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HSR Impact

Research Informs Prospective Payment System Design to Improve Efficiency, Patient Choice and Quality of Care.

THE ISSUE

In 1972, Congress passed legislation that gave almost all Americans the right to treatment for End Stage Renal Disease (ESRD) under Medicare, regardless of age. As a result, Medicare is a near single-payer for ESRD patients. The primary, life-saving treatment, dialysis, serves over 300,000 patients annually. Therefore, the incentives in the Medicare payment system can be crucial determinants of the cost and quality of care received by this vulnerable population. For years, Medicare paid for injectable medications on a fee-for-service basis, which encouraged overuse of medications and discouraged home dialysis. Congress and the Centers for Medicare and Medicaid Services (CMS) sought to reform dialysis payment by developing a bundled, prospective payment system (PPS) that would incorporate the dialysis treatment and all related medications and laboratory tests.



SUMMARY

For more than 40 years, Medicare has been a near single-payer for end-stage renal disease (ESRD) patients. Due to the limited supply of transplantable

kidneys and patient contraindications for transplantation, dialysis has remained the primary, life-saving treatment modality, serving over 300,000 patients annually. These patients experience high mortality rates (up to 20 percent in the first year of dialysis) and very high costs (ESRD patients represent about 1 percent of Medicare population but account for more than 6 percent of Medicare spending). Hence, the incentives built into the Medicare payment system are crucial determinants of the cost and quality of care received by this highly vulnerable population. The 2014 HSR Impact Award recognizes landmark research by Richard Hirth, Ph.D. and colleagues at the University of Michigan Kidney Epidemiology and Cost Center (UM-KECC) that contributed to the development of a prospective payment system (PPS) that the Centers for Medicare and Medicaid Services (CMS) employed to improve patient choice and quality of care and potentially reduce costs.

Medicare had historically paid for dialysis and related services using a hybrid payment approach which paid a flat, bundled rate for a set of routine services comprising the dialysis treatment (the Composite Rate), while paying on a fee-for-service basis for a number of important and costly injectable medications and non-routine laboratory

tests delivered in conjunction with the dialysis treatment. This payment approach created a number of perverse incentives.

Over time, the Composite Rate received few updates, causing its value to erode in real terms. Escalating use of separately billable medications and laboratory tests became dialysis providers' primary source of profit, and one of these drugs (Epogen) both became Medicare's largest drug expense and the subject of serious patient safety concerns.

Because home patients use fewer of these injectable medications, the hybrid payment system also eroded the incentives for home dialysis, restricting patient choice and potentially raising the average cost of care. As a result, Congress and CMS sought to reform dialysis payment by developing a bundled PPS that would incorporate the dialysis treatment and all related medications and laboratory tests. To accomplish this, CMS engaged a team under Dr. Hirth to develop the research base upon which to build such a system.

The first phase of this research resulted in the implementation in 2005 of the first case-mix adjustment system for the Composite Rate. Prior to this, patient characteristics that influence the cost of the dialysis treatment were not taken into account when setting payment rates, creating potential inequities in reimbursement that could compromise access to care. The second phase focused on the bundling of medications and laboratory tests. This research resulted in a report to Congress, and in 2011, the implementation of this new payment system.

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Evidence indicates that the new payment system is likely to save taxpayers money by creating incentives to reduce inappropriately high doses of medications and to avoid the selection of higher cost agents when lower-cost substitutes are available. The new system also appears to be preserving, or in some cases even enhancing, patient access to care.

Early data from this work were published in the *American Journal of Kidney Diseases*. The article demonstrated the extent to which the utilization of injectable medications has decreased and the variability in those practices across providers (chains, independents, etc.). In addition, the research found an increase in use of peritoneal dialysis, a home therapy that has been declining in use for decades despite its potential appropriateness for many patients and its potential benefits for patients' lifestyles. Responding to the savings generated under the new payment system, in the American Taxpayer Relief Act of 2012, Congress instructed CMS to re-base the payment rate to account for the savings. The final rule was issued by CMS in November 2013, based on Dr. Hirth's continuing work. Once fully phased in, the re-basing is likely to save taxpayers at least \$500-\$600 million annually.

While Dr. Hirth and his team have published papers directly addressing the development of the PPS, his papers using Medicare claims data and other data for ESRD patients have implications beyond the ESRD context (*Medical Care*, *Health Services Research*, and *Health Affairs*). For example, patients often have contact with multiple providers and institutions. However, rules to determine to whom a given outcome should be attributed, and hence who should receive any financial incentive for that outcome, have often been arbitrary. Dr. Hirth's research (*Medical Care*, *Health Services Research*) uses the fact that many dialysis facilities have multiple nephrologists while many nephrologists practice in multiple facilities to develop statistical measures of the fraction of variation in resource use and practices across hemodialysis patients may be associated with the physician relative to the facility. The research also assesses the extent to which dialysis facilities' chain affiliation modifies this relationship. This work on empirically-based attribution rules could have broad implications in the contexts such as accountable care organizations and pay-for-performance systems.

What is health services research?

Health services research examines how people get access to health care, how much care costs, and what happens to patients as a result of this care. The main goals of health services research are to identify the most effective ways to organize, manage, finance, and deliver high quality care, reduce medical errors, and improve patient safety.

— Agency for Healthcare Research and Quality

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