



Report to Congress: Unified Payment for Medicare-Covered Post-Acute Care

Analysis and development of the prototype Unified PAC prospective payment system called for in the IMPACT Act

Appendix K

Prototype Results—Impact Ratios

July 2022

Table K-1. Impact Ratios by Provider Characteristics - 2017 to 2020

Provider Characteristic		2017	7		2018		2019			
		Average			Average			Average		
	Average	Relative	Payment	Average	Relative	Payment	Average	Relative	Payment	
	Payment	Allowed	Weight to	Payment	Allowed	Weight to	Payment	Allowed	Weight to	
	Weight	Charge	Cost Ratio	Weight	Charge	Cost Ratio	Weight	Charge	Cost Ratio	
Overall	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Provider Type										
IRF	1.762	1.880	0.937	1.774	1.896	0.936	1.867	1.944	0.960	
SNF	1.352	1.347	1.004	1.354	1.341	1.009	1.385	1.380	1.003	
HHA	0.299	0.307	0.971	0.294	0.306	0.960	0.302	0.316	0.955	
LTCH	4.109	3.522	1.167	4.257	3.677	1.158	4.532	3.778	1.199	
Bed Size										
< 25	1.488	0.940	1.583	1.520	0.948	1.603	1.571	1.049	1.498	
25 - 99	1.618	1.557	1.039	1.621	1.563	1.037	1.659	1.598	1.038	
100 - 199	1.386	1.402	0.989	1.387	1.393	0.995	1.419	1.421	0.999	
200 +	1.652	1.755	0.942	1.668	1.778	0.938	1.735	1.850	0.938	
Ownership										
IRF										
For-Profit	1.707	1.843	0.926	1.712	1.845	0.928	1.806	1.893	0.954	
Non-Profit	1.845	1.925	0.958	1.868	1.962	0.952	1.965	2.019	0.973	
Government	1.834	1.950	0.940	1.858	1.988	0.935	1.949	2.036	0.957	
SNF										
For-Profit	1.361	1.419	0.959	1.362	1.417	0.961	1.394	1.467	0.950	
Non-Profit	1.333	1.145	1.164	1.338	1.143	1.171	1.364	1.156	1.180	
Government	1.309	1.277	1.025	1.314	1.239	1.061	1.354	1.292	1.048	
HHA										
For-Profit	0.300	0.325	0.921	0.293	0.323	0.908	0.301	0.332	0.904	
Non-Profit	0.298	0.281	1.061	0.296	0.281	1.054	0.304	0.290	1.049	
Government	0.276	0.257	1.072	0.281	0.263	1.069	0.293	0.275	1.067	
LTCH										
For-Profit	4.080	3.461	1.179	4.246	3.648	1.164	4.508	3.758	1.200	
Non-Profit	4.295	3.845	1.117	4.349	3.797	1.145	4.673	3.865	1.209	
Government	3.980	3.498	1.138	4.140	3.763	1.100	4.369	3.811	1.146	
Urbanicity										
Rural	0.971	0.943	1.029	0.958	0.928	1.033	0.959	0.938	1.021	
Urban	1.005	1.009	0.996	1.006	1.011	0.995	1.006	1.009	0.997	
Census Division										
Northeast	1.023	1.007	1.017	1.025	1.009	1.015	1.021	1.010	1.011	
Midwest	0.988	0.952	1.038	0.994	0.952	1.044	0.988	0.944	1.047	
South	0.954	0.983	0.971	0.948	0.973	0.974	0.947	0.962	0.984	
Pacific	1.095	1.098	0.998	1.105	1.120	0.986	1.115	1.151	0.968	

Table K-1. Impact Ratios by Provider Characteristics - 2017 to 2020 (continued)

Provider Characteristic		2020	-	2017-2019				
		Average		Average				
	Average	Relative	Payment	Average	Relative	Payment		
	Payment	Allowed	Weight to	Payment	Allowed	Weight to		
	Weight	Charge	Cost Ratio	Weight	Charge	Cost Ratio		
Overall	1.000	1.000	1.000	1.000	1.000	1.000		
Provider Type								
IRF	2.052	1.947	1.054	1.799	1.907	0.944		
SNF	1.349	1.409	0.958	1.363	1.356	1.006		
ННА	0.287	0.285	1.006	0.298	0.310	0.961		
LTCH	4.917	3.896	1.262	4.281	3.643	1.175		
Bed Size								
< 25	1.719	1.293	1.330	1.522	0.973	1.564		
25 - 99	1.700	1.621	1.049	1.631	1.570	1.038		
100 - 199	1.395	1.442	0.967	1.398	1.406	0.994		
200 +	1.787	1.871	0.955	1.685	1.796	0.938		
Ownership								
IRF								
For-Profit	1.988	1.880	1.057	1.740	1.861	0.935		
Non-Profit	2.145	2.045	1.049	1.891	1.968	0.961		
Government	2.144	2.047	1.048	1.873	1.989	0.942		
SNF								
For-Profit	1.355	1.484	0.913	1.371	1.434	0.956		
Non-Profit	1.340	1.173	1.142	1.345	1.151	1.169		
Government	1.292	1.357	0.952	1.333	1.277	1.044		
ННА								
For-Profit	0.286	0.298	0.960	0.298	0.326	0.912		
Non-Profit	0.290	0.265	1.094	0.299	0.284	1.053		
Government	0.280	0.254	1.099	0.286	0.268	1.066		
LTCH								
For-Profit	4.933	3.925	1.257	4.256	3.600	1.182		
Non-Profit	4.879	3.787	1.289	4.443	3.859	1.151		
Government	4.726	3.770	1.254	4.112	3.636	1.131		
Urbanicity								
Rural	0.918	0.923	0.994	0.960	0.935	1.027		
Urban	1.013	1.012	1.001	1.006	1.010	0.996		
Census Division								
Northeast	1.023	1.046	0.978	1.023	1.008	1.015		
Midwest	0.987	0.936	1.055	0.990	0.949	1.043		
South	0.955	0.954	1.001	0.950	0.973	0.976		
Pacific	1.094	1.132	0.967	1.104	1.122	0.984		

Table K-2. Impact Ratios by Unified PAC Clinical Groups (UPCG) - 2017 to 2020

Unified PAC Clinical Group (UPCG)		2017			2018		2019		
-		Average		Average			Average		
	Average	Relative	Payment	Average	Relative	Payment	Average	Relative	Payment
	Payment	Allowed	Weight to	Payment	Allowed	Weight to	Payment	Allowed	Weight to
	Weight	Charge	Cost Ratio	Weight	Charge	Cost Ratio	Weight	Charge	Cost Ratio
MMTA: Cardiac	0.300	0.299	1.002	0.300	0.302	0.995	0.309	0.316	0.979
MMTA: Endocrine	0.308	0.309	0.996	0.304	0.307	0.989	0.314	0.323	0.975
MMTA: Gastrointestinal/Genitourinary	0.267	0.269	0.994	0.269	0.271	0.991	0.276	0.282	0.978
MMTA: Infections	0.271	0.257	1.055	0.269	0.257	1.045	0.278	0.271	1.029
MMTA: Respiratory	0.291	0.287	1.013	0.291	0.291	0.999	0.299	0.303	0.987
MMTA: Surgical Aftercare	0.241	0.250	0.965	0.238	0.247	0.962	0.249	0.258	0.964
MMTA: Other	0.274	0.284	0.963	0.274	0.285	0.959	0.279	0.297	0.937
Lower Extremity Fracture (Including with Joint Replacement)	1.225	1.267	0.967	1.213	1.249	0.971	1.228	1.256	0.978
Major Joint Replacement Without Lower Extremity Fracture	0.543	0.557	0.974	0.551	0.569	0.968	0.570	0.588	0.969
Orthopedic Surgery (Not Joint Replacement)	1.389	1.413	0.984	1.358	1.374	0.989	1.350	1.354	0.997
Trauma	0.889	0.901	0.987	0.899	0.916	0.981	0.885	0.888	0.997
Limb Loss	1.640	1.547	1.060	1.615	1.535	1.052	1.649	1.602	1.029
Orthopedic (Other)	0.822	0.860	0.955	0.795	0.835	0.953	0.787	0.833	0.945
Stroke	1.428	1.495	0.956	1.431	1.496	0.956	1.471	1.529	0.962
Non-Traumatic Brain Dysfunction	1.510	1.508	1.001	1.555	1.544	1.007	1.600	1.573	1.017
Spinal Dysfunction	2.354	2.404	0.979	2.167	2.324	0.932	2.514	2.514	1.000
Traumatic Brain Injury	1.291	1.368	0.943	1.271	1.351	0.941	1.305	1.344	0.971
Neurological (Other)	1.064	1.149	0.926	1.093	1.176	0.929	1.155	1.240	0.931
Respiratory	1.406	1.336	1.053	1.402	1.336	1.050	1.450	1.391	1.042
Cardiovascular	1.255	1.233	1.018	1.259	1.231	1.023	1.276	1.233	1.035
Behavioral Health	0.266	0.285	0.933	0.264	0.287	0.919	0.274	0.304	0.899
Coma	2.660	2.753	0.966	2.518	2.648	0.951	2.683	2.743	0.978
Invasive Ventilator	4.790	4.583	1.045	4.851	4.548	1.067	5.092	4.628	1.100
Gastrointestinal & Hepatobiliary	1.274	1.215	1.048	1.265	1.197	1.057	1.285	1.211	1.061
Infections	1.530	1.438	1.064	1.534	1.448	1.059	1.505	1.450	1.038
Kidney & Urinary	1.366	1.342	1.017	1.349	1.321	1.021	1.344	1.320	1.019
Skin	0.871	0.797	1.093	0.856	0.790	1.084	0.823	0.769	1.070
Cancer	1.047	0.985	1.063	1.055	0.995	1.060	1.114	1.062	1.048
Transplant	1.638	1.335	1.227	1.822	1.512	1.205	1.959	1.618	1.211
Hematological	1.319	1.293	1.020	1.302	1.263	1.031	1.285	1.266	1.015
Other	1.191	1.141	1.044	1.195	1.150	1.039	1.256	1.195	1.051
COVID-19	-	-	_	-	-	-	_	_	_

Table K-2. Impact Ratios by Unified PAC Clinical Groups (UPCG) - 2017 to 2020 (continued)

Unified PAC Clinical Group (UPCG)		2020			2017-2019			
·		Average			Average			
	Average	Relative	Payment	Average	Relative	Payment		
	Payment	Allowed	Weight to	Payment	Allowed	Weight to		
	Weight	Charge	Cost Ratio	Weight	Charge	Cost Ratio		
MMTA: Cardiac	0.285	0.284	1.006	0.303	0.306	0.990		
MMTA: Endocrine	0.295	0.336	0.878	0.309	0.313	0.986		
MMTA: Gastrointestinal/Genitourinary	0.263	0.259	1.014	0.270	0.274	0.985		
MMTA: Infections	0.266	0.263	1.010	0.272	0.262	1.039		
MMTA: Respiratory	0.278	0.270	1.027	0.293	0.294	0.999		
MMTA: Surgical Aftercare	0.248	0.238	1.042	0.242	0.252	0.963		
MMTA: Other	0.261	0.265	0.987	0.275	0.290	0.949		
Lower Extremity Fracture (Including with Joint Replacement)	1.225	1.173	1.044	1.221	1.258	0.971		
Major Joint Replacement Without Lower Extremity Fracture	0.668	0.634	1.053	0.554	0.570	0.971		
Orthopedic Surgery (Not Joint Replacement)	1.337	1.269	1.054	1.366	1.381	0.989		
Trauma	0.842	0.820	1.027	0.890	0.901	0.987		
Limb Loss	1.696	1.624	1.044	1.634	1.561	1.046		
Orthopedic (Other)	0.790	0.800	0.988	0.802	0.843	0.951		
Stroke	1.445	1.444	1.001	1.442	1.506	0.957		
Non-Traumatic Brain Dysfunction	1.696	1.552	1.093	1.552	1.542	1.007		
Spinal Dysfunction	2.735	2.517	1.086	2.340	2.415	0.969		
Traumatic Brain Injury	1.297	1.273	1.018	1.286	1.354	0.950		
Neurological (Other)	1.232	1.295	0.951	1.102	1.186	0.928		
Respiratory	1.473	1.466	1.004	1.419	1.353	1.049		
Cardiovascular	1.270	1.205	1.054	1.263	1.232	1.025		
Behavioral Health	0.249	0.251	0.991	0.267	0.293	0.914		
Coma	2.969	2.881	1.031	2.630	2.717	0.968		
Invasive Ventilator	5.572	4.700	1.186	4.905	4.586	1.070		
Gastrointestinal & Hepatobiliary	1.365	1.277	1.069	1.276	1.208	1.057		
Infections	1.498	1.508	0.993	1.521	1.445	1.053		
Kidney & Urinary	1.340	1.329	1.009	1.353	1.328	1.019		
Skin	0.708	0.707	1.001	0.851	0.786	1.083		
Cancer	1.190	1.128	1.055	1.071	1.014	1.056		
Transplant	1.868	1.467	1.274	1.802	1.492	1.208		
Hematological	1.283	1.256	1.022	1.297	1.274	1.018		
Other	1.394	1.322	1.054	1.213	1.158	1.048		
COVID-19	0.997	1.305	0.764	-	-	-		

Table K-3. Impact Ratios by Deciles of Payment Weight - 2017 to 2020

Deciles of Payment Weight	2017			2018			2019			
_	Average				Average		Average			
	Average	Relative	Payment	Average	Relative	Payment	Average	Relative	Payment	
	Payment	Allowed	Weight to Cost	Payment	Allowed	Weight to Cost	Payment	Allowed	Weight to Cost	
	Weight	Charge	Ratio	Weight	Charge	Ratio	Weight	Charge	Ratio	
1st Decile	0.168	0.170	0.988	0.167	0.173	0.962	0.180	0.193	0.932	
2nd Decile	0.287	0.303	0.947	0.278	0.301	0.922	0.286	0.317	0.902	
3rd Decile	0.326	0.341	0.957	0.321	0.335	0.957	0.323	0.343	0.942	
4th Decile	0.381	0.354	1.076	0.377	0.350	1.077	0.371	0.358	1.038	
5th Decile	0.910	0.847	1.075	0.904	0.833	1.085	0.760	0.682	1.115	
6th Decile	1.271	1.239	1.026	1.272	1.238	1.028	1.265	1.216	1.040	
7th Decile	1.400	1.406	0.996	1.395	1.400	0.997	1.396	1.387	1.007	
8th Decile	1.509	1.562	0.966	1.509	1.565	0.965	1.544	1.599	0.966	
9th Decile	1.624	1.700	0.956	1.630	1.691	0.964	1.669	1.759	0.949	
10th Decile	2.466	2.428	1.016	2.482	2.454	1.011	2.514	2.461	1.022	

Table K-3. Impact Ratios by Deciles of Payment Weight - 2017 to 2020 (continued)

Deciles of Payment Weight		2020)	2017-2019				
	Average			Average				
	Average Relative Payment		Payment	Average	Payment			
	Payment	Allowed	Weight to Cost	Payment	Allowed	Weight to Cost		
	Weight	Charge	Ratio	Weight	Charge	Ratio		
1st Decile	0.161	0.168	0.957	0.175	0.184	0.951		
2nd Decile	0.274	0.277	0.988	0.285	0.308	0.925		
3rd Decile	0.309	0.309	1.002	0.323	0.339	0.955		
4th Decile	0.353	0.335	1.056	0.375	0.357	1.052		
5th Decile	0.745	0.767	0.972	0.849	0.775	1.095		
6th Decile	1.235	1.286	0.960	1.273	1.231	1.034		
7th Decile	1.380	1.413	0.977	1.393	1.391	1.002		
8th Decile	1.510	1.594	0.948	1.530	1.583	0.967		
9th Decile	1.684	1.721	0.978	1.638	1.719	0.953		
10th Decile	2.635	2.422	1.088	2.483	2.445	1.016		

Notes:

- 1) IRF = Inpatient Rehabilitation Facility, SNF = Skilled Nursing Facility, LTCH = Long-Term Care Hospital, HHA = Home Health Agency, PAC = Post-Acute Care, MMTA = Medication Management, Teaching, and Assessment.
- 2) Unit of payment (i.e., unit of analysis for calibration of payment weights) is the PAC "stay." A stay may span more than one PAC claim.
- 3) Payment weights calibrated using all PAC Claims from a 50% random sample of PAC users within each year. Independent samples drawn from each
- 4) HHA claims aggregated to "stays" defined as sequences of HHA episodes representing a continuous course of care. Stays beginning with a recertification (indicating the sequence has additional claims in the prior year) were dropped.
- 5) LTCH stays include both stays paid under the LTCH PPS and under the site-neutral LTCH payment policy.
- 6) "Short stays" defined as length of stay of 3 calendar days or fewer for IRF, SNF, and LTCH, and 4 visits or fewer for HHA.
- 7) "Decedents" defined as the beneficiary being deceased upon discharge from the PAC stay.
- 8) Cost outliers (PAC stay total cost >3 SD from the mean within UPCG, P-CMG, and PAC Provider Type), decedents, and short stays were excluded from these statistics.
- 9) Total cost of the PAC stay is adjusted to account for geographic variation in wages using the CMS wage-index and labor share for each geographic area and PAC setting in each year.
- 10) Final payment weight is calculated by multiplying the PAC stay's base payment weight by its corresponding Comorbidity, PAC Setting, and Rural Adjustment factors. Special populations (i.e., short stays, decedents) are always assigned to Comorbidity Group 1. See Appendix J for Base Payment Weights and Adjustment Factors.
- 11) Impact Ratio defined as the ratio of the average payment weight generated by the prototype Unified PAC PPS to the average relative allowed charge (rescaled to 1) reported on the PAC claim across key groups of PAC providers and beneficiaries. The labor share of payment weights used to calculate impact ratios was multiplied by the provider's area wage index to draw an equivalent comparison with total allowed charges (which are adjusted by CMS in a similar manner).

Source: RTI International Analysis of Medicare Claims and Administrative Data – 2017 to 2020

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