Five Most Frequent DRGs in Washington's Community Hospitals, 2010–2021:

Part VI – Inpatients by Payer Type

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Forecasting and Research

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The Office of Financial Management

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This is part six of a seven-part report on changes in the medical conditions for which Washington residents received care in community hospitals from 2010 to 2021. For an explanation of how these conditions are classified, and the data source and methods used, see part one of the report, available on the OFM website.

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Part VI – Inpatients by payer type

The hospital discharge data included nine payer types (or insurance sources) for inpatients: Medicare, Medicaid, Health Maintenance Organizations (HMO), commercial plans, Labor and Industries (L&I), self-pay, hospital contractors, other government-sponsored programs, and charity care. Names for these payer types are used by hospitals in the inpatient discharge database. Some of these names are not necessarily what patients use to describe their sources of coverage. For instance, patients may say Kaiser (for Kaiser Permanente) instead of HMO, or Premera instead of hospital contractor. Due to the small number of patients in the charity care category—especially since the major implementation of the Affordable Care Act (ACA) in 2014—we excluded this payer type from our report. Since 2014, the number of patients in the top five Diagnosis-Related Groups (DRGs) for charity care remained below 75 annually.

Among the eight payer types analyzed, the top five DRGs for Medicare and L&I differed significantly from those of other payers, reflecting the distinct populations these programs serve. While most payer groups mirrored the broader inpatient population, Medicare and L&I patients were unique. Medicare primarily covers adults aged 65 and older, so its top five DRGs closely aligned with those for that age group. The most common DRG varied by year, alternating between DRG 470 (major hip and knee joint replacement or lower extremity reattachment without MCC) and DRG 871 (septicemia or severe sepsis without mechanical ventilation over 96 hours, with MCC).

L&I, which provides coverage for work-related injuries and illnesses, exhibited entirely different trends. Its top five DRGs consistently included work-related conditions, with the most frequently

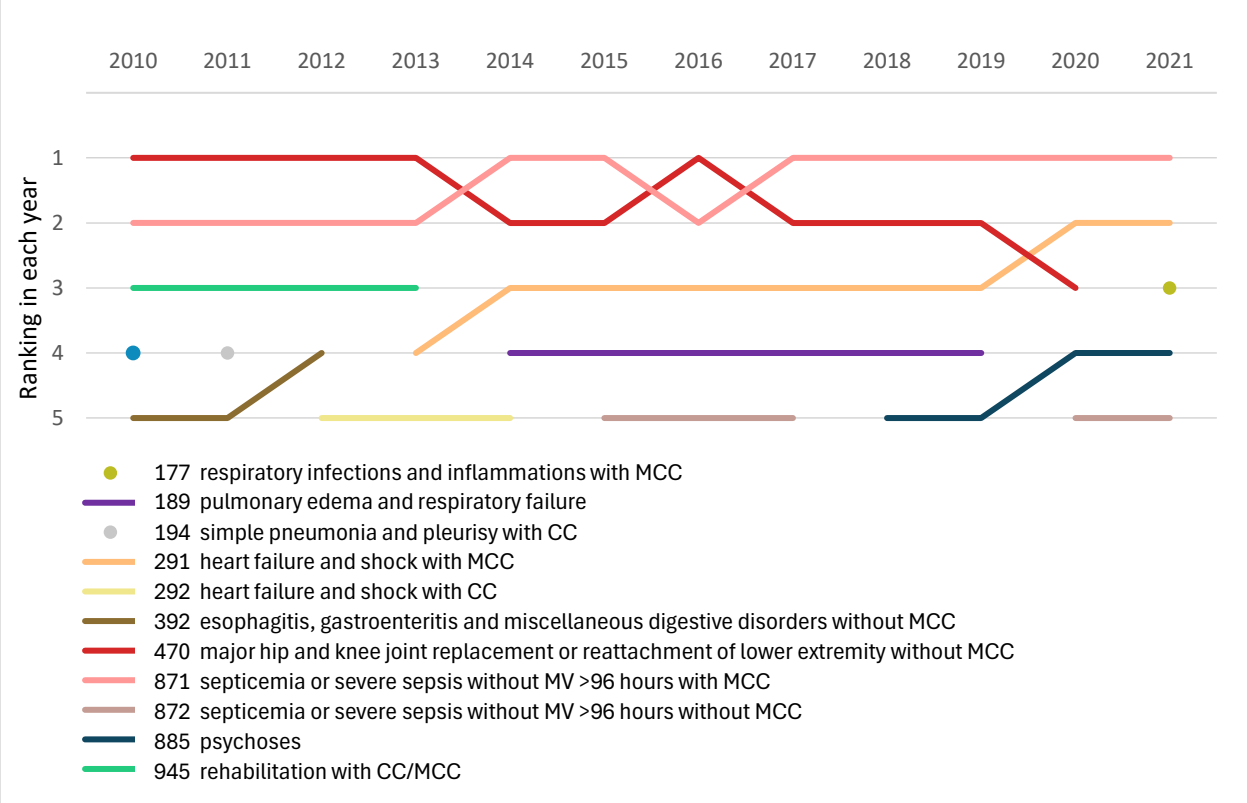
ranked DRGs being N57 (major joint and limb reattachment procedure of the upper extremity without CC/MCC), DRG 470, and DRG 455 (combined anterior and posterior spinal fusion without CC/MCC).

In contrast, the remaining six payer types primarily featured birth-related DRGs, though some variations occurred. DRG 795 (normal newborn) ranked first across all years or most years for these other payer groups.

Payer group - Medicare

Since Medicare primarily provides health coverage for individuals aged 65 and older, the top five DRGs for inpatients within this group closely align with those observed for the 65+ age category we presented in Part III of this report. Among the 11 DRGs that appeared in the top five at least once for Medicare patients, DRG 871 (septicemia or severe sepsis without mechanical ventilation over 96 hours, with MCC) was the only one consistently ranked in the top five across all years. Over time, its prevalence increased, moving from second place to first.

Figure VI-1. Top five DRGs among persons with Medicare as payer discharged from Washington hospitals, 2010-2021



Medicare patients in the top five DRGs accounted for about 14-21% (29,000-50,600) of total Medicare patients. Both the number and the share of Medicare patients in the top five DRGs increased from 2010 to 2017, but both decreased somewhat afterwards.

Table VI-1. Number and percent of persons with Medicare as payer discharged from Washington hospitals by top five DRGs, 2010-2021

Medicare	Top 1st DRG			Top 2nd DRG			Top 3rd DRG			Top 4th DRG			Top 5th DRG		
	MS-DRG	N	% Total	MS-DRG	N	% Total	MS-DRG	N	% Total	MS-DRG	N	% Total	MS-DRG	N	% Total
2010	470	10,625	5.2%	871	7,011	3.4%	945	3,878	1.9%	291	3,774	1.8%	392	3,697	1.8%
2011	470	10,822	5.2%	871	7,842	3.8%	945	4,179	2.0%	194	3,901	1.9%	392	3,848	1.9%
2012	470	11,313	5.4%	871	9,304	4.4%	945	4,176	2.0%	392	3,802	1.8%	292	3,779	1.8%
2013	470	12,544	5.8%	871	11,496	5.3%	945	4,300	2.0%	291	4,268	2.0%	292	3,705	1.7%
2014	871	13,464	6.1%	470	13,191	6.0%	291	4,841	2.2%	189	4,078	1.8%	292	3,983	1.8%
2015	871	14,705	6.4%	470	14,298	6.2%	291	5,588	2.4%	189	5,042	2.2%	872	4,167	1.8%
2016	470	15,136	6.5%	871	14,329	6.2%	291	6,405	2.8%	189	5,224	2.3%	872	3,969	1.7%
2017	871	15,930	6.6%	470	15,646	6.5%	291	9,200	3.8%	189	5,668	2.4%	872	4,145	1.7%
2018	871	15,549	6.6%	470	13,674	5.8%	291	9,695	4.1%	189	4,820	2.0%	885	4,186	1.8%
2019	871	15,887	6.8%	470	11,758	5.0%	291	10,166	4.4%	189	4,819	2.1%	885	4,466	1.9%
2020	871	13,907	7.0%	291	8,587	4.3%	470	4,777	2.4%	885	4,653	2.3%	872	3,427	1.7%
2021	871	13,552	6.8%	291	9,246	4.6%	177	8,712	4.3%	885	4,184	2.1%	872	3,255	1.6%

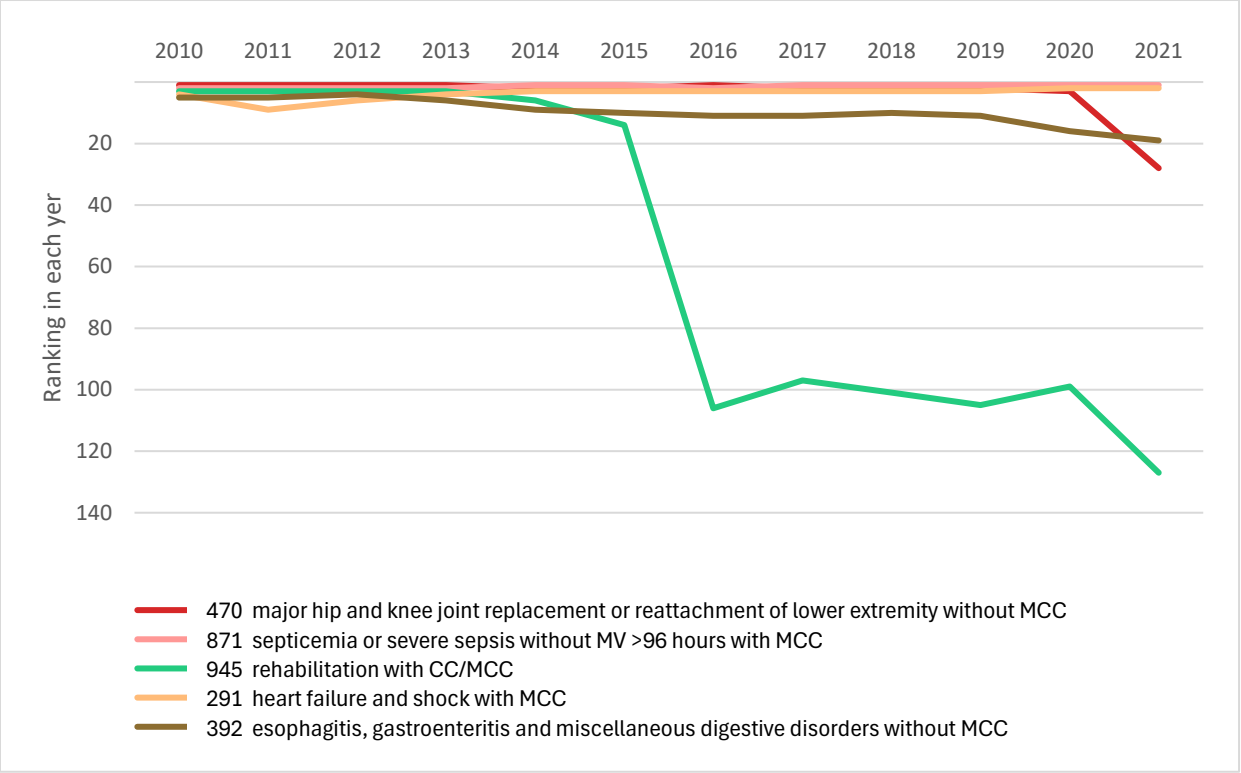
177 = respiratory infections and inflammations with MCC
189 = pulmonary edema and respiratory failure
194 = simple pneumonia and pleurisy with CC
291 = heart failure and shock with MCC
292 = heart failure and shock with CC
392 = esophagitis, gastroenteritis and miscellaneous digestive disorders without MCC
470 = major hip and knee joint replacement or reattachment of lower extremity without MCC
871 = septicemia or severe sepsis without MV >96 hours with MCC
872 = septicemia or severe sepsis without MV >96 hours without MCC
885 = psychoses
945 = rehabilitation with CC/MCC

Between 2010 and the following years, four DRGs that had been among the top five dropped out of those rankings at least once.

- DRG 470 (major hip and knee joint replacement or reattachment of lower extremity without MCC) originally held the top position but dropped to second place in 2019 and third place in 2020. By 2021, it had fallen significantly to 28th place. This decline in 2020 and 2021 was largely due to the suspension of elective surgeries—including most cases classified under DRG 470—during the COVID-19 pandemic.

- DRG 945 (rehabilitation with CC/MCC) remained in third place from 2010 to 2013 before dropping dramatically to 127th place by 2021. Its most significant single-year decline occurred between 2015 and 2016, when it plummeted from 10th place to 106th. As noted in discussions on patients aged 65 and older, this sharp drop resulted from a policy change that integrated two existing programs, reducing the number of individuals with mental health or substance use disorders being admitted to emergency departments or hospitals involuntarily.
- DRG 291 (heart failure and shock with MCC) ranked fourth in 2010 but dropped to ninth place in 2011. However, in subsequent years, its ranking steadily improved, rising to sixth place in 2012 and reaching second place in 2021.
- DRG 392 (esophagitis, gastroenteritis, and miscellaneous digestive disorders without MCC) ranked fifth in 2010 but remained in the top five only through 2012. By 2021, it had fallen to 19th place.

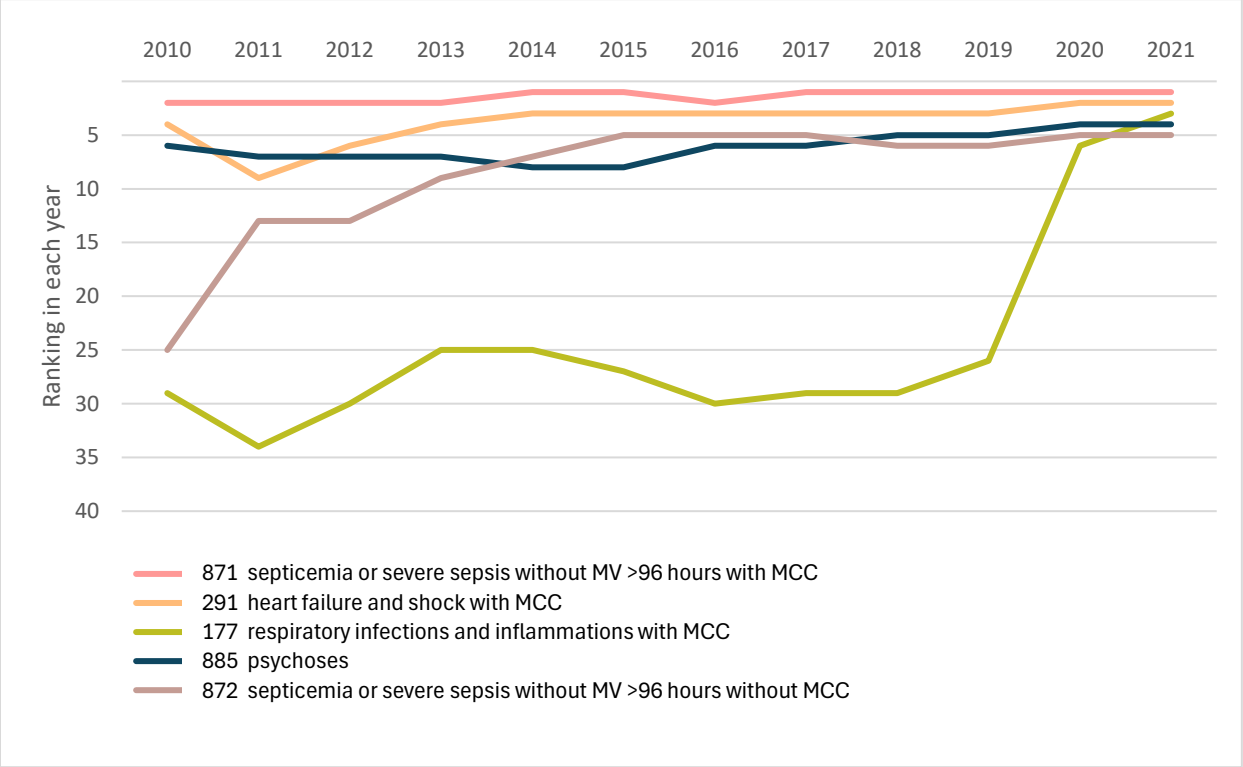
Figure VI-2. Top five DRGs in 2010 and their rank changes in subsequent years: persons with Medicare as payer discharged from Washington hospitals, 2010-2021



In 2021, three of the top five DRGs had not been part of the top five in 2010.

- DRG 177 (respiratory infections and inflammations with MCC) climbed from 29th place in 2010 to 3rd place in 2021. Its most significant single-year increase occurred between 2019 and 2020, when it jumped from 26th place to 6th, largely due to the impact of the COVID-19 pandemic.
- DRG 885 (psychoses) moved up from 6th place in 2010 to 4th place in 2021.
- DRG 872 (septicemia or severe sepsis without mechanical ventilation over 96 hours, without MCC) rose from 23rd place to 5th, with most of its climb occurring in the early years of the decade.

Figure VI-3. Prior rankings of 2021 top five DRGs:
persons with Medicare as payer discharged from Washington hospitals, 2010-2021

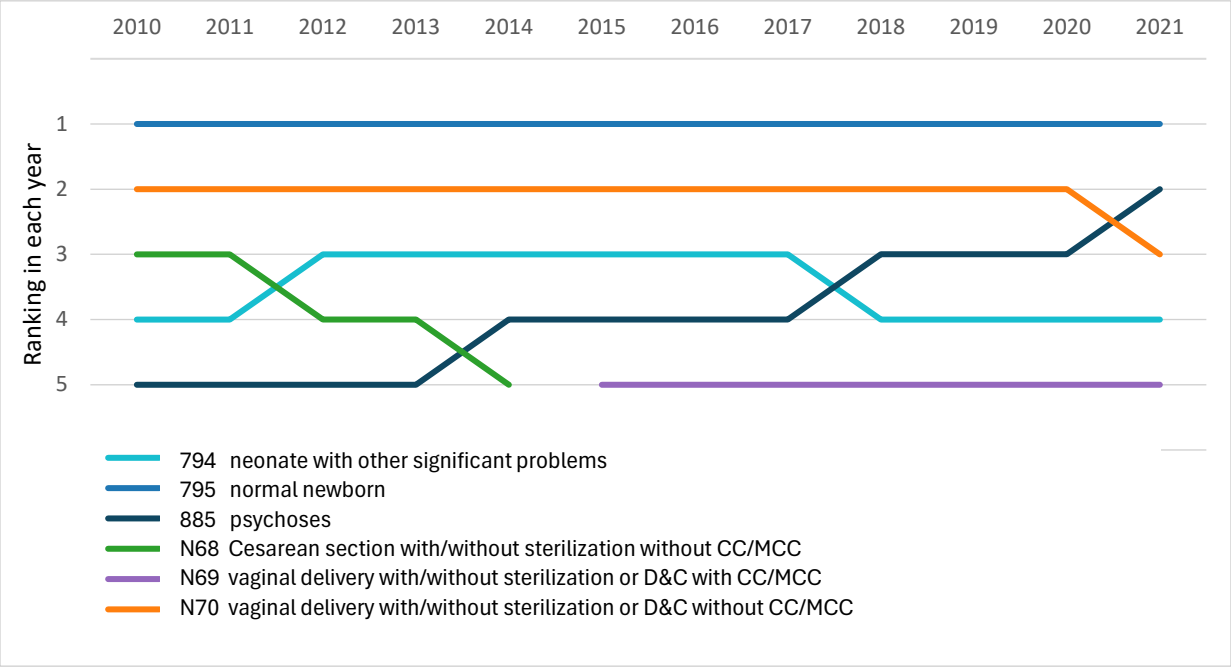


Payer group - Medicaid

The top five DRGs among Medicaid-covered inpatients remained relatively stable over the years. Of the six DRGs that appeared in the top five at least once, four consistently held top five positions across all years.

- DRG 885 (psychoses) was the only one to undergo a notable ranking shift, rising from 5th place in 2010 to 2nd place in 2021. The increasing prevalence of psychosis cases among Medicaid patients highlights a need for further research.
- DRG 795 (normal newborn) maintained its position as the most frequent DRG, ranking 1st every year.
- DRG N70 (vaginal delivery with or without sterilization or D&C, without CC/MCC) held 2nd place consistently—except in the final year, when it dropped to 3rd.
- DRG 794 (neonate with other significant problems) remained in 4th place at both the beginning and end of the period but temporarily rose to 3rd place for a few years in between.

Figure VI-4. Top five DRGs among persons with Medicaid as payer discharged from Washington hospitals, 2010-2021



Each year, the number of Medicaid patients in the top five DRGs ranged from 48,100 to 55,700, accounting for 37% to 43% of all Medicaid patients. Before 2014, this share remained consistently at or above 42%, but after the Affordable Care Act (ACA) Medicaid expansion took effect, it mostly fell below 38%. This shift was driven by the ACA's Medicaid expansion that added proportionately more healthy members.

Additionally, the top two birth-related DRGs—DRG 795 (normal newborn) and DRG N70 (vaginal delivery with or without sterilization or D&C, without CC/MCC)—declined in both numbers and overall share from 2010 to 2021. Meanwhile, the numbers and shares of other top five DRGs increased. This trend reflects both a general decline in birth rates and the ACA Medicaid expansion's enrollment of more adult males, altering the demographic composition of Medicaid beneficiaries.

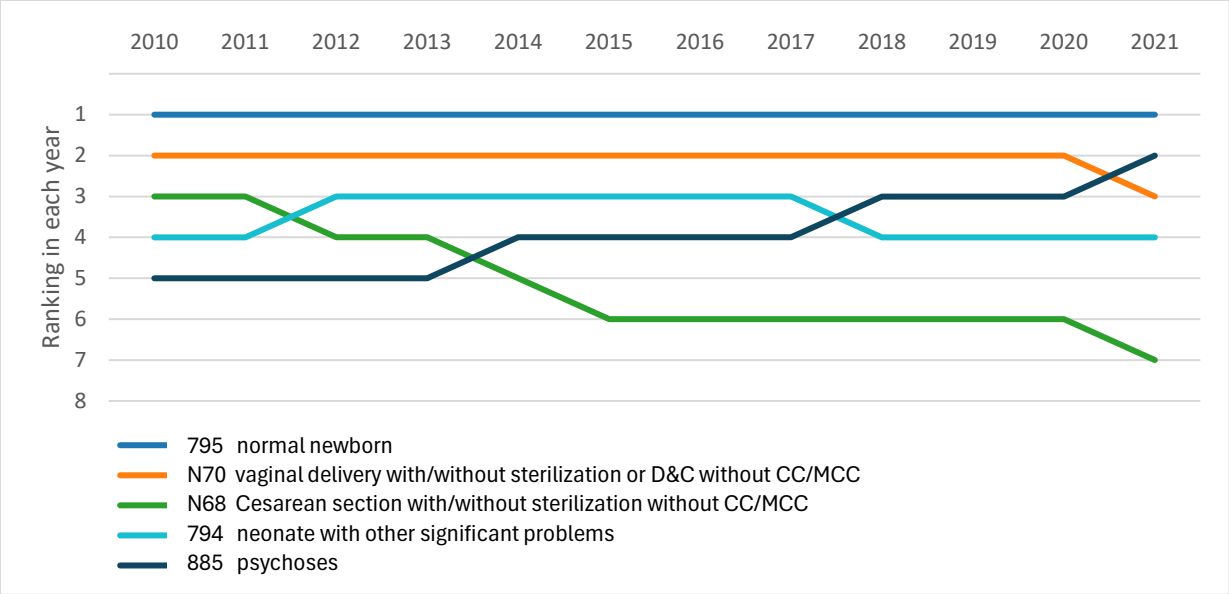
Table VI-2. Number and percent of persons with Medicaid as payer discharged from Washington hospitals by top five DRGs, 2010-2021

Medicaid	Top 1st DRG			Top 2nd DRG			Top 3rd DRG			Top 4th DRG			Top 5th DRG		
	MS-DRG	N	% Total	MS-DRG	N	% Total	MS-DRG	N	% Total	MS-DRG	N	% Total	MS-DRG	N	% Total
2010	795	23,025	13.6%	N70	17,811	13.6%	N68	5,304	4.1%	794	5,232	4.0%	885	4,315	3.3%
2011	795	23,160	13.6%	N70	17,474	13.6%	N68	5,216	4.1%	794	4,813	3.7%	885	4,381	3.4%
2012	795	19,824	12.8%	N70	14,742	12.8%	794	4,713	4.1%	N68	4,514	3.9%	885	4,291	3.7%
2013	795	19,912	13.2%	N70	15,175	13.2%	794	4,827	4.2%	N68	4,251	3.7%	885	4,145	3.6%
2014	795	20,974	11.9%	N70	16,386	11.9%	794	5,433	3.9%	885	4,952	3.6%	N68	4,367	3.2%
2015	795	21,145	11.5%	N70	16,844	11.5%	794	6,167	4.2%	885	5,927	4.1%	N69	4,500	3.1%
2016	795	19,784	11.8%	N70	16,924	11.8%	794	7,007	4.9%	885	6,220	4.3%	N69	4,441	3.1%
2017	795	17,954	11.5%	N70	16,388	11.5%	794	7,599	5.3%	885	7,084	5.0%	N69	4,368	3.1%
2018	795	17,314	11.0%	N70	15,005	11.0%	885	8,135	5.9%	794	6,594	4.8%	N69	4,341	3.2%
2019	795	16,733	9.7%	N70	13,390	9.7%	885	10,013	7.2%	794	6,856	5.0%	N69	4,801	3.5%
2020	795	15,392	9.5%	N70	12,802	9.5%	885	12,225	9.1%	794	7,479	5.6%	N69	5,171	3.8%
2021	795	14,823	9.0%	885	12,898	9.0%	N70	12,599	8.8%	794	8,216	5.8%	N69	5,607	3.9%

794 = neonate with other significant problems
795 = normal newborn
885 = psychoses
N68 = Cesarean section with/without sterilization without CC/MCC
N69 = vaginal delivery with/without sterilization or D&C with CC/MCC
N70 = vaginal delivery with/without sterilization or D&C without CC/MCC

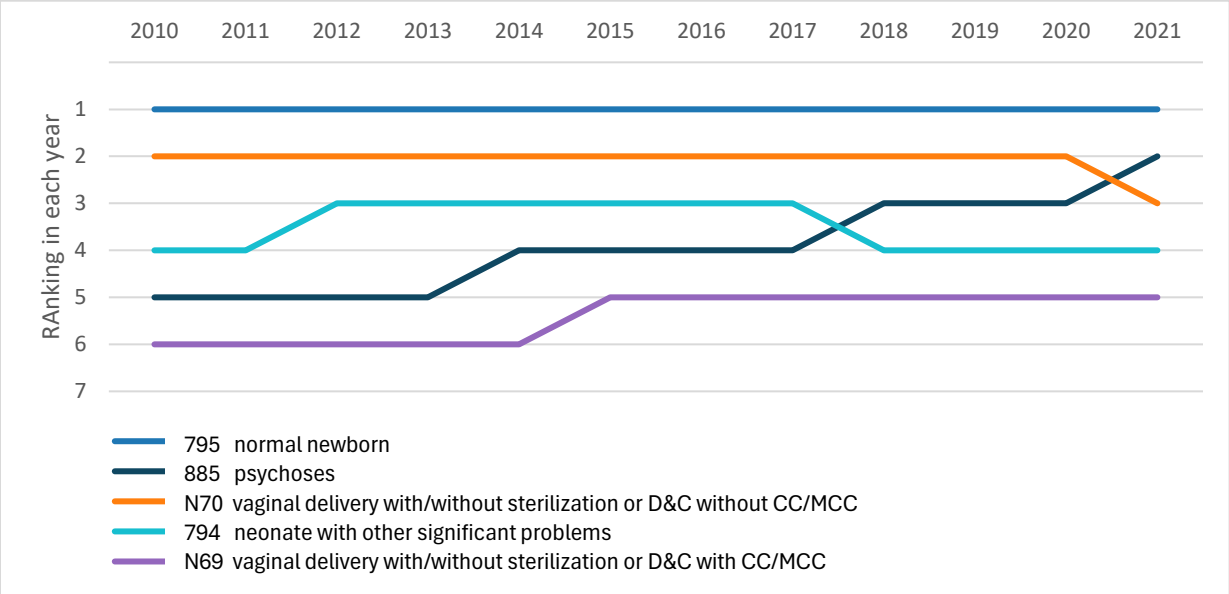
DRG N68 (Cesarean section with/without sterilization without CC/MCC) was the only one in the 2010 top five that was not in the 2021 top five. Its ranking did not drop far off, though. It fell from 3rd place in 2010 to 7th place in 2021.

Figure VI-5. Top five DRGs in 2010 and their rank changes in subsequent years: persons with Medicaid as payer discharged from Washington hospitals, 2010-2021



DRG N69 (vaginal delivery with/without sterilization or D&C with CC/MCC) was the only one in the 2021 top five that was not in the 2010 top five, and it did not ascend from a far below position either. It moved up to 5th place in 2021 from 6th place in 2010.

Figure VI-6. Prior rankings of 2021 top five DRGs: persons with Medicaid as payer discharged from Washington hospitals, 2010-2021



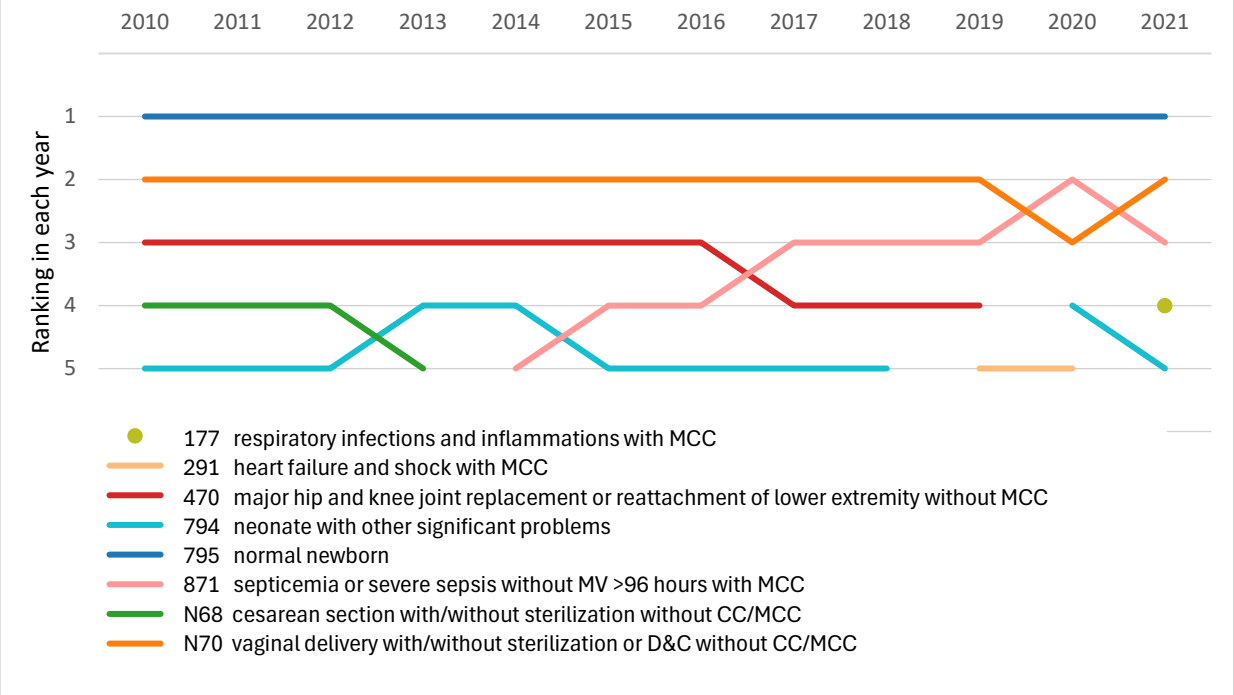
Payer group – Health Maintenance Organizations

A Health Maintenance Organization (HMO) is a network or organization that provides health insurance for a monthly or annual premium, and it usually limits patients' access to providers in its network, except for emergencies or out-of-area urgent care.

Among patients covered by HMO insurance, eight DRGs appeared in the top five at least once over the years. The rankings remained relatively stable, with two DRGs consistently in the top five every year, a third absent for only one year, and a fourth missing for just two years.

- DRG 795 (normal newborn) consistently held the 1st place ranking across all years.
- DRG N70 (vaginal delivery with or without sterilization or D&C, without CC/MCC) ranked 2nd in all years except for 2020, when it dropped to 3rd place.

Figure VI-7. Top five DRGs among persons with HMO as payer discharged from Washington hospitals, 2010-2021



The top five DRGs for HMO patients accounted for 25-32% of total HMO inpatients. The number of HMO patients in the top five DRGs was between 10,000 and 15,000.

Table VI-3. Number and percent of persons with HMO as payer discharged from Washington hospitals by top five DRGs, 2010-2021

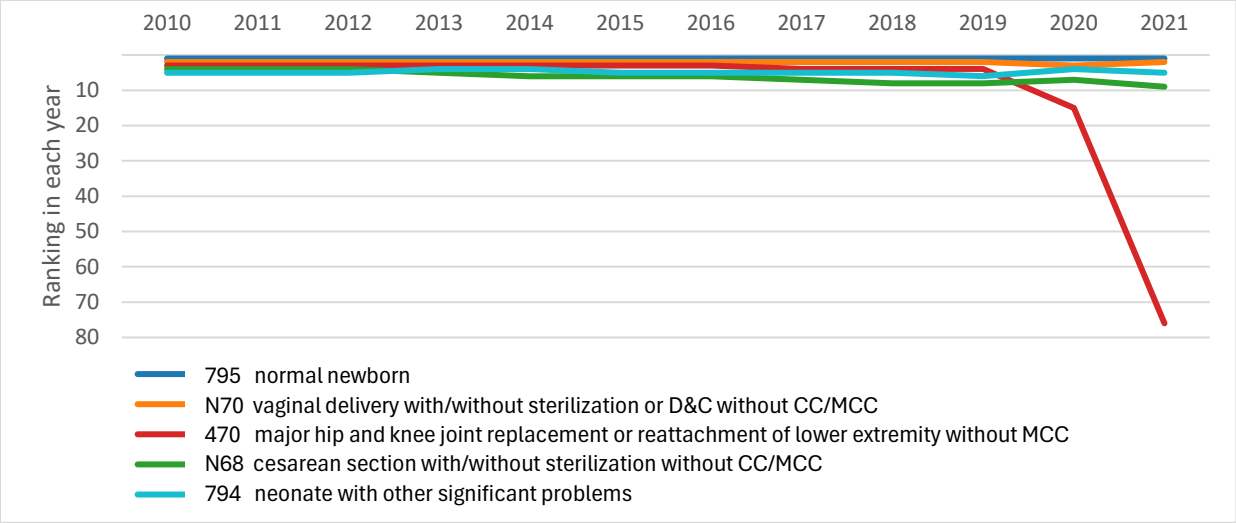
HMO	Top 1st DRG			Top 2nd DRG			Top 3rd DRG			Top 4th DRG			Top 5th DRG		
	MS-DRG	N	% Total	MS-DRG	N	% Total	MS-DRG	N	% Total	MS-DRG	N	% Total	MS-DRG	N	% Total
2010	795	5,400	10.2%	N70	4,205	8.0%	470	2,372	4.5%	N68	1,340	2.5%	794	1,120	2.1%
2011	795	5,794	10.8%	N70	4,369	8.2%	470	2,423	4.5%	N68	1,343	2.5%	794	1,062	2.0%
2012	795	5,181	10.5%	N70	4,076	8.3%	470	2,324	4.7%	N68	1,275	2.6%	794	1,148	2.3%
2013	795	5,641	12.0%	N70	4,616	9.8%	470	2,055	4.4%	794	1,353	2.9%	N68	1,333	2.8%
2014	795	4,166	10.6%	N70	3,413	8.7%	470	1,936	4.9%	794	1,211	3.1%	871	1,063	2.7%
2015	795	3,478	9.2%	N70	2,938	7.7%	470	1,918	5.1%	871	1,463	3.9%	794	978	2.6%
2016	795	3,312	9.1%	N70	2,677	7.4%	470	1,800	5.0%	871	1,615	4.5%	794	912	2.5%
2017	795	3,415	8.5%	N70	3,050	7.6%	871	2,101	5.3%	470	1,961	4.9%	794	1,107	2.8%
2018	795	3,312	7.9%	N70	2,840	6.8%	871	2,308	5.5%	470	1,802	4.3%	794	1,054	2.5%
2019	795	3,301	7.6%	N70	2,579	5.9%	871	2,579	5.9%	470	1,428	3.3%	291	1,169	2.7%
2020	795	3,387	7.8%	871	2,684	6.2%	N70	2,680	6.2%	794	1,250	2.9%	291	1,195	2.8%
2021	795	3,686	8.1%	N70	2,951	6.5%	871	2,767	6.1%	177	1,531	3.4%	794	1,459	3.2%

177 = respiratory infections and inflammations with MCC
291 = heart failure and shock with MCC
470 = major hip and knee joint replacement or reattachment of lower extremity without MCC
794 = neonate with other significant problems
795 = normal newborn
871 = septicemia or severe sepsis without MV >96 hours with MCC
N68 = cesarean section with/without sterilization without CC/MCC
N70 = vaginal delivery with/without sterilization or D&C without CC/MCC

Three DRGs were in the 2010 top five but did not consistently remain there across all years.

- DRG 470 (major hip and knee joint replacement or reattachment of lower extremity without MCC) experienced the most significant decline. It ranked 3rd in 2010, held 4th place in 2019, but dropped sharply to 76th place by 2021—a decline largely driven by the suspension of elective surgeries during the COVID-19 pandemic, which significantly affected DRG 470 cases.
- DRG N69 (vaginal delivery with or without sterilization or D&C, with CC/MCC) also saw a decline, moving from 4th place in 2010 to 9th place in 2021.
- DRG 794 (neonate with other significant problems) briefly ranked 6th in 2020 but remained in either 4th or 5th places in all other years.

Figure VI-8. Top five DRGs in 2010 and their rank changes in subsequent years: persons with HMO as payer discharged from Washington hospitals, 2010-2021

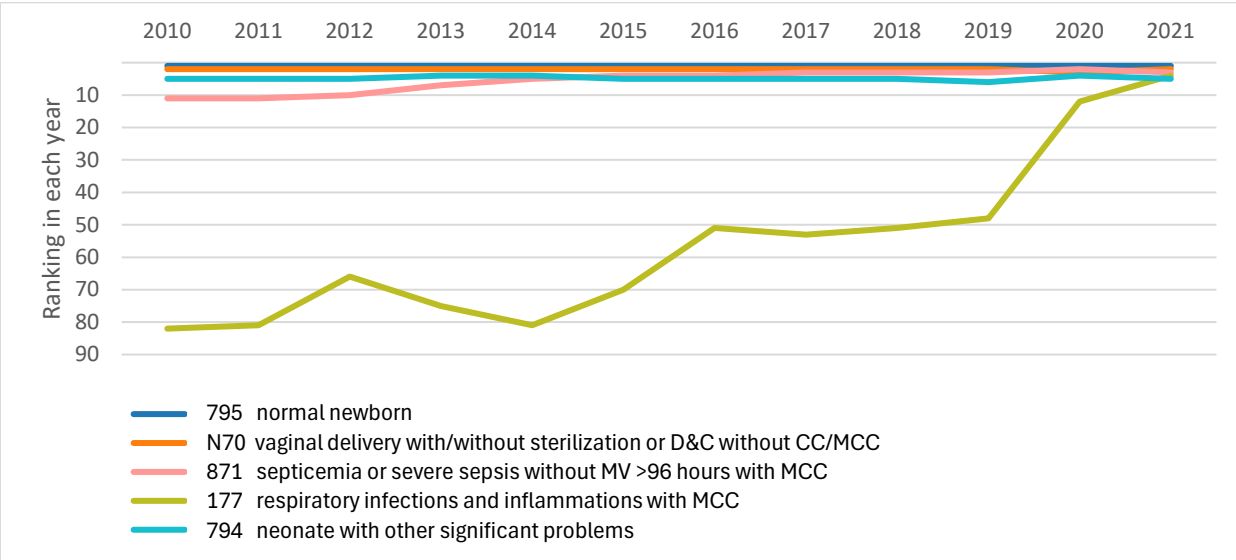


Two DRGs entered the top five in 2021, despite not being part of the 2010 top five.

DRG 871 (septicemia or severe sepsis without mechanical ventilation over 96 hours, with MCC) climbed from 11th place in 2010 to 3rd place in 2021.

DRG 177 (respiratory infections and inflammations with MCC) experienced a dramatic rise, moving from 82nd place in 2010 to 48th place in 2019. Over the next two years, its ranking surged—jumping to 12th place in 2020 and further to 4th place in 2021, largely due to the impact of the COVID-19 pandemic.

Figure VI-9. Prior rankings of 2021 top five DRGs: persons with HMO as payer discharged from Washington hospitals, 2010-2021



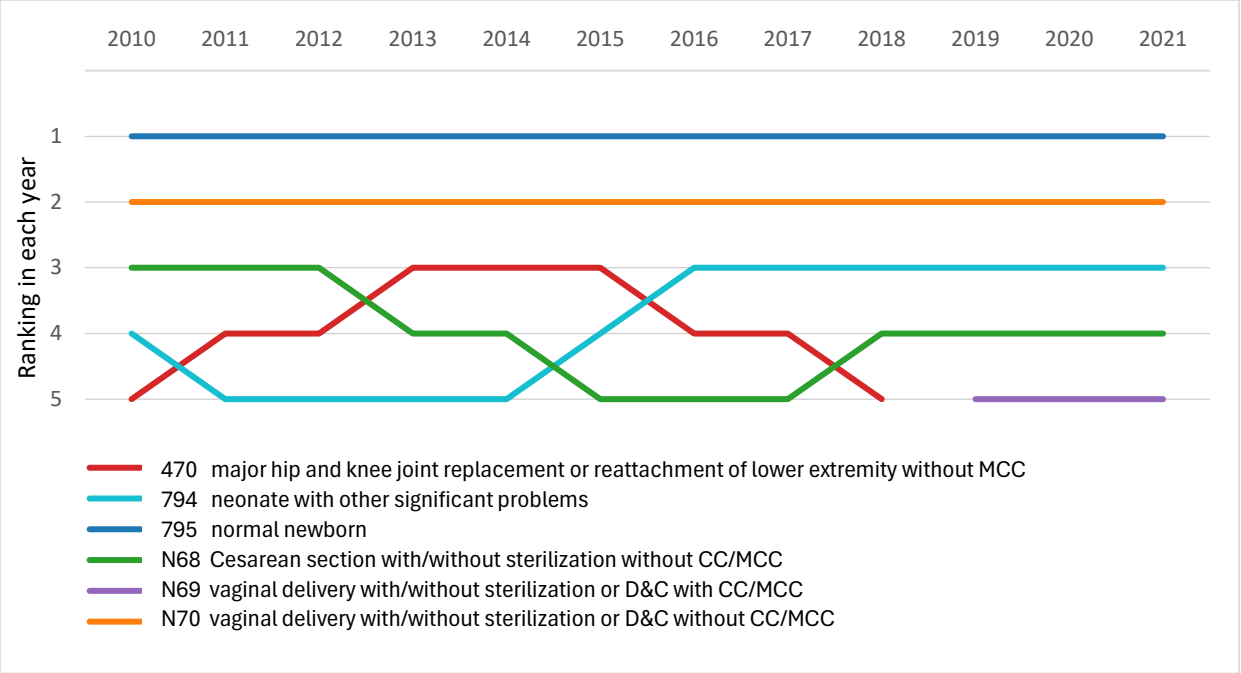
Payer group - Commercial plans

While the term “commercial plan” is generally used to describe health insurance plans that are sold and administered by a private company versus the government, in the inpatient discharge database used for this report, this term is used differently to refer to coverage through third-party sources that are not the typical health insurance plans. Examples of plans referred to as “commercial plans” in the inpatient discharge database include Mutual of Omaha, AARP, and Safeco. The top five DRGs for inpatients covered by commercial plans remained relatively stable over the years. A total of six DRGs appeared in the top five at least once. Of these, four consistently ranked in the top five every year, while one was outside the top five for only three years.

- DRG 795 (normal newborn) held 1st place in all years.
- DRG N70 (vaginal delivery with or without sterilization or D&C, without CC/MCC) remained 2nd place throughout.
- DRG N68 (Cesarean section with or without sterilization, without CC/MCC) and DRG 794 (neonate with other significant problems) ranked 3rd and 4th place respectively, in 2010. By 2021, their positions had switched.

While DRG N68 and DRG 794 experienced a decline in ranking between 2010 and 2021, neither dropped out of the top five.

Figure VI-10. Top five DRGs among persons with commercial plan as payer discharged from Washington hospitals, 2010-2021



The number of patients covered by commercial plans in the top five DRGs ranged from 40,000 to 65,000 each year. Their share of total inpatients covered by commercial plans increased from 36% in 2010 to 38% in 2013. From 2014 to 2021, the share was somewhat higher and varied slightly between 40% and 42%.

Table VI-4. Number and percent of persons with commercial plan as payer discharged from Washington hospitals by top five DRGs, 2010-2021

Commercial	Top 1st DRG			Top 2nd DRG			Top 3rd DRG			Top 4th DRG			Top 5th DRG		
	MS-DRG	N	% Total	MS-DRG	N	% Total	MS-DRG	N	% Total	MS-DRG	N	% Total	MS-DRG	N	% Total
2010	795	15,968	14.2%	N70	12,394	11.0%	N68	4,214	3.8%	794	3,727	3.3%	470	3,581	3.2%
2011	795	17,985	14.6%	N70	13,505	10.9%	N68	4,703	3.8%	470	4,334	3.5%	794	3,678	3.0%
2012	795	20,934	14.6%	N70	16,107	11.3%	N68	5,293	3.7%	470	4,701	3.3%	794	4,547	3.2%
2013	795	21,874	15.0%	N70	17,373	11.9%	470	5,726	3.9%	N68	5,610	3.8%	794	5,140	3.5%
2014	795	23,666	15.7%	N70	19,100	12.7%	470	6,444	4.3%	N68	5,782	3.8%	794	5,676	3.8%
2015	795	23,745	15.5%	N70	19,444	12.7%	470	6,691	4.4%	794	6,399	4.2%	N68	5,812	3.8%
2016	795	23,377	14.6%	N70	20,499	12.8%	794	8,156	5.1%	470	7,025	4.4%	N68	6,174	3.9%
2017	795	21,237	13.8%	N70	20,378	13.2%	794	8,872	5.8%	470	6,844	4.4%	N68	6,123	4.0%
2018	795	22,081	14.3%	N70	19,711	12.7%	794	8,299	5.4%	N68	6,144	4.0%	470	5,855	3.8%
2019	795	20,912	14.5%	N70	17,034	11.8%	794	7,888	5.5%	N68	6,415	4.4%	N69	5,075	3.5%
2020	795	17,804	14.6%	N70	14,768	12.1%	794	7,752	6.3%	N68	5,669	4.6%	N69	4,798	3.9%
2021	795	15,645	13.7%	N70	13,009	11.4%	794	7,735	6.8%	N68	4,868	4.3%	N69	4,738	4.1%

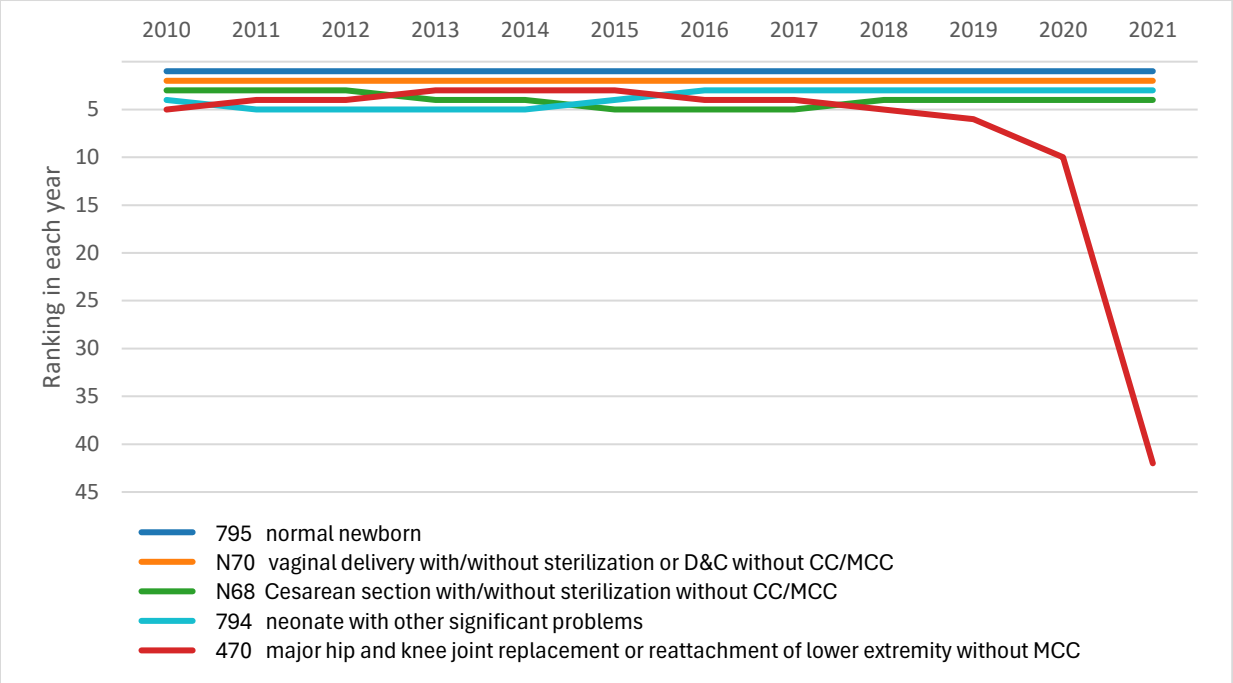
470 = major hip and knee joint replacement or reattachment of lower extremity without MCC
794 = neonate with other significant problems
795 = normal newborn
N68 = Cesarean section with/without sterilization without CC/MCC
N69 = vaginal delivery with/without sterilization or D&C with CC/MCC
N70 = vaginal delivery with/without sterilization or D&C without CC/MCC

DRG 470 (major hip and knee joint replacement or reattachment of lower extremity without MCC) was the only 2010 top five DRG that did not appear in the 2021 top five. It originally ranked 5th in 2010, climbed to 3rd place from 2013 to 2015, but then steadily declined, reaching 42nd place by 2021. Most of this decline occurred between 2019 (6th place) and 2021.

Two key factors contributed to the drop in DRG 470's ranking:

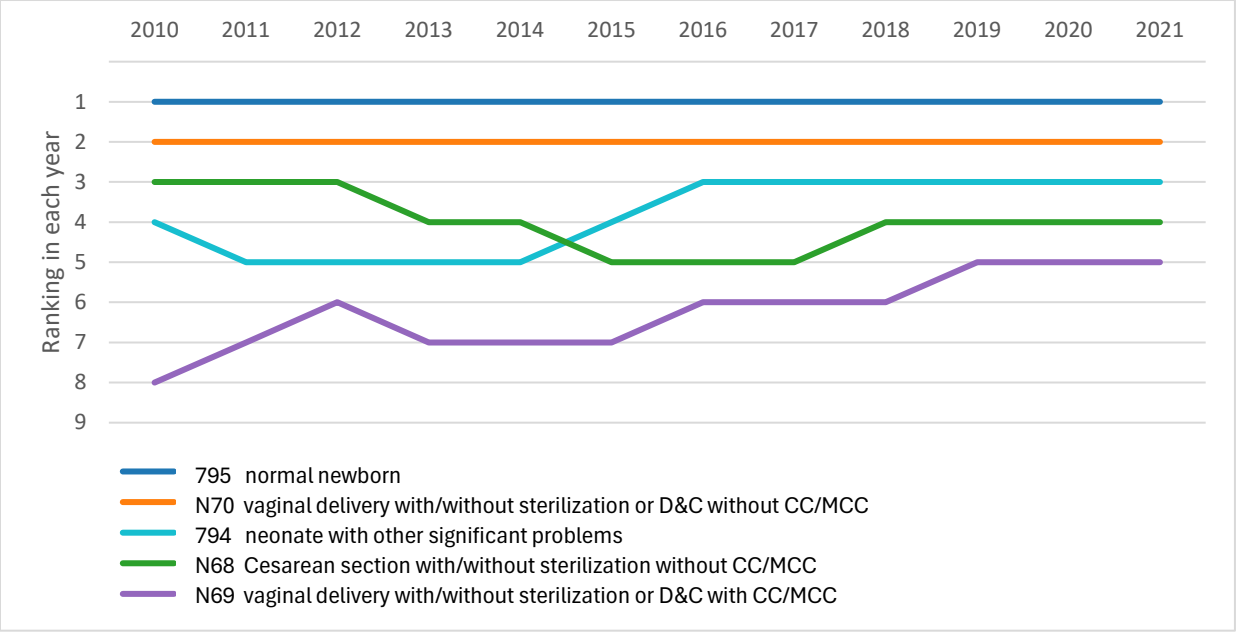
1. A gradual shift in treatment from inpatient to outpatient settings for major hip and knee replacements.
2. The suspension of elective surgeries—which included most DRG 470 cases—during the COVID-19 pandemic.

Figure VI-11. Top five DRGs in 2010 and their rank changes in subsequent years: persons with commercial plan as payer discharged from Washington hospitals, 2010-2021



DRG N69 (vaginal delivery with/without sterilization or D&C with CC/MCC) was the only DRG in the 2021 top five but not in the 2010 top five. It did not, however, ascend from afar. It moved up to 5th place in 2019 through 2021 from 8th place in 2010.

Figure VI-12. Prior rankings of 2021 top five DRGs: persons with commercial plan as payer discharged from Washington hospitals, 2010-2021



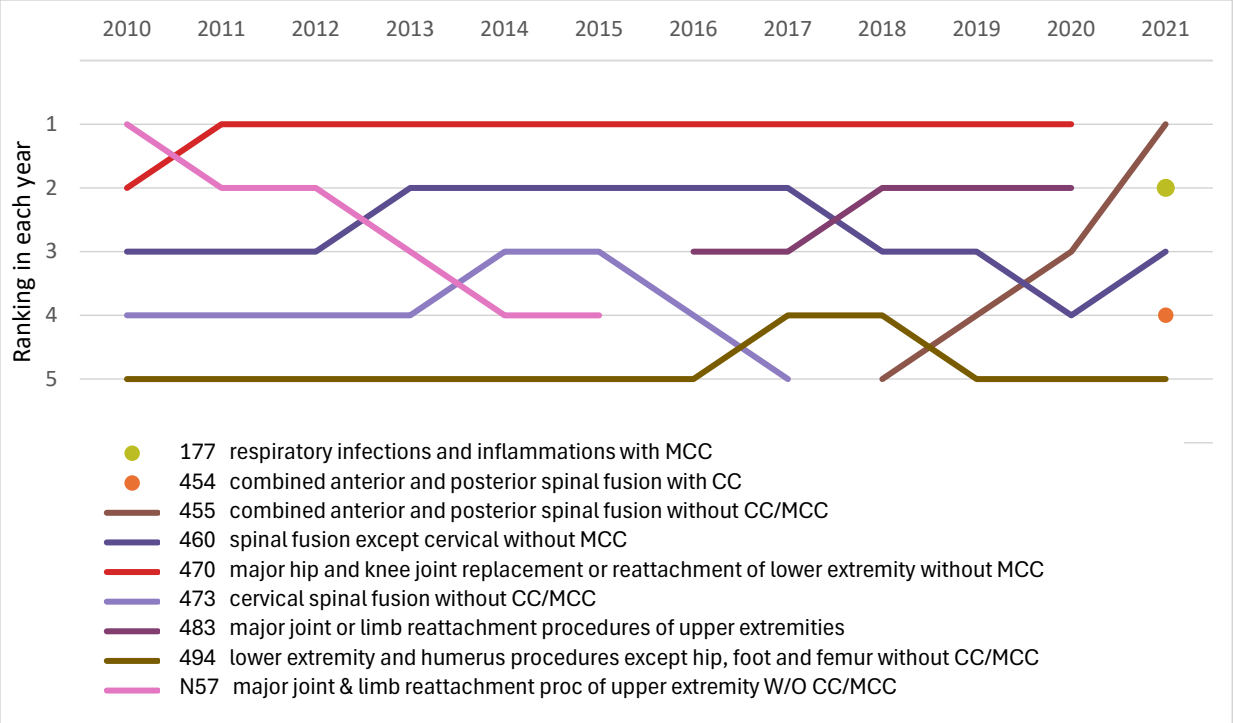
Payer group - Labor & Industry

L&I insurance covers work-related injuries and illnesses, making the types of hospitalizations for L&I patients distinct from those of inpatients covered by comprehensive health insurance plans.

Over the years, nine DRGs appeared in the top five for L&I patients at least once. However, only DRG 460 (spinal fusion except cervical without MCC) and DRG 494 (lower extremity and humerus procedures except hip, foot, and femur without CC/MCC) consistently ranked among the top five in every year.

- DRG 470 (major hip and knee joint replacement or reattachment of lower extremity without MCC) was among the top five in nearly all years except 2021.
- DRG 460 ranked 3rd in both 2010 and 2021, though its position fluctuated between 2nd and 4th place throughout the intervening years.
- DRG 494 held 5th place in most years, including 2010 and 2021, except in 2017-18, when it temporarily rose to 4th place.

Figure VI-13. Top five DRGs among persons with L&I as payer discharged from Washington hospitals, 2010-2021



The number of L&I-paid hospitalizations was relatively small and steadily declined over the years, dropping from a high of 2,100 in 2010 to just 310 in 2021—its lowest recorded level. Similarly, the share of L&I-related top five DRGs decreased from approximately 40% in the early years to 16% in 2021.

The decline in both hospitalization numbers and top five DRG share is likely due to:

1. A shift in surgical procedures from hospital settings to ambulatory surgical centers.
2. The suspension of elective surgeries during the COVID-19 pandemic, as most surgical treatments for work-related injuries fall into the elective category.

Table VI-5. Number and percent of persons with L&I as payer discharged from Washington hospitals by top five DRGs, 2010-2021

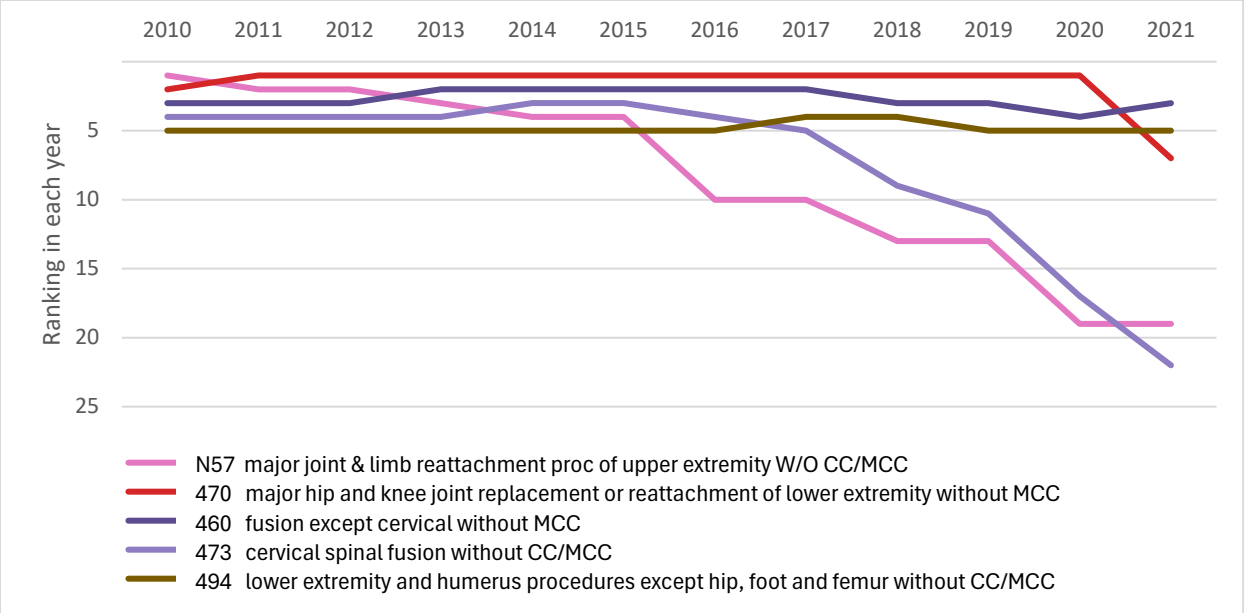
L&I	Top 1st DRG			Top 2nd DRG			Top 3rd DRG			Top 4th DRG			Top 5th DRG		
	MS-DRG	N	% Total	MS-DRG	N	% Total	MS-DRG	N	% Total	MS-DRG	N	% Total	MS-DRG	N	% Total
2010	N57	665	12.4%	470	525	9.8%	460	388	7.3%	473	338	6.3%	494	214	4.0%
2011	470	568	11.1%	N57	560	10.9%	460	427	8.3%	473	346	6.8%	494	196	3.8%
2012	470	514	10.8%	N57	486	10.2%	460	364	7.6%	473	290	6.1%	494	188	3.9%
2013	470	510	11.6%	460	410	9.3%	N57	314	7.1%	473	287	6.5%	494	146	3.3%
2014	470	490	12.4%	460	356	9.0%	473	236	6.0%	N57	206	5.2%	494	144	3.7%
2015	470	437	12.3%	460	291	8.2%	473	177	5.0%	N57	145	4.1%	494	125	3.5%
2016	470	440	13.6%	460	246	7.6%	483	120	3.7%	473	113	3.5%	494	106	3.3%
2017	470	438	13.6%	460	212	6.6%	483	144	4.5%	494	116	3.6%	473	91	2.8%
2018	470	421	14.4%	483	117	4.0%	460	117	4.0%	494	108	3.7%	455	95	3.3%
2019	470	322	12.0%	483	138	5.2%	460	117	4.4%	455	101	3.8%	494	86	3.2%
2020	470	154	7.0%	483	123	5.6%	455	77	3.5%	460	72	3.3%	494	70	3.2%
2021	455	74	3.9%	177	65	3.4%	460	65	3.4%	454	53	2.8%	494	53	2.8%

177 = respiratory infections and inflammations with MCC
454 = combined anterior and posterior spinal fusion with CC
455 = combined anterior and posterior spinal fusion without CC/MCC
460 = spinal fusion except cervical without MCC
470 = major hip and knee joint replacement or reattachment of lower extremity without MCC
473 = cervical spinal fusion without CC/MCC
483 = major joint or limb reattachment procedures of upper extremities
494 = lower extremity and humerus procedures except hip, foot and femur without CC/MCC
N57 = major joint & limb reattachment proc of upper extremity W/O CC/MCC

Three of the top five DRGs in 2010 dropped out of the top five in later years.

- DRG N57 (major joint and limb reattachment procedure of upper extremity without CC/MCC) fell from 1st place in 2010 to 4th place in 2014-15, eventually dropping to 19th place by 2021.
- DRG 470 (major hip and knee joint replacement or reattachment of lower extremity without MCC) ranked 2nd in 2010 and later moved up to 1st place from 2012 to 2020. In 2021, it declined to 7th place.
- DRG 473 (cervical spinal fusion without CC/MCC) held 4th place in 2010 and fluctuated between 3rd and 5th place until 2017. However, between 2018 and 2021, it steadily dropped—from 9th place to 22nd place.

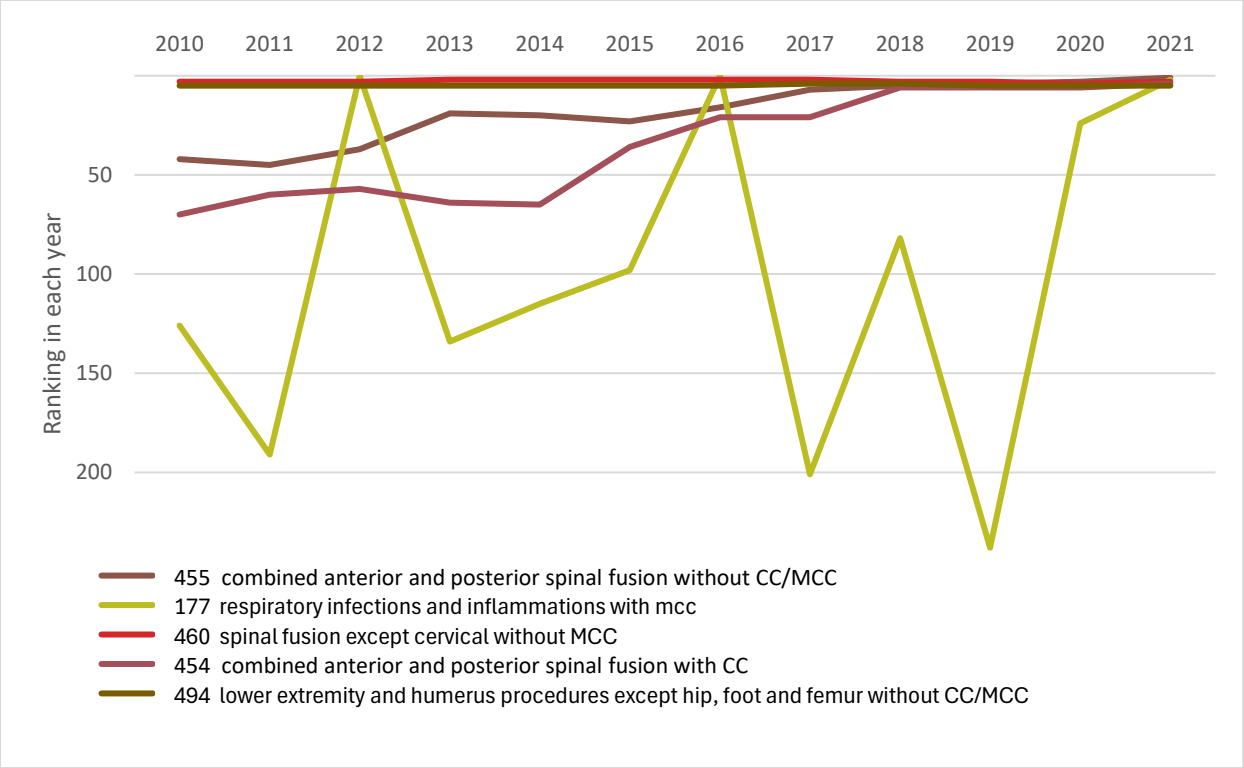
Figure VI-14. Top five DRGs in 2010 and their rank changes in subsequent years: persons with L&I as payer discharged from Washington hospitals, 2010-2021



In 2021, three DRGs entered the top five, despite not being among the top five in 2010:

- DRG 455 (combined anterior and posterior spinal fusion without CC/MCC) experienced a rapid rise, moving from 42nd place in 2010 to 1st place in 2021. This dramatic ascent was likely driven by two factors:
  1. Advancements in spinal fusion technology, which expanded treatment options for a broader range of spinal conditions.
  2. The high prevalence of spinal injuries among L&I-insured patients.
- DRG 177 (respiratory infections and inflammations with MCC) had relatively few hospitalizations for most years, ranking as low as 238th place in 2019. However, it surged to 24th place in 2020 and then 2nd place in 2021, most likely due to workplace-related COVID-19 infections.
- DRG 454 (combined anterior and posterior spinal fusion with CC) steadily climbed from 70th place in 2010 to 4th place in 2021.

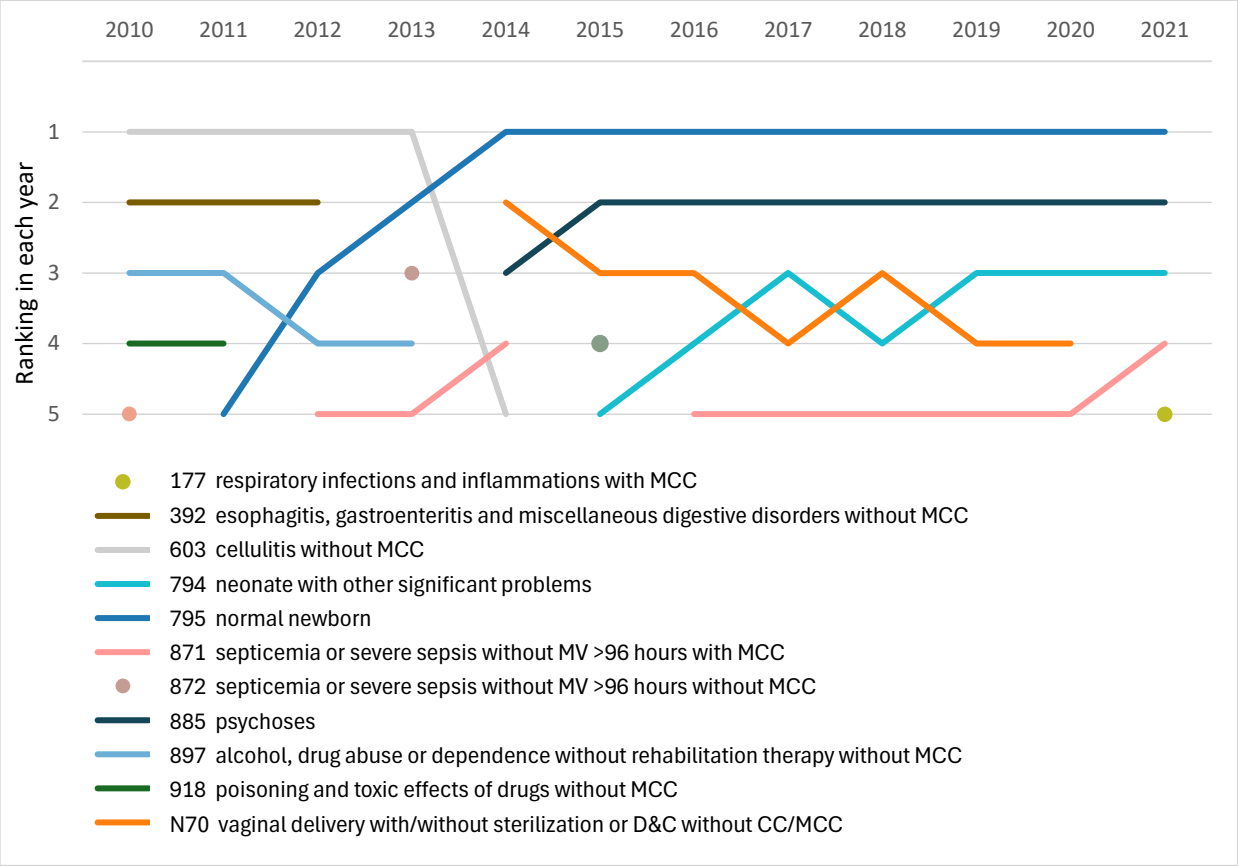
Figure VI-15. Prior rankings of 2021 top five DRGs:
persons with L&I as payer discharged from Washington hospitals, 2010-2021



Payer group - Self-pay

For self-pay inpatients, there were many changes in their top five DRGs. No DRG was in the top five in all years. DRG 795 (normal newborn) appeared in all but one year (2010) in the top five. A total of 11 DRGs appeared in the top five in at least one year.

Figure VI-16. Top five DRGs among persons with self-pay as payer discharged from Washington hospitals, 2010-2021



Before 2015, self-pay inpatients within the top five DRGs accounted for 15-22% of all self-pay inpatients. Since 2015, this share increased to 27-28%. However, fluctuations in the total number of self-pay inpatients did not directly align with the changes in the share represented by the top five DRGs.

- Prior to 2015, the number of self-pay inpatients in the top five DRGs ranged from 3,100 to 4,600.
- Since 2015, this range decreased to 2,800 to 3,800, despite the increased percentage share.

Table VI-6. Number and percent of persons with self-pay as payer discharged from hospitals by top five DRGs in Washington, 2010-2021

Self-pay	Top 1st DRG			Top 2nd DRG			Top 3rd DRG			Top 4th DRG			Top 5th DRG		
	MS-DRG	N	% Total	MS-DRG	N	% Total	MS-DRG	N	% Total	MS-DRG	N	% Total	MS-DRG	N	% Total
2010	603	959	4.6%	392	730	3.5%	897	575	2.8%	918	446	2.2%	885	435	2.1%
2011	603	1,189	4.9%	392	813	3.4%	897	609	2.5%	918	541	2.2%	795	456	1.9%
2012	603	1,150	4.8%	392	685	2.8%	795	678	2.8%	897	588	2.4%	871	515	2.1%
2013	603	1,310	4.8%	795	1,029	3.8%	872	758	2.8%	897	758	2.8%	871	728	2.7%
2014	795	1,233	8.4%	N70	641	4.4%	885	578	4.0%	871	382	2.6%	603	376	2.6%
2015	795	1,340	10.7%	885	764	6.1%	N70	543	4.3%	897	427	3.4%	794	388	3.1%
2016	795	1,418	11.4%	885	681	5.5%	N70	557	4.5%	794	533	4.3%	871	349	2.8%
2017	795	1,386	10.3%	885	910	6.8%	794	601	4.5%	N70	569	4.2%	871	372	2.8%
2018	795	1,204	9.4%	885	892	6.9%	N70	542	4.2%	794	475	3.7%	871	380	3.0%
2019	795	1,216	10.0%	885	757	6.2%	794	517	4.2%	N70	466	3.8%	871	369	3.0%
2020	795	1,012	9.2%	885	807	7.3%	794	534	4.9%	N70	396	3.6%	871	327	3.0%
2021	795	945	9.6%	885	673	6.8%	794	518	5.3%	871	350	3.6%	177	311	3.2%

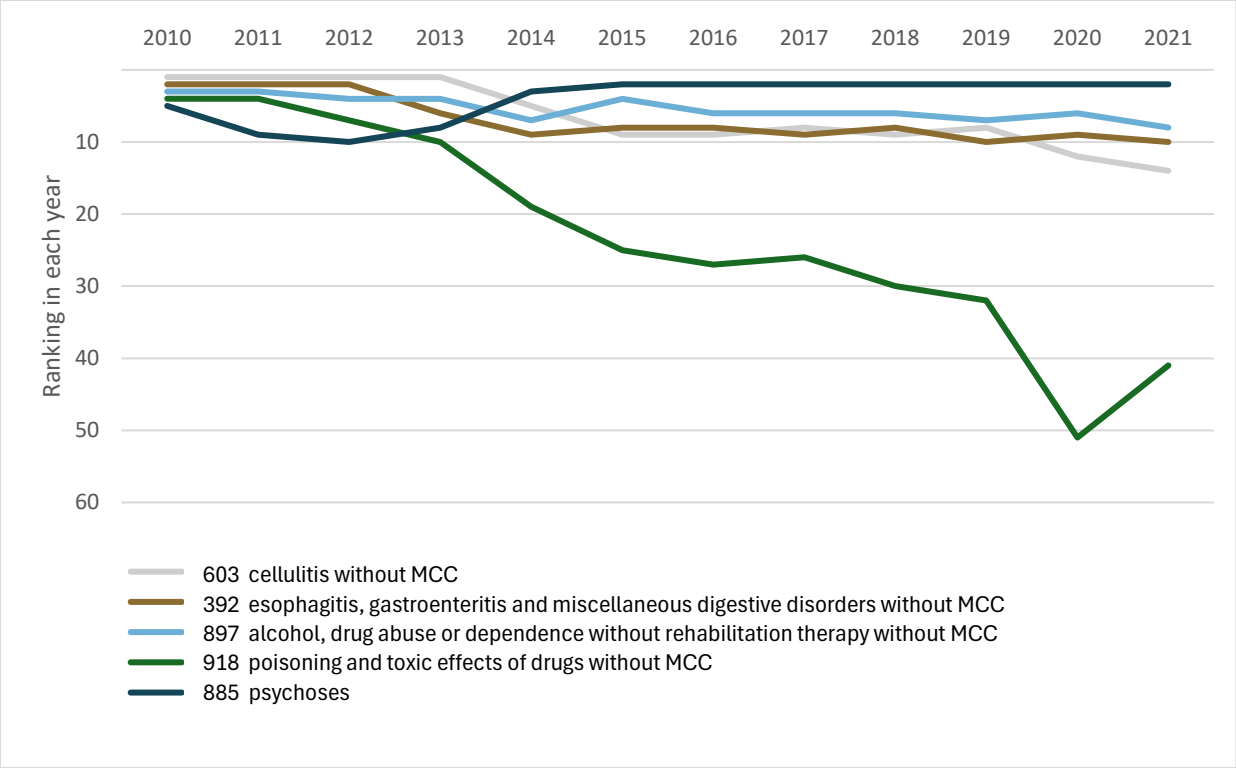
177 = respiratory infections and inflammations with MCC
392 = esophagitis, gastroenteritis and miscellaneous digestive disorders without MCC
603 = cellulitis without MCC
794 = neonate with other significant problems
795 = normal newborn
871 = septicemia or severe sepsis without MV >96 hours with MCC
872 = septicemia or severe sepsis without MV >96 hours without MCC
885 = psychoses
897 = alcohol, drug abuse or dependence without rehabilitation therapy without MCC
918 = poisoning and toxic effects of drugs without MCC
N70 = vaginal delivery with/without sterilization or D&C without CC/MCC

The top five DRGs in 2010 followed distinct trajectories in the years that followed:

- DRG 603 (cellulitis without MCC) held the 1st place ranking from 2010 to 2013, dropped to 5th place in 2014, and declined further to 14th place by 2021.
- DRG 392 (esophagitis, gastroenteritis, and miscellaneous digestive disorders without MCC) ranked 2nd from 2010 to 2012 but fell out of the top five in 2013, eventually settling at 10th place in 2021.
- DRG 897 (alcohol, drug abuse, or dependence without rehabilitation therapy, without MCC) was 3rd in 2010 and 2011, fluctuated in and out of the top five over the next decade, and dropped to 8th place in 2021—its lowest ranking.

- DRG 918 (poisoning and toxic effects of drugs without MCC) saw the most drastic decline, moving from 4th place in 2010 and 2011 to 41st place in 2021.
- DRG 885 (psychoses) ranked 5th in 2010, fell out of the top five for the next three years (reaching its lowest position at 10th), but climbed back to 3rd place in 2014, then further up to 2nd place for the remainder of the years.

Figure VI-17. Top five DRGs in 2010 and their rank changes in subsequent years: persons with self-pay as payer discharged from Washington hospitals, 2010-2021

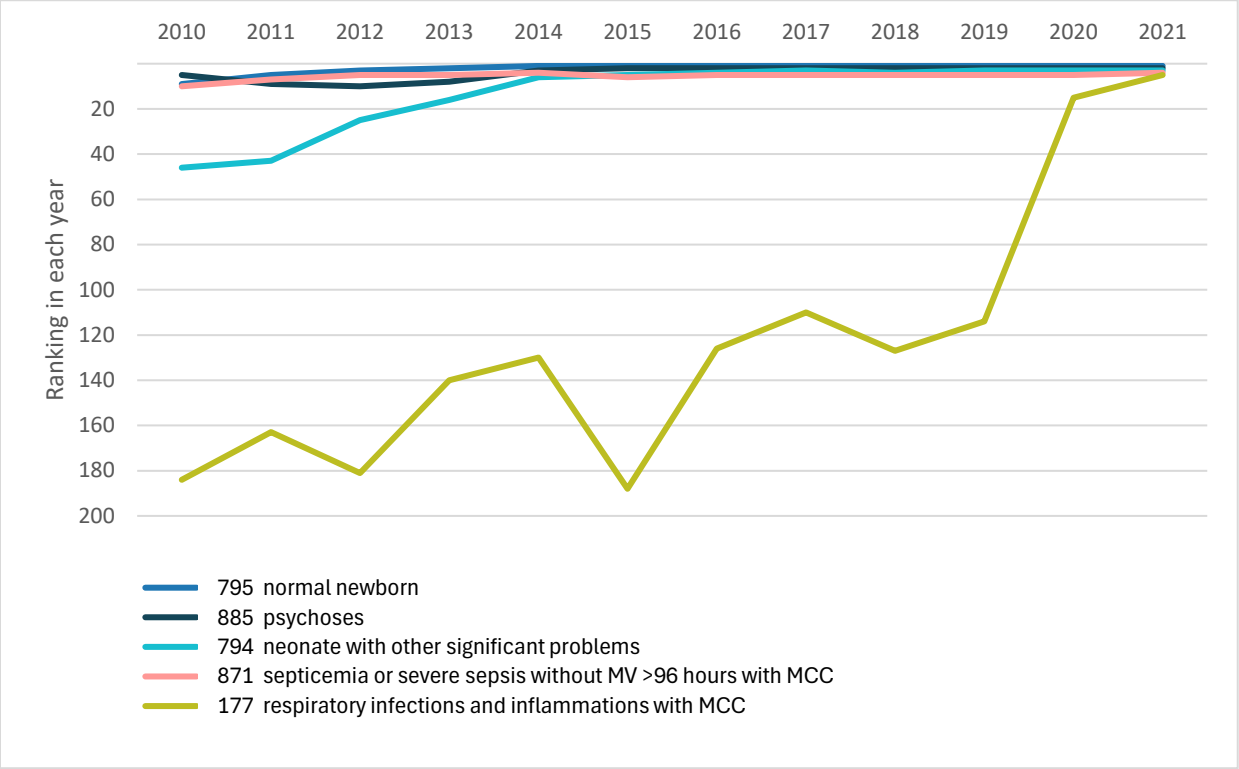


Four DRGs entered the top five in 2021, despite not being among the top five in 2010:

- DRG 795 (normal newborn) ranked 9th in 2010, but quickly ascended to 1st place by 2014, where it remained through 2021. The reason behind its rise as the most frequent DRG for self-pay inpatients from 2010 to 2014 is unclear.
- DRG 794 (neonate with other significant problems) climbed from 46th place in 2010 to 5th place by 2015, continuing its upward trajectory to 3rd place in 2021. The sharp increase in its ranking during the early 2010s also lacks a clear explanation.

- DRG 871 (septicemia or severe sepsis without mechanical ventilation over 96 hours, with MCC) ranked 10th in 2010 and moved into the top five by 2012. Between 2012 and 2021, it fluctuated between 4th and 6th place, ultimately settling at 4th place in 2021.
- DRG 177 (respiratory infections and inflammations with MCC) made its top five debut in 2021 at 5th place, rising from 184th place in 2010. Its rapid ascent—especially between 2019 (114th place) and 2021—was largely driven by workplace-related COVID-19 cases.

Figure VI-18. Prior rankings of 2021 top five DRGs:
persons with self-pay as payer discharged from Washington hospitals, 2010-2021

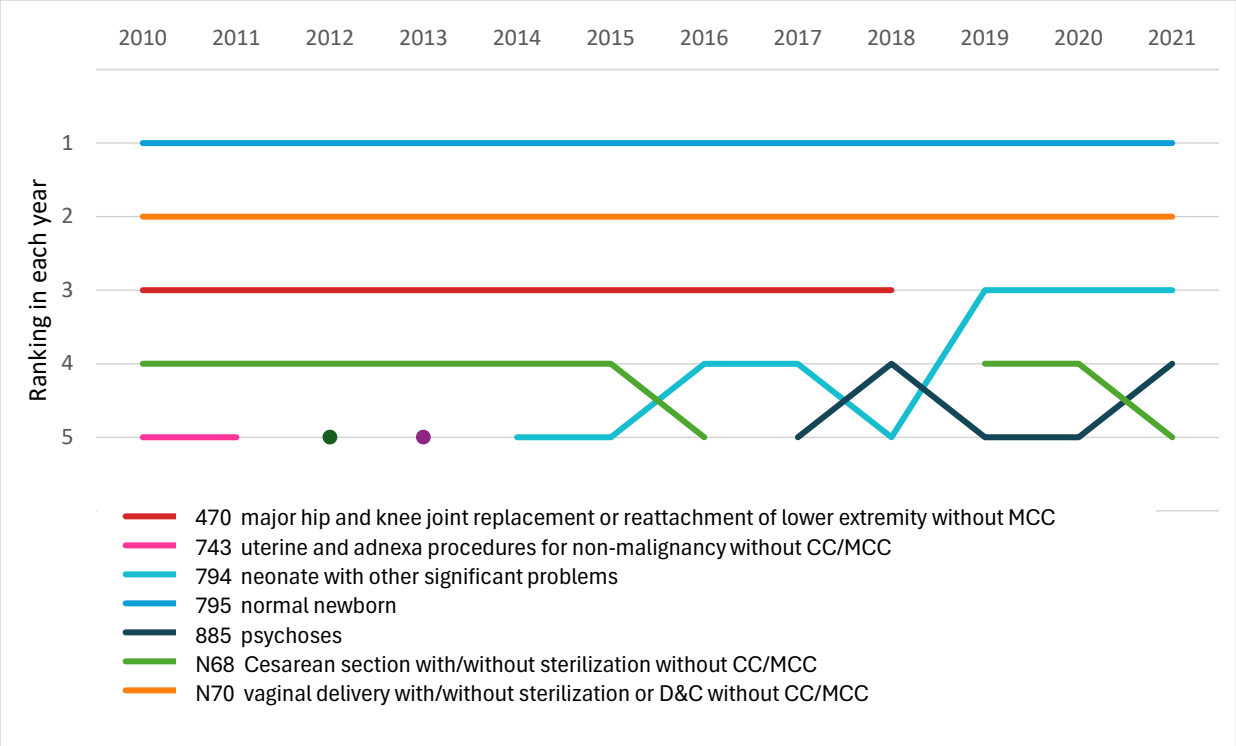


Payer group - Health care service contractors

Generally, most insurance companies are considered health care service contractors (HCSCs). In the inpatient discharge database used for this report, however, this category does not include HMOs or government payers. Examples of HCSCs include insurance companies such as Premera and Premera/Blue Cross.

Among patients covered by HCSCs, seven DRGs appeared in the top five at least once over the years. However, only DRG 795 (normal newborn) and DRG N70 (vaginal delivery with or without sterilization or D&C, without CC/MCC) consistently remained in the top five every year. These two DRGs also held the same rankings—1st and 2nd place, respectively—throughout the entire period.

Figure VI-19. Top five DRGs among persons with health care service contractor as payer discharged from Washington hospitals, 2010-2021



The number of HCSC inpatients in the top five DRGs in the early three years was above 24,000, and in the last three years was below 22,000. However, the share of inpatients in the top five DRGs was greater in the last three years (34-38%) than in the first three years (32-33%).

Table VI-7. Number and percent of persons with health care service contractor as payer discharged from Washington hospitals by top five DRGs, 2010-2021

Contractor	Top 1st DRG			Top 2nd DRG			Top 3rd DRG			Top 4th DRG			Top 5th DRG		
	MS-DRG	N	% Total	MS-DRG	N	% Total	MS-DRG	N	% Total	MS-DRG	N	% Total	MS-DRG	N	% Total
2010	795	12,590	12.6%	N70	9,490	9.5%	470	4,073	4.1%	N68	3,477	3.5%	743	2,645	2.6%
2011	795	10,444	12.6%	N70	7,726	9.3%	470	3,502	4.2%	N68	2,896	3.5%	743	1,987	2.4%
2012	795	9,532	13.3%	N70	7,162	10.0%	470	3,152	4.4%	N68	2,500	3.5%	794	1,671	2.3%
2013	795	6,339	11.9%	N70	5,017	9.4%	470	2,562	4.8%	N68	1,600	3.0%	885	1,236	2.3%
2014	795	5,933	12.3%	N70	4,832	10.1%	470	2,431	5.1%	N68	1,472	3.1%	794	1,218	2.5%
2015	795	6,051	12.7%	N70	4,920	10.4%	470	2,360	5.0%	N68	1,429	3.0%	794	1,372	2.9%
2016	795	5,531	12.5%	N70	4,694	10.6%	470	2,184	4.9%	794	1,381	3.1%	N68	1,299	2.9%
2017	795	4,953	11.7%	N70	4,492	10.6%	470	2,101	5.0%	794	1,488	3.5%	885	1,324	3.1%
2018	795	4,853	11.8%	N70	4,166	10.1%	470	1,714	4.2%	885	1,552	3.8%	794	1,524	3.7%
2019	795	5,903	12.5%	N70	4,845	10.3%	794	2,001	4.2%	N68	1,798	3.8%	885	1,696	3.6%
2020	795	6,521	13.0%	N70	5,520	11.0%	794	2,767	5.5%	N68	2,011	4.0%	885	1,983	4.0%
2021	795	7,115	12.8%	N70	6,146	11.1%	794	3,528	6.4%	885	2,286	4.1%	N68	2,198	4.0%

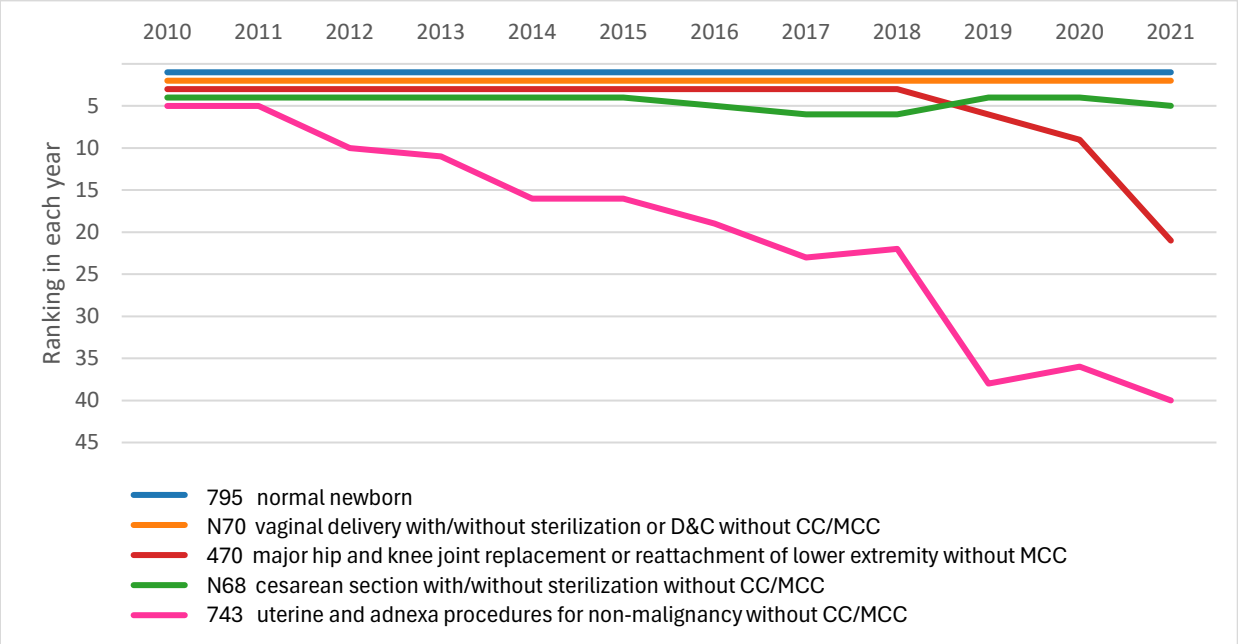
470 = major hip and knee joint replacement or reattachment of lower extremity without MCC
743 = uterine and adnexa procedures for non-malignancy without CC/MCC
794 = neonate with other significant problems
795 = normal newborn
885 = psychoses
N68 = cesarean section with/without sterilization without CC/MCC
N70 = vaginal delivery with/without sterilization or D&C without CC/MCC

Three DRGs ranked in the top five in 2010 but did not maintain their positions in subsequent years.

- DRG 470 (major hip and knee joint replacement or reattachment of lower extremity without MCC) held 3rd place from 2010 to 2018 but then dropped out of the top five, ultimately landing at 21st place in 2021. Its decline was primarily due to:
    1. A shift in major hip and knee replacement procedures from inpatient to outpatient settings.
    2. The halt of elective surgeries—including most DRG 470 cases—during the COVID-19 pandemic.

- DRG N68 (Cesarean section with or without sterilization, without CC/MCC) started in 4th place and remained there for most years. However, it briefly dropped to 6th place in 2017 and 2018 before settling at 5th place in 2021.
- DRG 743 (uterine and adnexa procedures for non-malignancy without CC/MCC) ranked 5th place only in 2010 and 2011 but steadily declined, reaching 40th place by 2021. This change was likely driven by:
    1. A shift in uterine and adnexa procedures from inpatient to outpatient settings.
    2. The suspension of elective surgeries in hospitals during the COVID-19 pandemic.

Figure VI-20. Top five DRGs in 2010 and their rank changes in subsequent years: persons with health care service contractor as payer discharged from Washington hospitals, 2010-2021

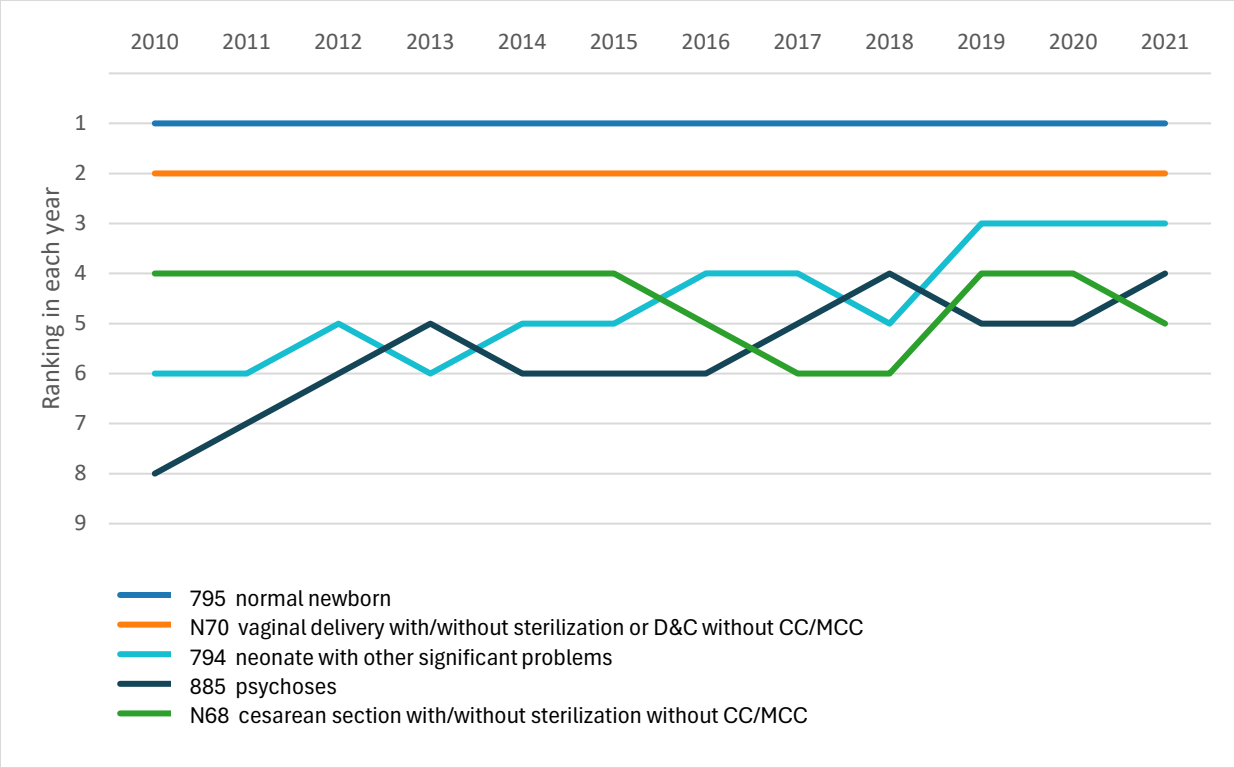


In 2021, two DRGs entered the top five, despite not being among the top five in 2010. However, neither had to rise from a significantly lower ranking:

- DRG 794 (neonate with other significant problems) moved up from 6th place in 2010 to 3rd place in 2021.
- DRG 885 (psychoses) climbed from 8th place in 2010 to 4th place in 2021.

Notably, none of the top five DRGs in 2020 or 2021 were respiratory-related, suggesting that COVID-19's impact on HCSC-covered patients was relatively limited.

Figure VI-21. Prior rankings of 2021 top five DRGs: persons with health care service contractor as payer discharged from Washington hospitals, 2010-2021

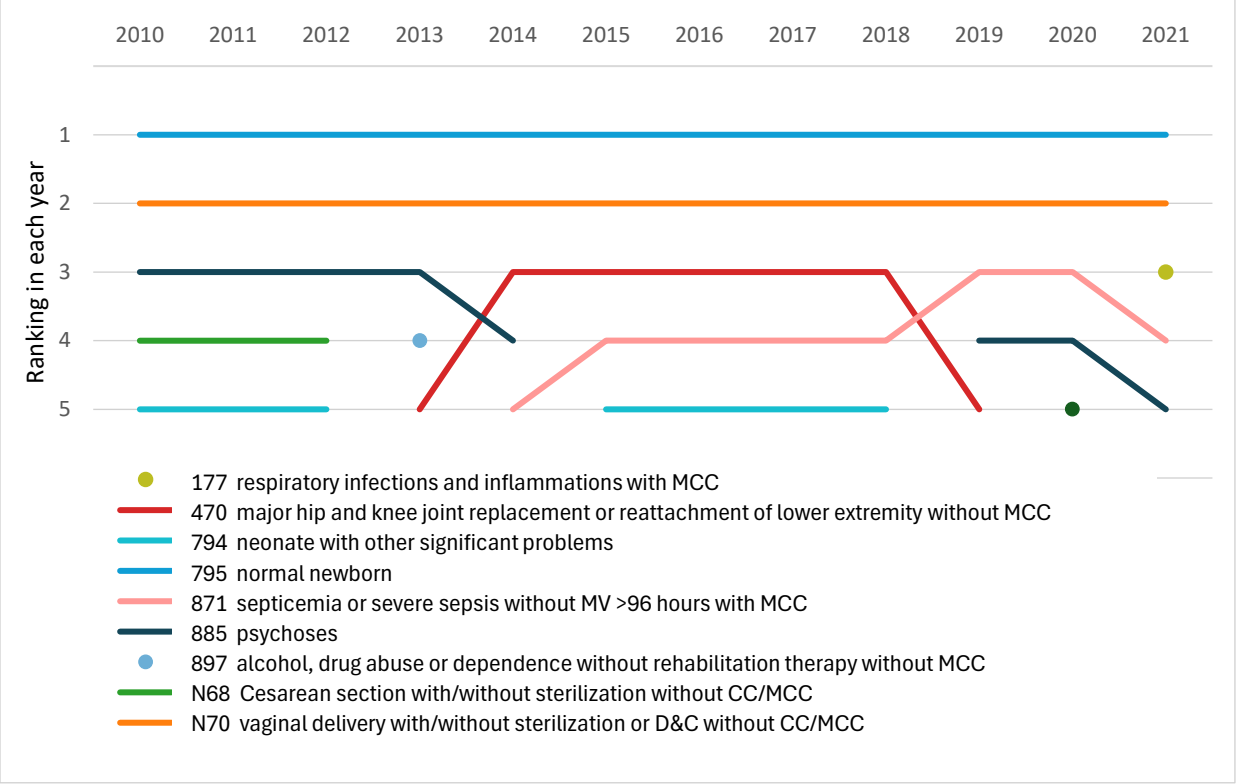


Payer group - Other government-sponsored programs

The category of other government-sponsored programs (OGSP) includes government-funded healthcare programs outside of Medicare and Medicaid, such as TRI-CARE, CHAMPUS, VA, Indian Health Service, Corrections-related health services, county government-provided services, etc.

Among patients covered by OGSP, DRG 795 (normal newborn) and DRG N70 (vaginal delivery with or without sterilization or D&C, without CC/MCC) consistently ranked 1st and 2nd place, respectively, every year. These two DRGs were also the only ones to remain in the top five across all years.

Figure VI-22. Top five DRGs among persons with other government-sponsored program as payer discharged from Washington hospitals, 2010-2021



The top five DRGs accounted for 3,300-5,500 patients covered by OGSP, with an increasing trend from 2010 to 2021. The share of total OGSP inpatients in the top five DRGs ranged from 26% to 31%, with no apparent trend.

Table VI-8. Number and percent of persons with other government-sponsored program as payer discharged from Washington hospitals by top five DRGs, 2010-2021

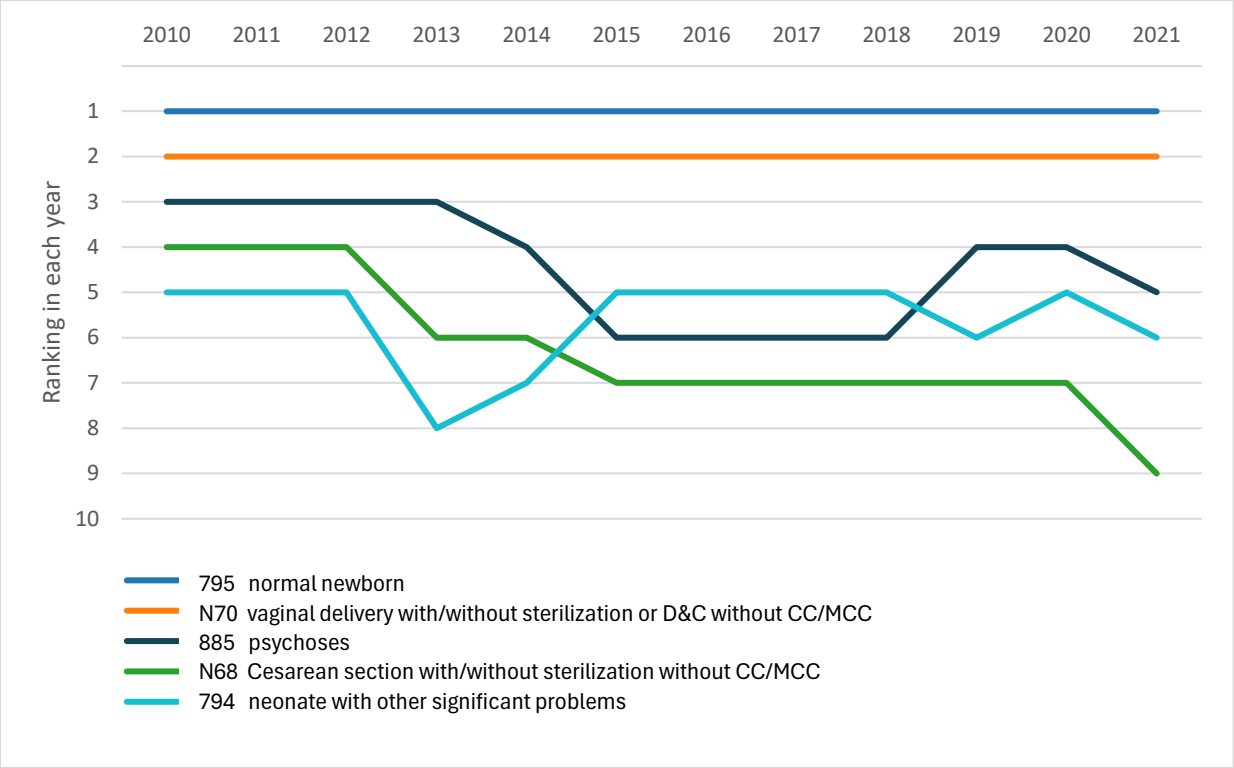
Other government-sponsored	Top 1st DRG			Top 2nd DRG			Top 3rd DRG			Top 4th DRG			Top 5th DRG		
	MS-DRG	N	% Total	MS-DRG	N	% Total	MS-DRG	N	% Total	MS-DRG	N	% Total	MS-DRG	N	% Total
2010	795	1,295	11.1%	N70	1,024	8.8%	885	398	3.4%	N68	354	3.0%	794	257	2.2%
2011	795	1,408	11.5%	N70	1,055	8.6%	885	444	3.6%	N68	361	2.9%	794	260	2.1%
2012	795	1,385	11.9%	N70	1,067	9.2%	885	504	4.3%	N68	324	2.8%	794	258	2.2%
2013	795	1,451	11.4%	N70	1,127	8.9%	885	392	3.1%	897	392	3.1%	470	320	2.5%
2014	795	1,620	12.2%	N70	1,318	9.9%	470	408	3.1%	885	404	3.0%	871	337	2.5%
2015	795	1,474	11.0%	N70	1,240	9.3%	470	420	3.1%	871	403	3.0%	794	351	2.6%
2016	795	1,433	10.2%	N70	1,292	9.2%	470	497	3.5%	871	487	3.5%	794	395	2.8%
2017	795	1,310	9.0%	N70	1,237	8.5%	470	575	3.9%	871	522	3.6%	794	497	3.4%
2018	795	1,370	9.4%	N70	1,171	8.0%	470	584	4.0%	871	525	3.6%	794	412	2.8%
2019	795	1,282	8.4%	N70	1,102	7.2%	871	592	3.9%	885	518	3.4%	470	493	3.2%
2020	795	1,269	7.4%	N70	1,081	6.3%	871	822	4.8%	885	736	4.3%	794	561	3.3%
2021	795	1,572	8.2%	N70	1,244	6.5%	177	975	5.1%	871	908	4.7%	885	776	4.0%

177 = respiratory infections and inflammations with MCC
470 = major hip and knee joint replacement or reattachment of lower extremity without MCC
794 = neonate with other significant problems
795 = normal newborn
871 = septicemia or severe sepsis without MV >96 hours with MCC
885 = psychoses
897 = alcohol, drug abuse or dependence without rehabilitation therapy without MCC
N68 = Cesarean section with/without sterilization without CC/MCC
N70 = vaginal delivery with/without sterilization or D&C without CC/MCC

Three of the top five DRGs in 2010 did not consistently remain in the top five across all years. However, their rankings shifted gradually rather than experiencing drastic changes:

- DRG 885 (psychoses) ranked 3rd from 2010 to 2013 and eventually settled at 5th place, with 6th place as its lowest position.
- DRG N68 (Cesarean section with or without sterilization, without CC/MCC) initially held 4th place from 2010 to 2012 but steadily declined to 9th place by 2021.
- DRG 794 (neonate with other significant problems) remained at 5th place for the first three years before ending at 6th place in 2021.

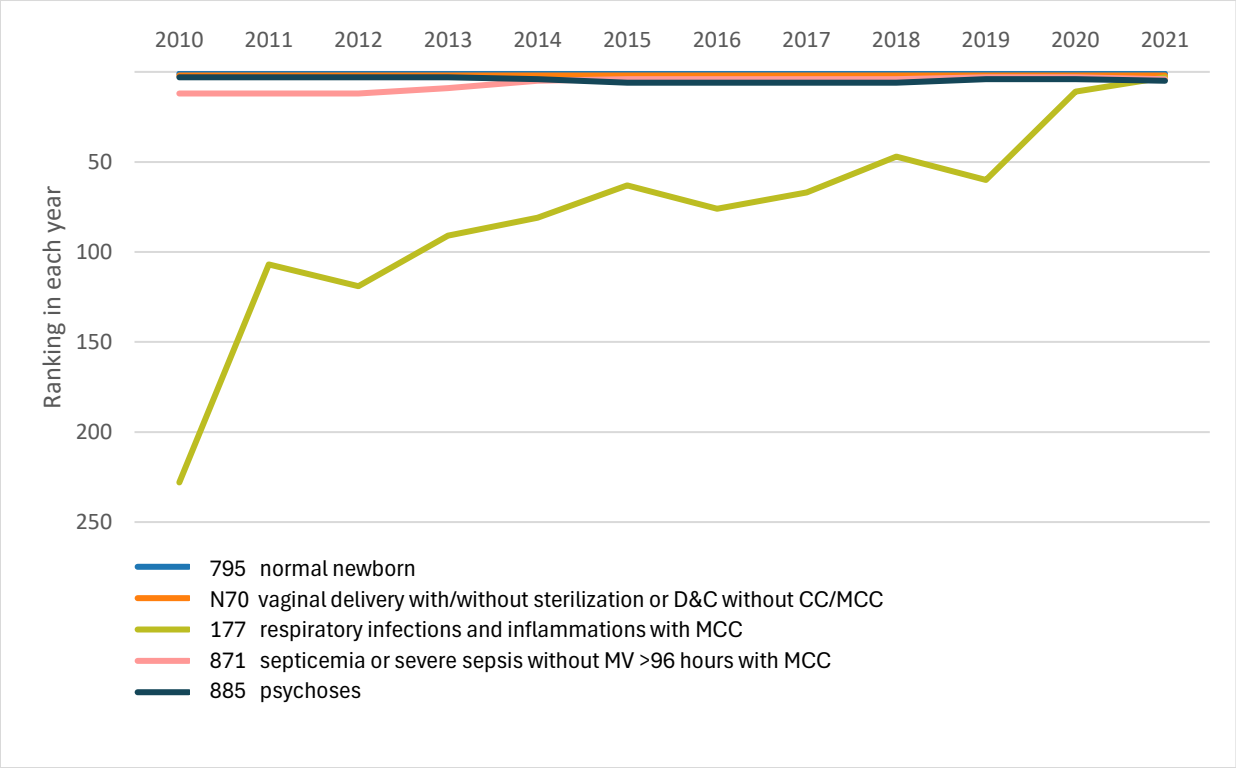
Figure VI-23. Top five DRGs in 2010 and their rank changes in subsequent years: persons with other government-sponsored program as payer discharged from Washington hospitals, 2010-2021



Among the 2021 top five DRGs, only DRG 177 (respiratory infections and inflammations with MCC) and DRG 871 (septicemia or severe sepsis without mechanical ventilation over 96 hours, with MCC) were not in the 2010 top five.

- DRG 177 had been steadily climbing before 2020, moving from 228th place in 2010 to 60th place in 2019. However, its rapid ascent from 2019 to 3rd place in 2021 was largely driven by the COVID-19 pandemic.
- DRG 871 progressed from 12th place in 2010-2012 to 5th place in 2014, maintaining a top five position ever since. In 2021, it ranked 4th place.

Figure VI-24. Prior rankings of 2021 top five DRGs: persons with other government-sponsored program as payer discharged from Washington hospitals, 2010-2021



The data source and methods section for this report can be found at the end of Part I.