

**Table 1. Revised CMS-HCC Model Relative Factors for Community and Institutional Beneficiaries**

Variable	Description Label	Community, NonDual, Aged	Community, NonDual, Disabled	Community, FBDual, Aged	Community, FBDual, Disabled	Community, PBDual, Aged	Community, PBDual, Disabled	Institutional
<b>Female</b>								
0-34 Years		-	0.240	-	0.312	-	0.338	1.013
35-44 Years		-	0.298	-	0.300	-	0.377	0.982
45-54 Years		-	0.317	-	0.332	-	0.367	0.989
55-59 Years		-	0.344	-	0.381	-	0.364	0.968
60-64 Years		-	0.403	-	0.441	-	0.388	1.010
65-69 Years		0.306	-	0.417	-	0.335	-	1.178
70-74 Years		0.368	-	0.501	-	0.399	-	1.072
75-79 Years		0.440	-	0.600	-	0.475	-	0.977
80-84 Years		0.528	-	0.726	-	0.542	-	0.845
85-89 Years		0.652	-	0.901	-	0.666	-	0.736
90-94 Years		0.783	-	1.019	-	0.803	-	0.614
95 Years or Over		0.802	-	1.075	-	0.897	-	0.448
<b>Male</b>								
0-34 Years		-	0.152	-	0.221	-	0.324	1.030
35-44 Years		-	0.187	-	0.200	-	0.262	1.055
45-54 Years		-	0.217	-	0.276	-	0.294	0.990
55-59 Years		-	0.266	-	0.365	-	0.301	1.036
60-64 Years		-	0.298	-	0.477	-	0.337	1.021
65-69 Years		0.295	-	0.483	-	0.328	-	1.247
70-74 Years		0.373	-	0.571	-	0.402	-	1.299
75-79 Years		0.458	-	0.679	-	0.482	-	1.308
80-84 Years		0.551	-	0.802	-	0.536	-	1.168
85-89 Years		0.682	-	0.991	-	0.667	-	1.109
90-94 Years		0.842	-	1.165	-	0.808	-	0.947

Variable	Description Label	Community, NonDual, Aged	Community, NonDual, Disabled	Community, FBDual, Aged	Community, FBDual, Disabled	Community, PBDual, Aged	Community, PBDual, Disabled	Institutional
95 Years or Over		0.959	-	1.245	-	1.020	-	0.767
<b>Medicaid and Originally Disabled Interactions</b>								
Medicaid		-	-	-	-	-	-	0.061
Originally Disabled, Female		0.240	-	0.169	-	0.124	-	0.000
Originally Disabled, Male		0.150	-	0.189	-	0.103	-	0.000
<b>Disease Coefficients</b>	<b>Description Label</b>							
HCC1	HIV/AIDS	0.306	0.283	0.574	0.491	0.541	0.228	1.716
HCC2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/Shock	0.447	0.522	0.585	0.797	0.402	0.410	0.340
HCC6	Opportunistic Infections	0.428	0.691	0.538	0.903	0.473	0.751	0.570
HCC8	Metastatic Cancer and Acute Leukemia	2.579	2.598	2.497	2.718	2.399	2.536	1.123
HCC9	Lung and Other Severe Cancers	0.953	0.910	0.956	1.007	0.938	0.863	0.714
HCC10	Lymphoma and Other Cancers	0.665	0.644	0.700	0.747	0.656	0.566	0.394
HCC11	Colorectal, Bladder, and Other Cancers	0.296	0.346	0.326	0.355	0.320	0.392	0.288
HCC12	Breast, Prostate, and Other Cancers and Tumors	0.143	0.199	0.156	0.187	0.150	0.179	0.195
HCC17	Diabetes with Acute Complications	0.312	0.365	0.339	0.423	0.348	0.416	0.433
HCC18	Diabetes with Chronic Complications	0.312	0.365	0.339	0.423	0.348	0.416	0.433
HCC19	Diabetes without Complication	0.102	0.126	0.096	0.157	0.096	0.134	0.157
HCC21	Protein-Calorie Malnutrition	0.536	0.740	0.739	0.830	0.552	0.697	0.256
HCC22	Morbid Obesity	0.268	0.223	0.403	0.366	0.240	0.238	0.502
HCC23	Other Significant Endocrine and Metabolic Disorders	0.224	0.436	0.224	0.347	0.190	0.345	0.331
HCC27	End-Stage Liver Disease	0.945	1.090	1.220	1.325	0.873	0.946	0.945
HCC28	Cirrhosis of Liver	0.383	0.387	0.336	0.483	0.452	0.319	0.383
HCC29	Chronic Hepatitis	0.162	0.262	0.037	0.393	0.258	0.319	0.383
HCC33	Intestinal Obstruction/Perforation	0.242	0.515	0.362	0.495	0.318	0.501	0.329
HCC34	Chronic Pancreatitis	0.271	0.666	0.327	0.859	0.405	0.834	0.237
HCC35	Inflammatory Bowel Disease	0.289	0.475	0.328	0.602	0.205	0.487	0.240

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HCC39	Bone/Joint/Muscle Infections/Necrosis	0.418	0.466	0.542	0.701	0.411	0.483	0.339
HCC40	Rheumatoid Arthritis and Inflammatory Connective Tissue Disease	0.416	0.370	0.364	0.339	0.383	0.285	0.323
HCC46	Severe Hematological Disorders	1.363	3.131	1.197	4.181	1.204	3.466	0.668
HCC47	Disorders of Immunity	0.614	0.833	0.520	0.579	0.441	0.677	0.519
HCC48	Coagulation Defects and Other Specified Hematological Disorders	0.217	0.333	0.263	0.371	0.221	0.375	0.149
HCC54	Drug/Alcohol Psychosis	0.377	0.559	0.694	0.902	0.381	0.602	0.100
HCC55	Drug/Alcohol Dependence	0.377	0.280	0.513	0.360	0.370	0.281	0.100
HCC57	Schizophrenia	0.597	0.388	0.601	0.424	0.537	0.360	0.266
HCC58	Major Depressive, Bipolar, and Paranoid Disorders	0.388	0.205	0.437	0.175	0.405	0.161	0.266
HCC70	Quadriplegia	1.291	1.034	1.079	1.038	1.252	1.304	0.488
HCC71	Paraplegia	0.989	0.691	0.904	1.001	0.941	0.892	0.458
HCC72	Spinal Cord Disorders/Injuries	0.518	0.448	0.543	0.400	0.546	0.377	0.225
HCC73	Amyotrophic Lateral Sclerosis and Other Motor Neuron Disease	0.953	1.062	1.209	1.197	0.560	0.800	0.220
HCC74	Cerebral Palsy	0.275	0.130	0.000	0.000	0.155	0.051	0.000
HCC75	Myasthenia Gravis/Myoneural Disorders and Guillain-Barre Syndrome/Inflammatory and Toxic Neuropathy	0.449	0.518	0.428	0.457	0.358	0.325	0.362
HCC76	Muscular Dystrophy	0.496	0.449	0.543	0.503	0.421	0.165	0.102
HCC77	Multiple Sclerosis	0.434	0.531	0.675	0.780	0.400	0.451	0.000
HCC78	Parkinson's and Huntington's Diseases	0.662	0.574	0.737	0.507	0.618	0.387	0.143
HCC79	Seizure Disorders and Convulsions	0.303	0.223	0.351	0.192	0.342	0.241	0.086
HCC80	Coma, Brain Compression/Anoxic Damage	0.574	0.296	0.929	0.318	0.499	0.152	0.041
HCC82	Respirator Dependence/Tracheostomy Status	1.036	1.006	2.263	1.547	0.898	0.664	1.602
HCC83	Respiratory Arrest	0.646	0.767	1.014	0.475	0.691	0.421	0.714

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HCC84	Cardio-Respiratory Failure and Shock	0.296	0.568	0.462	0.475	0.296	0.421	0.292
HCC85	Congestive Heart Failure	0.317	0.405	0.349	0.408	0.315	0.360	0.187
HCC86	Acute Myocardial Infarction	0.229	0.300	0.465	0.607	0.275	0.431	0.489
HCC87	Unstable Angina and Other Acute Ischemic Heart Disease	0.214	0.300	0.330	0.607	0.275	0.431	0.489
HCC88	Angina Pectoris	0.138	0.119	0.067	0.201	0.172	0.216	0.489
HCC96	Specified Heart Arrhythmias	0.264	0.279	0.362	0.370	0.278	0.254	0.220
HCC99	Cerebral Hemorrhage	0.259	0.277	0.466	0.678	0.273	0.275	0.112
HCC100	Ischemic or Unspecified Stroke	0.259	0.191	0.466	0.351	0.266	0.228	0.112
HCC103	Hemiplegia/Hemiparesis	0.529	0.319	0.538	0.427	0.592	0.394	0.031
HCC104	Monoplegia, Other Paralytic Syndromes	0.388	0.254	0.367	0.375	0.549	0.394	0.031
HCC106	Atherosclerosis of the Extremities with Ulceration or Gangrene	1.435	1.479	1.713	1.710	1.427	1.573	0.868
HCC107	Vascular Disease with Complications	0.393	0.477	0.530	0.742	0.436	0.539	0.315
HCC108	Vascular Disease	0.293	0.327	0.318	0.314	0.310	0.320	0.092
HCC110	Cystic Fibrosis	0.609	2.493	0.967	3.305	0.351	2.811	0.299
HCC111	Chronic Obstructive Pulmonary Disease	0.322	0.257	0.414	0.348	0.351	0.287	0.299
HCC112	Fibrosis of Lung and Other Chronic Lung Disorders	0.206	0.257	0.132	0.317	0.169	0.171	0.056
HCC114	Aspiration and Specified Bacterial Pneumonias	0.589	0.521	0.694	0.482	0.654	0.366	0.066
HCC115	Pneumococcal Pneumonia, Empyema, Lung Abscess	0.217	0.126	0.159	0.048	0.297	0.216	0.066
HCC122	Proliferative Diabetic Retinopathy and Vitreous Hemorrhage	0.213	0.168	0.219	0.279	0.272	0.191	0.452
HCC124	Exudative Macular Degeneration	0.490	0.378	0.273	0.088	0.330	0.112	0.224
HCC134	Dialysis Status	0.415	0.491	0.660	0.626	0.428	0.503	0.454
HCC135	Acute Renal Failure	0.415	0.491	0.660	0.626	0.428	0.503	0.454
HCC136	Chronic Kidney Disease, Stage 5	0.233	0.139	0.240	0.164	0.181	0.144	0.428
HCC137	Chronic Kidney Disease, Severe (Stage 4)	0.233	0.139	0.240	0.078	0.181	0.034	0.198

Variable	Description Label	Community, NonDual, Aged	Community, NonDual, Disabled	Community, FBDual, Aged	Community, FBDual, Disabled	Community, PBDual, Aged	Community, PBDual, Disabled	Institutional
HCC157	Pressure Ulcer of Skin with Necrosis Through to Muscle, Tendon, or Bone	2.125	2.164	2.828	2.579	2.233	2.608	0.908
HCC158	Pressure Ulcer of Skin with Full Thickness Skin Loss	1.183	1.369	1.548	1.531	1.055	1.215	0.290
HCC161	Chronic Ulcer of Skin, Except Pressure	0.525	0.625	0.744	0.620	0.575	0.609	0.288
HCC162	Severe Skin Burn or Condition	0.315	0.342	0.003	0.527	0.516	0.117	0.074
HCC166	Severe Head Injury	0.574	0.296	0.929	0.318	1.046	0.152	0.041
HCC167	Major Head Injury	0.188	0.044	0.269	0.168	0.131	0.048	0.000
HCC169	Vertebral Fractures without Spinal Cord Injury	0.486	0.448	0.543	0.400	0.507	0.377	0.206
HCC170	Hip Fracture/Dislocation	0.410	0.504	0.511	0.656	0.376	0.475	0.000
HCC173	Traumatic Amputations and Complications	0.261	0.334	0.405	0.377	0.229	0.228	0.263
HCC176	Complications of Specified Implanted Device or Graft	0.587	0.856	0.708	1.136	0.573	0.860	0.493
HCC186	Major Organ Transplant or Replacement Status	0.982	0.607	0.802	1.056	0.781	0.644	0.945
HCC188	Artificial Openings for Feeding or Elimination	0.561	0.771	0.762	0.855	0.569	0.852	0.491
HCC189	Amputation Status, Lower Limb/Amputation Complications	0.578	0.447	0.773	1.046	0.724	0.684	0.400
<b>Disease Interactions</b>								
HCC47_gCancer	Immune Disorders*Cancer	0.877	0.663	0.801	0.640	0.763	0.794	-
HCC85_gDiabetesMellit	Congestive Heart Failure*Diabetes	0.151	0.094	0.201	0.157	0.175	0.137	0.151
HCC85_gCopdCF	Congestive Heart Failure*Chronic Obstructive Pulmonary Disease	0.186	0.171	0.235	0.213	0.183	0.178	0.161
HCC85_gRenal	Congestive Heart Failure*Renal	0.266	0.484	0.267	0.699	0.294	0.598	-
gRespDepandArre_gCopdCF	Cardiorespiratory Failure*Chronic Obstructive Pulmonary Disease	0.330	0.251	0.554	0.515	0.452	0.441	0.416



NOTES:

1. The denominator is \$9,350.78
2. In the “disease interactions” and “disabled interactions,” the variables are defined as follows:
  - Immune Disorders = HCC 47
  - Cancer = HCCs 8-12
  - Congestive Heart Failure = HCC 85
  - Diabetes = HCCs 17-19
  - Chronic Obstructive Pulmonary Disease = HCCs 110-112
  - Renal = HCCs 134 – 137
  - Cardiorespiratory Failure = HCCs 82-84
  - Specified Heart Arrhythmias = HCC 96
  - Substance Abuse = HCCs 54-55
  - Psychiatric = HCCs 57-58
  - Sepsis = HCC 2
  - Pressure Ulcer = HCCs 157-158
  - Artificial Openings for Feeding or Elimination = HCC 188
  - Aspiration and Specified Bacterial Pneumonias = HCC 114
  - Schizophrenia = HCC 57
  - Seizure Disorders and Convulsions = HCC 79
  - Chronic Ulcer of Skin, except Pressure = HCC 161
  - Bone/Joint/Muscle Infections/Necrosis = HCC 39
  - Multiple Sclerosis = HCC 77
  - Opportunistic Infections = HCC 6

SOURCE: RTI International analysis of 2013-2014 Medicare 100% data and RTI International analysis of 2013-2014 Medicare 100% institutional sample.

**Table 2. Revised CMS-HCC Model Relative Factors for Aged and Disabled New Enrollees**

	<b>Non-Medicaid &amp; Non-Originally Disabled</b>	<b>Medicaid &amp; Non-Originally Disabled</b>	<b>Non-Medicaid &amp; Originally Disabled</b>	<b>Medicaid &amp; Originally Disabled</b>
<b>Female</b>				
0-34 Years	0.652	0.968	-	-
35-44 Years	0.920	1.199	-	-
45-54 Years	1.017	1.313	-	-
55-59 Years	0.986	1.318	-	-
60-64 Years	1.102	1.412	-	-
65 Years	0.513	1.040	1.110	1.539
66 Years	0.507	0.929	1.147	1.591
67 Years	0.535	0.929	1.147	1.591
68 Years	0.571	0.929	1.147	1.591
69 Years	0.594	0.929	1.147	1.591
70-74 Years	0.662	0.958	1.147	1.591
75-79 Years	0.876	1.072	1.147	1.591
80-84 Years	1.047	1.371	1.147	1.591
85-89 Years	1.300	1.432	1.147	1.591
90-94 Years	1.300	1.648	1.147	1.591
95 Years or Over	1.300	1.648	1.147	1.591
<b>Male</b>				
0-34 Years	0.448	0.753	-	-
35-44 Years	0.653	1.075	-	-
45-54 Years	0.819	1.333	-	-
55-59 Years	0.873	1.397	-	-
60-64 Years	0.906	1.554	-	-
65 Years	0.505	1.179	0.776	1.584
66 Years	0.523	1.186	0.940	1.584
67 Years	0.565	1.186	0.987	2.163
68 Years	0.630	1.186	1.055	2.163
69 Years	0.659	1.288	1.374	2.163
70-74 Years	0.762	1.288	1.374	2.163
75-79 Years	1.022	1.337	1.374	2.163
80-84 Years	1.247	1.575	1.374	2.163
85-89 Years	1.484	1.817	1.374	2.163
90-94 Years	1.484	1.817	1.374	2.163
95 Years or Over	1.484	1.817	1.374	2.163

NOTES:

1. The denominator is \$9,350.78
2. For payment purposes, a new enrollee is a beneficiary who did not have 12 months of Part B eligibility in the data collection year. CMS-HCC new enrollee models are not based on diagnoses, but include factors for different age and gender combinations by Medicaid and the original reason for Medicare entitlement.

SOURCE: RTI International analysis of 2013-2014 100% Medicare data.

**Table 3. Disease Hierarchies for the Revised CMS-HCC Model**

<b>Hierarchical Condition Category (HCC)</b>	<b>If the Disease Group is Listed in this column...</b>	<b>...Then drop the Disease Group(s) listed in this column</b>
	<b>Hierarchical Condition Category (HCC) LABEL</b>	
8	Metastatic Cancer and Acute Leukemia	9,10,11,12
9	Lung and Other Severe Cancers	10,11,12
10	Lymphoma and Other Cancers	11,12
11	Colorectal, Bladder, and Other Cancers	12
17	Diabetes with Acute Complications	18,19
18	Diabetes with Chronic Complications	19
27	End-Stage Liver Disease	28,29,80
28	Cirrhosis of Liver	29
46	Severe Hematological Disorders	48
54	Drug/Alcohol Psychosis	55
57	Schizophrenia	58
70	Quadriplegia	71,72,103,104,169
71	Paraplegia	72,104,169
72	Spinal Cord Disorders/Injuries	169
82	Respirator Dependence/Tracheostomy Status	83,84
83	Respiratory Arrest	84
86	Acute Myocardial Infarction	87,88
87	Unstable Angina and Other Acute Ischemic Heart Disease	88
99	Cerebral Hemorrhage	100
103	Hemiplegia/Hemiparesis	104
106	Atherosclerosis of the Extremities with Ulceration or Gangrene	107,108,161,189
107	Vascular Disease with Complications	108
110	Cystic Fibrosis	111,112
111	Chronic Obstructive Pulmonary Disease	112
114	Aspiration and Specified Bacterial Pneumonias	115
134	Dialysis Status	135,136,137
135	Acute Renal Failure	136,137
136	Chronic Kidney Disease, Stage 5	137
157	Pressure Ulcer of Skin with Necrosis Through to Muscle, Tendon, or Bone	158,161
158	Pressure Ulcer of Skin with Full Thickness Skin Loss	161
166	Severe Head Injury	80,167

**How Payments are Made with a Disease Hierarchy:** If a beneficiary triggers Disease Groups 135 (Acute Renal Failure) and 136 (Chronic Kidney Disease, Stage 5), then DG 136 will be dropped. In other words, payment will always be associated with the DG in column 1, if a DG in column 3 also occurs during the same collection period. Therefore, the organization's payment will be based on DG 135 rather than DG 136.