Medicare’s Bundled Reimbursement Policy for Patients with End-Stage Renal Disease

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Introduction

Background
The Medicare program extends automatic eligibility to patients diagnosed with end-stage renal disease (ESRD). This benefit was first established in 1972 in recognition of the fact that without renal replacement therapy (via dialysis or transplantation), patients with renal failure would quickly die. According to analysts at the time, the dialysis population was expected to increase from 5,000 to 7,000 patients and cost $135 million in the first year. Instead, in the first year of the program, there were 10,300 patients and the cost was $241 million.

With the increase in the prevalence of hypertension and diabetes and the aging of the population, the size of the ESRD population continues grow—in 2008, more than 548,000 patients received treatment for ESRD. That same year, total Medicare expenditures for the ESRD population were $26.8 billion—approximately $77,500 per dialysis patient per year (transplant patients, who make up about 30% of the ESRD population, cost about $26,700 per year). Although ESRD patients only account for 1% of the total Medicare population, they are responsible for 6% of total Medicare expenditures.

Because of the shortage of donor organs and the medical requirements for candidacy, transplantation is only an option for a minority of ESRD patients. Unless and until an organ becomes available, ESRD patients must undergo regular, frequent, and ongoing dialysis for the rest of their lives. Payment for dialysis services is currently made by the Centers for Medicare & Medicaid Services (CMS) on a per-treatment basis using a partially bundled composite rate (CR) that covers labor, equipment, and supplies associated with the dialysis treatment along with specified routine laboratory tests and drugs. The base rate of about $130 per dialysis session is adjusted for region, facility type (hospital-based vs. freestanding), and patient characteristics.
(age, body size, and nutritional status). Dialysis facilities bill separately for medications and services not included in the bundle. In addition, since 2004 clinicians (usually nephrologists) have been paid on a fixed monthly capitation basis for providing routine outpatient services to ESRD patients. In 2004, this payment was set at $303 per month for 4+ visits, $252 for 2-3 visits, and $201 for 1 visit. Basing the monthly capitated payment on visit frequency was intended to encourage more frequent visits among dialysis patients and their nephrologists and was justified by literature suggesting lower mortality rates with more frequent physician contact. Interestingly, a pre-post study examining outcomes after this change in policy found a substantial increase in the number of provider visits without any improvements in quality of care, health outcomes, patient satisfaction, or quality of life.

In response to concerns over rising costs, and specifically the increasing proportion of services not included in the composite rate, the Medicare Modernization Act (MMA) of 2003 mandated that as many dialysis-related services as possible should be bundled into a single payment. Subsequently, the Medicare Improvements for Patients and Providers Act (MIPPA) of 2008 mandated implementation of a case mix–adjusted, bundled-rate prospective payment system (PPS) for ESRD. The final rule was issued in August 2010, with the PPS scheduled to begin in January 2011 with a phased implementation through 2014. In addition, CMS has proposed to implement a Quality Incentive Program on January 1, 2012 that will reduce payments by up to 2% for facilities that fail to meet performance standards related to anemia management and dialysis adequacy.

The new PPS will cover the current CR services, separately billable medications, and dialysis-related laboratory services in a single payment. To this bundled payment, CMS will apply a geographic wage adjuster and patient-specific case-mix factors to a base rate to calculate a per-
ESRD Bundling

patient, per treatment payment unit. On the bundling continuum shown in Figure 1, from pure fee for service (FFS) to full capitation, the new PPS falls more toward the FFS end of the spectrum and is only two steps away from the current CR in terms of what could have potentially been done.

Figure 1. A bundling continuum for ESRD

<table>
<thead>
<tr>
<th>Pure FFS</th>
<th>Facility Svcs</th>
<th>ESRD + MAC</th>
<th>All ESRD Svcs</th>
<th>Full Capitation</th>
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Source: Adapted from DeOreo 2007. FFS, fee for service; MAC, Medicare allowable charge; MCP, monthly capitated payment; CR, composite rate; PPS: prospective payment system.

The PPS May Not Be Adequate

Although the new payment system may be an improvement over the former FFS system, some have suggested that it does not go far enough, and that a more effective policy would be to pay for all the healthcare needs of ESRD patients in one lump sum. Full capitation has not been well explored as an alternative, but some observers believe that ESRD is an ideal disease area in which to implement such a payment system because of the nature of the disease—complex and expensive—and the fact that all US patients have the same payor.

The proposed rule for the new PPS was greeted with an abundance of concerns in the nephrology community. In particular, some providers declared that the PPS would negatively affect patient access to care, reduce the use of cost-effective modalities such as home-based and daily or
nocturnal dialysis, create perverse incentives, and lead to rationing.\textsuperscript{12} It has also been suggested that the new system creates more incentives for “cherry-picking” healthier, better insured, and more compliant patients.\textsuperscript{13} Others have suggested that if the case-mix adjustment does not fully account for all the likely resource needs of patients, it could lead to a decrease in the number of visits per episode and an increase in the number of episodes per patient.\textsuperscript{14}

\textbf{Why it is Important to Get This Right}

It is important to construct the best possible payment system for ESRD because of the previously discussed large budget impact of ESRD on Medicare and the growing size of the ESRD population. In addition, the inadequate and spotty care received by the population under the current system means that the ideal payment system needs to be carefully designed to provide incentives for quality care.

\textbf{Full and Partial Capitation—Evidence from the Literature}

Capitation is defined as a set payment per patient, generally case-mix adjusted, and sometimes adjusted based on physician performance, patient satisfaction, or quality of care.\textsuperscript{15} Capitation may be full (or global), where all care for a patient is intended to be covered by the capitated payment; or partial, where providers receive a monthly (or annual) payment plus fees for certain services not intended to be covered by the capitated rate. Partial capitation may also refer to a system in which a portion of FFS payments are replaced by a flat fee plus bonuses or penalties determined by meeting cost and quality benchmarks. This type of partial capitation has been proposed by McClellan and colleagues as a potential reimbursement mechanism for accountable care organizations.\textsuperscript{16} In the US, capitation has been attempted, with varying degrees of success, in a number of different settings, including Medicaid Managed Care, Medicare Advantage, and health maintenance organizations (HMOs).
The effects of capitation (vs. salary or FFS) on physician behavior and on quality, utilization, and cost have been explored in numerous articles. For example, Conrad and colleagues have argued that while an individual physician under capitation is incentivized to reduce utilization and resource inputs per patient in the short term, the longer-term outcome is a balancing of quality and input to achieve better patient health and thus lower cost over time.\textsuperscript{17,18} According to Berwick and the other authors of the Institute of Medicine’s \textit{Crossing the Quality Chasm} report, the “much-maligned” system of capitation may be the least imperfect method we currently have at hand that could bring us into the 21\textsuperscript{st} century in terms of improved care delivery.\textsuperscript{19}

As of 2006, only 16\% of national Medicaid expenditures were capitated, and some of the largest Medicaid programs (FL, IL, MA, NC, NY, OH, and TX) use very little capitation despite the fact that a Federal incentive exists to increase the use of capitation and it has been shown to reduce costs.\textsuperscript{20} Unfortunately, there are very few studies of the impact of Medicaid capitation programs on adults with chronic illnesses. However, a pre-post study has suggested that switching to a capitated system reduced hospital admissions, improved quality of life, and did not have any adverse effects on schizophrenic Medicaid beneficiaries in Colorado.\textsuperscript{21}

The University of Michigan Kidney Epidemiology and Cost Center (UM-KECC) developed the case-mix adjusted payment system that bundles services currently reimbursed through the composite rate system plus injectable drug costs (including epoetin), lab services, and dialysis supplies.\textsuperscript{22} They concluded that a monthly payment system for ESRD patients could enhance treatment schedule flexibility but introduce additional complications involving accounting for partial months and for patients treated at multiple facilities.
Could Capitation Improve ESRD Quality of Care?

Although the Medical Outcomes Study found that there were no differences in physical or mental health across the entire population, poor and elderly patients had worse outcomes in the HMO setting than in the FFS setting. Similarly, in the RAND Health Insurance Experiment, low-income adults who began the experiment with health problems and were enrolled in an HMO had apparently worse outcomes. It is not entirely clear whether these results are applicable to ESRD patients, in part because all of them qualify for insurance already. ESRD patients are not allowed to enroll in managed care programs; initially, this was done because of lobbying on the part of HMO companies (who were concerned that they would be too expensive), but also because of concerns that managed care can lead to undertreatment for patients with chronic diseases. In order to explore the possibility of opening managed care to the ESRD population, CMS developed the ESRD Managed Care Demonstration project (1998-2000), which compared ESRD patients in managed care/capitated systems to those in FFS systems. The demonstration was not strictly a test of global capitation; rather, payments were made under a risk-adjusted system that included salaried nephrologists eligible for quality bonuses at one site, one capitated rate for inpatient and outpatient care at another, and comprehensive capitation at the third site. Unfortunately, the comprehensive capitation site experienced contracting and financial difficulties and was not able to complete the demonstration. All sites eliminated coinsurance and deductibles and offered coverage for prescription drugs. In the pre-Part D era, the drug benefit was probably the critical flaw in the demonstration’s design, because the capitation revenues did not cover the program’s expenses. Patients in managed care had increased quality of life scores and a lower financial burden, but were less satisfied than patients in the FFS system with access to providers.
One of the major issues in ESRD treatment is dialysis modality. The standard, most commonly used modality in the US is hemodialysis delivered 3 times per week in a clinic setting via a temporary or permanent catheter, fistula, or graft. Each dialysis session takes an average of 4 hours, making this system quite incompatible with full-time employment. Other dialysis modalities, which are often much cheaper and may also improve patients’ quality of life and ability to be employed, include home-based, nocturnal hemodialysis and peritoneal dialysis (PD). Under the FFS system, these modalities are used infrequently—by less than 10% of patients—part because providers have no financial incentive to promote them. An interesting study in Ontario found that after the payment system changed from a tiered system that favored in-center dialysis to a capitated system that was the same for all modalities, the use of PD stopped declining and began to increase slightly. Another important area for quality of care in ESRD is vascular access. The preferred access method, in terms of improving outcomes and reducing costs, is a fistula. Fistulas reduce infections and complications, thereby reducing hospitalizations and other resource use. However, their placement takes long-term planning and coordination, which are not rewarded under the current FFS system. Capitation would likely increase the incentives for fistula placement and appropriate monitoring. A third issue related to quality of care for ESRD patients has to do with non-dialysis outcomes. For example, the National Kidney Foundation’s Dialysis Outcomes Quality Initiative (KDOQI) sets goals for diabetic care and vaccination, which the current system has not succeeded in meeting (Figure 2). The new system does not change the incentives for such areas, since they are outside of the bundle and there is no financial risk to a provider for not meeting such targets.
This may result in expensive complications and problems that could have been avoided with appropriate preventive measures.

**Figure 2. KDOQI Quality Targets and Percentage at Goal, 2008**

![Bar chart showing KDOQI targets and performance](image)

*Source: USRDS 2010. HD: hemodialysis; CAPD: continuous ambulatory peritoneal dialysis; hgb: hemoglobin; ESRD: end stage renal disease*

Although the PPS is solely focused on dialysis treatment, cardiovascular disease is the number-one cause of mortality in ESRD patients.\(^3\) Nearly 85% of patients have a history of hypertension, most have some sort of cardio- or cerebrovascular disease, and over 53% of incident ESRD patients have diabetes (Figure 3).\(^3\) Care for the many comorbid (and interrelated) conditions in this population is fragmented, and lack of coordination of care has been pointed out as a major problem by numerous researchers.\(^10,30,31\) While coordination of care under an entity such as a medical home\(^32,33\) or accountable care organization\(^34\) could potentially prompt providers to look for ways to improve care beyond the dialysis setting and into primary care and management of comorbidities, it would require a substantial reconceptualization of care for ESRD patients.
Figure 3. Comorbidities among incident ESRD patients, 2008

Source: USRDS 2010. HTN: Hypertension; HD: heart disease; COPD: chronic obstructive pulmonary disease

Nephrologists are often the de facto primary care physicians for their ESRD patients, yet the new PPS does not include any payment mechanisms for treating the whole patient or for coordinating care with other providers, such as nutritionists, endocrinologists, cardiologists, etc.

Many observers believe that CMS missed an opportunity—the ESRD PPS could have been in the forefront of payment reform efforts by moving to a more capitated system, yet CMS chose to implement a very incremental reform that may have to be revised within a short timeframe because of its inadequacies.

Summary and Conclusions

All patients with ESRD are eligible for Medicare, and expenditures for these patients are relatively high compared to the size of the population. In an effort to modify incentives to providers and improve care while lowering costs, Medicare has recently implemented a new
bundled reimbursement policy. The upcoming implementation of bundled payment represents an important but incremental change in the financing of care for individuals with ESRD. Some observers argue that full capitation would have been better than the partial capitation that was enacted. Others predict that certain desirable outcomes, such as an increase in home dialysis and peritoneal dialysis, will be less likely to occur under the composite payment system than they were under FFS.

Capitation, whether full or partial, has been identified as a potential mechanism for improving healthcare quality and lowering costs, although it has not been adequately explored as an option for the CMS ESRD program. UM-KECC and CMS, in designing the upcoming PPS, dismissed capitation as too difficult to implement. The ESRD Managed Care Demonstration project did not succeed in a full exploration of the capitation model. Its primary design flaws were a lack of patient cost sharing and an overly generous benefit package that included prescription drug coverage in a pre-Part D environment. The demonstration sites lost money, and the idea of capitation in the ESRD population was shelved.

The issues of modality, vascular access, preventive/primary care, and care for patients with cardiovascular disease and other comorbidities are serious and complex. Treatment goals are not being met, and neither the current payment system nor the proposed PPS includes any mechanisms for improving quality of care in these areas. The PPS may in fact make things worse by creating incentives for further fragmentation of care and less coordination between providers.

**Recommendations**

Full capitation—whether in a unique, ESRD-specific payment system or as part of a broader rollout of accountable care organizations—could provide stronger incentives for efficiency and better coordination of care. However, possible restrictions on services provided would need to be
monitored to ensure quality—financial incentives alone cannot be an effective tool for quality improvement but must be coupled with quality, cost, and patient satisfaction benchmarks. Especially in the case of ESRD, payment mechanisms must also recognize, promote, and reward improved coordination of care among a patient’s multiple providers and during entire episodes of illness. Before CMS switches to capitation, a demonstration of successful implementation will likely be required.
References


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