

Medicare ESRD Prospective Payment System: Weighing the Evidence

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On October 30, 1972, President Richard Nixon signed section 2991 of Public Law 92–603, or the 1972 amendments to the Social Security Act. Enacted in July 1973, provisions within this amendment established end-stage renal disease (ESRD) as the only healthcare condition to be covered under Medicare for persons under the age of 65 and without other disabilities. At the time that this near-universal healthcare entitlement was adopted, there were approximately 7000 patients with ESRD needing dialysis treatment. This legislation was adopted with the vision that the ESRD Program would bring great social value at a modest cost, and with the further expectation that some form of national health insurance was likely to be implemented within one to two years (1).

In the 33 years since the adoption of this momentous change in healthcare policy, the scope and human impact of the Medicare ESRD Program have grown enormously. According to data provided by the United States Renal Data System (USRDS), there are over 400,000 persons in the US with ESRD, of whom >300,000 are receiving dialysis therapy, with expectations of growth to literally millions of patients by 2030 (2). Not only is the overall cost of the ESRD Program growing, but the cost of ESRD spending as a proportion of all Medicare dollars is also increasing over time. In 2002, Medicare spent \$17.0 billion on the ESRD Program, approximately 6.7% of the total Medicare budget (3). Thus, the social experiment in sustaining life through dialysis care is also straining Medicare's resources during an era of growing concern about Medicare's long-term solvency. Moreover, there is a strong impetus to develop payment systems based on improving quality outcomes, a topic recently deliberated upon in *JASN* by representatives of the American Society of Nephrology and the National Kidney Foundation (4).

Despite seismic shifts that have developed within the ESRD Program, methods of payment within the program to physicians and providers have until recently remained static. Since 1983, the Medicare Program has reimbursed dialysis providers

for a specified bundle of service at a flat fee known as the composite rate. However, the Medicare Prescription Drug Improvement and Modernization Act of November 2003 requires that the Secretary of Health and Human Services develop "a basic case-mix-adjusted prospective payment system for a limited number of patient characteristics and adjusted by geographical index for dialysis payments." To accomplish this, Medicare contracted with the Kidney Epidemiology and Cost Center (KECC) of the University of Michigan to conduct analyses related to case-mix adjustment. The KECC constructed models based on national data gathered for 2000 to 2002 for each ESRD provider using self-reported ESRD Facility Cost Reports and data from the Centers for Medicare and Medicaid Services Medical Evidence ("2728") Form. The KECC proposed an adjustment model involving age and gender as demographics, and peripheral vascular disease and AIDS as comorbidities (5). After a public comment period, Medicare adopted a more limited model based on age and body composition, with adjustments for pediatric patients and overall budget neutrality, to take effect on April 1, 2005.

In its current version, Medicare will reimburse facilities by individual patient characteristics, using correction factors that will increase reimbursement when caring for younger and older individuals, and for persons of larger body size (body surface area), with the exception of persons with a body mass index <18.5 kg/m². Hirth *et al.* provide a rationale for the observed increase in dialysis costs associated with larger body size (6). Despite the lack of definitive evidence supporting improved outcomes with higher Kt/V_{urea} (7), current practice patterns dictate longer dialysis session lengths for persons of larger body size, because of the association of body size with V_{urea}. The rationale for higher costs associated with older and leaner patients is less obvious, although it is conceivable that a larger fraction require assistance with transfer due to deconditioning or other disabilities. It is entirely unclear why a young adult of 20 yr, absent larger body size, would be more costly to dialyze. According to the authors' calculations, variation in the case mix-adjusted composite rate will be substantial on a per patient basis (SD \$12.99), but is expected to be more modest at the facility level (SD \$3.77). The latter figure may inflate, however, if facilities alter patient recruitment strategies.

While the proposed method of case mix adjustment satisfies

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the requirement put forth by the Medicare Prescription Drug Improvement and Modernization Act, it is unclear whether payment for dialysis services will be more equitable as a result. First, patients “costlier than average to dialyze” are not the patients for whom the facility incurs the highest cost. The costliest patients are those who require frequent or prolonged hospitalization, where the assigned chair remains empty, resulting in no payment (–\$129.86 compared with an average per treatment payment) and little flexibility in reducing the substantial fixed costs associated with nursing care and facility maintenance. A more thorough and effective approach to case-mix adjustment would have considered predictors of hospitalization other than age and body size, including prior hospitalization, an additive index of comorbid conditions, and other objective and easily measured parameters, such as hemoglobin, creatinine or albumin concentrations.

Before the article by Hirth *et al.* is published (6), the proposed method of prospective payment will have already been put into place. Surveillance will be required to maintain budget neutrality. Weight should be uniformly recorded in kilograms and not pounds; wheelchairs, snowshoes and other accessories should be weighed separately and subtracted or removed before weighing. More importantly, patients of average age and body size should be provided the same access to dialysis units and high-quality care as the newly elite “tall and large.” African-American women may be disadvantaged by the proposed payment system; compared with white women, African-American women are less likely to be lean, but like white women are considerably smaller in overall body size than men (mean body surface area for female *versus* male incident hemodialysis patients is 1.71 *versus* 1.90 m²).

At the large dialysis provider chain level (where units ultimately compete with each other for case-mix adjusted payments), there is likely to be little economic impact from these case-mix adjustments if the result is truly budget-neutral. The dialysis industry is likely to pay more attention to other components of Medicare payment changes, namely an update of 1.6% in the overall composite rate and the changes in the payment for injectible drugs. Thus, Medicare’s initial foray into case-mix adjusting payment for dialysis providers is likely to meet with a more muted response than when monthly capitated payment to physicians was changed through the institution of G codes for evaluation and management of dialysis patients in 2004.

Given the societal, regulatory, and legislative arena in which the ESRD Program operates, we can expect further and more fundamental changes in ESRD reimbursement system moving forward. The challenge of developing payment systems that are simultaneously fair for physicians and dialysis providers, use validated measures of cost, quality, and outcomes, and that align incentives among payers and providers to optimize outcomes for patients is indeed daunting. Prospectively estimating costs for improving quality will be especially difficult. The model of the Centers for Medicare and Medicaid Services and the nephrology community operating independently is unlikely to accomplish this. A collaborative approach will be required to chart the uneasy waters facing the ESRD Program in the 21st century.

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See related article, “Economic Impact of Case-Mix Adjusting the Dialysis Composite Rate,” on pages 1172–1176.