicare patients. Nursing homes in states with an average bed-hold policy (17 days reimbursed) have about a 2 percent higher Medicare rehospitalization rate. Thus, current Medicare payment reforms that attempt to bundle payments to integrate care

between hospitals and SNFs (including nursing homes serving as SNFs) will face problems because they will be unable to internalize the spillover effect of these Medicaid bed-hold policies. This research suggests that successful Medicare payment reform must involve higher level system-wide reforms between Medicare and Medicaid.

Our final paper examines the external impact of markets on payment reform. In "Effects of competition on the cost and quality of inpatient rehabilitation care under prospective payment," Carrie Hoverman Colla et al. (2010) examine the impact of market competition among postacute care facilities (such as SNFs) after a Medicare reform introduced prospective payments for postacute care facilities. The authors looked at the impact of this payment change on quality and costs of care in postacute care facilities, comparing the impact in markets with low competition to that of markets with greater competition. The authors found that greater market competition among postacute care facilities was associated with increased death rates for both stroke and hip fractures. In the case of hip fractures, moreover, areas with higher competition also had higher costs, counter to what one might expect. Thus, any bundled payment reforms that attempt to integrated care between postacute care facilities and hospitals must factor in the impact of the market.

This theme issue provides an overview of some recent and innovative research focusing on efforts to understand, quantify, and improve the design of payment reforms. These articles examine four important issues in payment design: designing bundled payments to reduce unwanted regional variation; properly measuring performance; fine-tuning pay-for-performance schemes; and controlling for external market factors. We invite readers to read all seven of these papers and the associated commentaries since they not only advance our knowledge but also discuss important research gaps that still remain in this literature. While some policy questions and decisions are based in fundamental value decisions, it is also critically important for health services researchers to engage in excellent research to address these key questions in a timely way. Perhaps as important for the field and evidence-based reform, it is important for researchers to engage in scholarly debates about how strong the evidence is, what questions remain, and what are the likely consequences of actively changing the payments on the health, health care, and costs for Americans. We hope that the contributions represented in this issue serve to advance our current knowledge and motivate health services researchers to continue to push the frontiers of important new directions for research and evidence-based policies regarding the impact of payment reform on health care efficiency and value.

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