

Analysis of changes in dialysis-related treatment practices using data from the Health Insurance Review and Assessment Service of Korea.



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Introduction

In Korea, For domestic medical treatment, a medical treatment code according to medical treatment is submitted to the Health Insurance Review and Assessment Service to claim the number of insurance benefit items, and the Health Insurance Review and Assessment Service discloses these billing data to the Healthcare Big Data Hub.

Based on this actual insurance fee claim data, we analyzed dialysis-related treatment behavior to find out the recent changes in dialysis-related treatment behavior.

Methods and Materials

Using the health care data system, changes in dialysis-related treatment practices over the past five years (2006-2010) were analyzed.

Dialysis-related treatments such as hemodialysis, peritoneal dialysis, arteriovenous fistula surgery, and peritoneal dialysis catheter insertion were analyzed using diseases and treatment codes listed in the cost of health insurance care benefits.

Results

Peritoneal dialysis catheter surgery behavior gradually decreased from 2,025 in 2016 to 1,404 in 2020.

The number of arteriovenous fistula surgeries using autologous blood vessels gradually increased from 7,141 in 2016 to 8,817 in 2020.

Arteriovenous fistula surgeries using artificial blood vessels increased from 3,221 in 2016 to 3,342 in 2019 and then decreased to 3,275 in 2020.

Peritoneal catheter insertion (Others)

Sex	2016 year			2017 year			2018 year			2019 year			2020 year		
	Patients No.	Total usage	Treatment amount (1,000 won)	Patients No.	Total usage	Treatment amount (1,000 won)	Patients No.	Total usage	Treatment amount (1,000 won)	Patients No.	Total usage	Treatment amount (1,000 won)	Patients No.	Total usage	Treatment amount (1,000 won)
Total	2,025	2,343	360,971	1,736	2,082	334,339	1,686	1,969	393,571	1,597	1,922	463,596	1,404	1,777	452,391
Male	1,171	1,345	206,258	1,042	1,269	202,074	1,021	1,187	239,273	963	1,166	281,945	857	1,088	271,902
Female	854	998	154,713	694	812	132,265	665	782	154,297	634	757	181,651	547	689	180,489

Peritoneal catheter insertion (with greater omentectomy)

Sex	2016 year			2017 year			2018 year			2019 year			2020 year		
	Patients No.	Total usage	Treatment amount (1,000 won)	Patients No.	Total usage	Treatment amount (1,000 won)	Patients No.	Total usage	Treatment amount (1,000 won)	Patients No.	Total usage	Treatment amount (1,000 won)	Patients No.	Total usage	Treatment amount (1,000 won)
Total	139	139	25,172	118	124	24,250	117	120	28,893	70	72	24,081	78	86	27,846
Male	91	90	16,267	67	70	13,388	67	69	16,491	40	42	14,324	47	53	16,905
Female	48	49	8,905	51	55	10,862	50	51	12,402	30	30	9,757	31	33	10,941

Arterio-Venous Shunt or Fistula formation for hemodialysis (Autologous vein)

Sex	OPD/Admission	2016 year			2017 year			2018 year			2019 year			2020 year		
		Patients No.	Total usage	Treatment amount (1,000 won)	Patients No.	Total usage	Treatment amount (1,000 won)	Patients No.	Total usage	Treatment amount (1,000 won)	Patients No.	Total usage	Treatment amount (1,000 won)	Patients No.	Total usage	Treatment amount (1,000 won)
Total	Total	7,141	7,523	4,796,222	7,162	7,467	4,913,078	8,359	8,839	5,948,417	8,736	9,885	6,440,385	8,817	10,354	6,659,642
Male	Subtotal	4,417	4,648	2,959,728	4,436	4,628	3,042,588	5,163	5,428	3,662,308	5,502	6,181	4,047,272	5,603	6,524	4,219,505
Male	OPD	940	968	621,971	858	874	577,886	1,038	1,059	730,647	1,254	1,281	916,646	1,451	1,478	1,091,698
Male	Admission	3,512	3,679	2,337,757	3,602	3,753	2,464,702	4,150	4,370	2,931,660	4,285	4,900	3,130,627	4,180	5,046	3,127,807
Female	Subtotal	2,724	2,875	1,836,494	2,726	2,839	1,870,489	3,196	3,410	2,286,110	3,234	3,704	2,393,113	3,214	3,830	2,440,137
Female	OPD	524	537	345,177	496	504	332,827	577	594	410,436	717	736	527,861	806	823	610,175
Female	Admission	2,225	2,339	1,491,317	2,240	2,335	1,537,663	2,640	2,816	1,875,674	2,546	2,968	1,865,252	2,431	3,006	1,829,963

Arterio-Venous Shunt or Fistula formation for hemodialysis (Artificial vein)

Sex	OPD/Admission	2016 year			2017 year			2018 year			2019 year			2020 year		
		Patients No.	Total usage	Treatment amount (1,000 won)	Patients No.	Total usage	Treatment amount (1,000 won)	Patients No.	Total usage	Treatment amount (1,000 won)	Patients No.	Total usage	Treatment amount (1,000 won)	Patients No.	Total usage	Treatment amount (1,000 won)
Total	Total	3,221	3,475	2,212,788	3,241	3,497	2,277,427	3,338	3,688	2,372,336	3,342	4,099	2,363,733	3,275	4,159	2,372,769
Male	Subtotal	1,685	1,821	1,162,555	1,650	1,774	1,156,342	1,775	1,957	1,266,607	1,703	2,077	1,204,862	1,776	2,260	1,276,559
Male	OPD	430	453	285,995	401	418	273,037	396	413	277,767	376	385	264,645	415	427	302,110
Male	Admission	1,274	1,367	876,560	1,262	1,356	883,304	1,399	1,544	988,840	1,346	1,692	940,217	1,369	1,834	974,449
Female	Subtotal	1,536	1,654	1,050,233	1,591	1,722	1,121,086	1,563	1,731	1,105,730	1,639	2,022	1,158,871	1,499	1,899	1,096,210
Female	OPD	404	420	265,844	347	354	229,687	330	340	227,799	356	370	254,504	400	412	290,332
Female	Admission	1,146	1,235	784,389	1,260	1,368	891,398	1,249	1,391	877,931	1,295	1,652	904,367	1,115	1,486	805,878

Continuous veno-venous hemodialysis with catheter insertion (first day)

Sex	2016 year			2017 year			2018 year			2019 year			2020 year		
	Patients No.	Total usage	Treatment amount (1,000 won)	Patients No.	Total usage	Treatment amount (1,000 won)	Patients No.	Total usage	Treatment amount (1,000 won)	Patients No.	Total usage	Treatment amount (1,000 won)	Patients No.	Total usage	Treatment amount (1,000 won)
Total	10,258	11,591	4,545,139	10,361	11,592	5,132,564	12,318	13,928	8,881,612	12,151	14,231	11,497,094	10,241	12,506	11,663,861
Male	6,319	7,138	2,802,662	6,281	7,016	3,106,687	7,465	8,437	5,386,519	7,364	8,600	6,974,607	6,169	7,499	7,039,182
Female	3,939	4,453	1,742,477	4,080	4,575	2,025,878	4,853	5,491	3,495,093	4,787	5,631	4,522,487	4,072	5,007	4,624,678

Continuous veno-venous hemodialysis (next day)

Sex	2016 year			2017 year			2018 year			2019 year			2020 year		
	Patients No.	Total usage	Treatment amount (1,000 won)	Patients No.	Total usage	Treatment amount (1,000 won)	Patients No.	Total usage	Treatment amount (1,000 won)	Patients No.	Total usage	Treatment amount (1,000 won)	Patients No.	Total usage	Treatment amount (1,000 won)
Total	10,324	59,676	11,536,009	10,344	58,585	11,661,201	12,681	73,864	15,836,249	13,051	77,991	18,845,111	11,098	70,561	18,240,301
Male	6,394	37,332	7,219,739	6,305	35,846	7,133,265	7,678	45,884	9,839,989	7,878	48,436	11,709,170	6,735	44,011	11,417,544
Female	3,930	22,344	4,316,270	4,039	22,739	4,527,935	5,003	27,980	5,996,260	5,173	29,555	7,135,941	4,363	26,550	6,822,757

Hemodialysis (per episode)

Sex	OPD/Admission	2016 year			2017 year			2018 year			2019 year			2020 year		
		Patients No.	Total usage	Treatment amount (1,000 won)	Patients No.	Total usage	Treatment amount (1,000 won)	Patients No.	Total usage	Treatment amount (1,000 won)	Patients No.	Total usage	Treatment amount (1,000 won)	Patients No.	Total usage	Treatment amount (1,000 won)
Total	Total	60,937	6,794,752	644,254,558	63,625	7,167,604	695,154,922	68,304	7,664,461	757,258,311	71,568	8,128,156	817,020,604	74,638	8,568,661	877,451,513
Male	Subtotal	35,433	3,891,800	369,161,960	37,028	4,117,420	399,588,615	39,924	4,413,952	436,572,017	41,900	4,696,026	472,662,201	43,833	4,971,471	509,783,725
Male	OPD	28,872	3,450,448	327,666,021	30,543	3,649,510	354,754,956	32,394	3,890,220	385,739,363	34,299	4,147,077	418,915,434	36,335	4,409,980	454,165,811
Male	Admission	21,863	441,352	41,495,939	22,433	467,910	44,833,659	25,113	523,732	50,832,653	25,965	548,949	53,746,767	26,398	561,492	55,617,915
Female	Subtotal	25,504	2,902,951	275,092,598	26,597	3,050,185	295,566,307	28,380	3,250,509	320,686,294	29,668	3,432,130	344,358,402	30,805	3,597,190	367,667,788
Female	OPD	20,073	2,460,695	233,969,042	21,170	2,573,059	250,363,420	22,213	2,719,680	269,745,516	23,245	2,863,772	289,271,713	24,327	3,016,421	310,584,460
Female	Admission	16,157	442,256	41,123,556	16,593	477,126	45,202,887	18,464	530,829	50,940,777	19,221	568,358	55,086,689	19,301	580,769	57,083,328

Hemodialysis (per episode); Fixed-Fee Review Records of hemodialysis (outpatient)

	2016 year			2017 year			2018 year			2019 year			2020 year		
	Claims	Medical expenses per visit (won)	Medical expenses (1,000 won)	Claims	Medical expenses per visit (won)	Medical expenses (1,000 won)	Claims	Medical expenses per visit (won)	Medical expenses (1,000 won)	Claims	Medical expenses per visit (won)	Medical expenses (1,000 won)	Claims	Medical expenses per visit (won)	Medical expenses (1,000 won)
Total	1,906,534	146,076	278,482,604	1,886,028	146,106	275,544,641	2,013,511	146,103	394,179,080	2,127,200	146,047	310,671,497	2,253,542	146,071	329,265,900

Conclusions

The data on the claim code of the Health Insurance Review and Assessment Service can be considered to be accurate as it was actually implemented as a medical practice.

In the past five years, the number of peritoneal dialysis surgeries has been gradually decreasing, and arteriovenous fistula surgery for hemodialysis is increasing, and based on these results, it is thought that there should be a change in salary policy for dialysis-related treatment.



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