

Appendix C. Observed to Expected Ratio of Post-Operative Visits for All Procedures

HCPCS	Short description	Period	Study sample				High Volume Providers				Robust Reporters			
			Procedures	Observed post-operative visits	Expected post-operative visits	Ratio of observed to expected	Procedures	Observed post-operative visits	Expected post-operative visits	Ratio of observed to expected	Procedures	Observed post-operative visits	Expected post-operative visits	Ratio of observed to expected
17000	Destruct premalg lesion	10	441,547	3,716	441,547	0.008	53,940	678	53,940	0.013	35,671	603	35,671	0.017
17110	Destruct b9 lesion 1-14	10	108,542	947	108,542	0.009	12,863	156	12,863	0.012	8,093	129	8,093	0.016
17004	Destroy premal lesions 15/>	10	60,101	465	60,101	0.008	9,004	89	9,004	0.010	5,457	69	5,457	0.013
64635	Destroy lumb/sac facet jnt	10	29,631	536	44,447	0.012	265	26	398	0.065	102	25	153	0.163
10060	Drainage of skin abscess	10	26,155	3,796	26,155	0.145	3,635	1,296	3,635	0.357	2,719	1,244	2,719	0.458
13132	Cmplx rpr f/c/c/m/n/ax/g/h/f	10	19,658	6,442	19,658	0.328	17,906	5,791	17,906	0.323	10,916	5,394	10,916	0.494
17262	Destruction of skin lesions	10	14,517	376	14,517	0.026	2,038	81	2,038	0.040	1,581	76	1,581	0.048
36561	Insert tunneled cv cath	10	14,039	962	21,059	0.046	5,143	699	7,715	0.091	4,042	670	6,063	0.111
10061	Drainage of skin abscess	10	12,782	2,625	25,564	0.103	2,313	1,114	4,626	0.241	1,574	1,055	3,148	0.335
36558	Insert tunneled cv cath	10	12,765	990	19,148	0.052	2,693	393	4,040	0.097	1,891	357	2,837	0.126
46221	Ligation of hemorrhoid(s)	10	9,916	172	9,916	0.017	2,606	74	2,606	0.028	1,996	68	1,996	0.034
65855	Trabeculoplasty laser surg	10	9,500	1,087	9,500	0.114	9,108	1,036	9,108	0.114	7,520	1,019	7,520	0.136
36589	Removal tunneled cv cath	10	7,940	479	11,910	0.040	2,083	239	3,125	0.076	1,542	213	2,313	0.092
64633	Destroy cerv/thor facet jnt	10	7,790	132	11,685	0.011	51	8	77	0.105	13	8	20	0.410
13121	Cmplx rpr s/a/l 2.6-7.5 cm	10	7,626	1,419	7,626	0.186	6,867	1,229	6,867	0.179	4,050	1,132	4,050	0.280
68761	Close tear duct opening	10	7,178	208	7,178	0.029	5,108	150	5,108	0.029	4,128	141	4,128	0.034
64612	Destroy nerve face muscle	10	6,239	45	6,239	0.007	2,809	25	2,809	0.009	2,512	23	2,512	0.009
11750	Removal of nail bed	10	6,149	607	6,149	0.099	2,141	166	2,141	0.078	1,396	145	1,396	0.104
17261	Destruction of skin lesions	10	6,116	141	6,116	0.023	904	17	904	0.019	653	17	653	0.026
36590	Removal tunneled cv cath	10	6,091	590	9,137	0.065	2,796	479	4,194	0.114	2,216	459	3,324	0.138
17111	Destruct lesion 15 or more	10	4,457	28	4,457	0.006	437	2	437	0.005	255	1	255	0.004
11200	Removal of skin tags <w/15	10	4,377	54	4,377	0.012	388	7	388	0.018	294	7	294	0.024
66761	Revision of iris	10	4,265	1,139	8,530	0.134	4,059	1,081	8,118	0.133	3,340	1,050	6,680	0.157
69433	Create eardrum opening	10	4,210	146	4,210	0.035	478	9	478	0.019	205	8	205	0.039
10160	Puncture drainage of lesion	10	3,988	418	3,988	0.105	525	98	525	0.187	390	97	390	0.249
10120	Remove foreign body	10	3,669	152	3,669	0.041	399	79	399	0.198	294	76	294	0.259
13152	Cmplx rpr e/n/e/l 2.6-7.5 cm	10	3,510	1,326	3,510	0.378	3,197	1,209	3,197	0.378	1,952	1,131	1,952	0.579
36581	Replace tunneled cv cath	10	3,509	199	5,264	0.038	565	55	848	0.065	431	52	647	0.080
22514	Perq vertebral augmentation	10	3,467	546	5,201	0.105	1,801	437	2,702	0.162	1,466	430	2,199	0.196
22513	Perq vertebral augmentation	10	3,347	625	5,021	0.124	1,858	502	2,787	0.180	1,531	493	2,297	0.215
67228	Treatment x10sv retinopathy	10	3,339	103	3,339	0.031	3,119	97	3,119	0.031	2,192	84	2,192	0.038
13131	Cmplx rpr f/c/c/m/n/ax/g/h/f	10	3,238	1,181	3,238	0.365	2,482	954	2,482	0.384	1,684	920	1,684	0.546
12032	Intmd rpr s/a/t/ext 2.6-7.5	10	2,939	323	2,939	0.110	1,408	194	1,408	0.138	958	186	958	0.194
17272	Destruction of skin lesions	10	2,857	71	2,857	0.025	470	20	470	0.043	361	18	361	0.050
12052	Intmd rpr face/mm 2.6-5.0 cm	10	2,855	781	2,855	0.274	1,555	655	1,555	0.421	1,182	618	1,182	0.523
13151	Cmplx rpr e/n/e/l 1.1-2.5 cm	10	2,722	1,096	2,722	0.403	2,230	898	2,230	0.403	1,376	844	1,376	0.613
10140	Drainage of hematoma/fluid	10	2,500	790	2,500	0.316	1,027	579	1,027	0.564	806	558	806	0.692
12051	Intmd rpr face/mm 2.5 cm/<	10	2,422	689	2,422	0.284	1,336	556	1,336	0.416	993	532	993	0.536
17282	Destruction of skin lesions	10	2,365	46	2,365	0.019	360	14	360	0.039	245	14	245	0.057
17281	Destruction of skin lesions	10	2,298	38	2,298	0.017	404	11	404	0.027	186	9	186	0.048
17263	Destruction of skin lesions	10	2,254	82	2,254	0.036	292	21	292	0.072	220	20	220	0.091
67840	Remove eyelid lesion	10	2,244	208	2,244	0.093	2,101	181	2,101	0.086	1,673	173	1,673	0.103
49440	Place gastrostomy tube perc	10	2,187	112	2,187	0.051	56	17	56	0.304	40	14	40	0.350

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11402	Exc tr-ext b9+marg 1.1-2 cm	10	2,063	307	2,063	0.149	912	186	912	0.204	683	175	683	0.256
10040	Acne surgery	10	2,014	37	1,549	0.024	265	7	201	0.035	213	7	162	0.043
68840	Explore/irrigate tear ducts	10	1,923	25	1,923	0.013	1,632	24	1,632	0.015	1,438	24	1,438	0.017
17271	Destruction of skin lesions	10	1,720	27	1,720	0.016	321	10	321	0.031	201	9	201	0.045
11602	Exc tr-ext mal+marg 1.1-2 cm	10	1,685	201	1,685	0.119	543	73	543	0.134	412	64	412	0.155
36471	Injection therapy of veins	10	1,648	30	1,648	0.018	803	16	803	0.020	495	16	495	0.032
11401	Exc tr-ext b9+marg 0.6-1 cm	10	1,632	195	1,632	0.119	388	79	388	0.204	300	78	300	0.260
64640	Injection treatment of nerve	10	1,488	20	1,488	0.013	92	9	92	0.098	65	9	65	0.138
69420	Incision of eardrum	10	1,423	36	1,423	0.025	71	3	71	0.042	21	2	21	0.095
37609	Temporal artery procedure	10	1,287	342	1,931	0.177	1,112	283	1,668	0.170	884	273	1,326	0.206
64561	Implant neuroelectrodes	10	1,285	622	1,285	0.484	779	365	779	0.469	479	341	479	0.712
12042	Intmd rpr n-hf/genit2.6-7.5	10	1,255	180	1,255	0.143	699	107	699	0.153	472	99	472	0.210
69436	Create eardrum opening	10	1,248	109	1,248	0.087	116	4	116	0.034	59	4	59	0.068
13101	Cmplx rpr trunk 2.6-7.5 cm	10	1,233	200	1,233	0.162	1,037	156	1,037	0.150	641	150	641	0.234
67800	Remove eyelid lesion	10	1,200	66	600	0.110	1,126	56	563	0.099	919	55	460	0.120
11403	Exc tr-ext b9+marg 2.1-3cm/<	10	1,118	218	1,118	0.195	666	145	666	0.218	508	141	508	0.278
17260	Destruction of skin lesions	10	1,062	18	1,062	0.017	261	4	261	0.015	222	4	222	0.018
11440	Exc face-mm b9+marg 0.5 cm/<	10	1,056	149	1,056	0.141	640	61	640	0.095	518	61	518	0.118
58661	Laparoscopy remove adnexa	10	1,032	261	1,548	0.169	119	26	179	0.146	78	26	117	0.222
54161	Circum 28 days or older	10	998	197	998	0.197	743	137	743	0.184	504	116	504	0.230
11603	Exc tr-ext mal+marg 2.1-3 cm	10	993	150	993	0.151	446	79	446	0.177	336	75	336	0.223
68810	Probe nasolacrimal duct	10	988	118	988	0.119	784	113	784	0.144	713	112	713	0.157
12031	Intmd rpr s/a/t/ext 2.5 cm/<	10	972	91	972	0.094	363	44	363	0.121	252	43	252	0.171
11642	Exc f/e/e/n/l mal+mrg 1.1-2	10	931	239	931	0.257	403	119	403	0.295	314	111	314	0.354
17280	Destruction of skin lesions	10	908	13	908	0.014	142	3	142	0.021	48	3	48	0.063
11400	Exc tr-ext b9+marg 0.5 cm<	10	837	87	837	0.104	173	26	173	0.150	132	26	132	0.197
63650	Implant neuroelectrodes	10	807	341	1,211	0.282	50	26	75	0.347	38	25	57	0.439
11422	Exc h-f-nk-sp b9+marg 1.1-2	10	779	157	779	0.202	372	74	372	0.199	296	70	296	0.236
12034	Intmd rpr s/tr/ext 7.6-12.5	10	745	70	745	0.094	128	24	128	0.188	101	23	101	0.228
11441	Exc face-mm b9+marg 0.6-1 cm	10	742	153	742	0.206	353	53	353	0.150	262	52	262	0.198
12041	Intmd rpr n-hf/genit 2.5cm/<	10	727	78	727	0.107	191	27	191	0.141	103	23	103	0.223
36470	Injection therapy of vein	10	715	14	715	0.020	71	4	71	0.056	31	3	31	0.097
11421	Exc h-f-nk-sp b9+marg 0.6-1	10	682	107	682	0.157	239	43	239	0.180	175	41	175	0.234
64632	N block inj common digit	10	675	13	675	0.019	350	8	350	0.023	229	7	229	0.031
11765	Excision of nail fold toe	10	664	12	664	0.018	126	6	126	0.048	114	6	114	0.053
49422	Remove tunneled ip cath	10	638	154	1,914	0.080	495	139	1,485	0.094	395	137	1,185	0.116
11641	Exc f/e/e/n/l mal+mrg 0.6-1	10	621	146	621	0.235	199	53	199	0.266	160	50	160	0.313
38500	Biopsy/removal lymph nodes	10	619	232	929	0.250	489	199	734	0.271	392	194	588	0.330
40808	Biopsy of mouth lesion	10	616	72	616	0.117	71	5	71	0.070	56	5	56	0.089
62264	Epidural lysis on single day	10	591	8	296	0.027
46500	Injection into hemorrhoid(s)	10	577	9	577	0.016	87	0	87	0.000	42	0	42	0.000
11622	Exc s/n/h/f/g mal+mrg 1.1-2	10	556	88	556	0.158	195	38	195	0.195	143	36	143	0.252
11442	Exc face-mm b9+marg 1.1-2 cm	10	545	140	545	0.257	258	64	258	0.248	186	62	186	0.333
11601	Exc tr-ext mal+marg 0.6-1 cm	10	541	56	541	0.104	103	10	103	0.097	79	10	79	0.127

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68801	Dilate tear duct opening	10	533	14	533	0.026	463	12	463	0.026	422	12	422	0.028
11406	Exc tr-ext b9+marg >4.0 cm	10	532	173	532	0.325	400	143	400	0.358	314	141	314	0.449
11404	Exc tr-ext b9+marg 3.1-4 cm	10	512	107	512	0.209	329	80	329	0.243	263	77	263	0.293
11606	Exc tr-ext mal+marg >4 cm	10	507	132	507	0.260	326	100	326	0.307	249	95	249	0.382
17273	Destruction of skin lesions	10	496	15	496	0.030	70	5	70	0.071	49	4	49	0.082
11420	Exc h-f-nk-sp b9+marg 0.5/<	10	472	55	472	0.117	117	24	117	0.205	80	23	80	0.288
63685	Insrt/redo spine n generator	10	441	129	662	0.195	156	20	234	0.085	135	19	203	0.094
11643	Exc f/e/e/n/l mal+mrg 2.1-3	10	439	150	439	0.342	275	102	275	0.371	198	100	198	0.505
11604	Exc tr-ext mal+marg 3.1-4 cm	10	405	94	405	0.232	189	54	189	0.286	144	51	144	0.354
64590	Insrt/redo pn/gastr stimul	10	402	62	402	0.154	240	34	240	0.142	183	33	183	0.180
17283	Destruction of skin lesions	10	377	11	377	0.029	79	5	79	0.063	54	4	54	0.074
11423	Exc h-f-nk-sp b9+marg 2.1-3	10	365	77	365	0.211	208	46	208	0.221	160	44	160	0.275
17270	Destruction of skin lesions	10	356	5	356	0.014	81	0	81	0.000	65	0	65	0.000
11623	Exc s/n/h/f/g mal+mrg 2.1-3	10	303	64	303	0.211	152	33	152	0.217	110	29	110	0.264
10180	Complex drainage wound	10	288	225	288	0.781	219	187	219	0.854	184	186	184	1.011
11640	Exc f/e/e/n/l mal+mrg 0.5cm<	10	244	69	244	0.283	68	21	68	0.309	54	21	54	0.389
11621	Exc s/n/h/f/g mal+mrg 0.6-1	10	237	47	237	0.198	59	9	59	0.153	50	9	50	0.180
11644	Exc f/e/e/n/l mal+mrg 3.1-4	10	194	67	194	0.345	135	51	135	0.378	91	47	91	0.516
68760	Close tear duct opening	10	194	11	194	0.057	179	10	179	0.056	152	10	152	0.066
20670	Removal of support implant	10	188	58	188	0.309	132	45	132	0.341	106	43	106	0.406
11443	Exc face-mm b9+marg 2.1-3 cm	10	174	37	174	0.213	81	17	81	0.210	42	15	42	0.357
11646	Exc f/e/e/n/l mal+mrg >4 cm	10	134	55	134	0.410	83	36	83	0.434	55	33	55	0.600
64555	Implant neuroelectrodes	10	95	56	143	0.393	1	0	2	0.000	1	0	2	0.000
38571	Laparoscopy lymphadenectomy	10	32	13	96	0.135	12	9	36	0.250	8	9	24	0.375
66984	Cataract surg w/iol 1 stage	90	58,784	170,006	264,528	0.643	58,669	169,753	264,011	0.643	48,443	166,539	217,994	0.764
27447	Total knee arthroplasty	90	39,301	96,602	275,107	0.351	39,204	96,377	274,428	0.351	34,180	95,333	239,260	0.398
66821	After cataract laser surgery	90	31,814	24,116	63,628	0.379	31,533	23,955	63,066	0.380	25,084	23,052	50,168	0.459
27130	Total hip arthroplasty	90	22,232	50,641	155,624	0.325	22,186	50,557	155,302	0.326	19,349	49,924	135,443	0.369
33208	Insrt heart pm atrial & vent	90	12,241	13,229	36,723	0.360	11,872	12,877	35,616	0.362	5,889	10,554	17,667	0.597
47562	Laparoscopic cholecystectomy	90	12,041	14,229	36,094	0.394	11,157	13,078	33,459	0.391	8,691	12,675	26,045	0.487
27245	Treat thigh fracture	90	11,775	27,542	105,975	0.260	11,583	27,192	104,247	0.261	9,616	26,467	86,544	0.306
64721	Carpal tunnel surgery	90	9,438	12,823	33,033	0.388	9,227	12,567	32,295	0.389	7,352	12,228	25,732	0.475
33533	Cabg arterial single	90	8,034	31,015	64,272	0.483	7,795	30,389	62,360	0.487	6,535	29,605	52,280	0.566
27236	Treat thigh fracture	90	7,760	17,293	62,080	0.279	7,655	17,152	61,240	0.280	6,317	16,633	50,536	0.329
33282	Implant pat-active ht record	90	7,145	3,689	10,718	0.344	6,533	3,370	9,800	0.344	2,488	2,358	3,732	0.632
66982	Cataract surgery complex	90	6,612	18,118	29,754	0.609	6,594	18,076	29,673	0.609	5,232	17,536	23,544	0.745
50590	Fragmenting of kidney stone	90	6,466	5,547	22,631	0.245	5,645	4,856	19,758	0.246	3,748	4,451	13,118	0.339
63047	Remove spine lamina 1 lmr	90	6,396	12,542	38,376	0.327	6,128	11,921	36,768	0.324	5,096	11,634	30,576	0.380
23472	Reconstruct shoulder joint	90	6,311	16,966	50,488	0.336	6,261	16,804	50,088	0.335	5,260	16,278	42,080	0.387
14060	Tis trnfr e/n/e/l 10 sq cm/<	90	6,211	5,896	24,844	0.237	5,864	5,480	23,456	0.234	3,788	4,989	15,152	0.329
29881	Knee arthroscopy/surgery	90	5,919	9,258	20,717	0.447	5,769	8,999	20,192	0.446	4,865	8,810	17,028	0.517
52601	Prostatectomy (turp)	90	5,885	9,479	27,178	0.349	4,876	7,837	22,585	0.347	3,470	7,224	15,961	0.453
49505	Prp i/hern init reduc >5 yr	90	5,585	6,052	13,963	0.433	5,317	5,807	13,293	0.437	4,203	5,576	10,508	0.531
33249	Insj/rplcmt defib w/lead(s)	90	5,356	5,212	16,068	0.324	5,293	5,156	15,879	0.325	2,415	4,065	7,245	0.561

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26055	Incise finger tendon sheath	90	5,229	6,333	18,302	0.346	5,154	6,255	18,039	0.347	4,286	6,052	15,001	0.403
25600	Treat fracture radius/ulna	90	5,110	10,536	25,550	0.412	4,609	9,536	23,045	0.414	3,799	9,235	18,995	0.486
47563	Laparo cholecystectomy/graph	90	4,790	5,878	11,975	0.491	4,524	5,457	11,310	0.482	3,407	5,191	8,518	0.609
35301	Rechanneling of artery	90	4,669	7,346	23,345	0.315	4,491	7,100	22,455	0.316	3,873	6,967	19,365	0.360
23600	Treat humerus fracture	90	4,282	8,551	17,128	0.499	3,951	7,933	15,804	0.502	3,246	7,700	12,984	0.593
29880	Knee arthroscopy/surgery	90	4,282	7,113	14,987	0.475	4,146	6,862	14,511	0.473	3,558	6,728	12,453	0.540
22551	Neck spine fuse&remov bel c2	90	4,084	8,189	20,420	0.401	3,846	7,722	19,230	0.402	3,186	7,556	15,930	0.474
14040	Tis trnfr f/c/c/m/n/a/g/h/f	90	3,959	3,325	15,836	0.210	3,745	3,103	14,980	0.207	2,213	2,677	8,852	0.302
49650	Lap ing hernia repair init	90	3,704	4,022	7,408	0.543	3,595	3,916	7,190	0.545	2,937	3,788	5,874	0.645
33228	Remv&replc pm gen dual lead	90	3,697	2,249	5,546	0.406	3,534	2,151	5,301	0.406	1,723	1,737	2,585	0.672
28470	Treat metatarsal fracture	90	2,950	3,939	8,850	0.445	2,490	3,427	7,470	0.459	2,082	3,349	6,246	0.536
63030	Low back disk surgery	90	2,848	4,704	17,088	0.275	2,690	4,420	16,140	0.274	2,272	4,337	13,632	0.318
27786	Treatment of ankle fracture	90	2,785	5,060	9,748	0.519	2,511	4,607	8,789	0.524	2,075	4,491	7,263	0.618
15823	Revision of upper eyelid	90	2,702	4,061	12,159	0.334	2,647	3,980	11,912	0.334	2,335	3,926	10,508	0.374
15260	Skin full graft een & lips	90	2,697	3,703	13,485	0.275	2,601	3,538	13,005	0.272	1,710	3,199	8,550	0.374
14041	Tis trnfr f/c/c/m/n/a/g/h/f	90	2,688	2,384	10,752	0.222	2,571	2,223	10,284	0.216	1,620	2,031	6,480	0.313
44970	Laparoscopy appendectomy	90	2,672	4,092	10,688	0.383	2,395	3,670	9,580	0.383	1,845	3,506	7,380	0.475
29848	Wrist endoscopy/surgery	90	2,638	3,288	7,914	0.415	2,609	3,246	7,827	0.415	2,281	3,200	6,843	0.468
52648	Laser surgery of prostate	90	2,633	3,729	7,899	0.472	2,338	3,248	7,014	0.463	1,658	2,981	4,974	0.599
36821	Av fusion direct any site	90	2,611	3,847	6,528	0.589	2,556	3,760	6,390	0.588	2,034	3,601	5,085	0.708
20680	Removal of support implant	90	2,312	3,980	5,780	0.689	2,053	3,497	5,133	0.681	1,728	3,341	4,320	0.773
67210	Treatment of retinal lesion	90	2,311	922	6,933	0.133	2,276	912	6,828	0.134	1,231	748	3,693	0.203
27446	Revision of knee joint	90	2,275	4,837	13,650	0.354	2,274	4,837	13,644	0.355	1,931	4,756	11,586	0.410
19301	Partial mastectomy	90	2,209	2,823	7,732	0.365	1,964	2,511	6,874	0.365	1,567	2,418	5,485	0.441
27235	Treat thigh fracture	90	2,203	5,497	23,132	0.238	2,152	5,414	22,596	0.240	1,789	5,305	18,785	0.282
29827	Arthroscop rotator cuff repr	90	2,031	4,593	11,171	0.411	1,979	4,473	10,885	0.411	1,722	4,432	9,471	0.468
22633	Lumbar spine fusion combined	90	2,023	5,403	14,161	0.382	1,964	5,216	13,748	0.379	1,698	5,129	11,886	0.432
14061	Tis trnfr e/n/e/l10.1-30sqcm	90	2,008	2,279	9,036	0.252	1,960	2,172	8,820	0.246	1,314	1,977	5,913	0.334
33264	Rmvl & rplcmt dfb gen mlt ld	90	2,000	1,539	3,000	0.513	1,983	1,531	2,975	0.515	895	1,223	1,343	0.911
27487	Revise/replace knee joint	90	1,989	5,524	19,890	0.278	1,986	5,516	19,860	0.278	1,746	5,404	17,460	0.310
49560	Rpr ventral hern init reduc	90	1,830	3,392	4,575	0.741	1,677	3,069	4,193	0.732	1,357	2,977	3,393	0.878
67904	Repair eyelid defect	90	1,736	2,796	7,812	0.358	1,718	2,775	7,731	0.359	1,499	2,727	6,746	0.404
67145	Treatment of retina	90	1,710	2,085	5,130	0.406	1,631	1,991	4,893	0.407	1,277	1,777	3,831	0.464
36830	Artery-vein nonautograft	90	1,702	2,466	4,255	0.580	1,674	2,423	4,185	0.579	1,354	2,348	3,385	0.694
19125	Excision breast lesion	90	1,627	2,024	3,254	0.622	1,438	1,790	2,876	0.622	1,234	1,724	2,468	0.699
33207	Insert heart pm ventricular	90	1,609	1,686	4,827	0.349	1,554	1,643	4,662	0.352	724	1,309	2,172	0.603
33263	Rmvl & rplcmt dfb gen 2 lead	90	1,586	933	2,379	0.392	1,545	912	2,318	0.394	700	699	1,050	0.666
60500	Explore parathyroid glands	90	1,519	1,603	5,317	0.302	1,177	1,234	4,120	0.300	930	1,164	3,255	0.358
25609	Treat fx radial 3+ frag	90	1,512	3,853	9,828	0.392	1,501	3,822	9,757	0.392	1,218	3,689	7,917	0.466
67042	Vit for macular hole	90	1,457	4,185	8,014	0.522	1,450	4,160	7,975	0.522	1,187	3,899	6,529	0.597
36832	Av fistula revision open	90	1,450	1,925	5,075	0.379	1,413	1,836	4,946	0.371	1,149	1,799	4,022	0.447
26600	Treat metacarpal fracture	90	1,445	2,049	5,780	0.354	1,265	1,835	5,060	0.363	1,059	1,764	4,236	0.416
58571	Tlh w/t/o 250 g or less	90	1,427	1,881	3,568	0.527	333	386	833	0.464	267	385	668	0.577
33405	Replacement aortic valve opn	90	1,394	5,263	12,546	0.419	1,361	5,204	12,249	0.425	1,176	5,099	10,584	0.482

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44120	Removal of small intestine	90	1,360	5,806	16,320	0.356	1,129	4,825	13,548	0.356	877	4,699	10,524	0.447
14301	Tis trnfr any 30.1-60 sq cm	90	1,335	1,851	6,008	0.308	1,211	1,590	5,450	0.292	816	1,472	3,672	0.401
23500	Treat clavicle fracture	90	1,329	1,696	3,323	0.510	1,165	1,516	2,913	0.521	978	1,477	2,445	0.604
44204	Laparo partial colectomy	90	1,262	3,685	10,096	0.365	1,102	3,261	8,816	0.370	872	3,199	6,976	0.459
25605	Treat fracture radius/ulna	90	1,221	3,186	6,716	0.474	957	2,642	5,264	0.502	798	2,575	4,389	0.587
44205	Lap colectomy part w/ileum	90	1,205	3,521	10,845	0.325	1,068	3,179	9,612	0.331	882	3,081	7,938	0.388
49585	Rpr umbil hern reduc > 5 yr	90	1,188	1,448	2,970	0.488	1,114	1,337	2,785	0.480	888	1,279	2,220	0.576
27125	Partial hip replacement	90	1,180	2,263	13,570	0.167	1,155	2,205	13,283	0.166	894	2,123	10,281	0.206
32663	Thoracoscopy w/lobectomy	90	1,169	4,094	8,183	0.500	975	3,488	6,825	0.511	855	3,458	5,985	0.578
44140	Partial removal of colon	90	1,161	4,171	11,610	0.359	997	3,557	9,970	0.357	772	3,480	7,720	0.451
26160	Remove tendon sheath lesion	90	1,154	1,497	4,039	0.371	1,133	1,481	3,966	0.373	920	1,425	3,220	0.443
28820	Amputation of toe	90	1,149	3,368	5,171	0.651	780	2,336	3,510	0.666	622	2,272	2,799	0.812
43281	Lap paraesophag hern repair	90	1,124	2,311	5,620	0.411	1,029	2,137	5,145	0.415	775	2,094	3,875	0.540
61510	Removal of brain lesion	90	1,119	2,700	12,309	0.219	891	2,233	9,801	0.228	733	2,154	8,063	0.267
44160	Removal of colon	90	1,108	4,634	11,080	0.418	958	3,970	9,580	0.414	780	3,884	7,800	0.498
49561	Rpr ventral hern init block	90	1,103	2,314	6,618	0.350	1,023	2,087	6,138	0.340	806	2,017	4,836	0.417
27486	Revise/replace knee joint	90	1,060	2,841	10,600	0.268	1,055	2,824	10,550	0.268	913	2,793	9,130	0.306
44005	Freeing of bowel adhesion	90	989	3,715	8,901	0.417	862	3,116	7,758	0.402	686	3,044	6,174	0.493
19120	Removal of breast lesion	90	987	1,172	1,974	0.594	877	1,060	1,754	0.604	709	1,034	1,418	0.729
14021	Tis trnfr s/a/l 10.1-30 sqcm	90	984	939	3,936	0.239	941	896	3,764	0.238	554	824	2,216	0.372
67108	Repair detached retina	90	978	3,525	5,379	0.655	974	3,506	5,357	0.654	857	3,385	4,714	0.718
49507	Prp i/hern init block >5 yr	90	974	1,401	2,435	0.575	904	1,259	2,260	0.557	693	1,193	1,733	0.689
27814	Treatment of ankle fracture	90	968	3,540	5,808	0.610	898	3,330	5,388	0.618	740	3,200	4,440	0.721
61312	Open skull for drainage	90	967	2,720	13,538	0.201	696	1,976	9,744	0.203	561	1,935	7,854	0.246
30520	Repair of nasal septum	90	963	1,285	4,334	0.297	248	338	1,116	0.303	139	316	626	0.505
27134	Revise hip joint replacement	90	962	2,647	10,582	0.250	960	2,629	10,560	0.249	849	2,591	9,339	0.277
57288	Repair bladder defect	90	957	1,258	4,307	0.292	582	701	2,619	0.268	432	647	1,944	0.333
14020	Tis trnfr s/a/l 10 sq cm/<	90	953	906	3,812	0.238	906	831	3,624	0.229	418	641	1,672	0.383
44143	Partial removal of colon	90	943	3,994	10,373	0.385	812	3,438	8,932	0.385	609	3,354	6,699	0.501
44207	L colectomy/coloproctostomy	90	943	2,875	7,544	0.381	831	2,627	6,648	0.395	677	2,537	5,416	0.468
28510	Treatment of toe fracture	90	940	623	1,410	0.442	672	501	1,008	0.497	534	478	801	0.597
60240	Removal of thyroid	90	936	1,256	2,340	0.537	685	903	1,713	0.527	524	869	1,310	0.663
25607	Treat fx rad extra-articul	90	852	2,215	4,686	0.473	839	2,184	4,615	0.473	688	2,098	3,784	0.554
27590	Amputate leg at thigh	90	845	2,283	13,098	0.174	810	2,159	12,555	0.172	654	2,086	10,137	0.206
27880	Amputation of lower leg	90	819	2,767	8,190	0.338	779	2,598	7,790	0.334	644	2,567	6,440	0.399
66180	Aqueous shunt eye w/graft	90	815	3,821	6,928	0.552	803	3,754	6,826	0.550	734	3,704	6,239	0.594
64718	Revise ulnar nerve at elbow	90	812	1,202	3,654	0.329	796	1,184	3,582	0.331	636	1,150	2,862	0.402
29823	Shoulder arthroscopy/surgery	90	790	1,433	3,555	0.403	768	1,391	3,456	0.402	643	1,354	2,894	0.468
27506	Treatment of thigh fracture	90	787	2,045	9,444	0.217	765	1,972	9,180	0.215	656	1,917	7,872	0.244
26720	Treat finger fracture each	90	783	974	1,566	0.622	658	871	1,316	0.662	529	840	1,058	0.794
27244	Treat thigh fracture	90	768	1,676	6,912	0.242	747	1,646	6,723	0.245	611	1,623	5,499	0.295
34705	Evac rpr a-biiliac ndgft	90	731	1,275	3,655	0.349	651	1,182	3,255	0.363	555	1,157	2,775	0.417
23615	Treat humerus fracture	90	701	2,025	4,206	0.481	691	1,992	4,146	0.480	574	1,921	3,444	0.558
37765	Stab phleb veins xtr 10-20	90	694	518	1,735	0.299	565	457	1,413	0.324	327	418	818	0.511

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32480	Partial removal of lung	90	680	2,613	6,120	0.427	585	2,272	5,265	0.432	480	2,226	4,320	0.515
47600	Removal of gallbladder	90	679	2,220	5,432	0.409	565	1,770	4,520	0.392	448	1,747	3,584	0.487
67041	Vit for macular pucker	90	673	1,787	3,702	0.483	669	1,773	3,680	0.482	568	1,686	3,124	0.540
65756	Corneal trnspl endothelial	90	660	2,599	4,290	0.606	656	2,582	4,264	0.606	623	2,562	4,050	0.633
36819	Av fuse uppr arm basilic	90	651	1,012	1,628	0.622	636	978	1,590	0.615	519	956	1,298	0.737
27132	Total hip arthroplasty	90	650	1,776	9,425	0.188	643	1,760	9,324	0.189	566	1,732	8,207	0.211
67036	Removal of inner eye fluid	90	613	1,751	3,372	0.519	601	1,719	3,306	0.520	511	1,548	2,811	0.551
28810	Amputation toe & metatarsal	90	592	1,803	4,144	0.435	447	1,408	3,129	0.450	349	1,372	2,443	0.562
28825	Partial amputation of toe	90	567	1,459	2,552	0.572	376	991	1,692	0.586	314	968	1,413	0.685
15100	Skin splnt grft trnk/arm/leg	90	540	1,684	3,240	0.520	383	1,157	2,298	0.503	312	1,117	1,872	0.597
19307	Mast mod rad	90	533	1,485	5,597	0.265	474	1,349	4,977	0.271	387	1,323	4,064	0.326
64581	Implant neuroelectrodes	90	533	701	800	0.877	366	432	549	0.787	268	418	402	1.040
55866	Laparo radical prostatectomy	90	524	1,095	2,620	0.418	427	895	2,135	0.419	337	852	1,685	0.506
67113	Repair retinal detach cplx	90	523	1,798	3,400	0.529	520	1,781	3,380	0.527	439	1,636	2,854	0.573
37766	Phleb veins - extrem 20+	90	520	367	1,300	0.282	434	320	1,085	0.295	198	274	495	0.554
46930	Destroy internal hemorrhoids	90	520	177	520	0.340	381	133	381	0.349	130	102	130	0.785
22558	Lumbar spine fusion	90	517	1,549	3,619	0.428	484	1,461	3,388	0.431	427	1,397	2,989	0.467
22630	Lumbar spine fusion	90	514	1,432	4,112	0.348	499	1,392	3,992	0.349	431	1,370	3,448	0.397
67917	Repair eyelid defect	90	503	781	1,761	0.444	489	770	1,712	0.450	413	753	1,446	0.521
44145	Partial removal of colon	90	498	1,932	4,980	0.388	448	1,777	4,480	0.397	357	1,721	3,570	0.482
15240	Skin full grft face/genit/hf	90	478	741	3,107	0.238	445	679	2,893	0.235	290	631	1,885	0.335
33430	Replacement of mitral valve	90	476	2,428	4,760	0.510	465	2,418	4,650	0.520	414	2,359	4,140	0.570
38525	Biopsy/removal lymph nodes	90	473	528	1,183	0.447	416	471	1,040	0.453	317	451	793	0.569
50360	Transplantation of kidney	90	467	579	4,670	0.124	395	441	3,950	0.112	113	404	1,130	0.358
67924	Repair eyelid defect	90	466	709	1,631	0.435	454	689	1,589	0.434	382	670	1,337	0.501
28285	Repair of hammertoe	90	448	1,126	2,016	0.559	231	631	1,040	0.607	186	620	837	0.741
67040	Laser treatment of retina	90	439	1,167	2,415	0.483	437	1,164	2,404	0.484	380	1,128	2,090	0.540
66170	Glaucoma surgery	90	433	2,524	4,114	0.614	422	2,400	4,009	0.599	366	2,378	3,477	0.684
43644	Lap gastric bypass/roux-en-y	90	417	993	2,919	0.340	349	778	2,443	0.318	277	727	1,939	0.375
29824	Shoulder arthroscopy/surgery	90	416	754	1,872	0.403	408	740	1,836	0.403	346	730	1,557	0.469
37607	Ligation of a-v fistula	90	415	475	830	0.572	394	465	788	0.590	321	449	642	0.699
19303	Mast simple complete	90	409	1,048	1,726	0.607	361	953	1,526	0.625	276	910	1,161	0.784
25447	Repair wrist joints	90	405	1,013	2,228	0.455	400	1,007	2,200	0.458	322	968	1,771	0.547
63042	Laminotomy single lumbar	90	390	692	2,730	0.253	366	645	2,562	0.252	317	637	2,219	0.287
23650	Treat shoulder dislocation	90	348	190	1,044	0.182	66	91	198	0.460	45	85	135	0.630
15120	Skn splnt a-grft fac/nck/hf/g	90	336	660	1,176	0.561	274	494	959	0.515	162	423	567	0.746
30140	Resect inferior turbinate	90	326	449	978	0.459	124	186	372	0.500	66	164	198	0.828
63056	Decompress spinal cord lmr	90	319	524	3,031	0.173	293	486	2,784	0.175	254	476	2,413	0.197
29822	Shoulder arthroscopy/surgery	90	316	575	1,264	0.455	309	555	1,236	0.449	268	542	1,072	0.506
63045	Remove spine lamina 1 crvl	90	292	551	1,752	0.314	275	513	1,650	0.311	222	504	1,332	0.378
67900	Repair brow defect	90	267	444	801	0.554	256	434	768	0.565	239	422	717	0.589
29876	Knee arthroscopy/surgery	90	236	390	826	0.472	223	362	781	0.464	187	346	655	0.529
28122	Partial removal of foot bone	90	227	690	1,079	0.639	148	463	705	0.657	116	442	552	0.801
34802	Endovas aaa repr w/2-p part	90	219	423	1,095	0.386	194	382	970	0.394	174	380	870	0.437

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57240	Repair bladder & vagina	90	214	281	899	0.313	75	111	303	0.366	56	107	231	0.463
53850	Prostatic microwave thermotx	90	197	137	788	0.174	173	108	692	0.156	43	79	172	0.459
22612	Lumbar spine fusion	90	196	545	1,372	0.397	166	463	1,162	0.398	146	453	1,022	0.443
28296	Correction hallux valgus	90	193	608	1,062	0.573	95	292	523	0.559	71	266	391	0.681
13160	Late closure of wound	90	191	468	1,433	0.327	149	396	1,118	0.354	118	391	885	0.442
33426	Repair of mitral valve	90	186	700	1,674	0.418	182	693	1,638	0.423	164	680	1,476	0.461
23412	Repair rotator cuff chronic	90	180	413	810	0.510	174	400	783	0.511	149	398	671	0.594
38724	Removal of lymph nodes neck	90	175	368	1,400	0.263	63	155	504	0.308	52	155	416	0.373
28124	Partial removal of toe	90	150	304	600	0.507	93	190	372	0.511	70	183	280	0.654
33860	Ascending aortic graft	90	146	714	1,314	0.543	139	670	1,251	0.536	117	650	1,053	0.617
22600	Neck spine fusion	90	131	326	1,441	0.226	111	273	1,221	0.224	92	267	1,012	0.264
28232	Incision of toe tendon	90	126	153	315	0.486	72	84	180	0.467	52	76	130	0.585
28270	Release of foot contracture	90	86	43	301	0.143	74	25	259	0.097	11	19	39	0.494
20926	Removal of tissue for graft	90	84	132	420	0.314	18	24	90	0.267	16	22	80	0.275
66711	Ciliary endoscopic ablation	90	75	59	413	0.143	75	59	413	0.143	27	44	149	0.296
34825	Endovasc extend prosth init	90	70	126	350	0.360	62	121	310	0.390	56	119	280	0.425
23120	Partial removal collar bone	90	62	106	279	0.380	60	101	270	0.374	48	98	216	0.454
29828	Arthroscopy biceps tenodesis	90	56	101	252	0.401	55	101	248	0.408	47	100	212	0.473
34710	Dlyd plmt xtn prosth 1st vsl	90	55	66	275	0.240	49	65	245	0.265	40	64	200	0.320
28308	Incision of metatarsal	90	47	132	188	0.702	26	75	104	0.721	19	69	76	0.908
15734	Muscle-skin graft trunk	90	45	149	429	0.347	21	60	200	0.300	20	60	191	0.314
66179	Aqueous shunt eye w/o graft	90	43	240	366	0.657	37	213	315	0.677	37	213	315	0.677
29879	Knee arthroscopy/surgery	90	40	64	140	0.457	36	57	126	0.452	26	55	91	0.604
15732	Muscle-skin graft head/neck	90	35	31	158	0.197	30	28	135	0.207	19	28	86	0.327
19357	Breast reconstruction	90	34	135	408	0.331	8	33	96	0.344	6	29	72	0.403
34706	Evasc rpr a-billiic rpt	90	34	79	306	0.258	28	45	252	0.179	19	35	171	0.205
15731	Forehead flap w/vasc pedicle	90	31	125	171	0.733	25	105	138	0.764	22	105	121	0.868
23430	Repair biceps tendon	90	26	54	117	0.462	25	52	113	0.462	24	49	108	0.454
63081	Remove vert body dcprn crvl	90	25	55	263	0.210	22	52	231	0.225	21	52	221	0.236
58575	Laps tot hyst resj mal	90	20	29	100	0.290	5	3	25	0.120	3	3	15	0.200
22830	Exploration of spinal fusion	90	11	14	66	0.212	10	13	60	0.217	9	13	54	0.241
15730	Mdfc flap w/prsrv vasc pedcl	90	10	22	45	0.489	10	22	45	0.489	9	22	41	0.543
67255	Reinforce/graft eye wall	90	5	7	33	0.215	4	6	26	0.231	3	6	20	0.308

SOURCE: CMS-IDR, January 21, 2019. The 99024-coded claims listed in this table were linked to clean procedures furnished from July 1, 2017, through June 30, 2018.

NOTE: Study sample includes clean procedures that were linked to post-operative visits for practitioners in practices with ten or more practitioners in the nine states where reporting of post-operative visits was required.

High-volume reporters includes procedures that met the following inclusion criteria: one of the clean procedure codes; performed from July 1, 2017, through June 30, 2018, for a Medicare FFS beneficiary; performed in one of the nine states in a practice with ten or more practitioners; and performed by practitioners who billed ten or more procedures with 90-day global periods from July 1, 2017, through June 30, 2018.

Robust reporters includes procedures that met the following inclusion criteria: one of the clean procedure codes, performed from July 1, 2017, through June 30, 2018, for a Medicare FFS beneficiary; performed in one of the nine states in a practice with ten or more practitioners; and performed by practitioners who billed ten or more procedures with 90-day global periods from July 1, 2017, and June 30, 2018, and reported at least one claim for a post-operative visit for at least 50 percent of procedures performed during the study period.