Individuals with end-stage renal disease (ESRD)—irreversible loss of kidney function—require either dialysis or kidney transplantation to survive. In 1972, the Social Security Act extended all Medicare Part A and Part B benefits to individuals with ESRD who are entitled to receive Social Security benefits. In 2016, there were about 392,000 fee-for-service (FFS) Medicare ESRD beneficiaries on dialysis, representing about 1 percent of all FFS Medicare beneficiaries.

Because of the scarcity of kidneys available for transplantation, most patients with ESRD (about 70 percent) receive maintenance dialysis. Medicare spending for outpatient dialysis and injectable drugs administered during dialysis was about $11.4 billion in 2016 and is a predominant share of revenues for dialysis facilities.

Beginning in 1983, Medicare paid dialysis facilities a predetermined rate intended to cover a specific bundle of services provided to patients in a given dialysis treatment. To improve provider efficiency, Medicare began in 2011 to phase in a modernized prospective payment system (PPS) for outpatient dialysis services. The Medicare Improvements for Patients and Providers Act of 2008 (MIPPA) broadened the payment bundle to include dialysis drugs, laboratory tests, and other ESRD-related items and services that were previously separately billable. MIPPA also required CMS to implement a pay-for-performance program beginning in 2012. Beginning on January 1, 2014, all facilities were paid 100 percent under the modernized payment system. Table 1 summarizes the key features of the dialysis PPS.

Defining the care that Medicare buys

Medicare covers two methods of dialysis—hemodialysis and peritoneal dialysis. In hemodialysis, a patient’s blood is cycled through a dialysis machine, which filters out body waste. About 90 percent of all dialysis patients undergo hemodialysis in dialysis facilities. Peritoneal dialysis uses the lining of the peritoneal cavity to filter excess waste products, which are then drained from the abdomen. Patients undergo peritoneal dialysis five to seven times per week in their homes.

The unit of payment is a single dialysis treatment. Although different equipment, supplies, and labor are needed for hemodialysis and peritoneal dialysis, the payment system that began in 2011 does not differentiate payment based on dialysis method for adults. Medicare’s payment rate is based on a regimen of three dialysis treatments per week.

Under the dialysis PPS, facilities are paid a single case-mix-adjusted payment which includes composite rate services and ESRD-related drugs, laboratory services, and medical equipment and supplies. The ESRD drugs included under the broader payment bundle include: (1) Part B ESRD-related drugs (including erythropoietin, injectable iron, and vitamin D analogs), and their oral equivalents; and (2) Part D oral ESRD-related drugs with no injectable equivalent (oral-only drugs include calcimimetics and phosphate binders). Statutory provisions delayed the inclusion of oral-only ESRD-related drugs into the payment bundle until 2025. However, because an injectable equivalent of the oral calcimimetic was approved by the Food and Drug Administration in 2017, effective January 1, 2018, injectable and oral calcimimetics qualify for the transitional drug add-on payment adjustment under the ESRD PPS for a minimum period of 2 years. Once sufficient claims data for rate setting analysis are available, these products will be included in the PPS bundle.
Setting the base rate

The base payment under the broader bundle is intended to cover all operating and capital costs that efficient providers would incur in furnishing dialysis treatment episodes in dialysis facilities or in patients’ homes. For 2019, the base payment rate is proposed at $235.82 for freestanding facilities and for hospital-based facilities (Figure 1). The base rate reflects the following factors: (1) a wage index budget-neutrality adjustment factor and (2) a market basket increase in 2019.

Patient-level adjustments—For adults, CMS adjusts the base rate for case mix using the following measures:
- age (18–44, 45–59, 60–69, 70–79, ≥80 years),
- two body measurement variables—body surface area and body mass index,
- specific acute and chronic comorbidities, and
- onset of dialysis (for the first four months a patient receives dialysis).

For children under the age of 18 years, CMS adjusts the base rate by age and dialysis modality.

Facility-level adjustments—There are three facility-level adjustments to the base rate. First, CMS adjusts the base rate for differences in local input prices by using the Office of Management and
Budget’s Core-Based Statistical Areas. The wage index values used under the ESRD PPS are the inpatient PPS wage index values calculated without regard to geographic reclassifications and utilize pre-floor hospital data that are unadjusted for occupational mix. The labor-related portion of the ESRD PPS payment rate is proposed at 52.3 percent for both freestanding and hospital-based facilities.

Second, CMS adjusts the base rate by 23.9 percent to account for the costs that low-volume facilities incur. A low-volume facility is defined as one that furnishes fewer than 4,000 treatments in each of the three years before the payment year and that has not opened, closed or received a new provider number due to a change in ownership during the three-year period. In addition, CMS considers the proximity to other commonly-owned facilities within five miles of the facility in question.

Third, CMS includes an adjustment (of 0.8 percent applied to the base PPS rate) for all facilities located in rural areas.

**Outlier payments**—CMS pays facilities an outlier payment when a beneficiary’s payment per treatment for outlier services exceeds a threshold, which is the beneficiary’s predicted payment amount per treatment for the outlier services plus a fixed dollar loss amount. Outlier services include drugs, laboratory services, and other items that facilities separately billed under the old payment method. The fixed dollar loss amount for 2019 is proposed at $69.73 for adults. Medicare pays 80 percent of the facilities’ costs above the threshold.

**Self-dialysis training add-on payment**

In 2019, the dialysis training add-on payment is $95.60 per treatment. CMS pays up to 15 training sessions for peritoneal dialysis and 25 sessions for hemodialysis.

**Payment updates**

Medicare payments to dialysis facilities are updated annually by the ESRD market basket, which measures the price increases of goods and services facilities buy to produce patient care, reduced by a productivity adjustment.

**Quality incentive payment program**

The dialysis PPS also includes a quality incentive payment program. Beginning in 2012, the bundled payment rate is reduced by up to 2 percent for facilities that do not achieve or make progress toward specified quality measures. Facility-level scores are publicly reported on-line and posted within dialysis facilities. For the 2019 payment year, the ESRD quality incentive program includes 14 measures:

- Dialysis adequacy (i.e., the extent to which dialysis is removing enough wastes and fluid from the body) comprehensive measure for hemodialysis and peritoneal dialysis patients;
- Two outcome measures that assess hemodialysis vascular access—use of autogenous AV fistulas and intravenous catheters;
- An outcome measure that assesses the ratio of the number of observed unplanned 30-day hospital readmissions to the number of expected unplanned 30-day hospital readmissions;
- An outcome measure that assesses the ratio of observed red blood cell transfusions to the number of expected transfusions;
- An outcome measure, the National Healthcare Safety Network bloodstream infection measure, that assesses the number of hemodialysis outpatients with positive blood cultures per 100 hemodialysis patient-months;
- An outcome measure that assesses the proportion of patients with hypercalcemia, an indicator of the management of bone mineral metabolism and disease;
- An outcome measure that uses the in-center hemodialysis Consumer Assessment of Healthcare Providers and Systems Survey instrument to measure, from the perspective of in-
Table 1  Key features of the prospective dialysis payment system

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<th>Payment method feature</th>
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| **Payment bundle**     | • Composite rate services  
  • Separately billable (Part B) injectable dialysis drugs and their oral equivalents  
  • ESRD-related laboratory tests  
  • Selected ESRD Part D drugs  
  • Self-dialysis training services |
| **Unit of payment**     | Single dialysis treatment |
| **Self-dialysis training services adjustment** | Yes |
| **Beneficiary-level adjustments** | • For adults: age, dialysis onset, body surface, body mass, specific acute (pericarditis; gastrointestinal tract bleeding or hemorrhage) and chronic (hereditary hemolytic or sickle cell anemias; myelodysplastic syndrome) patient comorbidities  
  • For pediatric patients: age, dialysis method |
| **Facility-level adjustments** | • Wage index  
  • Low-volume adjustment  
  • Adjustment for rural location |
| **Outlier policy**      | Applies to the portion of the broader payment bundle composed of the drugs and services that were previously separately billable |
| **Quality incentive program** | For 2019, 8 outcome measures and 6 process measures |

Note: ESRD (end-stage renal disease). The low-volume adjustment does not apply to pediatric patients.


center hemodialysis patients, the quality of dialysis care they receive from their nephrologist and from the staff of the dialysis facility;
• A process measure that assesses the percentage of patients with documentation of a pain assessment using a standardized tool, and documentation of follow-up when pain is present;
• A process measure that assesses the percentage of patients screened for clinical depression using a standardized tool and documentation of a follow-up plan when necessary;
• A process measure that assesses the percentage of a facility’s health care personnel who received an influenza vaccination, had a medical contraindication to vaccination, declined vaccination, or were of an unknown vaccination status;
• A process measure that assesses the number of months for which facilities report the dosage of erythropoietin stimulating agents (as applicable) and hemoglobin/hematocrit of dialysis beneficiaries;
• A process measure that assesses the number of months for which facilities report patients’ serum phosphorus levels (an indicator of bone mineral metabolism and disease); and
• A process measure that assesses the number of months for which facilities report National Healthcare Safety Network dialysis event data to the Centers for Disease Control and Prevention.