

Cost Comparison of Peritoneal Dialysis Versus Hemodialysis

■ eAppendix A. Patient Selection

Criterion	No. (%) of Patients ^a
Total with ≥1 claims for PD or	5415
≥1 claims for HD	17,256
Total with ≥1 claims for PD or HD and	19,403 (100.0)
Claims for PD or HD only on index date and	19,228 (99.1)
Satisfy 1 of the algorithms of interest and	16,277 (83.9)
6 mo of predialysis enrollment and	8043 (41.5)
Not enrolled in Medicaid and	7711 (39.7)
Aged <65 y or	6272 (32.3)
Aged ≥65 y and not enrolled in Medicare supplemental or capitated plan	1413 (7.3)
Total of above	7656 (39.5)
Without other dialysis-related utilization during predialysis period and ^b	1877 (9.7)
≥3 mo of enrollment following index date and	1556 (8.0)
Have dialysis-related claims on ≥1 days during this 3-mo period other than the index date and	1466 (7.6)
Have dialysis-related claims for ≥1 mo following the index date or	980 (5.1)
Have dialysis-related claims for <1 mo following the index date and underwent renal transplantation within the subsequent 2 mo ^c	15 (0.1)
Total of above who	995 (5.1)
Did not undergo renal transplantation in month immediately following index date ^d	948 (4.9)
Total with	
≥12 mo of enrollment following index date	463 (2.4)
PD	56 (0.3)
HD	407 (2.1)

HD indicates hemodialysis; PD, peritoneal dialysis.

^aAll values are number (percentage) of patients using all patients with at least 1 claim for PD or HD as the denominator.

^bDefined as *International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM)* diagnosis codes 458.21, 792.5, 996.1, 996.56, 996.62, 996.68, 996.73, 999.2, 999.3, 999.9, V45.1, V56.0, V56.1, V56.2, V56.3, V56.8, E87.02, and E87.91; *ICD-9-CM* procedure codes 39.42, 39.43, 39.93, 39.94, 39.95; *Current Procedural Terminology 4 (CPT-4)* procedure codes 36145, 36832, 36833, 90918 to 90925, 90935, 90937, 90939, 90940, 90989, 90993, 90997, 90999, 93990, and 99512; revenue codes 800 to 804, 809, 820 to 825, 829 to 835, 839 to 845, 849, 850 to 855, 859, 880 to 882, and 889; and Health Care Financing Administration Common Procedural Coding System codes A4653, A4671 to A4929, C1750, C1752, C1881, E1500 to E1699, G0257, and G8076.

^cDefined as the presence of dialysis-related claims during the month immediately following the index date only; the presence of dialysis-related claims was assessed over this 3-month follow-up period.

^dDefined as *CPT-4* procedure codes 50360 ("renal allotransplantation, implantation of graft; without recipient nephrectomy") and 50365 ("renal allotransplantation, implantation of graft; with recipient nephrectomy") and *ICD-9-CM* diagnosis codes 996.81 ("complications of transplanted organ; kidney") and V42.0 ("organ or tissue replaced by transplant; kidney").

■ **eAppendix B. Case Selection Algorithms for Peritoneal Dialysis (PD) and Hemodialysis (HD)**

PD	HD
<p>≥2 Claims for 90945 and/or 90947</p>	<p>≥2 Claims for 90935 (“HD procedure with single physician evaluation”), 90937 (“HD procedure requiring repeated evaluation[s] with or without substantial revision of dialysis prescription”), 90939 (“HD access flow study to determine blood flow in grafts and arteriovenous fistulae by an indicator dilution method, hook up; transcutaneous measurement and disconnection”), 90940 (“HD access flow study to determine blood flow in grafts and arteriovenous fistulae by an indicator method”), 93990 (“duplex scan of hemodialysis access [including arterial inflow, body of access and venous outflow]”) and/or 99512 (“home visit for HD”)</p>
<p>≥2 Outpatient claims on different days or any 1 inpatient claim with diagnoses of: 996.68 (“infection due to peritoneal dialysis catheter: exit-site infection or inflammation”), 996.56 (“infection due to peritoneal dialysis catheter: excludes mechanical complication of arteriovenous dialysis catheter”), V56.8 (“other dialysis–peritoneal dialysis”), V56.2 (“fitting and adjustment of peritoneal dialysis catheter”), and/or V56.32 (“encounter for adequacy testing for peritoneal dialysis”)</p>	<p>≥2 Outpatient claims on different days or any 1 inpatient claim with diagnoses of V56.0 (“extracorporeal dialysis”), V56.1 (“fitting and adjustment of extracorporeal dialysis catheter”), and/or V56.31 (“encounter for adequacy testing for HD”)</p>
<p>≥2 Claims on different days with procedure code: 0802 (“inpatient peritoneal dialysis”), 0803 (“inpatient continuous ambulatory peritoneal dialysis”), 0804 (“inpatient continuous cycling peritoneal dialysis”), 0830 (“peritoneal dialysis, outpatient or home, general classification”), 0831 (“peritoneal dialysis, outpatient or home, peritoneal/composite-other rate”), 0839 (“peritoneal dialysis, outpatient or home, other peritoneal dialysis”), 0840 (“CAPD-outpatient or home, general classification”), 0841 (“CAPD-outpatient or home, CAPD/composite or other rate”), 0845 (“CAPD-outpatient or home, support services”), 0849 (“CAPD-outpatient or home, other CAPD dialysis”), 0851 (“CCPD-outpatient or home, CCPD/composite or other rate”), 0854 (“CCPD-outpatient or home, maintenance 100%”), 0855 (“CCPD-outpatient or home, support services”), and/or 0859 (“CCPD-outpatient or home, other CCPD dialysis”)</p>	<p>>2 Claims on different days with procedure code: 0801 (“inpatient dialysis”), 0820 (“HD-outpatient or home”), 0821 (“HD-outpatient or home/composite rate or other rate”), 0822 (“HD-outpatient or home/home supplies”), 0823 (“HD-outpatient or home/home equipment”), 0824 (“HD-outpatient or home/maintenance/100%”), 0825 (“HD-outpatient or home/support services”), and/or 0829 (“HD-outpatient or home/outpatient HD-other”)</p>
<p>≥2 Claims on different days with equipment code: 0832 (“PD-outpatient or home, home supplies”), A4653 (“PD catheter anchoring device, belt, each”), A4671 (“disposable cyclor set used with cyclor dialysis machine, each”), A4672 (“drainage extension line, sterile, for dialysis, each”), A4673 (“extension line with easy lock connectors, used with dialysis”), A4719 (“Y-set tubing for PD”), A4720 (“dialysate solution, any concentration of dextrose, fluid volume greater than 249cc but less than or equal to 999cc, for PD”), A4721 (“dialysate solution, any concentration of dextrose, fluid volume greater than 999cc but less than or equal to 1999cc, for PD”), A4722 (“dialysate solution, any concentration of dextrose, fluid volume greater than 1999cc but less than or equal to 2999cc, for PD”), A4723 (“dialysate solution, any concentration of dextrose, fluid volume greater than 2999cc but less than or equal to 3999cc, for PD”), A4725 (“dialysate solution, any concentration of dextrose, fluid volume greater than 4449cc but less than or equal to 5999 cc for PD), A4726 (dialysate solution, any concentration of dextrose, fluid volume greater than 5999 cc”)</p>	<p>≥2 Claims on different days with equipment code: A4680 (“activated carbon filter for HD, each”), A4690 (“dialyzer [artificial kidney], all types, all sizes, for HD”), A4706 (“bicarbonate concentrate, solution, for HD, per gallon”), A4707 (“bicarbonate concentrate, powder, for HD, per packet”), A4708 (“acetate concentrate solution, for HD, per gallon”), A4709 (“acid concentrate, solution, for HD, per gallon”), A4730 (“fistula cannulation set for HD, each”), A4740 (“shunt accessory, for HD, any type”), A4750 (“blood tubing, arterial or venous, for HD, each”), A4755 (“blood tubing, arterial and venous combined, for HD, each”), A4802 (“protamine sulfate, for HD, per 50 mg”), A4780 (“plumbing and/or electrical work for home HD equipment”), A4802 (“protamine sulfate, for HD, per 50 mg”), A4911 (“drain bag/bottle, for dialysis, each”), A4918 (“venous pressure clamp, for HD, each”); C1750 (“catheter, HD, long-term”), C1752 (“catheter, HD, short-term”), E1520 (“heparin infusion pump for HD”), and/or E1530 (“air bubble detect”)</p>

(Continued)

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■ eAppendix B. Case Selection Algorithms for Peritoneal Dialysis (PD) and Hemodialysis (HD) (Continued)

PD	HD
A4860 ("disposable catheter tips for PD, per 10"), E1594 ("cycler dialysis machine for PD"), and/or E1634 ("PD clamps, each")	E1560 ("blood leak detector for HD, each, replacement"), E1575 ("transducer protectors/fluid barriers, for HD, any size, per 10"), E1580 ("unipuncture control system for HD"), E1590 ("HD machine"), E1600 ("delivery and/or installation charges for HD equipment"), E1610 ("reverse osmosis water purification system, for HD"), E1615 ("deionizer water purification system, for HD"), E1620 ("blood pump for HD, replacement"), E1625 ("water softening system, for HD"), E1632 ("wearable artificial kidney, each"), E1635 ("compact [portable] travel hemodialyzer system"), and/or E1636 ("sorberent cartridges, for HD, per 10")

CAPD indicates continuous ambulatory PD; CCPD, continuous cycling PD.