

Chapter 9: Healthcare Expenditures for Persons with ESRD

- Between 2014 and 2015, Medicare fee-for-service spending for beneficiaries with end-stage renal disease (ESRD) rose by 2.4%, from 33.1 billion to 33.9 billion, accounting for 7.1% of the overall Medicare paid claims costs, a figure that has remained stable since 2004 (Figure 9.2). This marks the fourth year of modest growth relative to historical trends, and follows the 2011 implementation of the bundled payment system.
- When adding an extra \$64 billion of CKD costs (Volume 1, Chapter 6, [Healthcare Expenditures for Persons with CKD](#), Tables 6.1 and 6.3), total Medicare spending on both CKD and ESRD is over \$98 billion.
- In keeping with the increase in global expenditures for ESRD patients, total 2015 fee-for-service spending for the general Medicare population increased by 4.8%, to \$475.3 billion (Figure 9.2).
- In 2015, ESRD spending per patient per year (PPPY) increased by 1.1% (Figure 9.4). Given that ESRD PPPY spending either decreased or increased only slightly from 2009 to 2015, the rise in Medicare expenditures for beneficiaries with ESRD during these years is almost entirely attributable to growth in the number of covered lives.
- For hemodialysis (HD) care, both total and PPPY spending were nearly flat between 2014 (\$26.2 billion and \$88,750; Figures 9.7 and 9.8) and 2015 (\$26.7 billion and \$88,195).
- During this period, total peritoneal dialysis (PD) spending grew by 4.7%, as the share of patients receiving PD continued to rise. Peritoneal dialysis PPPY spending rose 1.6% from 2014 to 2015, however, and PD remained less costly on a per patient basis than HD.
- Total and PPPY kidney transplant spending have increased by 3.0%. Total spending for transplant patients increased from \$3.1 billion to \$3.3 billion, and per capita spending increased from \$33,078 to \$34,084.
- Total inpatient spending grew rapidly from 2004 until 2009, followed by slower growth from 2009 until 2011; it has remained quite stable since 2011.

Introduction

The Medicare program for the elderly was enacted in 1965. Seven years later, in 1972, Medicare eligibility was extended both to disabled persons aged 18 to 64 and to persons with irreversible kidney failure who required dialysis or transplantation. When Medicare eligibility was first extended to beneficiaries with ESRD, only about 10,000 individuals were receiving dialysis (Rettig, 2011). By 2015, this patient group grew to 434,914. Even though the ESRD population remains at less than 1% of the total Medicare population, it has accounted for about 7% of Medicare fee-for-service spending in recent years (Figure 9.2).

On January 1, 2011, The Centers for Medicare and Medicaid Services (CMS) implemented the ESRD Prospective Payment System (PPS). This program bundled Medicare's payment for renal dialysis services together with separately billable ESRD-related supplies (primarily erythropoiesis stimulating agents (ESAs), vitamin D, and iron) into a single, per treatment payment amount. The bundle payment supports up to three dialysis treatments per individual per week, with additional treatments covered on the basis of medical necessity. The reimbursement to facilities is the same regardless of dialysis modality, but is adjusted for case-mix, geographic area health care wages, and facility size. Early research linked the PPS with substantial declines in the utilization of

expensive injectable medications and increased use of in-home PD by generally healthier patients (Hirth et al., 2013; Civic Impulse, 2013).

Most of the savings from these changes have accrued to dialysis facilities, as CMS initially set the bundled payment rate at 98% of what spending would have been under the costlier utilization patterns observed prior to the PPS. In the American Taxpayer Relief Act of 2012, Congress authorized CMS to “re-base” the PPS bundled payment rate by an inflation-adjusted decrease of 9%. Re-basing the bundled payment rate would have transferred the savings from dialysis facilities to Medicare and, ultimately, to taxpayers. Before the bundled payment rate reduction could be fully implemented, however, the Protecting Access to Medicare Act of 2015 required that it be phased in by limiting annual adjustments to the bundled payment rate. That legislation also delayed CMS’s plans to include more oral medications (primarily phosphate binders) in the bundle in 2016, to no sooner than 2024.

This chapter presents recent patterns and longer-term trends in both total Medicare spending and spending by type of service. Data from 2015 is featured, the fourth full year under the expanded, bundled PPS.¹

Methods

This chapter uses multiple data sources, including data from the Centers for Medicare & Medicaid Services (CMS), the Centers for Disease Control and Prevention (CDC), and the United States Census. Details of these are described in the [Data Sources](#) section of the [ESRD Analytical Methods](#) chapter.

Aggregate costs of ESRD presented in this report include those ESRD beneficiaries covered by original Medicare (fee-for-service) for their Medicare Parts A, B, and D benefits. ESRD beneficiaries that are covered by the Medicare Advantage program managed care plans are also included in this report.

Medicare Parts A, B, and D expenditures can be calculated from the claims submitted for payment for health care provided to these individuals, but not for those enrolled in Medicare Advantage (managed care) plans. The Medicare program pays for services provided through Medicare Advantage plans on a risk-adjusted, per-capita basis, and not by specific claims for services; these data are reported in Figures 9.1 and 9.3 only.

Only a subset of ESRD patients is eligible to participate in a Medicare Advantage plan. If a person becomes eligible for Medicare solely due to ESRD, they are generally not permitted to enroll in a Medicare Advantage plan and must use fee-for-service Medicare. Current Medicare beneficiaries who develop ESRD are allowed to remain in their Medicare Advantage plan, but with few exceptions, cannot switch to a Medicare Advantage plan if they were enrolled in fee-for-service Medicare at the time of ESRD onset.

Those who become newly entitled to Medicare due to ESRD and require dialysis experience a three-month waiting period before Medicare coverage begins; an exception is for those initiating home dialysis training or transplant, where coverage may start as early as the first month of dialysis. If the new ESRD patient has private insurance through an employer or union, there are rules governing what Medicare will pay. During the first 30 months after the start of Medicare eligibility due to ESRD, the private insurance will be considered the primary payer of ESRD services. Medicare acts as the secondary payer and may reimburse some services not covered by the private insurance carrier. At month 31 the roles are reversed, and Medicare becomes the primary payer with the private insurance designated the secondary payer. Medicare becomes primary at any time if the person loses private coverage.

Additionally, Medicare eligibility based solely on ESRD ends for those ESRD patients who receive a kidney transplant or discontinue dialysis. Medicare coverage ends 12 months after the last dialysis

¹ The reader may find information on Medicare Health Maintenance Organizations (HMO; managed care), and private insurer spending through 2011 in the 2013 Annual Data Report (USRDS, 2013).

treatment and 36 months after a successful transplant. However, if a transplant recipient also qualifies for disability or is over the age of 65 then Medicare entitlement will continue. If a transplant fails and the recipient returns to dialysis, Medicare eligibility is reinstated.

In this chapter, we use data from both the Medicare Enrollment Database (EDB) and dialysis claims information to categorize payer status as Medicare primary payer (MPP), Medicare secondary payer (MSP), or non-Medicare. Non-Medicare patients in the EDB include those who are pre- or post-Medicare entitlement, such as patients in the initial three-month waiting period.

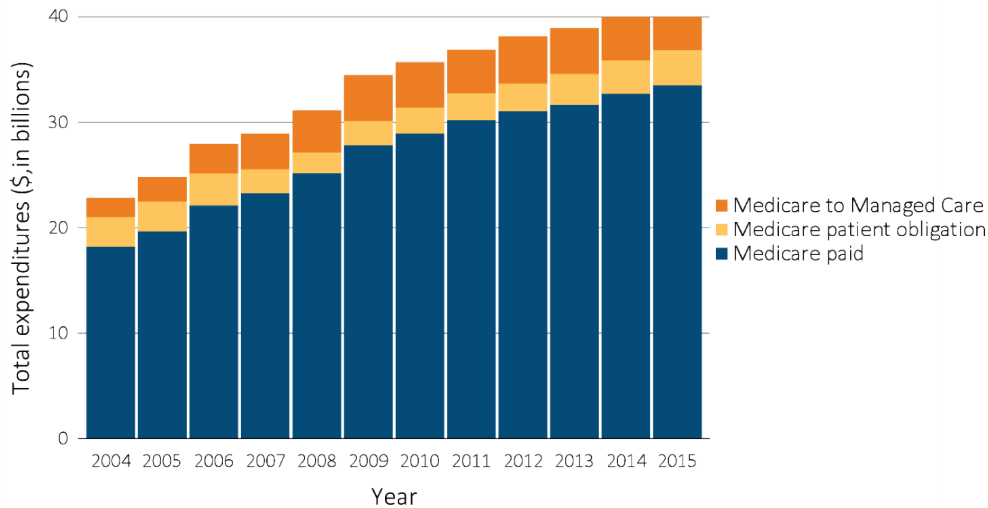
A more accurate picture of total ESRD-related costs would take into account more than just expenditures by the Medicare program. It would include expenses such as those incurred by private insurance carriers when Medicare is the secondary payer, costs during the waiting period for initial Medicare coverage, and as provided by insurance carriers of people living with a functioning kidney transplant following the termination of Medicare coverage. It would also include the beneficiaries' portion of the cost-sharing with Medicare, including the Parts B and D premiums of those enrolled in Medicare solely due to ESRD, the beneficiary's deductible, and their co-insurance amounts for ESRD services. In 2015, the Part A and Part B deductibles were \$1,216 and \$147, respectively; the Part B premium was \$104.90 per month. Finally, indirect costs of care such as patient and caregiver travel time and care-giver support for home dialysis would also be included in a comprehensive measure of costs associated with ESRD.

See the [Analytical Methods Used in the ESRD Volume](#) section of the [ESRD Analytical Methods](#) chapter for an explanation of the analytical methods used to generate the study cohorts, figures, and tables in this chapter. Downloadable Microsoft Excel and PowerPoint files containing the data and graphics for these figures and tables are available on the [USRDS website](#).

Overall & per Person per Year Costs of ESRD

Figure 9.1 displays Medicare's total annual paid claims for period prevalent ESRD patients from 2004-2015. These costs represent about three quarters of all spending for the care of U.S. ESRD patients (USRDS, 2014). Medicare fee-for-service ESRD spending rose by 2.4% from 2014 to 2015, marking the fourth year of modest growth relative to historical trends, and following the implementation of the bundled payment system. The Medicare patient obligation amount has also grown over the years in proportion to these paid claims. Patient obligations may be paid by the patient, by a secondary insurer, or may be uncollected. Overall, the patient obligation represented 8.9% of the total Medicare Allowable Payments in 2015. Medicare payments to managed care plans under the Medicare Advantage coverage option increased from 2004 to 2012 and then decreased to 2015, largely due to a reduction in the rates Medicare paid to managed care plans.

vol 2 Figure 9.1 Trends in ESRD expenditures, 2004-2015

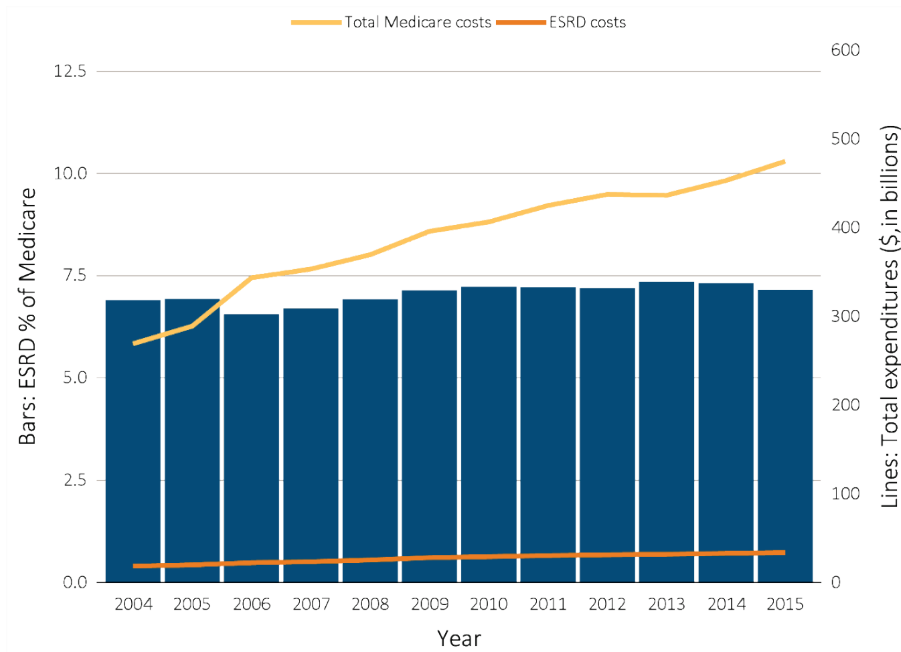


Data Source: USRDS ESRD Database; Reference Table K.1. Abbreviation: ESRD, end-stage renal disease.

As illustrated in Figure 9.2, total Medicare fee-for-service spending in the general Medicare population increased by 4.8% in 2015 to \$475.3 billion; the spending for ESRD patients of \$33.8 billion accounted for 7.1% of the overall Medicare paid claims costs in the fee-for-service system. Note that Medicare Advantage plans (private managed care) represented a larger share of general Medicare spending than did ESRD. The share of all Medicare enrollees in these

plans rose from 13% in 2004 to 24% in 2014 (Kaiser, 2017), while restrictions on new Medicare enrollment by beneficiaries with ESRD limited that growth in the ESRD population. This implies that the increasing fraction of Medicare fee-for-service spending accounted for by ESRD patients reflects both the growth in ESRD spending and the gradual shift away from fee-for-service in the general Medicare population.

vol 2 Figure 9.2 Trends in costs of the Medicare & ESRD programs, 2004-2015



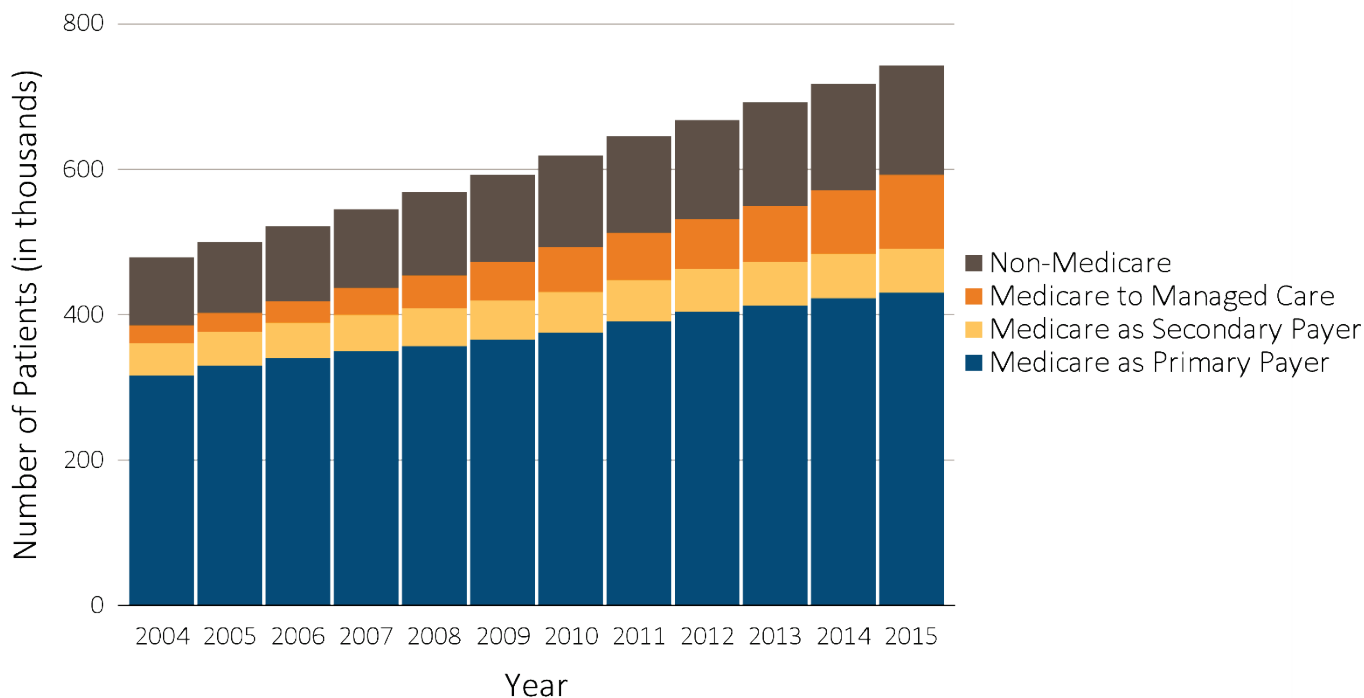
Data Source: Total ESRD costs obtained from USRDS ESRD Database; Reference Table K.1. Total Medicare expenditures obtained from Trustees Report, Table II.B1 <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/ReportsTrustFunds/TrusteesReports.html>. Abbreviation: ESRD, end-stage renal disease.

Funding Sources for the ESRD Population

Figure 9.3 illustrates the annual number of prevalent ESRD patients by their Medicare status. Data from the Medicare Enrollment Database (EDB) and dialysis claims information were used to categorize payer status as Medicare as primary payer (MPP), Medicare as secondary payer (MSP), Medicare payments to Medicare Advantage managed care plans,

or non-Medicare. Non-Medicare patients in the EDB included those who were pre- or post-Medicare entitlement. The number of ESRD patients with MPP grew by 1.7 % from 2014 (427,496) to 2015 (434,914). The MSP ESRD population decreased by 0.5% from 2014 (61,275) to 2015 (60,950), while the Medicare paid to managed care and non-Medicare ESRD population rose by 15.6% and 3.5%, to 101,348 and 141,367 respectively.

vol 2 Figure 9.3 Trends in numbers of point prevalent ESRD patients, 2004-2015



Data Source: USRDS ESRD Database. December 31 point prevalent ESRD patients. Abbreviation: ESRD, end-stage renal disease.

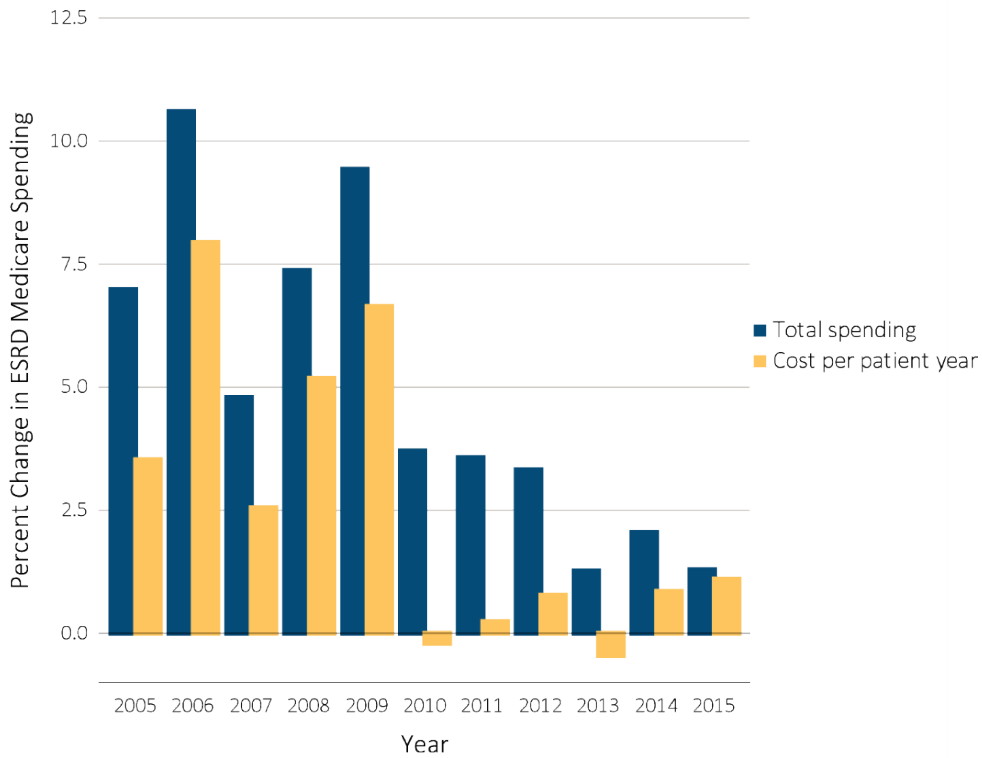
Figure 9.4 displays the annual percent change in Medicare ESRD fee-for-service spending for all ESRD patients for whom Medicare is the primary payer. Part D costs are included in these measures. However, as Part D is a voluntary component of the Medicare program, some recipients do not participate or have an alternate source of pharmaceutical coverage (e.g., from an employer) and would not have medication claims represented in the Part D records.

For the sixth consecutive year, the annual increase in total Medicare ESRD spending for beneficiaries

with primary payer status was less than 5%. In 2015, total Medicare paid claims for ESRD services and supplies increased by 1.3% to \$31.1 billion (see Figure 9.4; for total and specific values see Reference Table K.4).

In 2015, ESRD PPPY spending increased by 1.1%. Given that these expenditures decreased or increased only minimally from 2010 to 2015, the growth in total ESRD costs during these years is almost entirely attributable to growth in the number of covered beneficiaries.

vol 2 Figure 9.4 Annual percent change in Medicare ESRD spending, 2004-2015

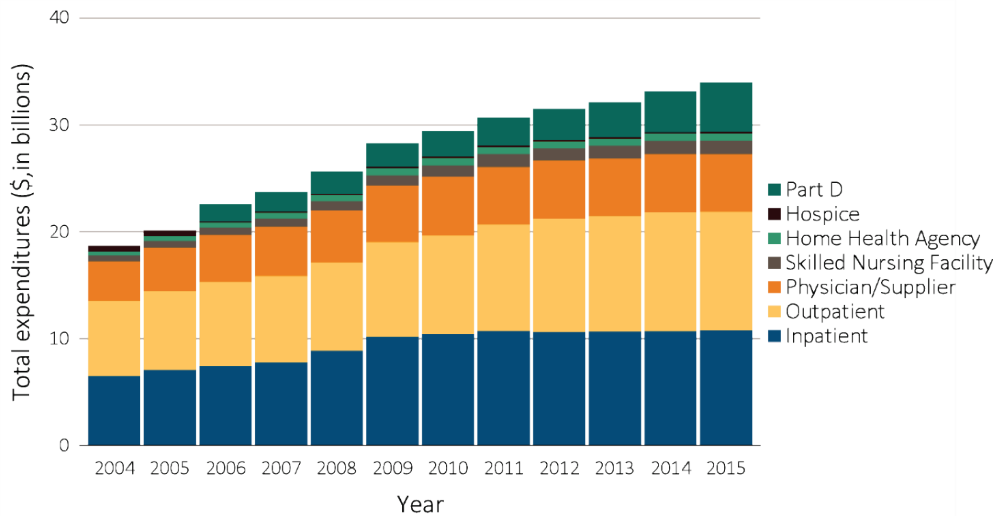


Data Source: USRDS ESRD Database; Reference Table K.4. Total Medicare ESRD costs from claims data; includes all claims with Medicare as primary payer only. Abbreviation: ESRD, end-stage renal disease.

Total Medicare fee-for-service spending for ESRD patients is reported by type of service in Figure 9.5. Compared to 2014, the costs of Part D claims in 2015 grew at the fastest rate of 23.5%. The increase in Part D (prescription drug) expenditures is consistent with drug cost trends nationally (CMS, 2016). All other

categories of spending rose by less than 3%. The smallest share of Medicare spending for ESRD patients was for hospice care—this spending increased by 2.2% in 2015. It should be noted, however, that prior to 2013 hospice care had been experiencing one of the highest rates of growth of any category.

vol 2 Figure 9.5 Trends in total Medicare fee-for-service spending for ESRD, by type of service, 2004-2015

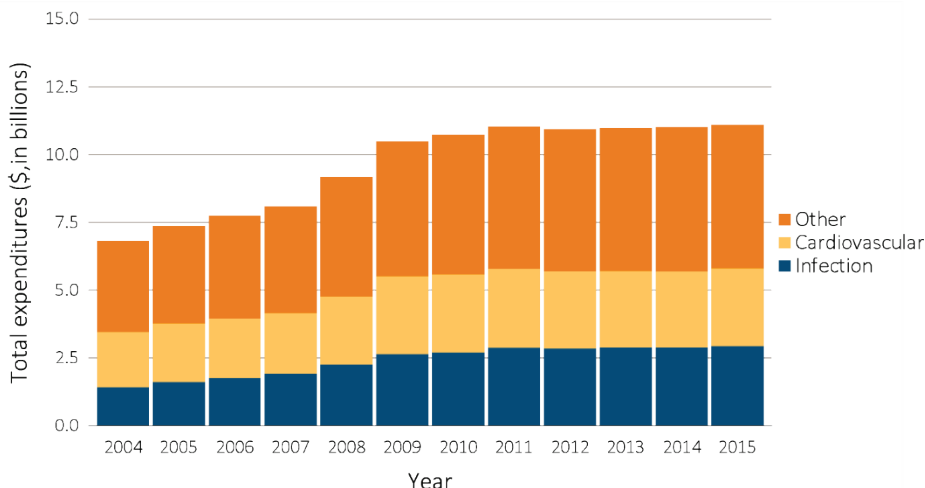


Data Source: USRDS ESRD Database; Reference Table K.1. Total Medicare costs from claims data. Abbreviation: ESRD, end-stage renal disease.

Of 2015 spending on inpatient hospitalization for those with ESRD, 27.4% resulted from admissions to treat infections and 26.0% for those to treat cardiovascular conditions (Figure 9.6). Total spending

on hospitalizations has remained stable since 2009 due to decreasing hospitalization rates, which offset increasing costs of each hospitalization (see Volume 2, Chapter 4, [Hospitalization](#)).

vol 2 Figure 9.6 Total Medicare fee-for-service inpatient spending by cause of hospitalization, 2004-2015



Data Source: USRDS ESRD Database. Total Medicare costs from claims data. Abbreviation: ESRD, end-stage renal disease. Unknown hospitalization cost (<0.01%) was combined with 'Other'.

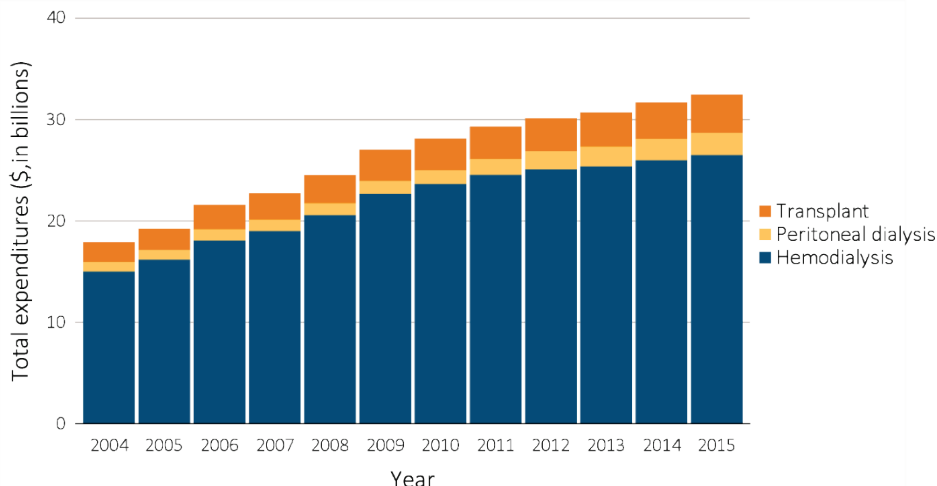
ESRD Spending by Modality

For patients receiving hemodialysis (HD), both total and PPPY fee-for-service spending were nearly flat between 2014 and 2015 (Figures 9.7 and 9.8). Note that total spending includes costs for beneficiaries with Medicare as either primary or secondary payer, and PPPY amounts include only beneficiaries with Medicare as primary payer.

Between 2014 and 2015, peritoneal dialysis (PD) total spending increased by 4.7%, as the share of

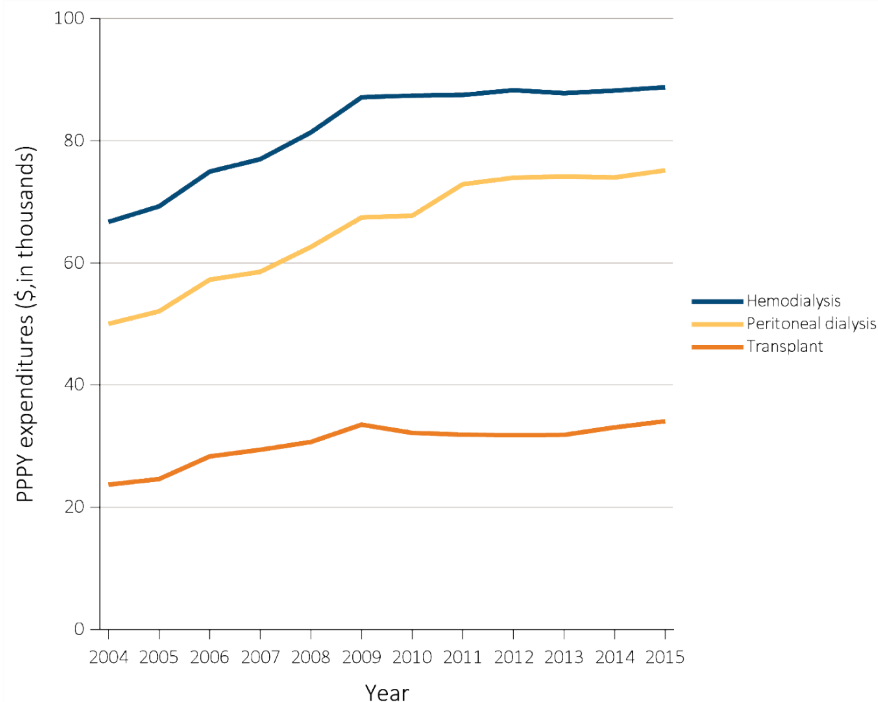
patients receiving PD continued to rise. PD growth on a PPPY basis increased slightly between 2014 and 2015 (1.6%), however, and it remained less costly on a per patient basis in 2015 (\$75,140) than HD (\$88,750). Finally, transplant spending in 2015 increased from 2014 levels by 5.7% in total and 3.0% in PPPY expenditures. In 2015 the PPPY cost for transplant patients, \$34,084, remained far lower than spending for either dialysis modality.

vol 2 Figure 9.7 Total Medicare ESRD expenditures, by modality, 2004-2015



Data Source: USRDS ESRD Database. Total Medicare costs from claims data for period prevalent ESRD patients. Abbreviation: ESRD, end-stage renal disease.

vol 2 Figure 9.8 Total Medicare ESRD expenditures per person per year, by modality, 2004-2015



Data Source: USRDS ESRD Database; Reference Tables K.7, K.8, & K.9. Period prevalent ESRD patients; includes all claims with Medicare as primary payer only. Abbreviation: ESRD, end-stage renal disease.

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