



Patient Safety Indicators (PSI) Parameter Estimates, v2023

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Executive Summary

This document provides statistical parameters associated with Version 2023 Agency for Healthcare Research and Quality (AHRQ) Quality Indicators (QI) Patient Safety Indicators (PSI). The parameter estimates derived for the AHRQ QI are based on analysis of the 2019, 2020, and 2021 AHRQ Healthcare Cost and Utilization Project (HCUP) State Inpatient Databases (SID).¹

HCUP is a family of healthcare databases and related software tools and products developed through a Federal- State- Industry partnership. HCUP includes the largest collection of longitudinal hospital care data in the United States, with all-payer, encounter-level information beginning in 1988. The SID contain all-payer, encounter-level information on inpatient discharges, including clinical and resource information typically found on a billing record, such as patient demographics, up to 30 *International Classification of Diseases, Tenth Revision, Clinical Modification/Procedural Classification System (ICD-10-CM/PCS)* diagnoses and procedures, length of stay (LOS), expected payer, admission and discharge dates and discharge disposition.

In 2019, the HCUP databases represented more than 97 percent of all annual discharges in the U.S. The analytic dataset used to generate the risk adjustment regression models in this document consists of the same hospital discharge records that comprise the reference population for Version 2023 of the AHRQ QI software. This reference population file was limited to community hospitals and excludes rehabilitation and long-term acute care (LTAC) hospitals. Information on the type of hospital was obtained by the American Hospital Association (AHA) Annual Survey of Hospitals. AHA defines community hospitals as “all non-Federal, short-term, general, and other specialty hospitals, excluding hospital units of institutions.” Included among community hospitals are specialty hospitals such as obstetrics-gynecology, ear-nose-throat, orthopedic, and pediatric institutions. Also included are public hospitals and academic medical centers.

There are indicators of the diagnoses being present on admission (POA) in the SID for 46 states in 2019, 47 states in 2020, and 27 states in 2021, while 3 additional states are excluded due to incomplete information in the PRDAY data element in 2019 and 2020 and one additional state is excluded in 2021.² Discharges from the participating States are used to develop hospital-level indicators.³ Edit checks on POA were developed during an HCUP evaluation of POA coding in the 2011 SID at hospitals that were required to report POA to CMS (Centers for Medicare and Medicaid Services, <http://www.hcup-us.ahrq.gov/reports/methods/2015-06.pdf>). The edits identify general patterns of suspect reporting of POA. The edits do not evaluate whether a valid POA value (e.g., Y or N) is appropriate for the specific diagnosis. There are three hospital-level edit checks:

¹Healthcare Cost and Utilization Project (HCUP) 2019, 2020, and 2021 State Inpatient Databases (SID). Agency for Healthcare Research and Quality, Rockville, MD.

²Only 27 states with POA indicators in the 2021 SID were available at the time of development of v2023.

³States with data from 2019 included in the reference population for the hospital-level indicators are AK, AR, AZ, CA, CO, DC, DE, FL, GA, HI, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NH, NC, ND, NE, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, and WV. States with data from 2020 included in the reference population are those with data from 2019 plus WY. States with data from 2021 included in the reference population are AZ, CA, CO, DC, GA, HI, IA, IL, IN, KS, KY, MD, MN, MO, MS, MT, ND, NJ, NY, OH, OR, PA, RI, SD, VA, WI, and WV. Note that data from 2019 and 2020 from Wisconsin, Oklahoma, and New Hampshire were not included in the reference population (used to develop PSI 04, PSI 09, PSI 10, PSI 11, PSI 12, PSI 14, and PSI 15) due to incomplete procedure dates (PRDAY data element) [2021 data from Wisconsin was also not included]. Colorado and Hawaii were not used in the development of PSI 17 due to missing age in days (AGEDAY data element).

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1. Indication that a hospital has POA reported as Y on all diagnoses on all discharges
2. Indication that a hospital has POA reported as missing on all non-Medicare discharges
3. Indication that a hospital reported POA as missing on all nonexempt diagnoses for 15 percent or more of discharges. The cut-point of 15 percent was determined by 2 times the standard deviation plus the mean of the percentage for hospitals that are required to report POA to CMS.

This document is devoted to listing covariates and coefficients for risk adjustment regression models. The regression coefficients are used to calculate risk-adjusted rates that account for differences in patient populations across hospitals. Certain AHRQ QIs (such as PSI 18 Obstetric Trauma Rate – Vaginal Delivery with Instrument and PSI 19 Obstetric Trauma Rate – Vaginal Delivery without Instrument) are not risk-adjusted because materially important risk factors (e.g., whether the mother is nulliparous or multiparous or the size of the infant) are not available in the HCUP State Inpatient Database (SID).

The majority of the document is devoted to listing covariates and coefficients for risk adjustment regression models. The regression coefficients are used by the prediction module to calculate risk-adjusted rates that account for differences in patient populations across hospitals. Covariates that are considered as potential risk adjusters include sex and age, Major Diagnostic Categories (MDC), Modified Medicare Severity-Diagnosis-Related Group (MS-DRG) categories, Elixhauser Comorbidity Software Refined that were apparently present on admission, patient point-of-origin and whether they were transferred from another facility, and other indicator-specific risk stratifiers. Descriptions of some variable categories are provided in the Appendix tables at the end of the document. Every covariate in every model is a binary indicator variable, coded using 0 or 1. The AHRQ QI software user does not need to manipulate or adjust these coefficients; rather this document is intended to make it transparent to the user how the risk adjusted QI rates are calculated.

In addition to the presentation of the covariates for the risk models, the document also lists weights used to calculate the composite indicator, PSI 90 Patient Safety and Adverse Events Composite.

Additional information on the risk adjustment process and composite indicators may be found in Quality Indicator Empirical Methods, available on the AHRQ QI website. (<https://qualityindicators.ahrq.gov/modules/Default.aspx>)

Acknowledgments

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Table 1. Risk Adjustment Coefficients for PSI 02 - Death Rate in Low-Mortality Diagnosis Related Groups (DRGs)

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Intercept	Intercept	1	-7.812867174	0.1194498005	-65.4071177982	<.0001
Age_LT30	Age < 30	1	-1.760357652	0.1916697016	-9.1843292808	<.0001
Age_30_34	30 <= Age <= 34	1	-1.249847493	0.1811576302	-6.8992263372	<.0001
Age_35_39	35 <= Age <= 39	1	-1.046169771	0.1630577431	-6.4159465922	<.0001
Age_40_44	40 <= Age <= 44	1	-0.7618664105	0.1510829347	-5.0427032824	<.0001
Age_45_49	45 <= Age <= 49	1	-0.6851411196	0.1361803789	-5.0311294854	<.0001
Age_50_54	50 <= Age <= 54	1	-0.6108676390	0.1373244409	-4.4483533681	<.0001
Age_55_59	55 <= Age <= 59	1	-0.2527530968	0.1183955204	-2.1348197622	0.0328
Age_60_64	60 <= Age <= 64	1	-0.0226000738	0.1091353724	-0.2070829401	0.8359
Age_70_74	70 <= Age <= 74	1	0.3076683179	0.0986778819	3.1179055734	0.0018
Age_75_79	75 <= Age <= 79	1	0.3510295998	0.1279220849	2.7440891071	0.0061
Age_80_84	80 <= Age <= 84	1	0.4658218135	0.1250857693	3.7240192566	0.0002
Age_85_89	85 <= Age <= 89	1	0.6811053807	0.1257090275	5.4181103305	<.0001
Age_90Plus	Age >= 90	1	0.9438396539	0.1280450497	7.3711530142	<.0001
MALE	Patient Sex Flag: 1=Male / 0=Female	1	0.2720813917	0.0623893045	4.3610262001	<.0001
Age_75_79_MALE	75 <= Age <= 79 MALE	1	-0.0240696936	0.1397777688	-0.1721997269	0.8633
Age_80_84_MALE	80 <= Age <= 84 MALE	1	0.0923856564	0.1363966512	0.6773308257	0.4982
Age_85_89_MALE	85 <= Age <= 89 MALE	1	0.1939729395	0.1374114714	1.4116211521	0.1581
Age_90Plus_MALE	Age >= 90 MALE	1	0.0568690375	0.1374318939	0.4137979608	0.6790

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_ANEMDEF	Anemias due to other nutritional deficiencies	1	0.1767968582	0.0585736453	3.0183687080	0.0025
CMR_CANCER_SOLID	Solid tumor without metastasis, malignant	1	0.5275232072	0.3063018297	1.7222332877	0.0850
CMR_COAG	Coagulopathy	1	0.6650770404	0.0936569001	7.1012070628	<.0001
CMR_DEMENTIA	Dementia	1	0.3764944106	0.0661678197	5.6899926941	<.0001
CMR_DRUG_ABUSE	Drug abuse	1	-0.2593329931	0.1082970978	-2.3946439783	0.0166
CMR_HF	Heart failure	1	0.8260772229	0.0792632312	10.4219473580	<.0001
CMR_HTN_CX	Hypertension, complicated	1	0.0246379972	0.0865558034	0.2846487026	0.7759
CMR_LIVER_SEV	Liver disease, moderate to severe	1	1.5154682194	0.1806731798	8.3878980861	<.0001
CMR_NEURO_OTH	Other neurological disorders	1	0.9981644869	0.0739023031	13.5065410060	<.0001
CMR_PULMCIRC	Pulmonary circulation disease	1	0.3834408427	0.0956600442	4.0083699110	<.0001
CMR_RENLFL_MOD	Renal failure, moderate	1	0.1483545382	0.0736340982	2.0147532431	0.0439
CMR_RENLFL_SEV	Renal failure, severe	1	0.4641147517	0.1216144999	3.8162780925	0.0001
CMR_WGHTLOSS	Weight loss	1	1.0976020569	0.0804860838	13.6371656531	<.0001
PS02_NonWt_1	PS02 Comorbidity count using non-weighted method, category 1, count > 3 and count <= 4	1	0.2743157661	0.0664187055	4.1300980505	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
PS02_NonWt_2	PS02 Comorbidity count using non-weighted method, category 2, count >= 5	1	0.0791749971	0.0785720827	1.0076733913	0.3136
MDRG_109	SPINAL DISORDERS & INJURIES	1	1.0028641538	0.2845587971	3.5242774575	0.0004
MDRG_119	VIRAL MENINGITIS	1	1.5317037675	0.2016175549	7.5970754043	<.0001
MDRG_1202	PENIS PROCEDURE S	1	1.4866975359	0.3478803736	4.2735884189	<.0001
MDRG_1204	TRANSURETHRAL PROSTATECTOMY	1	0.5654944524	0.1583437549	3.5713088443	0.0004
MDRG_1206	OTHER MALE REPRODUCTIVE SYSTEM O.R. PROC EXC MALIGNANCY	1	1.2095681155	0.1681382074	7.1938920617	<.0001
MDRG_1909	O.R. PROCEDURE W PRINCIPAL DIAGNOSES OF MENTAL ILLNESS	1	1.8925248737	0.2224767019	8.5066205027	<.0001
MDRG_1915	PSYCHOSES	1	-0.3534541206	0.0752447767	-4.6973907833	<.0001
MDRG_2102	SKIN GRAFTS FOR INJURIES	1	1.6319696095	0.2305696648	7.0779892524	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
TRNSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.3938374432	0.0768720801	5.1232832846	<.0001
DNR	Do not resuscitate flag	1	1.3362554929	0.0685920341	19.4812052209	<.0001
COVIDDX_Q1	COVID, Quarter 1, 2020	1	2.3872440031	0.3461176775	6.8972033455	<.0001
COVIDDX_Q2	COVID, Quarter 2, 2020	1	0.6045339783	0.5840612777	1.0350523162	0.3006
COVIDDX_Q3	COVID, Quarter 3, 2020	1	1.5578971053	0.3508971039	4.4397548116	<.0001
COVIDDX_Q4	COVID, Quarter 4, 2020	1	1.1937972323	0.2818623984	4.2353901733	<.0001
COVIDDX_Q5	COVID, Quarter 1, 2021	1	0.8320001856	0.4069950085	2.0442515713	0.0409
COVIDDX_Q6	COVID, Quarter 2, 2021	1	1.7627902531	0.5152013947	3.4215556696	0.0006
COVIDDX_Q7	COVID, Quarter 3, 2021	1	1.4633949267	0.4354246054	3.3608457323	0.0008
COVIDDX_Q8	COVID, Quarter 4, 2021	1	0.9206258431	0.4605552377	1.9989477214	0.0456
YEAR_2019	Discharge YEAR is 2019 or before 2019	1	-0.3474504228	0.0904171212	-3.8427503364	0.0001
Q1	Quarter 1, 2020	1	-0.3177970004	0.1049019587	-3.0294667938	0.0024
Q2	Quarter 2, 2020	1	-0.1508985651	0.1125732174	-1.3404481872	0.1801

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Q3	Quarter 3, 2020	1	-0.3162252154	0.1108700716	-2.8522144059	0.0043
Q4	Quarter 4, 2020	1	-0.1618486438	0.1092280919	-1.4817492551	0.1384
Q5	Quarter 1, 2021	1	-0.1601165298	0.1274505901	-1.2563027737	0.2090
Q6	Quarter 2, 2021	1	-0.4234439976	0.1266279584	-3.3440008270	0.0008
Q7	Quarter 3, 2021	1	-0.0918749334	0.1176697547	-0.7807863084	0.4349

c-statistic=0.865

C-statistics for hospital-level indicator modules are based on the test data (a random sample of 2019-2021 HCUP reference population, not used for the LASSO feature selection).

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Table 2. Risk Adjustment Coefficients for PSI 03 - Pressure Ulcer Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Intercept	Intercept	1	-5.425963772	0.1003152912	-54.0890995665	<.0001
Age_LT30	Age < 30	1	-0.6302919376	0.0921153148	-6.8424228778	<.0001
Age_30_34	30 <= Age <= 34	1	-0.5033113271	0.1419527846	-3.5456248945	0.0004
Age_35_39	35 <= Age <= 39	1	-0.5348025135	0.0765629855	-6.9851313909	<.0001
Age_40_44	40 <= Age <= 44	1	-0.3679552990	0.0656394553	-5.6057031164	<.0001
Age_45_49	45 <= Age <= 49	1	-0.2616802107	0.0539718815	-4.8484544820	<.0001
Age_50_54	50 <= Age <= 54	1	-0.1256772763	0.0291551832	-4.3106323608	<.0001
Age_55_59	55 <= Age <= 59	1	-0.0488304836	0.0293323683	-1.6647303466	0.0960
Age_60_64	60 <= Age <= 64	1	-0.0654341582	0.0348227682	-1.8790625075	0.0602
Age_70_74	70 <= Age <= 74	1	0.0441964970	0.0245320114	1.8015847273	0.0716
Age_75_79	75 <= Age <= 79	1	0.1207800688	0.0346908711	3.4816095718	0.0005
Age_80_84	80 <= Age <= 84	1	0.0359354625	0.0294264677	1.2211952476	0.2220
Age_85_89	85 <= Age <= 89	1	0.0110985003	0.0386300840	0.2873019981	0.7739
Age_90Plus	Age >= 90	1	-0.0324950743	0.0473226352	-0.6866708525	0.4923
MALE	Patient Sex Flag: 1=Male / 0=Female	1	0.2005525386	0.0167835917	11.9493218117	<.0001
Age_LT30_MALE	Age < 30 MALE	1	0.3823105542	0.0898220765	4.2563094646	<.0001
Age_30_34_MALE	30 <= Age <= 34 MALE	1	0.2470015156	0.1454186788	1.6985542549	0.0894
Age_35_39_MALE	35 <= Age <= 39 MALE	1	0.3701132423	0.0825347407	4.4843327703	<.0001
Age_40_44_MALE	40 <= Age <= 44 MALE	1	0.1716916273	0.0745394442	2.3033660801	0.0213
Age_45_49_MALE	45 <= Age <= 49 MALE	1	0.1057110078	0.0617502249	1.7119129194	0.0869
Age_60_64_MALE	60 <= Age <= 64 MALE	1	0.0614320555	0.0382883285	1.6044590569	0.1086

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Age_75_79_MALE	75 <= Age <= 79 MALE	1	-0.0367683608	0.0392361738	-0.9371036278	0.3487
CMR_ALCOHOL	Alcohol abuse	1	-0.0898583680	0.0321906245	-2.7914453159	0.0052
CMR_ANEMDEF	Anemias due to other nutritional deficiencies	1	-0.1837684040	0.0295884766	-6.2108099283	<.0001
CMR_AUTOIMMUNE	Autoimmune conditions	1	0.0256957040	0.0354345277	0.7251600522	0.4684
CMR_CANCER_LEUK	Leukemia	1	0.2644464927	0.0583294912	4.5336670562	<.0001
CMR_CANCER_LYMPH	Lymphoma	1	0.0691264866	0.0513137037	1.3471350070	0.1779
CMR_CANCER_METS	Metastatic cancer	1	0.0416106552	0.0330105718	1.2605251263	0.2075
CMR_CANCER_NSITU	Solid tumor without metastasis, in situ	1	-1.038523399	0.5774914781	-1.7983354538	0.0721
CMR_CBVD	Cerebrovascular disease	1	-0.1854924772	0.0292186459	-6.3484282441	<.0001
CMR_COAG	Coagulopathy	1	0.0564691482	0.0225305582	2.5063359614	0.0122
CMR_DEMENTIA	Dementia	1	0.1980643190	0.0315686286	6.2740868930	<.0001
CMR_DEPRESS	Depression	1	-0.1409653586	0.0319726943	-4.4089296133	<.0001
CMR_DIAB_CX	Diabetes with chronic complications	1	0.2426002902	0.0241919555	10.0281389225	<.0001
CMR_DIAB_UNCX	Diabetes without chronic complications	1	-0.1645453784	0.0306622246	-5.3663874815	<.0001
CMR_DRUG_ABUSE	Drug abuse	1	-0.1032913374	0.0369661645	-2.7942129987	0.0052
CMR_HF	Heart failure	1	0.1062501621	0.0423554846	2.5085337380	0.0121
CMR_HTN_CX	Hypertension, complicated	1	-0.0804551716	0.0424389136	-1.8957877300	0.0580
CMR_HTN_UNCX	Hypertension, uncomplicated	1	-0.5438313452	0.0222685961	-24.4214472243	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_LIVER_MLD	Liver disease, mild	1	-0.1504841173	0.0318299220	-4.7277563928	<.0001
CMR_LIVER_SEV	Liver disease, moderate to severe	1	0.1320611897	0.0457816673	2.8845867264	0.0039
CMR_LUNG_CHRONIC	Chronic pulmonary disease	1	-0.1626172363	0.0192182676	-8.4615970266	<.0001
CMR_NEURO_MOVT	Neurological disorders affecting movement	1	-0.1405717125	0.0433269247	-3.2444424241	0.0012
CMR_NEURO_OTH	Other neurological disorders	1	0.2200350418	0.0247949124	8.8742012282	<.0001
CMR_NEURO_SEIZ	Seizures and epilepsy	1	-0.1592892323	0.0305531813	-5.2135072472	<.0001
CMR_OBESE	Obesity	1	0.0297651043	0.0209462875	1.4210205169	0.1553
CMR_PARALYSIS	Paralysis	1	0.5657512956	0.0306103567	18.4823490293	<.0001
CMR_PERIVASCULAR	Peripheral vascular disease	1	0.1727567638	0.0232457888	7.4317445344	<.0001
CMR_PSYCHOSES	Psychoses	1	-0.1101527235	0.0366425307	-3.0061439928	0.0026
CMR_PULMCIRCULATION	Pulmonary circulation disease	1	0.0203735868	0.0307648024	0.6622368821	0.5078
CMR_RENLFL_MODERATE	Renal failure, moderate	1	-0.3887765716	0.0434323920	-8.9513046375	<.0001
CMR_RENLFL_SEVERE	Renal failure, severe	1	0.2224016767	0.0324215492	6.8596869101	<.0001
CMR_THYROID_HYPOTHYROIDISM	Hypothyroidism	1	-0.2663533466	0.0334353927	-7.9662096094	<.0001
CMR_THYROID_OTH	Other thyroid disorders	1	-0.2132573734	0.0646867741	-3.2967693349	0.0010
CMR_ULCER_PEP	Peptic ulcer disease x bleeding	1	0.1342000433	0.0476309864	2.8174945200	0.0048
CMR_VALVEDISEASE	Valvular disease	1	-0.1227234987	0.0284634623	-4.3116152783	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_WGHTLOSS	Weight loss	1	0.7858166873	0.0251873635	31.1988465218	<.0001
PS03_NonWt_1	PS03 Comorbidity count using non-weighted method, category 1, count > 2 and count <= 4	1	0.2023951570	0.0287226109	7.0465445426	<.0001
PS03_NonWt_2	PS03 Comorbidity count using non-weighted method, category 2, count >= 5	1	0.1374749309	0.0454699510	3.0234237758	0.0025
MDC_1	Diseases and disorders of the nervous system	1	0.6822310838	0.0815746030	8.3632780109	<.0001
MDC_2	Diseases and disorders of the eye	1	-2.972608024	0.5862025123	-5.0709574958	<.0001
MDC_3	Diseases and disorders of the ear, nose, mouth and throat	1	-0.9395195207	0.1197624101	-7.8448615048	<.0001
MDC_4	Diseases and disorders of the respiratory system	1	0.6683561562	0.0767237894	8.7111984569	<.0001
MDC_5	Diseases and disorders of the circulatory system	1	0.6087907266	0.0796075861	7.6473958834	<.0001
MDC_6	Diseases and disorders of the digestive system	1	-0.8384167727	0.0916879371	-9.1442429525	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDC_8	Diseases and disorders of the musculoskeletal system and connective tissue	1	-0.4297791532	0.0841153924	-5.1093996094	<.0001
MDC_9	Diseases and disorders of the skin, subcutaneous tissue and breast	1	-1.382848210	0.1204872906	-11.4771292733	<.0001
MDC_10	Endocrine, nutritional and metabolic diseases and disorders	1	-1.116506823	0.1053071847	-10.6023803154	<.0001
MDC_11	Diseases and disorders of the kidney and urinary tract	1	-0.7295426337	0.1116299810	-6.5353646709	<.0001
MDC_12	Diseases and disorders of the male reproductive system	1	-2.360317762	0.3351608294	-7.0423437185	<.0001
MDC_13	Diseases and disorders of the female reproductive system	1	-2.261275920	0.2307612965	-9.7991992360	<.0001
MDC_16	Diseases and disorders of blood, blood forming organs and immunologic disorders	1	-0.5598804971	0.1246346238	-4.4921746455	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDC_17	Myeloproliferative diseases and disorders, poorly differentiated neoplasms	1	1.3124586688	0.1939547926	6.7668277301	<.0001
MDC_18	Infectious and parasitic diseases, systemic or unspecified sites	1	1.1017189637	0.0778162672	14.1579518361	<.0001
MDC_19	Mental diseases and disorders	1	-1.579560677	0.2822429548	-5.5964574138	<.0001
MDC_21	Injuries, poisonings and toxic effects of drugs	1	0.1052970417	0.1053021485	0.9999515035	0.3173
MDC_22	Burns	1	0.6692333924	0.3601245081	1.8583389283	0.0631
MDRG_101	INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE	1	-2.685199874	0.2316519795	-11.5915257005	<.0001
MDRG_102	CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX	1	-2.636149055	0.1077515230	-24.4650746712	<.0001
MDRG_103	CRANIOTOMY & ENDOVASCULAR INTRACRANIAL PROCEDURES	1	-3.089479146	0.1047296225	-29.4995730187	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_104	SPINAL PROCEDURE S	1	-1.730093990	0.1164798365	-14.8531629371	<.0001
MDRG_105	VENTRICUL AR SHUNT PROCEDURE S	1	-3.336856978	0.4044385473	-8.2505908509	<.0001
MDRG_106	CAROTID ARTERY STENT PROCEDURE	1	-4.058617920	0.5722317559	-7.0926121775	<.0001
MDRG_107	EXTRACRAN IAL PROCEDURE S	1	-3.491543954	0.2795577182	-12.4895280191	<.0001
MDRG_108	PERIPH/CRA NIAL NERVE & OTHER NERV SYST PROC	1	-1.532331019	0.0901973047	-16.9886564175	<.0001
MDRG_109	SPINAL DISORDERS & INJURIES	1	1.9716114836	0.1677034321	11.7565362762	<.0001
MDRG_110	NERVOUS SYSTEM NEOPLASMS	1	-0.3841507175	0.1963913282	-1.9560472504	0.0505
MDRG_111	DEGENERAT IVE NERVOUS SYSTEM DISORDERS	1	0.3013493305	0.0885484628	3.4032135738	0.0007
MDRG_113	ACUTE ISCHEMIC STROKE W USE OF THROMBOL YTIC AGENT	1	-0.9926745867	0.2688488210	-3.6923151942	0.0002

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_114	INTRACRANIAL HEMORRHAGE OR CEREBRAL INFARCTION	1	-0.7163557014	0.0921642347	-7.7725996796	<.0001
MDRG_116	TRANSIENT ISCHEMIA	1	-2.036380710	0.5801056141	-3.5103620116	0.0004
MDRG_118	CRANIAL & PERIPHERAL NERVE DISORDERS	1	-0.2529803488	0.1911213500	-1.3236634677	0.1856
MDRG_122	TRAUMATIC STUPOR & COMA, COMA >1 HR	1	-0.2921578819	0.2088804686	-1.3986845386	0.1619
MDRG_123	TRAUMATIC STUPOR & COMA, COMA <1 HR	1	-0.6380744875	0.2176367845	-2.9318319924	0.0034
MDRG_125	OTHER DISORDERS OF NERVOUS SYSTEM	1	0.2844957266	0.1139401896	2.4968865463	0.0125
MDRG_126	BACTERIAL & TUBERCULO US INFECTIONS OF NERVOUS SYSTEM	1	0.6122694315	0.2074785957	2.9510004604	0.0032
MDRG_127	NON- BACTERIAL INFECT OF NERVOUS SYS EXC VIRAL MENINGITIS	1	0.7854219904	0.1958461989	4.0104020125	<.0001
MDRG_128	SEIZURES	1	-0.2277294209	0.1223926218	-1.8606466439	0.0628

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_301	MAJOR HEAD AND NECK PROCEDURE S	1	-2.577612032	0.5050937862	-5.1032344924	<.0001
MDRG_302	OTHER EAR, NOSE, MOUTH AND THROAT O.R. PROCEDURE S	1	-2.198550410	0.5806631124	-3.7862753181	0.0002
MDRG_306	EAR, NOSE, MOUTH & THROAT MALIGNANC Y	1	1.8156520377	0.3583326305	5.0669458569	<.0001
MDRG_310	OTHER EAR, NOSE, MOUTH & THROAT DIAGNOSES	1	1.5146614428	0.3405157640	4.4481389784	<.0001
MDRG_401	MAJOR CHEST PROCEDURE S	1	-2.631988662	0.1080594080	-24.3568672975	<.0001
MDRG_402	OTHER RESP SYSTEM O.R. PROCEDURE S	1	-1.513757758	0.0784996464	-19.2836251927	<.0001
MDRG_403	PULMONAR Y EMBOLISM	1	-0.8651791381	0.1771196354	-4.8847161204	<.0001
MDRG_404	RESPIRATOR Y INFECTIONS & INFLAMMAT IONS	1	-0.9327770237	0.0821448937	-11.3552648449	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_406	MAJOR CHEST TRAUMA	1	-0.9205766735	0.3419934265	-2.6917963974	0.0071
MDRG_407	PLEURAL EFFUSION	1	-0.8547072863	0.3035566125	-2.8156437754	0.0049
MDRG_408	PULMONAR Y EDEMA & RESPIRATOR Y FAILURE	1	-0.3011235290	0.1509276093	-1.9951520496	0.0460
MDRG_409	CHRONIC OBSTRUCTIV E PULMONAR Y DISEASE	1	-1.728247757	0.1946982647	-8.8765442201	<.0001
MDRG_410	SIMPLE PNEUMONIA & PLEURISY	1	-0.8982082518	0.1135113187	-7.9129399790	<.0001
MDRG_411	INTERSTITIA L LUNG DISEASE	1	-0.2311523930	0.2490145453	-0.9282686384	0.3533
MDRG_412	PNEUMOTH ORAX	1	-0.4613654020	0.2153056179	-2.1428395904	0.0321
MDRG_413	BRONCHITIS & ASTHMA	1	-2.650393839	0.5794637480	-4.5738734267	<.0001
MDRG_414	RESPIRATOR Y SIGNS & SYMPTOMS	1	-0.8565339803	0.5822247601	-1.4711397367	0.1413
MDRG_415	OTHER RESPIRATOR Y SYSTEM DIAGNOSES	1	-0.2204167321	0.3384552639	-0.6512433270	0.5149
MDRG_416	RESPIRATOR Y SYSTEM DIAGNOSIS W VENTILATO R SUPPORT	1	1.4604103532	0.0725778150	20.1219939467	<.0001
MDRG_501	OTHER HEART ASSIST SYSTEM IMPLANT	1	-1.407660521	0.1217221322	-11.5645404469	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_502	PERC CARDIOVAS C PROC W NON-DRUG- ELUTING STENT	1	-3.313029598	0.4951657642	-6.6907485074	<.0001
MDRG_503	CARDIAC VALVE & OTH MAJ CARDIOTHO RACIC PROC	1	-2.064482597	0.0813493285	-25.3779918823	<.0001
MDRG_505	OTHER CARDIOTHO RACIC PROCEDURE S	1	-2.378457418	0.1818708059	-13.0777306798	<.0001
MDRG_506	CORONARY BYPASS W PTCA	1	-1.907600397	0.2832453280	-6.7347991608	<.0001
MDRG_507	CORONARY BYPASS WITH CARDIAC CATHETERIZ ATION OR OPEN ABLATION	1	-2.361463762	0.1156288466	-20.4227909565	<.0001
MDRG_508	CORONARY BYPASS W/O CARDIAC CATH	1	-2.977442650	0.1332966563	-22.3369642822	<.0001
MDRG_509	AMPUTATIO N FOR CIRC SYS DISORDERS EXC UPPER LIMB & TOE	1	-1.511072472	0.0787603725	-19.1856948455	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_510	PERMANENT CARDIAC PACEMAKER IMPLANT AND PROCEDURE S	1	-3.797065181	0.1867660774	-20.3305933982	<.0001
MDRG_511	PERC CARDIOVAS C PROC W DRUG- ELUTING STENT	1	-3.932036200	0.1338397820	-29.3786805433	<.0001
MDRG_512	AICD PROCEDURE S	1	-2.584676453	0.3799365417	-6.8029161946	<.0001
MDRG_513	PERC CARDIOVAS C PROC W/O CORONARY ARTERY STENT	1	-4.088910463	0.5026579197	-8.1345788108	<.0001
MDRG_514	OTHER VASCULAR PROCEDURE S	1	-2.627914010	0.0874786595	-30.0406296339	<.0001
MDRG_515	UPPER LIMB & TOE AMPUTATIO N FOR CIRC SYSTEM DISORDERS	1	-2.943145175	0.2889532777	-10.1855400225	<.0001
MDRG_517	CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEME NT	1	-2.661665873	0.2404375224	-11.0700935797	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_519	OTHER CIRCULATO RY SYSTEM O.R. PROCEDURE S	1	-1.481868488	0.1005125656	-14.7431167420	<.0001
MDRG_520	ACUTE MYOCARDIA L INFARCTION	1	-0.5663281879	0.1079929487	-5.2441219054	<.0001
MDRG_522	CIRCULATO RY DISORDERS EXCEPT AMI, W CARD CATH	1	-0.7703330803	0.1353024748	-5.6934145634	<.0001
MDRG_523	ACUTE & SUBACUTE ENDOCARDI TIS	1	0.3185499351	0.3359040748	0.9483360252	0.3430
MDRG_524	HEART FAILURE & SHOCK	1	-0.5437234141	0.0863321106	-6.2980438005	<.0001
MDRG_526	CARDIAC ARREST, UNEXPLAIN ED	1	0.4282829956	0.4111016376	1.0417934556	0.2975
MDRG_527	PERIPHERAL VASCULAR DISORDERS	1	-0.3485586755	0.1526993280	-2.2826470829	0.0225
MDRG_528	ATHEROSCL EROSIS	1	-1.097439138	0.4813199306	-2.2800616983	0.0226
MDRG_529	HYPERTENSI ON	1	-2.277121661	0.4517135639	-5.0410743520	<.0001
MDRG_530	CARDIAC CONGENITA L & VALVULAR DISORDERS	1	-0.8263928032	0.5020154171	-1.6461502477	0.0997

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_531	CARDIAC ARRHYTHMI A & CONDUCTIO N DISORDERS	1	-0.9522682611	0.1310609645	-7.2658420062	<.0001
MDRG_533	SYNCOPE & COLLAPSE	1	-1.518456883	0.3078346603	-4.9327027762	<.0001
MDRG_536	OTHER ENDOVASCU LAR CARDIAC VALVE PROCEDURE S	1	-2.268302583	0.4215847107	-5.3804194623	<.0001
MDRG_537	CARDIAC DEFIBRILLA TOR IMPLANT W AMI/HF/SHO CK	1	-1.958935921	0.2234765497	-8.7657336942	<.0001
MDRG_538	CARDIAC DEFIBRILLA TOR IMPLANT W/OUT AMI/HF/SHO CK	1	-2.800253261	0.2805821040	-9.9801563274	<.0001
MDRG_539	CARDIAC DEFIBRILLA TOR IMPLANT W/OUT CARDIAC CATH	1	-2.939441200	0.2159657028	-13.6106852227	<.0001
MDRG_540	ENDOVASCU LAR CARDIAC VALVE REPLACEME NT	1	-2.982468437	0.1835719708	-16.2468617836	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_541	AORTIC AND HEART ASSIST PROCEDURES EXCEPT PULSATION BALLOON	1	-1.791902680	0.1462646632	-12.2510977130	<.0001
MDRG_542	OTHER MAJOR CARDIOVASCULAR PROCEDURES	1	-2.085398233	0.0813405936	-25.6378536220	<.0001
MDRG_543	PERCUTANEOUS AND OTHER INTRACARDIAC PROCEDURES	1	-3.662647600	0.2578656994	-14.2037021936	<.0001
MDRG_601	STOMACH, ESOPHAGEAL & DUODENAL PROC	1	-0.5580484389	0.1030335764	-5.4161804161	<.0001
MDRG_602	MAJOR SMALL & LARGE BOWEL PROCEDURES	1	-1.158045631	0.0829442166	-13.9617405354	<.0001
MDRG_604	PERITONEAL ADHESIOLYSIS	1	-1.502060688	0.1774748034	-8.4635151537	<.0001
MDRG_607	MINOR SMALL & LARGE BOWEL PROCEDURES	1	-1.496007091	0.3224369675	-4.6396885030	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_609	INGUINAL & FEMORAL HERNIA PROCEDURE S	1	-1.777540966	0.4316291772	-4.1182131794	<.0001
MDRG_610	HERNIA PROCEDURE S EXCEPT INGUINAL & FEMORAL	1	-2.457141697	0.3377799748	-7.2743853420	<.0001
MDRG_611	OTHER DIGESTIVE SYSTEM O.R. PROCEDURE S	1	-0.6889327819	0.1226248125	-5.6182167997	<.0001
MDRG_613	MAJOR GASTROINT ESTINAL DISORDERS & PERITONEAL INFECTIONS	1	1.1573598676	0.1534152909	7.5439668405	<.0001
MDRG_614	DIGESTIVE MALIGNANC Y	1	1.2605003346	0.1993795390	6.3221148025	<.0001
MDRG_615	G.I. HEMORRHA GE	1	0.6467207161	0.1230611670	5.2552785875	<.0001
MDRG_616	COMPLICAT ED PEPTIC ULCER	1	1.2666583861	0.2267258246	5.5867406740	<.0001
MDRG_619	G.I. OBSTRUCTIO N	1	0.8474463294	0.1442689709	5.8740720474	<.0001
MDRG_621	OTHER DIGESTIVE SYSTEM DIAGNOSES	1	0.9544099397	0.1460725741	6.5338065369	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_701	PANCREAS, LIVER & SHUNT PROCEDURE S	1	-1.871755154	0.1652542701	-11.3265161156	<.0001
MDRG_704	CHOLECYST ECTOMY EXCEPT BY LAPAROSCO PE W/O C.D.E.	1	-2.859895706	0.3813561024	-7.4992787279	<.0001
MDRG_705	LAPAROSCO PIC CHOLECYST ECTOMY W/O C.D.E.	1	-3.546527802	0.2102537505	-16.8678456023	<.0001
MDRG_706	HEPATOBI LI ARY DIAGNOSTIC PROCEDURE S	1	-2.240577232	0.4564297297	-4.9089204451	<.0001
MDRG_707	OTHER HEPATOBI LI ARY OR PANCREAS O.R. PROCEDURE S	1	-1.080870533	0.2265247819	-4.7715332688	<.0001
MDRG_708	CIRRHOSIS & ALCOHOLIC HEPATITIS	1	0.4586187762	0.1508302351	3.0406289277	0.0024
MDRG_710	DISORDERS OF PANCREAS EXCEPT MALIGNANC Y	1	-0.5463749179	0.2083542265	-2.6223366194	0.0087

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_711	DISORDERS OF LIVER EXCEPT MALIG,CIRR, ALC HEPA	1	0.2650362211	0.1611950072	1.6441962171	0.1001
MDRG_712	DISORDERS OF THE BILIARY TRACT	1	-0.3522836682	0.2209267768	-1.5945720716	0.1108
MDRG_801	COMBINED ANTERIOR/P OSTERIOR SPINAL FUSION	1	-2.246517889	0.1583504986	-14.1869959871	<.0001
MDRG_802	SPINAL FUS EXC CERV W SPINAL CURV/MALI G/INFEC OR EXT FUS	1	-1.024432567	0.1907580882	-5.3703230967	<.0001
MDRG_803	SPINAL FUSION EXCEPT CERVICAL	1	-2.464184959	0.1799261750	-13.6955335061	<.0001
MDRG_804	BILATERAL OR MULTIPLE MAJOR JOINT PROCS OF LOWER EXTREMITY	1	-2.167697764	0.4362530581	-4.9688998713	<.0001
MDRG_806	REVISION OF HIP OR KNEE REPLACEME NT	1	-1.561853461	0.1388524247	-11.2482980692	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_807	MAJOR JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY	1	-2.132219051	0.1003036176	-21.2576485608	<.0001
MDRG_808	CERVICAL SPINAL FUSION	1	-1.910687132	0.1735373594	-11.0102351400	<.0001
MDRG_809	AMPUTATION FOR MUSCULOSKELETAL SYSTEMS & CONNECTIVE TISSUE DIS	1	-0.6161412348	0.1344261392	-4.5834927541	<.0001
MDRG_810	BIOPSIES OF MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE	1	-1.467490668	0.1689377644	-8.6865756375	<.0001
MDRG_811	HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT	1	-1.656280047	0.0786367727	-21.0624112720	<.0001
MDRG_812	MAJOR JOINT/LIMB REATTACHMENT PROCEDURE OF UPPER EXTREMITIES	1	-3.332782100	0.5780493101	-5.7655671266	<.0001
MDRG_813	KNEE PROCEDURES WITH PDX OF INFECTION	1	-1.568563461	0.2492660455	-6.2927281496	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_814	KNEE PROCEDURE S W/O PDX OF INFECTION	1	-2.443463015	0.4976735181	-4.9097710167	<.0001
MDRG_815	BACK & NECK PROC EXC SPINAL FUSION OR DISC DEVICE/NEU ROSTIM	1	-2.143398689	0.2271890003	-9.4344298655	<.0001
MDRG_816	LOWER EXTREM & HUMER PROC EXCEPT HIP,FOOT,FE MUR	1	-2.387919922	0.1579275685	-15.1203488088	<.0001
MDRG_817	LOCAL EXCISION & REMOVAL INT FIX DEVICES EXC HIP & FEMUR	1	-2.558048897	0.5771029140	-4.4325697117	<.0001
MDRG_818	LOCAL EXCISION & REMOVAL INT FIX DEVICES OF HIP & FEMUR	1	-0.7720345086	0.3980843689	-1.9393740848	0.0525
MDRG_819	SOFT TISSUE PROCEDURE S	1	-1.355061658	0.1538153644	-8.8096638629	<.0001
MDRG_820	FOOT PROCEDURE S	1	-2.105391361	0.4114178263	-5.1174043186	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_826	OTHER MUSCULOSK ELET SYS & CONN TISS O.R. PROC	1	-2.065391015	0.1791462833	-11.5290754400	<.0001
MDRG_827	FRACTURES OF FEMUR	1	2.1576528659	0.3133906619	6.8848664879	<.0001
MDRG_828	FRACTURES OF HIP & PELVIS	1	1.1337578119	0.1888673040	6.0029332108	<.0001
MDRG_830	OSTEOMYEL ITIS	1	1.7123435257	0.2133666279	8.0253577737	<.0001
MDRG_831	PATHOLOGI CAL FRACTURES & MUSCULOSK ELET & CONN TISS MALIG	1	1.5986325765	0.1414736123	11.2998639867	<.0001
MDRG_832	CONNECTIV E TISSUE DISORDERS	1	1.4325239469	0.1974557400	7.2549116414	<.0001
MDRG_833	SEPTIC ARTHRITIS	1	0.7727739189	0.5972251305	1.2939407260	0.1957
MDRG_834	MEDICAL BACK PROBLEMS	1	0.7853352679	0.1531906404	5.1265225213	<.0001
MDRG_835	BONE DISEASES & ARTHROPAT HIES	1	0.9776019716	0.2645548782	3.6952710085	0.0002
MDRG_836	SIGNS & SYMPTOMS OF MUSCULOSK ELETAL SYSTEM & CONN TISSUE	1	0.6342902301	0.3394973834	1.8683214100	0.0617

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_837	TENDONITIS , MYOSITIS & BURSTITIS	1	1.2005972194	0.2254586312	5.3251330997	<.0001
MDRG_838	AFTERCARE, MUSCULOSK ELETAL SYSTEM & CONNECTIV E TISSUE	1	2.4696900480	0.1322801235	18.6701522730	<.0001
MDRG_840	OTHER MUSCULOSK ELETAL SYS & CONNECTIV E TISSUE DIAGNOSES	1	0.7665026163	0.2517809494	3.0443233226	0.0023
MDRG_841	HIP REPLACEME NT WITH PRINCIPAL DIAGNOSIS OF HIP FRACTURE	1	-1.635228682	0.1560914339	-10.4760949509	<.0001
MDRG_903	OTHER SKIN, SUBCUT TISS & BREAST PROC	1	-0.6166934842	0.1423596228	-4.3319409813	<.0001
MDRG_906	SKIN ULCERS	1	3.5637962982	0.1490192474	23.9150066850	<.0001
MDRG_907	MAJOR SKIN DISORDERS	1	2.0345928330	0.4050627160	5.0229081884	<.0001
MDRG_908	MALIGNANT BREAST DISORDERS	1	2.5286276137	0.5724337232	4.4173281751	<.0001
MDRG_910	CELLULITIS	1	1.4179570710	0.1707135001	8.3060629095	<.0001
MDRG_911	TRAUMA TO THE SKIN, SUBCUT TISS & BREAST	1	1.4604326672	0.3391201189	4.3065350172	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_912	MINOR SKIN DISORDERS	1	2.0205272804	0.3087817887	6.5435441922	<.0001
MDRG_1002	AMPUTAT OF LOWER LIMB FOR ENDOCRINE, NUTRIT,& METABOL DIS	1	-1.295869394	0.1539229841	-8.4189466683	<.0001
MDRG_1003	O.R. PROCEDURE S FOR OBESITY	1	-2.366964121	0.5841074834	-4.0522749471	<.0001
MDRG_1006	OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC	1	-0.8080774788	0.1754766176	-4.6050436218	<.0001
MDRG_1007	DIABETES	1	1.0284284391	0.1492387353	6.8911629215	<.0001
MDRG_1008	MISC DISORDERS OF NUTRITION, METABOLIS M,FLUIDS/EL ELECTROLYTE S	1	1.5346233591	0.1224693172	12.5306762015	<.0001
MDRG_1010	ENDOCRINE DISORDERS	1	1.2069783140	0.2059487579	5.8605758352	<.0001
MDRG_1101	KIDNEY TRANSPLAN T	1	-3.710744575	0.5765800950	-6.4357833494	<.0001
MDRG_1102	MAJOR BLADDER PROCEDURE S	1	-1.535476655	0.2604370816	-5.8957681655	<.0001
MDRG_1103	KIDNEY & URETER PROCEDURE S FOR NEOPLASM	1	-2.292849667	0.3134783636	-7.3142198425	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1104	KIDNEY & URETER PROCEDURE S FOR NON- NEOPLASM	1	-2.241850897	0.1923429063	-11.6554903947	<.0001
MDRG_1105	MINOR BLADDER PROCEDURE S	1	-0.8179210903	0.3270496971	-2.5009076531	0.0124
MDRG_1107	TRANSURET HRAL PROCEDURE S	1	-1.890749400	0.3113632864	-6.0724866517	<.0001
MDRG_1109	OTHER KIDNEY & URINARY TRACT PROCEDURE S	1	-0.8705604702	0.1213375273	-7.1747009291	<.0001
MDRG_1110	RENAL FAILURE	1	0.9820784807	0.1375771579	7.1383832570	<.0001
MDRG_1113	KIDNEY & URINARY TRACT INFECTIONS	1	0.9369486379	0.1637120847	5.7231489033	<.0001
MDRG_1118	OTHER KIDNEY & URINARY TRACT DIAGNOSES	1	1.5885799778	0.1577700545	10.0689575282	<.0001
MDRG_1202	PENIS PROCEDURE S	1	0.7342287797	0.6647256232	1.1045591656	0.2694
MDRG_1204	TRANSURET HRAL PROSTATEC TOMY	1	-0.3314520409	0.5967142115	-0.5554619523	0.5786

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1206	OTHER MALE REPRODUCTI VE SYSTEM O.R. PROC EXC MALIGNANC Y	1	-0.4640250149	0.6608939866	-0.7021171691	0.4826
MDRG_1207	MALIGNANC Y, MALE REPRODUCTI VE SYSTEM	1	3.8253896109	0.4668028742	8.1948715877	<.0001
MDRG_1302	UTERINE & ADNEXA PROC FOR OVARIAN OR ADNEXAL MALIGNANC Y	1	-0.1924861473	0.4232443526	-0.4547872786	0.6493
MDRG_1304	UTERINE & ADNEXA PROC FOR NON- MALIGNANC Y	1	-1.143356640	0.4470266648	-2.5576922593	0.0105
MDRG_1308	OTHER FEMALE REPRODUCTI VE SYSTEM O.R. PROCEDURE S	1	0.0851658733	0.6242394114	0.1364314263	0.8915
MDRG_1309	MALIGNANC Y, FEMALE REPRODUCTI VE SYSTEM	1	3.4196208497	0.3503379725	9.7609197934	<.0001
MDRG_1310	INFECTIONS, FEMALE REPRODUCTI VE SYSTEM	1	2.6730754212	0.5091163376	5.2504216105	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1602	OTHER O.R. PROC OF THE BLOOD & BLOOD FORMING ORGANS	1	-0.5347540090	0.2671010614	-2.0020662070	0.0453
MDRG_1603	MAJOR HEMATOL/I MMUN DIAG EXC SICKLE CELL CRISIS & COAGUL	1	0.6934829528	0.2245175680	3.0887692178	0.0020
MDRG_1606	RETICULOE NDOTHELIA L & IMMUNITY DISORDERS	1	0.9333870453	0.3806027126	2.4523919942	0.0142
MDRG_1707	LYMPHOMA & LEUKEMIA W MAJOR O.R. PROCEDURE	1	-2.894422509	0.2785344039	-10.3916157866	<.0001
MDRG_1708	LYMPHOMA & NON- ACUTE LEUKEMIA W OTHER O.R. PROC	1	-2.492358021	0.2382490589	-10.4611452905	<.0001
MDRG_1709	MYELOPROL IF DISORD OR POORLY DIFF NEOPL W MAJ O.R. PROC	1	-3.321989299	0.3491011968	-9.5158347476	<.0001
MDRG_1710	MYELOPROL IF DISORD OR POORLY DIFF NEOPL W OTHER O.R. PROC	1	-2.752688084	0.3034770706	-9.0704977429	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1711	ACUTE LEUKEMIA W/O MAJOR O.R. PROCEDURE	1	0.0844140607	0.2349739269	0.3592486273	0.7194
MDRG_1712	CHEMO W ACUTE LEUKEMIA	1	-1.788715777	0.3965283722	-4.5109402058	<.0001
MDRG_1713	LYMPHOMA & NON- ACUTE LEUKEMIA	1	0.0125514718	0.2362755307	0.0531221825	0.9576
MDRG_1714	OTHER MYELOPROL IF DIS OR POORLY DIFF NEOPL DIAG	1	-0.1289450197	0.2948800169	-0.4372796132	0.6619
MDRG_1715	CHEMOTHER APY W/O ACUTE LEUKEMIA AS SECONDARY DIAGNOSIS	1	-1.673270913	0.2887365658	-5.7951472414	<.0001
MDRG_1801	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURE	1	-1.866665573	0.0403024508	-46.3164283368	<.0001
MDRG_1802	POSTOPERA TIVE OR POST- TRAUMATIC INFECTIONS W O.R. PROC	1	-2.775797083	0.0997917292	-27.8159032300	<.0001
MDRG_1803	POSTOPERA TIVE & POST- TRAUMATIC INFECTIONS	1	-0.9338028692	0.2022936670	-4.6160756434	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1805	VIRAL ILLNESS	1	-1.251629387	0.4500976205	-2.7807953883	0.0054
MDRG_1806	OTHER INFECTIOUS & PARASITIC DISEASES DIAGNOSES	1	-0.2128070759	0.2737699419	-0.7773208205	0.4370
MDRG_1807	SEPTICEMIA OR SEVERE SEPSIS W MV >96 HOURS	1	1.3941281727	0.0705881596	19.7501702854	<.0001
MDRG_1808	SEPTICEMIA OR SEVERE SEPSIS W/O MV >96 HOURS	1	-0.4543428051	0.0718780753	-6.3210207479	<.0001
MDRG_1913	DISORDERS OF PERSONALITY & IMPULSE CONTROL	1	1.5704765941	0.5695701999	2.7573011974	0.0058
MDRG_1914	ORGANIC DISTURBANCES & MENTAL RETARDATION	1	2.3265991688	0.3123180905	7.4494537457	<.0001
MDRG_1915	PSYCHOSES	1	-0.5457144280	0.3202228497	-1.7041707939	0.0883
MDRG_2018	ALCOHOL/DRUG ABUSE OR DEPENDENCE	1	-0.9806372667	0.1839502948	-5.3309904589	<.0001
MDRG_2101	WOUND DEBRIDEMENTS FOR INJURIES	1	-1.204334176	0.2112999820	-5.6996416412	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_2102	SKIN GRAFTS FOR INJURIES	1	-1.870467145	0.3760691807	-4.9737315401	<.0001
MDRG_2104	OTHER O.R. PROCEDURE S FOR INJURIES	1	-1.999943200	0.1302181568	-15.3584050715	<.0001
MDRG_2107	POISONING & TOXIC EFFECTS OF DRUGS	1	0.2091240103	0.1524512382	1.3717435998	0.1701
MDRG_2201	FULL THICKNESS BURN W SKIN GRAFT OR INHAL INJ	1	-1.946237465	0.3974488454	-4.8968250577	<.0001
MDRG_2210	EXTENSIVE BURNS OR FULL THICKNESS BURNS W MV >96 HRS W SKIN GRAFT	1	0.2095262557	0.4284726626	0.4890072904	0.6248
MDRG_2301	O.R. PROC W DIAGNOSES OF OTHER CONTACT W HEALTH SERVICES	1	-0.2781254696	0.1647295759	-1.6883760436	0.0913
MDRG_2302	REHABILITATION	1	1.4602525712	0.1646416602	8.8692774929	<.0001
MDRG_2303	SIGNS & SYMPTOMS	1	0.9424090814	0.1568758626	6.0073555364	<.0001
MDRG_2304	AFTERCARE	1	1.9645179752	0.1751963561	11.2132353615	<.0001
MDRG_2305	OTHER FACTORS INFLUENCING HEALTH STATUS	1	-0.1752839911	0.3057515523	-0.5732889654	0.5664

AHRQ Quality Indicators
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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_2406	CRANIOTOMY FOR MULTIPLE SIGNIFICANT TRAUMA	1	-0.1330053898	0.1952135205	-0.6813328784	0.4957
MDRG_2407	LIMB REATTACHMENT, HIP & FEMUR PROC FOR MULTIPLE SIGNIFICANT TRAUMA	1	-1.159115457	0.1469368251	-7.8885293433	<.0001
MDRG_2408	OTHER O.R. PROCEDURES FOR MULTIPLE SIGNIFICANT TRAUMA	1	-0.7860683859	0.1219833367	-6.4440636490	<.0001
MDRG_2409	OTHER MULTIPLE SIGNIFICANT TRAUMA	1	1.3196324173	0.1864654388	7.0770885258	<.0001
MDRG_2501	HIV W EXTENSIVE O.R. PROCEDURE	1	-0.0126897093	0.1961011355	-0.0647100245	0.9484
MDRG_2502	HIV W MAJOR RELATED CONDITION	1	1.3350437177	0.1626051133	8.2103427800	<.0001
MDRG_2503	HIV W OR W/O OTHER RELATED CONDITION	1	0.5338240334	0.5834430225	0.9149548677	0.3602
MDRG_7701	HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM	1	0.1058897898	0.0850557424	1.2449458070	0.2132

**AHRQ Quality Indicators
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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_7702	LIVER TRANSPLAN T	1	-1.289724721	0.1819469882	-7.0884642472	<.0001
MDRG_7703	LUNG TRANSPLAN T	1	-1.656467955	0.4209225354	-3.9353273247	<.0001
MDRG_7705	ALLOGENEI C OR AUTOLOGO US BONE MARROW TRANSPLAN T	1	-2.807457600	0.3000423072	-9.3568724588	<.0001
TRNSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.3835189760	0.0451043421	8.5029280636	<.0001
MEDICDR	Medical DRGs flag	1	-3.117989917	0.0659362834	-47.2879233580	<.0001
COVIDDX_Q1	COVID, Quarter 1, 2020	1	-0.9478629194	0.5045056064	-1.8787956117	0.0603
COVIDDX_Q2	COVID, Quarter 2, 2020	1	1.6247137124	0.0710362465	22.8716154466	<.0001
COVIDDX_Q3	COVID, Quarter 3, 2020	1	1.2837871794	0.0615928576	20.8431176744	<.0001
COVIDDX_Q4	COVID, Quarter 4, 2020	1	0.7726548619	0.0560805926	13.7775801964	<.0001
COVIDDX_Q5	COVID, Quarter 1, 2021	1	1.0184738837	0.0564847594	18.0309502116	<.0001
COVIDDX_Q6	COVID, Quarter 2, 2021	1	1.2523855221	0.0720240697	17.3884303950	<.0001
COVIDDX_Q7	COVID, Quarter 3, 2021	1	1.0124138202	0.0712516279	14.2089921329	<.0001

**AHRQ Quality Indicators
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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
COVIDDX_Q8	COVID, Quarter 4, 2021	1	1.1031967367	0.0630824750	17.4881650759	<.0001
YEAR_2019	Discharge YEAR is 2019 or before 2019	1	-0.0360003150	0.0552561553	-0.6515168270	0.5147
Q1	Quarter 1, 2020	1	-0.2426268525	0.0571953597	-4.2420723256	<.0001
Q2	Quarter 2, 2020	1	-0.2147925258	0.0591563135	-3.6309315622	0.0003
Q3	Quarter 3, 2020	1	-0.2108243053	0.0562931815	-3.7451126353	0.0002
Q4	Quarter 4, 2020	1	-0.0842568701	0.0552671967	-1.5245367083	0.1274
Q5	Quarter 1, 2021	1	-0.0517269513	0.0491060188	-1.0533729391	0.2922
Q6	Quarter 2, 2021	1	-0.2438088058	0.0481126602	-5.0674563588	<.0001
Q7	Quarter 3, 2021	1	-0.1977766089	0.0403310102	-4.9038347450	<.0001

c-statistic=0.856

C-statistics for hospital-level indicator modules are based on the test data (a random sample of 2019-2021 HCUP reference population, not used for the LASSO feature selection).

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Table 3. Risk Adjustment Coefficients for PSI 04 - Death Rate among Surgical Inpatients with Serious Treatable Complications Stratum: Deep Vein Thrombosis/Pulmonary Embolism (DVT/PE)

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Intercept	Intercept	1	-4.640250263	0.1396461817	-33.2286225642	<.0001
Age_LT30	Age < 30	1	-0.8519286049	0.1643770919	-5.1827696614	<.0001
Age_30_34	30 <= Age <= 34	1	-0.7299698390	0.1710636450	-4.2672412306	<.0001
Age_35_39	35 <= Age <= 39	1	-0.5209559264	0.1490101585	-3.4961101422	0.0005
Age_40_44	40 <= Age <= 44	1	-0.4474436477	0.1339584282	-3.3401679440	0.0008
Age_45_49	45 <= Age <= 49	1	-0.2547900413	0.1596952601	-1.5954765414	0.1106
Age_50_54	50 <= Age <= 54	1	-0.0390067481	0.0994945648	-0.3920490346	0.6950
Age_55_59	55 <= Age <= 59	1	-0.0706925798	0.0925132842	-0.7641343671	0.4448
Age_60_64	60 <= Age <= 64	1	-0.0390220012	0.0862765141	-0.4522899609	0.6511
Age_70_74	70 <= Age <= 74	1	0.3612993539	0.0745281418	4.8478245303	<.0001
Age_75_79	75 <= Age <= 79	1	0.2287091072	0.0824986687	2.7722763400	0.0056
Age_80_84	80 <= Age <= 84	1	0.3014421785	0.1080080656	2.7909228512	0.0053
Age_85Plus	Age >= 85	1	0.6026951071	0.0936190687	6.4377387613	<.0001
MALE	Patient Sex Flag: 1=Male / 0=Female	1	-0.0396094963	0.0463140173	-0.8552377575	0.3924
Age_45_49_MALE	45 <= Age <= 49 MALE	1	-0.3782861434	0.2100955298	-1.8005435133	0.0718
Age_80_84_MALE	80 <= Age <= 84 MALE	1	0.2142058671	0.1318460879	1.6246660823	0.1042
CMR_AIDS	Acquired immune deficiency syndrome	1	-0.5347956092	0.2966375197	-1.8028589562	0.0714
CMR_ANEMDEF	Anemias due to other nutritional deficiencies	1	-0.3128678782	0.0532868872	-5.8713858994	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_CANCER_METS	Metastatic cancer	1	0.7797031445	0.0609759326	12.7870638717	<.0001
CMR_CBVD	Cerebrovascular disease	1	0.1646060737	0.0793013532	2.0757032134	0.0379
CMR_COAG	Coagulopathy	1	0.5874841677	0.0567825687	10.3462062530	<.0001
CMR_DEPRESS	Depression	1	-0.4046067209	0.0709175669	-5.7053102482	<.0001
CMR_DRUG_ABUSE	Drug abuse	1	-0.2400085715	0.1358916135	-1.7661764794	0.0774
CMR_HF	Heart failure	1	0.3123930455	0.0526552865	5.9327954713	<.0001
CMR_HTN_UNCX	Hypertension, uncomplicated	1	-0.2396885184	0.0513978583	-4.6633950592	<.0001
CMR_LIVER_SEV	Liver disease, moderate to severe	1	0.9195834798	0.1591535916	5.7779624747	<.0001
CMR_LUNG_CHRONIC	Chronic pulmonary disease	1	0.1318640244	0.0514191437	2.5644928096	0.0103
CMR_NEURO_OTH	Other neurological disorders	1	0.6026064781	0.0598079570	10.0756907252	<.0001
CMR_OBESE	Obesity	1	-0.1779319005	0.0533889215	-3.3327494855	0.0009
CMR_PERIVASC	Peripheral vascular disease	1	0.2096398519	0.0552625819	3.7935225726	0.0001
CMR_PSYCHOSES	Psychoses	1	-0.2891112877	0.1316635933	-2.1958331867	0.0281
CMR_RENLFL_MOD	Renal failure, moderate	1	0.2404407489	0.0671618878	3.5800177255	0.0003
CMR_RENLFL_SEV	Renal failure, severe	1	0.6397041744	0.0859840051	7.4398043384	<.0001
CMR_WGHTLOSS	Weight loss	1	0.1267290584	0.0639700775	1.9810677624	0.0476
MDC_1	Diseases and disorders of the nervous system	1	0.7059505746	0.1050785124	6.7183152698	<.0001
MDC_4	Diseases and disorders of the respiratory system	1	0.8659452334	0.0964155283	8.9813876358	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDC_5	Diseases and disorders of the circulatory system	1	0.3987208619	0.0786783185	5.0677349196	<.0001
MDC_8	Diseases and disorders of the musculoskeletal system and connective tissue	1	-0.1664198809	0.0956178028	-1.7404696204	0.0818
MDC_9	Diseases and disorders of the skin, subcutaneous tissue and breast	1	-1.307288369	0.4632434505	-2.8220331386	0.0048
MDC_11	Diseases and disorders of the kidney and urinary tract	1	-0.3755146814	0.1924805133	-1.9509231093	0.0511
MDC_13	Diseases and disorders of the female reproductive system	1	-0.7583171931	0.2321309415	-3.2667648186	0.0011
MDC_22	Burns	1	1.7517095978	0.4905531239	3.5708866429	0.0004
MDC_24	Multiple significant trauma	1	0.9637909011	0.1222968356	7.8807509327	<.0001
MDRG_102	CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX	1	1.0643186373	0.1040710908	10.2268423388	<.0001
MDRG_501	OTHER HEART ASSIST SYSTEM IMPLANT	1	1.4264718854	0.2457509468	5.8045427861	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_508	CORONARY BYPASS W/O CARDIAC CATH	1	0.1094570667	0.2066969621	0.5295533403	0.5964
MDRG_510	PERMANENT CARDIAC PACEMAKER IMPLANT AND PROCEDURES	1	-1.107948809	0.6446735670	-1.7186198806	0.0857
MDRG_539	CARDIAC DEFIBRILLATOR IMPLANT W/OUT CARDIAC CATH	1	-1.037941683	0.4687443527	-2.2143022673	0.0268
MDRG_540	ENDOVASCULAR CARDIAC VALVE REPLACEMENT	1	-1.249617541	0.3285210860	-3.8037666222	0.0001
MDRG_541	AORTIC AND HEART ASSIST PROCEDURES EXCEPT PULSATION BALLOON	1	0.5917352350	0.2246461377	2.6340770472	0.0084
MDRG_611	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES	1	0.4971575887	0.1989517737	2.4988849282	0.0125

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_807	MAJOR JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY	1	-0.3497559301	0.1476286435	-2.3691603599	0.0178
MDRG_811	HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT	1	0.3847481463	0.1090550312	3.5280183043	0.0004
MDRG_905	BREAST BIOPSY, LOCAL EXCISION & OTHER BREAST PROCEDURES	1	2.9699814677	0.6891136357	4.3098573498	<.0001
MDRG_1801	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURE	1	0.4807912149	0.1056126957	4.5523998008	<.0001
MDRG_2406	CRANIOTOMY FOR MULTIPLE SIGNIFICANT TRAUMA	1	2.5681261780	0.2491709499	10.3066837401	<.0001
TRNSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.3363610848	0.0526751245	6.3855774016	<.0001

AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
RegVarPS04_DVT_PE_ANY	PSI04 DVT PE Regression variable: Any Triggering Complication POA	1	-0.4376888401	0.0484395830	-9.0357681201	<.0001
RegVarPS04_DVT_PE_SEVERE	PSI04 DVT PE Regression variable: Triggering Complication Severe	1	0.7877375804	0.0454412937	17.3352806805	<.0001
RegVarPS04_GIHEMORRHAGE_SEVERE	PSI04 GIHEMORRHAGE Regression variable: Triggering Complication Severe	1	0.4749168143	0.5572884385	0.8521921172	0.3941
RegVarPS04_PNEUMONIA_ANY	PSI04 PNEUMONIA Regression variable: Any Triggering Complication POA	1	0.4105925411	0.1788986876	2.2951120915	0.0217
RegVarPS04_PNEUMONIA_SEVERE	PSI04 PNEUMONIA Regression variable: Triggering Complication Severe	1	0.3918223124	0.2013130413	1.9463334812	0.0516
RegVarPS04_SEPSIS_SEVERE	PSI04 SEPSIS Regression variable: Triggering Complication Severe	1	1.9209137939	0.0969505983	19.8133258430	<.0001

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Patient Safety Indicators (PSI) Parameter Estimates, v2023

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
RegVarPS04_SHOCK_ANY	PSI04 SHOCK Regression variable: Any Triggering Complication POA	1	0.1843974630	0.1171141241	1.5745108831	0.1154
RegVarPS04_SHOCK_SEVERE	PSI04 SHOCK Regression variable: Triggering Complication Severe	1	3.5902110769	0.0811227300	44.2565367153	<.0001
DNR	Do not resuscitate flag	1	0.9000246483	0.0756054768	11.9042255533	<.0001
COVIDDX_Q2	COVID, Quarter 2, 2020	1	0.7730277883	0.2634911410	2.9337904321	0.0033
COVIDDX_Q3	COVID, Quarter 3, 2020	1	1.3121340353	0.2340427446	5.6063862933	<.0001
COVIDDX_Q4	COVID, Quarter 4, 2020	1	0.9765565695	0.2027029875	4.8176723069	<.0001
COVIDDX_Q5	COVID, Quarter 1, 2021	1	0.7363108629	0.2220781161	3.3155489428	0.0009
COVIDDX_Q6	COVID, Quarter 2, 2021	1	0.2653178668	0.4399251985	0.6030976806	0.5464
COVIDDX_Q7	COVID, Quarter 3, 2021	1	1.3175341985	0.2675652180	4.9241609513	<.0001
COVIDDX_Q8	COVID, Quarter 4, 2021	1	0.8379944236	0.2407054015	3.4814109623	0.0005
YEAR_2019	Discharge YEAR is 2019 or before 2019	1	0.0483259416	0.0972729867	0.4968074206	0.6193

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Q1	Quarter 1, 2020	1	-0.0440497349	0.1127260036	-0.3907681765	0.6960
Q2	Quarter 2, 2020	1	0.2449735951	0.1142815684	2.1435967195	0.0321
Q3	Quarter 3, 2020	1	-0.0627895463	0.1080081225	-0.5813409663	0.5610
Q4	Quarter 4, 2020	1	0.0230242283	0.1078791040	0.2134262104	0.8310
Q5	Quarter 1, 2021	1	0.0046661513	0.1203399405	0.0387747513	0.9691
Q6	Quarter 2, 2021	1	-0.0035043433	0.1236028694	-0.0283516339	0.9774
Q7	Quarter 3, 2021	1	0.1554270000	0.1137971060	1.3658255955	0.1720

c-statistic=0.862

C-statistics for hospital-level indicator modules are based on the test data (a random sample of 2019-2021 HCUP reference population, not used for the LASSO feature selection).

AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023

Table 4. Risk Adjustment Coefficients for PSI 04 - Death Rate among Surgical Inpatients with Serious Treatable Complications Stratum: Pneumonia

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Intercept	Intercept	1	-3.134823639	0.0607973276	-51.5618656745	<.0001
Age_LT30	Age < 30	1	-0.8948834909	0.0587106572	-15.2422666217	<.0001
Age_30_34	30 <= Age <= 34	1	-0.7799002190	0.0679617144	-11.4755818924	<.0001
Age_35_39	35 <= Age <= 39	1	-0.6270198679	0.0589432936	-10.6376795412	<.0001
Age_40_44	40 <= Age <= 44	1	-0.4541489823	0.0504207666	-9.0071812264	<.0001
Age_45_49	45 <= Age <= 49	1	-0.3932109313	0.0435534515	-9.0282381245	<.0001
Age_50_54	50 <= Age <= 54	1	-0.3300009093	0.0383480517	-8.6054152511	<.0001
Age_55_59	55 <= Age <= 59	1	-0.2538779211	0.0330738133	-7.6761006807	<.0001
Age_60_64	60 <= Age <= 64	1	-0.0516674461	0.0295605241	-1.7478528432	0.0805
Age_70_74	70 <= Age <= 74	1	0.1296070805	0.0270127141	4.7980029029	<.0001
Age_75_79	75 <= Age <= 79	1	0.1664549158	0.0398632997	4.1756431849	<.0001
Age_80_84	80 <= Age <= 84	1	0.2646610391	0.0409999243	6.4551592109	<.0001
Age_85Plus	Age >= 85	1	0.3480506820	0.0459385312	7.5764434167	<.0001
MALE	Patient Sex Flag: 1=Male / 0=Female	1	-0.0205374450	0.0197713393	-1.0387482975	0.2989
Age_75_79_MALE	75 <= Age <= 79 MALE	1	0.0789901014	0.0451572252	1.7492239840	0.0803
Age_80_84_MALE	80 <= Age <= 84 MALE	1	0.0875059549	0.0479687298	1.8242291456	0.0681
Age_85Plus_MALE	Age >= 85 MALE	1	0.1067768597	0.0531376316	2.0094395720	0.0445
CMR_ALCOHOL	Alcohol abuse	1	-0.0879091737	0.0309205872	-2.8430628774	0.0045
CMR_ANEMDEF	Anemias due to other nutritional deficiencies	1	-0.2695993561	0.0207669277	-12.9821492973	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_CANCER_LEUK	Leukemia	1	0.1145450951	0.0773269017	1.4813097709	0.1385
CMR_CANCER_LYMPH	Lymphoma	1	0.2948269443	0.0698032408	4.2236856211	<.0001
CMR_CANCER_METS	Metastatic cancer	1	0.6464594661	0.0345134648	18.7306452557	<.0001
CMR_CANCER_SOLID	Solid tumor without metastasis, malignant	1	0.1280176008	0.0370944118	3.4511290173	0.0006
CMR_CBVD	Cerebrovascular disease	1	0.1355882596	0.0258892783	5.2372359663	<.0001
CMR_COAG	Coagulopathy	1	0.4557493701	0.0232194583	19.6279070511	<.0001
CMR_DEPRESS	Depression	1	-0.2679774136	0.0273232535	-9.8076685204	<.0001
CMR_DIAB_UNCX	Diabetes without chronic complications	1	-0.0620666084	0.0291162828	-2.1316803701	0.0330
CMR_DRUG_ABUSE	Drug abuse	1	-0.1740023207	0.0410267824	-4.2411885695	<.0001
CMR_HF	Heart failure	1	0.2460424629	0.0213004876	11.5510249320	<.0001
CMR_HTN_CX	Hypertension, complicated	1	-0.2145480522	0.0232841769	-9.2143283705	<.0001
CMR_HTN_UNCX	Hypertension, uncomplicated	1	-0.3014052702	0.0235780100	-12.7833209680	<.0001
CMR_LIVER_SEV	Liver disease, moderate to severe	1	0.7602674875	0.0513933906	14.7930984726	<.0001
CMR_LUNG_CHRONIC	Chronic pulmonary disease	1	-0.0582884904	0.0176819523	-3.2964963005	0.0010
CMR_NEURO_OTH	Other neurological disorders	1	0.3073556152	0.0200349564	15.3409674904	<.0001
CMR_OBESE	Obesity	1	-0.1575076872	0.0212981531	-7.3953683415	<.0001
CMR_PARALYSIS	Paralysis	1	-0.2766858517	0.0279824505	-9.8878349503	<.0001
CMR_PERIVASCULAR	Peripheral vascular disease	1	0.0925697612	0.0207583346	4.4594021098	<.0001

**AHRQ Quality Indicators
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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_PSYCHOS ES	Psychoses	1	-0.3054820094	0.0452295534	-6.7540354966	<.0001
CMR_PULMCIR C	Pulmonary circulation disease	1	0.1052677047	0.0317149085	3.3191867733	0.0009
CMR_RENLFL_ MOD	Renal failure, moderate	1	0.1268221122	0.0260110117	4.8757085445	<.0001
CMR_RENLFL_ SEV	Renal failure, severe	1	0.4222820682	0.0277799554	15.2009628026	<.0001
CMR_THYROID _HYPO	Hypothyroidis m	1	-0.1335884689	0.0242558491	-5.5074744376	<.0001
CMR_THYROID _OTH	Other thyroid disorders	1	-0.3432253466	0.0784515556	-4.3749973322	<.0001
CMR_ULCER_P EPTIC	Peptic ulcer disease x bleeding	1	-0.1458123624	0.0494590613	-2.9481425359	0.0032
CMR_VALVE	Valvular disease	1	-0.0649792384	0.0263795779	-2.4632402589	0.0138
CMR_WGHTLO SS	Weight loss	1	0.1661330720	0.0215314034	7.7158496962	<.0001
PS04_PNEUMO NIA_NonWt_1	PS04_PNEUM ONIA Comorbidty count using non-weighted method, category 1, count > 2 and count <= 4	1	0.0318511936	0.0160536025	1.9840527100	0.0472
MDC_1	Diseases and disorders of the nervous system	1	0.1455436018	0.0551790771	2.6376592280	0.0083
MDC_3	Diseases and disorders of the ear, nose, mouth and throat	1	-0.9194015968	0.1212850811	-7.5805003245	<.0001
MDC_5	Diseases and disorders of the circulatory system	1	0.3199993256	0.0450315139	7.1061196494	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDC_6	Diseases and disorders of the digestive system	1	-0.1719786757	0.0492295486	-3.4934034634	0.0005
MDC_8	Diseases and disorders of the musculoskeletal system and connective tissue	1	-0.2532913662	0.0532972710	-4.7524265548	<.0001
MDC_10	Endocrine, nutritional and metabolic diseases and disorders	1	-0.2610374736	0.1304237131	-2.0014571542	0.0453
MDC_11	Diseases and disorders of the kidney and urinary tract	1	-0.5566935236	0.0977979148	-5.6922841851	<.0001
MDC_13	Diseases and disorders of the female reproductive system	1	-0.9790389125	0.2085104734	-4.6953944154	<.0001
MDC_14	Pregnancy, childbirth and the puerperium	1	-0.5779229466	0.3301729679	-1.7503642114	0.0801
MDC_17	Myeloproliferative diseases and disorders, poorly differentiated neoplasms	1	0.3434553245	0.1313039258	2.6157277651	0.0089
MDC_24	Multiple significant trauma	1	0.3248850615	0.0912862995	3.5589684682	0.0004

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_101	INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE	1	1.4443071955	0.0628498625	22.9802761246	<.0001
MDRG_102	CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX	1	1.6742611319	0.0503421195	33.2576607824	<.0001
MDRG_103	CRANIOTOMY & ENDOVASCULAR INTRACRANIAL PROCEDURES	1	1.2673136393	0.0538369155	23.5398634331	<.0001
MDRG_104	SPINAL PROCEDURES	1	0.8443042774	0.1069265775	7.8961124239	<.0001
MDRG_501	OTHER HEART ASSIST SYSTEM IMPLANT	1	1.1475433121	0.0601669824	19.0726419413	<.0001
MDRG_507	CORONARY BYPASS WITH CARDIAC CATHETERIZATION OR OPEN ABLATION	1	-0.5387111232	0.1033247531	-5.2137663723	<.0001
MDRG_508	CORONARY BYPASS W/O CARDIAC CATH	1	-0.7033386607	0.0968410474	-7.2628155091	<.0001

**AHRQ Quality Indicators
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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_510	PERMANENT CARDIAC PACEMAKER IMPLANT AND PROCEDURE S	1	-0.9672211317	0.1958504574	-4.9385696844	<.0001
MDRG_511	PERC CARDIOVAS C PROC W DRUG- ELUTING STENT	1	-0.1842919402	0.0421452539	-4.3727804016	<.0001
MDRG_513	PERC CARDIOVAS C PROC W/O CORONARY ARTERY STENT	1	0.3795810236	0.0953301980	3.9817500813	<.0001
MDRG_536	OTHER ENDOVASCU LAR CARDIAC VALVE PROCEDURE S	1	0.7835069987	0.2018815479	3.8810233362	0.0001
MDRG_537	CARDIAC DEFIBRILLA TOR IMPLANT W AMI/HF/SHO CK	1	-1.731432663	0.2247436953	-7.7040321914	<.0001
MDRG_538	CARDIAC DEFIBRILLA TOR IMPLANT W/OUT AMI/HF/SHO CK	1	-2.332634797	0.2633008577	-8.8591993870	<.0001

**AHRQ Quality Indicators
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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_539	CARDIAC DEFIBRILLA TOR IMPLANT W/OUT CARDIAC CATH	1	-1.346550379	0.1870041335	-7.2006449995	<.0001
MDRG_541	AORTIC AND HEART ASSIST PROCEDURE S EXCEPT PULSATION BALLOON	1	0.1795568318	0.0943803215	1.9024816708	0.0571
MDRG_542	OTHER MAJOR CARDIOVAS CULAR PROCEDURE S	1	0.3329370641	0.0484992977	6.8647811416	<.0001
MDRG_543	PERCUTANE OUS AND OTHER INTRACARDI AC PROCEDURE S	1	-0.9243011552	0.1600227534	-5.7760608117	<.0001
MDRG_604	PERITONEAL ADHESIOLY SIS	1	-0.5617129665	0.1396992491	-4.0208731977	<.0001
MDRG_606	APPENDECT OMY W/O COMPLICAT ED PRINCIPAL DIAG	1	-1.203276180	0.4036639557	-2.9808858661	0.0029
MDRG_609	INGUINAL & FEMORAL HERNIA PROCEDURE S	1	-0.6347232015	0.2324516838	-2.7305597067	0.0063

**AHRQ Quality Indicators
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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_610	HERNIA PROCEDURE S EXCEPT INGUINAL & FEMORAL	1	-0.6981085433	0.1933482246	-3.6106281535	0.0003
MDRG_611	OTHER DIGESTIVE SYSTEM O.R. PROCEDURE S	1	0.4759837110	0.0876880108	5.4281504007	<.0001
MDRG_705	LAPAROSCO PIC CHOLECYST ECTOMY W/O C.D.E.	1	-1.044934722	0.1269767049	-8.2293419337	<.0001
MDRG_706	HEPATOBI LI ARY DIAGNOSTIC PROCEDURE S	1	0.4994547566	0.2806881407	1.7793938690	0.0752
MDRG_801	COMBINED ANTERIOR/P OSTERIOR SPINAL FUSION	1	-0.7008059791	0.1686521780	-4.1553331095	<.0001
MDRG_803	SPINAL FUSION EXCEPT CERVICAL	1	-0.9853994253	0.2044628468	-4.8194546857	<.0001
MDRG_807	MAJOR JOINT REPLACEME NT OR REATTACHM ENT OF LOWER EXTREMITY	1	-0.1132120556	0.0727825903	-1.5554826396	0.1198

AHRQ Quality Indicators
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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_809	AMPUTATION FOR MUSCULOSKELETAL SYS & CONN TISSUE DIS	1	0.4644018865	0.1559828831	2.9772618459	0.0029
MDRG_811	HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT	1	0.2092193548	0.0583297082	3.5868404126	0.0003
MDRG_812	MAJOR JOINT/LIMB REATTACHMENT PROCEDURE OF UPPER EXTREMITIES	1	-0.9546719364	0.2830602644	-3.3726808611	0.0007
MDRG_826	OTHER MUSCULOSKELETAL SYS & CONN TISSUE O.R. PROC	1	-0.5750911411	0.2158610880	-2.6641723460	0.0077
MDRG_1002	AMPUTATION OF LOWER LIMB FOR ENDOCRINE, NUTRIT,& METABOL DIS	1	-0.6877977289	0.3207937016	-2.1440499780	0.0320
MDRG_1103	KIDNEY & URETER PROCEDURES FOR NEOPLASM	1	-0.6616810706	0.2626872562	-2.5188929234	0.0118
MDRG_1401	CESAREAN SECTION	1	-1.611585055	0.5586285114	-2.8848958166	0.0039

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1707	LYMPHOMA & LEUKEMIA W MAJOR O.R. PROCEDURE	1	0.4841756575	0.2397013456	2.0199121382	0.0434
MDRG_1801	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURE	1	0.0709324287	0.0357455826	1.9843690767	0.0472
MDRG_2210	EXTENSIVE BURNS OR FULL THICKNESS BURNS W MV >96 HRS W SKIN GRAFT	1	1.4711631039	0.2115217015	6.9551402702	<.0001
MDRG_2406	CRANIOTOMY FOR MULTIPLE SIGNIFICANT TRAUMA	1	2.3865315779	0.1205619849	19.7950587830	<.0001
MDRG_2408	OTHER O.R. PROCEDURES FOR MULTIPLE SIGNIFICANT TRAUMA	1	0.4892810358	0.0988474363	4.9498606534	<.0001
MDRG_7701	HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM	1	0.2672209603	0.1159494085	2.3046340973	0.0212
MDRG_7702	LIVER TRANSPLANT	1	-1.801403089	0.4442713259	-4.0547363379	<.0001

AHRQ Quality Indicators
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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
TRNSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.1722231348	0.0240705653	7.1549268698	<.0001
RegVarPS04_DVT_PE_SEVERE	PSI04 DVT PE Regression variable: Triggering Complication Severe	1	0.3146160421	0.0429395906	7.3269455492	<.0001
RegVarPS04_GIHEMORRHAGE_ANY	PSI04 GIHEMORRHAGE Regression variable: Any Triggering Complication POA	1	0.2897956753	0.0420970253	6.8839941392	<.0001
RegVarPS04_GIHEMORRHAGE_SEVERE	PSI04 GIHEMORRHAGE Regression variable: Triggering Complication Severe	1	0.2216977770	0.0954698090	2.3221768157	0.0202
RegVarPS04_PNEUMONIA_ANY	PSI04 PNEUMONIA Regression variable: Any Triggering Complication POA	1	-0.1466590252	0.0189729965	-7.7298820536	<.0001
RegVarPS04_PNEUMONIA_SEVERE	PSI04 PNEUMONIA Regression variable: Triggering Complication Severe	1	0.3870645810	0.0173272275	22.3385178203	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
RegVarPS04_SE PSIS_SEVERE	PSI04 SEPSIS Regression variable: Triggering Complication Severe	1	1.5459964226	0.0296930692	52.0659017942	<.0001
RegVarPS04_SH OCK_ANY	PSI04 SHOCK Regression variable: Any Triggering Complication POA	1	0.2796822136	0.0350718850	7.9745418123	<.0001
RegVarPS04_SH OCK_SEVERE	PSI04 SHOCK Regression variable: Triggering Complication Severe	1	1.7229400622	0.0364151144	47.3138720469	<.0001
DNR	Do not resuscitate flag	1	0.8317828667	0.0324652825	25.6206878044	<.0001
COVIDDX_Q2	COVID, Quarter 2, 2020	1	0.6661935313	0.2860370711	2.3290461226	0.0199
COVIDDX_Q3	COVID, Quarter 3, 2020	1	0.1688789043	0.2570425249	0.6570076464	0.5112
COVIDDX_Q4	COVID, Quarter 4, 2020	1	0.6575482019	0.2043472283	3.2177984871	0.0013
COVIDDX_Q5	COVID, Quarter 1, 2021	1	0.4095170937	0.2086453324	1.9627426553	0.0497
COVIDDX_Q6	COVID, Quarter 2, 2021	1	-0.2465830096	0.4311933695	-0.5718617841	0.5674
COVIDDX_Q7	COVID, Quarter 3, 2021	1	0.7768887990	0.3433760561	2.2625013747	0.0237

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
COVIDDX_Q8	COVID, Quarter 4, 2021	1	0.5170317757	0.2524263425	2.0482480972	0.0405
YEAR_2019	Discharge YEAR is 2019 or before 2019	1	-0.1179421546	0.0337595636	-3.4935923937	0.0005
Q1	Quarter 1, 2020	1	-0.1049708321	0.0401257510	-2.6160465392	0.0089
Q2	Quarter 2, 2020	1	-0.1473025350	0.0395248228	-3.7268360632	0.0002
Q3	Quarter 3, 2020	1	-0.0873029819	0.0404123656	-2.1603036751	0.0307
Q4	Quarter 4, 2020	1	-0.0831217384	0.0383416432	-2.1679232155	0.0302
Q5	Quarter 1, 2021	1	-0.0481290616	0.0420215997	-1.1453410132	0.2521
Q6	Quarter 2, 2021	1	-0.0922376139	0.0417429906	-2.2096551408	0.0271
Q7	Quarter 3, 2021	1	-0.0791350608	0.0434245577	-1.8223573265	0.0684

c-statistic=0.816

C-statistics for hospital-level indicator modules are based on the test data (a random sample of 2019-2021 HCUP reference population, not used for the LASSO feature selection).

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Table 5. Risk Adjustment Coefficients for PSI 04 - Death Rate among Surgical Inpatients with Serious Treatable Complications Stratum: Sepsis

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Intercept	Intercept	1	-1.885369653	0.0549744770	-34.2953631667	<.0001
Age_LT30	Age < 30	1	-0.8985655413	0.0586836062	-15.3120368731	<.0001
Age_30_34	30 <= Age <= 34	1	-0.7267186299	0.0642529729	-11.3102724579	<.0001
Age_35_39	35 <= Age <= 39	1	-0.7024151268	0.0878194432	-7.9984010506	<.0001
Age_40_44	40 <= Age <= 44	1	-0.6313995688	0.0519249827	-12.1598416797	<.0001
Age_45_49	45 <= Age <= 49	1	-0.5871017562	0.0473410226	-12.4015436057	<.0001
Age_50_54	50 <= Age <= 54	1	-0.4019236813	0.0583705887	-6.8857225884	<.0001
Age_55_59	55 <= Age <= 59	1	-0.2883247488	0.0318831545	-9.0431688176	<.0001
Age_60_64	60 <= Age <= 64	1	-0.0989061985	0.0416497122	-2.3747150513	0.0176
Age_70_74	70 <= Age <= 74	1	0.1325692095	0.0282117773	4.6990732941	<.0001
Age_75_79	75 <= Age <= 79	1	0.2674347910	0.0296523529	9.0190074205	<.0001
Age_80_84	80 <= Age <= 84	1	0.3973383574	0.0320277071	12.4060818990	<.0001
Age_85Plus	Age >= 85	1	0.4898528166	0.0381024875	12.8561899595	<.0001
MALE	Patient Sex Flag: 1=Male / 0=Female	1	-0.0849841209	0.0179958101	-4.7224393056	<.0001
Age_35_39_MALE	35 <= Age <= 39 MALE	1	-0.0616057751	0.1091209059	-0.5645643661	0.5724
Age_50_54_MALE	50 <= Age <= 54 MALE	1	0.0045481500	0.0707266790	0.0643060018	0.9487
Age_60_64_MALE	60 <= Age <= 64 MALE	1	-0.0595754379	0.0459437171	-1.2967047870	0.1947
CMR_ALCOHOL	Alcohol abuse	1	-0.1265307234	0.0334999044	-3.7770472961	0.0002
CMR_ANEMDEF	Anemias due to other nutritional deficiencies	1	-0.2860713969	0.0215228056	-13.2915477093	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_BLDLOSS	Chronic blood loss anemia (iron deficiency)	1	-0.1946308674	0.0821843181	-2.3682239121	0.0179
CMR_CANCER_LEUK	Leukemia	1	0.2322851862	0.0770221665	3.0158225433	0.0026
CMR_CANCER_METS	Metastatic cancer	1	0.3886691615	0.0339119442	11.4611288262	<.0001
CMR_CANCER_SOLID	Solid tumor without metastasis, malignant	1	0.1325600144	0.0374105711	3.5433838752	0.0004
CMR_CBVD	Cerebrovascular disease	1	0.0557906259	0.0319681375	1.7451947561	0.0810
CMR_COAG	Coagulopathy	1	0.4475415684	0.0227517275	19.6706631887	<.0001
CMR_DEMENTIA	Dementia	1	-0.2276351636	0.0376933850	-6.0391276485	<.0001
CMR_DEPRESS	Depression	1	-0.2761118570	0.0278000383	-9.9320675193	<.0001
CMR_DIAB_CX	Diabetes with chronic complications	1	-0.0277062684	0.0188604253	-1.4690160990	0.1418
CMR_DIAB_UNCX	Diabetes without chronic complications	1	-0.0782336637	0.0327864566	-2.3861579407	0.0170
CMR_DRUG_ABUSE	Drug abuse	1	-0.1393172284	0.0439556339	-3.1694965141	0.0015
CMR_HF	Heart failure	1	0.2074238464	0.0235073077	8.8238027670	<.0001
CMR_HTN_CX	Hypertension, complicated	1	-0.1965786078	0.0239965647	-8.1919479170	<.0001
CMR_HTN_UNCX	Hypertension, uncomplicated	1	-0.2769457058	0.0217434129	-12.7369933530	<.0001
CMR_LIVER_MILD	Liver disease, mild	1	0.2253619425	0.0312607206	7.2091090026	<.0001
CMR_LIVER_SEV	Liver disease, moderate to severe	1	0.6887152154	0.0471756899	14.5989431765	<.0001
CMR_LUNG_CHRONIC	Chronic pulmonary disease	1	0.0641318301	0.0192600657	3.3297825218	0.0009

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_NEURO_MOVT	Neurological disorders affecting movement	1	-0.1454142858	0.0535075587	-2.7176400743	0.0066
CMR_NEURO_OTH	Other neurological disorders	1	0.1148568001	0.0253602415	4.5290105069	<.0001
CMR_OBESE	Obesity	1	-0.1045405833	0.0214737160	-4.8683042688	<.0001
CMR_PARALYSIS	Paralysis	1	-0.1969839093	0.0346091287	-5.6916749057	<.0001
CMR_PERIVASC	Peripheral vascular disease	1	0.1807677111	0.0246614809	7.3299617144	<.0001
CMR_PSYCHOSES	Psychoses	1	-0.4895996272	0.0509999857	-9.5999953868	<.0001
CMR_PULMCIRC	Pulmonary circulation disease	1	0.0987622289	0.0345795575	2.8560871242	0.0043
CMR_RENLFL_SEV	Renal failure, severe	1	0.3336715138	0.0262175162	12.7270452062	<.0001
CMR_THYROID_HYPO	Hypothyroidism	1	-0.1078781435	0.0267254778	-4.0365281554	<.0001
CMR_THYROID_OTH	Other thyroid disorders	1	-0.3301549612	0.0856027995	-3.8568243465	0.0001
CMR_ULCER_PEP TIC	Peptic ulcer disease x bleeding	1	-0.2563156425	0.0555148691	-4.6170629008	<.0001
CMR_WGHTLOSS	Weight loss	1	-0.0676456685	0.0222107105	-3.0456327987	0.0023
PS04_SEPSIS_NonWt_1	PS04_SEPSIS Comorbidity count using non-weighted method, category 1, count > 1 and count <= 3	1	0.0195664033	0.0179385789	1.0907443333	0.2754
MDC_1	Diseases and disorders of the nervous system	1	-0.3744363313	0.0578958254	-6.4674150232	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDC_3	Diseases and disorders of the ear, nose, mouth and throat	1	-0.8638771841	0.1003633910	-8.6074929870	<.0001
MDC_4	Diseases and disorders of the respiratory system	1	0.0423649602	0.0521751371	0.8119760205	0.4168
MDC_6	Diseases and disorders of the digestive system	1	-0.2475670945	0.0375478055	-6.5933838487	<.0001
MDC_8	Diseases and disorders of the musculoskeletal system and connective tissue	1	-0.6456916460	0.0563475688	-11.4590861619	<.0001
MDC_9	Diseases and disorders of the skin, subcutaneous tissue and breast	1	-0.2578096947	0.1470703285	-1.7529687826	0.0796
MDC_10	Endocrine, nutritional and metabolic diseases and disorders	1	-0.3530011379	0.1020818963	-3.4580190104	0.0005
MDC_11	Diseases and disorders of the kidney and urinary tract	1	-0.7055720861	0.0625442128	-11.2811730146	<.0001
MDC_12	Diseases and disorders of the male reproductive system	1	-0.5967134368	0.2689040418	-2.2190571503	0.0265

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDC_13	Diseases and disorders of the female reproductive system	1	-0.7578347267	0.1181594751	-6.4136602327	<.0001
MDC_14	Pregnancy, childbirth and the puerperium	1	-2.159794928	0.3169165502	-6.8150272568	<.0001
MDC_17	Myeloproliferative diseases and disorders, poorly differentiated neoplasms	1	0.3768350036	0.0874681924	4.3082518709	<.0001
MDC_18	Infectious and parasitic diseases, systemic or unspecified sites	1	0.4215791991	0.5014068046	0.8407927359	0.4005
MDC_21	Injuries, poisonings and toxic effects of drugs	1	-0.0794789900	0.0981480651	-0.8097866211	0.4181
MDC_22	Burns	1	0.5005151667	0.1458152810	3.4325289051	0.0006
MDC_24	Multiple significant trauma	1	0.2704855349	0.0579678223	4.6661324170	<.0001
MDRG_101	INTRACRANIAL VASCULAR PROCEDURE S W PDX HEMORRHAGE	1	1.0701717194	0.0892310386	11.9932675494	<.0001
MDRG_102	CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX	1	1.2973971176	0.0574865472	22.5687083546	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_103	CRANIOTOMY & ENDOVASCULAR INTRACRANIAL PROCEDURES	1	0.8001399108	0.0691684636	11.5679873282	<.0001
MDRG_104	SPINAL PROCEDURES	1	0.6536161210	0.1239726361	5.2722612139	<.0001
MDRG_105	VENTRICULAR SHUNT PROCEDURES	1	-0.2361754999	0.2951631471	-0.8001523977	0.4236
MDRG_401	MAJOR CHEST PROCEDURES	1	0.2232482234	0.0739690419	3.0181305271	0.0025
MDRG_402	OTHER RESP SYSTEM O.R. PROCEDURES	1	0.4070276328	0.0968728070	4.2016706786	<.0001
MDRG_501	OTHER HEART ASSIST SYSTEM IMPLANT	1	1.0746266813	0.0586111437	18.3348526228	<.0001
MDRG_502	PERC CARDIOVASC PROC W NON-DRUG-ELUTING STENT	1	0.3956625372	0.1569579119	2.5208193222	0.0117
MDRG_503	CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC	1	0.2981804887	0.0514203062	5.7988859017	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_510	PERMANENT CARDIAC PACEMAKER IMPLANT AND PROCEDURE S	1	-0.9924738588	0.2245456739	-4.4199197501	<.0001
MDRG_511	PERC CARDIOVAS C PROC W DRUG- ELUTING STENT	1	0.0388483445	0.0458189803	0.8478657592	0.3965
MDRG_512	AICD PROCEDURE S	1	-0.7275587239	0.2965098899	-2.4537418441	0.0141
MDRG_513	PERC CARDIOVAS C PROC W/O CORONARY ARTERY STENT	1	0.4701444286	0.1086804301	4.3259345591	<.0001
MDRG_514	OTHER VASCULAR PROCEDURE S	1	0.0586403764	0.0563907840	1.0398929095	0.2984
MDRG_515	UPPER LIMB & TOE AMPUTATIO N FOR CIRC SYSTEM DISORDERS	1	-0.8393495081	0.5445357544	-1.5414038496	0.1232
MDRG_519	OTHER CIRCULATO RY SYSTEM O.R. PROCEDURE S	1	0.4415823706	0.1109465729	3.9801352959	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_536	OTHER ENDOVASCULAR CARDIAC VALVE PROCEDURES	1	0.4727226043	0.2424226054	1.9499939110	0.0512
MDRG_537	CARDIAC DEFIBRILLATOR IMPLANT W AMI/HF/SHOCK	1	-1.550382424	0.2435047815	-6.3669485845	<.0001
MDRG_538	CARDIAC DEFIBRILLATOR IMPLANT W/OUT AMI/HF/SHOCK	1	-1.150660613	0.3017154813	-3.8137274503	0.0001
MDRG_539	CARDIAC DEFIBRILLATOR IMPLANT W/OUT CARDIAC CATH	1	-1.061526140	0.2370705878	-4.4776796244	<.0001
MDRG_540	ENDOVASCULAR CARDIAC VALVE REPLACEMENT	1	-0.2091100358	0.1042096936	-2.0066274887	0.0448
MDRG_541	AORTIC AND HEART ASSIST PROCEDURES EXCEPT PULSATION BALLOON	1	0.6169877680	0.0688615869	8.9598250040	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_542	OTHER MAJOR CARDIOVASCULAR PROCEDURES	1	0.3785615465	0.0440745103	8.5891265530	<.0001
MDRG_543	PERCUTANEOUS AND OTHER INTRACARDIAC PROCEDURES	1	-0.4046098578	0.1478426789	-2.7367595126	0.0062
MDRG_602	MAJOR SMALL & LARGE BOWEL PROCEDURES	1	-0.1085227468	0.0336056376	-3.2293018266	0.0012
MDRG_606	APPENDECTOMY W/O COMPLICATED PRINCIPAL DIAG	1	-1.062553373	0.4645123975	-2.2874596654	0.0222
MDRG_608	ANAL & STOMAL PROCEDURES	1	-0.7694739303	0.3320887845	-2.3170729222	0.0205
MDRG_610	HERNIA PROCEDURES EXCEPT INGUINAL & FEMORAL	1	-0.2209692706	0.1109623101	-1.9913903233	0.0464
MDRG_611	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES	1	0.5613731508	0.0669784814	8.3813956272	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_702	BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E.	1	-0.7552544570	0.2181377232	-3.4622826618	0.0005
MDRG_704	CHOLECYST ECTOMY EXCEPT BY LAPAROSCOPE W/O C.D.E.	1	-0.7556596445	0.2483750391	-3.0424137919	0.0023
MDRG_705	LAPAROSCOPIC CHOLECYST ECTOMY W/O C.D.E.	1	-1.250287565	0.1993456799	-6.2719571637	<.0001
MDRG_706	HEPATOBIILIARY DIAGNOSTIC PROCEDURES	1	0.3019697057	0.1804745948	1.6731978599	0.0943
MDRG_801	COMBINED ANTERIOR/POSTERIOR SPINAL FUSION	1	-0.3593228288	0.1256156879	-2.8604932603	0.0042
MDRG_802	SPINAL FUS EXC CERV W SPINAL CURV/MALIG/INFEC OR EXT FUS	1	0.3756167265	0.1885949661	1.9916582838	0.0464
MDRG_803	SPINAL FUSION EXCEPT CERVICAL	1	-0.3679973618	0.1330467896	-2.7659244014	0.0057

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_805	WND DEBRID & SKN GRFT EXC HAND, FOR MUSCULO- CONN TISS DIS	1	-0.1246624605	0.1508125329	-0.8266054429	0.4085
MDRG_807	MAJOR JOINT REPLACEME NT OR REATTACHM ENT OF LOWER EXTREMITY	1	-0.1156856942	0.0814279716	-1.4207119736	0.1554
MDRG_809	AMPUTATIO N FOR MUSCULOSK ELETAL SYS & CONN TISSUE DIS	1	-0.1884297138	0.1809502159	-1.0413345618	0.2977
MDRG_810	BIOPSIES OF MUSCULOSK ELETAL SYSTEM & CONNECTIV E TISSUE	1	0.6772573695	0.2106328244	3.2153458110	0.0013
MDRG_811	HIP & FEMUR PROCEDURE S EXCEPT MAJOR JOINT	1	0.2782444551	0.0626178402	4.4435332514	<.0001
MDRG_841	HIP REPLACEME NT WITH PRINCIPAL DIAGNOSIS OF HIP FRACTURE	1	0.3060233853	0.1078401859	2.8377490522	0.0045

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_902	SKIN GRAFT EXC FOR SKIN ULCER OR CELLULITIS	1	-0.5368339338	0.3233255024	-1.6603513483	0.0968
MDRG_903	OTHER SKIN, SUBCUT TISS & BREAST PROC	1	-0.5644346921	0.2843740810	-1.9848317054	0.0472
MDRG_1002	AMPUTAT OF LOWER LIMB FOR ENDOCRINE, NUTRIT,& METABOL DIS	1	-0.8326467085	0.1683922148	-4.9446864828	<.0001
MDRG_1003	O.R. PROCEDURE S FOR OBESITY	1	-0.7409083932	0.2465763209	-3.0047832273	0.0027
MDRG_1004	SKIN GRAFTS & WOUND DEBRID FOR ENDOC, NUTRIT & METAB DIS	1	-1.167229262	0.2875359338	-4.0594204922	<.0001
MDRG_1104	KIDNEY & URETER PROCEDURE S FOR NON- NEOPLASM	1	-1.022246753	0.1564658772	-6.5333526469	<.0001
MDRG_1201	MAJOR MALE PELVIC PROCEDURE S	1	-1.459126900	0.4773612935	-3.0566510521	0.0022

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1204	TRANSURET HRAL PROSTATEC TOMY	1	-2.092500605	0.5263427164	-3.9755477553	<.0001
MDRG_1303	UTERINE,AD NEXA PROC FOR NON- OVARIAN/A DNEXAL MALIG	1	-0.5491122690	0.2753676527	-1.9941059292	0.0461
MDRG_1304	UTERINE & ADNEXA PROC FOR NON- MALIGNANC Y	1	-0.4436422653	0.2259371884	-1.9635646014	0.0496
MDRG_1401	CESAREAN SECTION	1	-0.4079370415	0.3616961369	-1.1278446183	0.2594
MDRG_1602	OTHER O.R. PROC OF THE BLOOD & BLOOD FORMING ORGANS	1	0.4903619898	0.3500493553	1.4008367173	0.1613
MDRG_1709	MYELOPROL IF DISORD OR POORLY DIFF NEOPL W MAJ O.R. PROC	1	-0.5623852955	0.1664321236	-3.3790669930	0.0007
MDRG_1801	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURE	1	0.2824264050	0.5343805499	0.5285117601	0.5971
MDRG_2101	WOUND DEBRIDEME NTS FOR INJURIES	1	-0.7891517456	0.1940589669	-4.0665564605	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_2102	SKIN GRAFTS FOR INJURIES	1	-1.226806603	0.4154593498	-2.9528920294	0.0031
MDRG_2104	OTHER O.R. PROCEDURE S FOR INJURIES	1	-0.3169897224	0.1067072378	-2.9706487496	0.0030
MDRG_2201	FULL THICKNESS BURN W SKIN GRAFT OR INHAL INJ	1	-0.7629027031	0.2423684479	-3.1476981007	0.0016
MDRG_2210	EXTENSIVE BURNS OR FULL THICKNESS BURNS W MV >96 HRS W SKIN GRAFT	1	0.6468538647	0.1813993525	3.5659105493	0.0004
MDRG_2301	O.R. PROC W DIAGNOSES OF OTHER CONTACT W HEALTH SERVICES	1	-0.8873111827	0.2579994568	-3.4391978711	0.0006
MDRG_2406	CRANIOTOM Y FOR MULTIPLE SIGNIFICAN T TRAUMA	1	1.0974264933	0.1166092451	9.4111448195	<.0001
MDRG_2501	HIV W EXTENSIVE O.R. PROCEDURE	1	0.3401537993	0.2132569767	1.5950418347	0.1107

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_7701	HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM	1	0.3883020465	0.0964809238	4.0246510000	<.0001
MDRG_7702	LIVER TRANSPLANT	1	-1.108145163	0.1787354914	-6.1999167255	<.0001
MDRG_7703	LUNG TRANSPLANT	1	-1.101236294	0.3089299779	-3.5646792881	0.0004
MDRG_7705	ALLOGENEIC OR AUTOLOGOUS BONE MARROW TRANSPLANT	1	0.3190291308	0.2587598430	1.2329159235	0.2176
TRNSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.1867789026	0.0252442418	7.3988715423	<.0001
RegVarPS04_DVT_PE_ANY	PSI04 DVT PE Regression variable: Any Triggering Complication POA	1	-0.1748979390	0.0553014426	-3.1626288728	0.0016
RegVarPS04_DVT_PE_SEVERE	PSI04 DVT PE Regression variable: Triggering Complication Severe	1	0.1949820727	0.0432877795	4.5043214213	<.0001

AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
RegVarPS04_GI HEMORRHAGE _ANY	PSI04 GIHEMORRH AGE Regression variable: Any Triggering Complication POA	1	0.1773627353	0.0421470684	4.2081867633	<.0001
RegVarPS04_GI HEMORRHAGE _SEVERE	PSI04 GIHEMORRH AGE Regression variable: Triggering Complication Severe	1	0.2898654465	0.0928559193	3.1216690187	0.0018
RegVarPS04_PN EUMONIA_AN Y	PSI04 PNEUMONIA Regression variable: Any Triggering Complication POA	1	0.0294325357	0.0281714804	1.0447635440	0.2961
RegVarPS04_PN EUMONIA_SEV ERE	PSI04 PNEUMONIA Regression variable: Triggering Complication Severe	1	0.0855627848	0.0197847727	4.3246786938	<.0001
RegVarPS04_SE PSIS_ANY	PSI04 SEPSIS Regression variable: Any Triggering Complication POA	1	-0.4381389872	0.0222651774	-19.6782167414	<.0001
RegVarPS04_SE PSIS_SEVERE	PSI04 SEPSIS Regression variable: Triggering Complication Severe	1	1.3528986894	0.0194293455	69.6317170946	<.0001

AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
RegVarPS04_SHOCK_ANY	PSI04 SHOCK Regression variable: Any Triggering Complication POA	1	-0.1573281433	0.0333926429	-4.7114612636	<.0001
RegVarPS04_SHOCK_SEVERE	PSI04 SHOCK Regression variable: Triggering Complication Severe	1	1.2930263410	0.0315775023	40.9477079095	<.0001
DNR	Do not resuscitate flag	1	0.7119609065	0.0410195367	17.3566296216	<.0001
COVIDDX_Q2	COVID, Quarter 2, 2020	1	1.1821495240	0.1405741479	8.4094375907	<.0001
COVIDDX_Q3	COVID, Quarter 3, 2020	1	0.7170626859	0.1355932389	5.2883365860	<.0001
COVIDDX_Q4	COVID, Quarter 4, 2020	1	0.9150949121	0.1010897427	9.0523023210	<.0001
COVIDDX_Q5	COVID, Quarter 1, 2021	1	0.6545606662	0.1155409085	5.6651853829	<.0001
COVIDDX_Q6	COVID, Quarter 2, 2021	1	0.6795248883	0.1752020180	3.8785220412	0.0001
COVIDDX_Q7	COVID, Quarter 3, 2021	1	1.0216854170	0.1794759881	5.6926022695	<.0001
COVIDDX_Q8	COVID, Quarter 4, 2021	1	0.8813222146	0.1204495207	7.3169424818	<.0001
YEAR_2019	Discharge YEAR is 2019 or before 2019	1	-0.1168107983	0.0373029621	-3.1314081166	0.0017

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Q1	Quarter 1, 2020	1	-0.0840958959	0.0416436201	-2.0194184768	0.0434
Q2	Quarter 2, 2020	1	-0.0895194466	0.0439996198	-2.0345504587	0.0419
Q3	Quarter 3, 2020	1	-0.0653919900	0.0433523991	-1.5083822649	0.1315
Q4	Quarter 4, 2020	1	-0.0590461777	0.0408037015	-1.4470789535	0.1479
Q5	Quarter 1, 2021	1	0.0724652508	0.0433540633	1.6714754125	0.0946
Q6	Quarter 2, 2021	1	-0.1192807524	0.0453572083	-2.6298080695	0.0085
Q7	Quarter 3, 2021	1	0.0149571159	0.0460905739	0.3245157236	0.7455

c-statistic=0.807

C-statistics for hospital-level indicator modules are based on the test data (a random sample of 2019-2021 HCUP reference population, not used for the LASSO feature selection).

AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023

Table 6. Risk Adjustment Coefficients for PSI 04 - Death Rate among Surgical Inpatients with Serious Treatable Complications Stratum: Shock/Cardiac Arrest

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Intercept	Intercept	1	-2.992602302	0.0630730676	-47.4465951588	<.0001
Age_LT30	Age < 30	1	-0.1338606577	0.0564363997	-2.3718851364	0.0177
Age_30_34	30 <= Age <= 34	1	-0.1680013149	0.0567593219	-2.9598893934	0.0031
Age_35_39	35 <= Age <= 39	1	-0.2466817298	0.0528895867	-4.6640888167	<.0001
Age_40_44	40 <= Age <= 44	1	-0.1088624887	0.0455943924	-2.3876288955	0.0170
Age_45_49	45 <= Age <= 49	1	-0.1959751966	0.0442353199	-4.4302877677	<.0001
Age_50_54	50 <= Age <= 54	1	-0.1603530363	0.0371034670	-4.3217803986	<.0001
Age_55_59	55 <= Age <= 59	1	-0.1162690895	0.0443374856	-2.6223654307	0.0087
Age_60_64	60 <= Age <= 64	1	-0.0642338779	0.0305708445	-2.1011482999	0.0356
Age_70_74	70 <= Age <= 74	1	0.1156521044	0.0302944436	3.8176012103	0.0001
Age_75_79	75 <= Age <= 79	1	0.2839691628	0.0325566897	8.7222984198	<.0001
Age_80_84	80 <= Age <= 84	1	0.3770619145	0.0365467575	10.3172467266	<.0001
Age_85Plus	Age >= 85	1	0.5575807031	0.0416249752	13.3953401917	<.0001
MALE	Patient Sex Flag: 1=Male / 0=Female	1	0.0486649013	0.0186407791	2.6106688546	0.0090
Age_55_59_MALE	55 <= Age <= 59 MALE	1	-0.1135532797	0.0548444912	-2.0704591696	0.0384
CMR_ALCOHOL	Alcohol abuse	1	0.0747838547	0.0378468079	1.9759620091	0.0482
CMR_ANEMDEF	Anemias due to other nutritional deficiencies	1	-0.0828387861	0.0230074189	-3.6005249652	0.0003
CMR_CANCER_LEUK	Leukemia	1	0.4855443775	0.0894140209	5.4302935130	<.0001
CMR_CANCER_LYMPH	Lymphoma	1	0.1341411195	0.0798210185	1.6805237784	0.0929

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_CANCER_METS	Metastatic cancer	1	0.2941107237	0.0382829162	7.6825579962	<.0001
CMR_CANCER_SOLID	Solid tumor without metastasis, malignant	1	0.1283496899	0.0360855170	3.5568200329	0.0004
CMR_CBVD	Cerebrovascular disease	1	0.1621928242	0.0370362409	4.3793003867	<.0001
CMR_COAG	Coagulopathy	1	0.3850687733	0.0238216790	16.1646361307	<.0001
CMR_DEPRESS	Depression	1	-0.2413310741	0.0279503046	-8.6342913810	<.0001
CMR_DIAB_UNCX	Diabetes without chronic complications	1	0.0845562899	0.0319818634	2.6438825327	0.0082
CMR_HF	Heart failure	1	0.0630843998	0.0245625804	2.5683132156	0.0102
CMR_HTN_UNCX	Hypertension, uncomplicated	1	0.0673817412	0.0228818459	2.9447685963	0.0032
CMR_LIVER_MLD	Liver disease, mild	1	0.2584332284	0.0331985582	7.7844714534	<.0001
CMR_LIVER_SEV	Liver disease, moderate to severe	1	0.7159702279	0.0465879052	15.3681566992	<.0001
CMR_LUNG_CHRONIC	Chronic pulmonary disease	1	0.1183059505	0.0215419192	5.4918946328	<.0001
CMR_NEURO_OTH	Other neurological disorders	1	0.3147014279	0.0278741169	11.2900950121	<.0001
CMR_OBESE	Obesity	1	-0.1277623687	0.0217277460	-5.8801483011	<.0001
CMR_PARALYSIS	Paralysis	1	-0.3437240346	0.0361326819	-9.5128292982	<.0001
CMR_PERIVASC	Peripheral vascular disease	1	0.2370103132	0.0266584331	8.8906318019	<.0001
CMR_PSYCHOSES	Psychoses	1	-0.1799566425	0.0461273415	-3.9013009777	<.0001
CMR_RENLFL_MOD	Renal failure, moderate	1	0.1631710347	0.0305254256	5.3454139136	<.0001
CMR_RENLFL_SEV	Renal failure, severe	1	0.1748970491	0.0313826956	5.5730409942	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_THYROID_HYPO	Hypothyroidism	1	-0.0806046228	0.0262613233	-3.0693282965	0.0021
CMR_THYROID_OTH	Other thyroid disorders	1	-0.1430224499	0.0770183259	-1.8569924513	0.0633
CMR_ULCER_P EPTIC	Peptic ulcer disease x bleeding	1	-0.2235839762	0.0449585681	-4.9731115978	<.0001
CMR_WGHTLOSS	Weight loss	1	-0.2697888648	0.0240118933	-11.2356348215	<.0001
PS04_SHOCK_NonWt_1	PS04_SHOCK Comorbidity count using non-weighted method, category 1, count > 1 and count <= 3	1	0.1740357551	0.0302907864	5.7455013812	<.0001
PS04_SHOCK_NonWt_2	PS04_SHOCK Comorbidity count using non-weighted method, category 2, count >= 4	1	0.1773459166	0.0390869149	4.5372196091	<.0001
MDC_3	Diseases and disorders of the ear, nose, mouth and throat	1	-0.1325277911	0.0816430848	-1.6232580074	0.1045
MDC_7	Diseases and disorders of the hepatobiliary system and pancreas	1	0.5237602317	0.0583983405	8.9687519777	<.0001
MDC_8	Diseases and disorders of the musculoskeletal system and connective tissue	1	0.0564352237	0.0459146343	1.2291336865	0.2190

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDC_13	Diseases and disorders of the female reproductive system	1	-0.0337940629	0.0756277242	-0.4468475451	0.6550
MDC_14	Pregnancy, childbirth and the puerperium	1	-0.5297963634	0.0660290625	-8.0236844650	<.0001
MDC_16	Diseases and disorders of blood, blood forming organs and immunologic disorders	1	0.5964900574	0.0940333612	6.3433876014	<.0001
MDC_17	Myeloproliferative diseases and disorders, poorly differentiated neoplasms	1	0.5153075452	0.0828074445	6.2229615718	<.0001
MDC_21	Injuries, poisonings and toxic effects of drugs	1	0.3756170671	0.0858380306	4.3758816956	<.0001
MDC_23	Factors influencing health status and other contacts with health services	1	0.8745376248	0.2098651684	4.1671404152	<.0001
MDC_24	Multiple significant trauma	1	0.9059657108	0.2365685429	3.8296119161	0.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_101	INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE	1	2.0162187731	0.0780970385	25.8168403405	<.0001
MDRG_102	CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX	1	2.2736545286	0.0553632779	41.0679174689	<.0001
MDRG_103	CRANIOTOMY & ENDOVASCULAR INTRACRANIAL PROCEDURES	1	1.0428254260	0.0743760991	14.0209750085	<.0001
MDRG_104	SPINAL PROCEDURES	1	0.6211859964	0.1321713594	4.6998532739	<.0001
MDRG_107	EXTRACRANIAL PROCEDURES	1	-0.0733584875	0.1068649412	-0.6864598124	0.4924
MDRG_601	STOMACH, ESOPHAGEAL & DUODENAL PROC	1	0.7360376678	0.0501892975	14.6652315272	<.0001
MDRG_602	MAJOR SMALL & LARGE BOWEL PROCEDURES	1	0.7813287393	0.0349648848	22.3460978837	<.0001
MDRG_603	RECTAL RESECTION	1	0.7034238534	0.2424844368	2.9009030957	0.0037

**AHRQ Quality Indicators
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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_604	PERITONEAL ADHESIOLYSIS	1	0.7941158426	0.0711932011	11.1543775274	<.0001
MDRG_607	MINOR SMALL & LARGE BOWEL PROCEDURES	1	1.0025154495	0.1631409492	6.1450877565	<.0001
MDRG_610	HERNIA PROCEDURES EXCEPT INGUINAL & FEMORAL	1	0.5586780546	0.0958709481	5.8273967866	<.0001
MDRG_611	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES	1	1.0397629716	0.0691149151	15.0439738062	<.0001
MDRG_701	PANCREAS, LIVER & SHUNT PROCEDURES	1	0.1058481356	0.0772867244	1.3695513225	0.1708
MDRG_706	HEPATOBIILIARY DIAGNOSTIC PROCEDURES	1	0.9734022867	0.1580900279	6.1572655774	<.0001
MDRG_707	OTHER HEPATOBIILIARY OR PANCREAS O.R. PROCEDURES	1	0.9771707608	0.1245468507	7.8458086681	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_801	COMBINED ANTERIOR/P OSTERIOR SPINAL FUSION	1	-0.2498514371	0.0824473312	-3.0304369267	0.0024
MDRG_802	SPINAL FUS EXC CERV W SPINAL CURV/MALI G/INFEC OR EXT FUS	1	-0.4593987365	0.1293852129	-3.5506278212	0.0004
MDRG_806	REVISION OF HIP OR KNEE REPLACEME NT	1	-0.4433195182	0.0930643121	-4.7635823871	<.0001
MDRG_807	MAJOR JOINT REPLACEME NT OR REATTACHM ENT OF LOWER EXTREMITY	1	-0.3124247828	0.0947572881	-3.2971055740	0.0010
MDRG_808	CERVICAL SPINAL FUSION	1	0.3361085261	0.1173803530	2.8634138295	0.0042
MDRG_809	AMPUTATIO N FOR MUSCULOSK ELETAL SYS & CONN TISSUE DIS	1	0.3985164424	0.1129861833	3.5271254464	0.0004
MDRG_811	HIP & FEMUR PROCEDURE S EXCEPT MAJOR JOINT	1	0.4251153091	0.0977549888	4.3487837747	<.0001

**AHRQ Quality Indicators
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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_813	KNEE PROCEDURE S W PDX OF INFECTION	1	0.4670752681	0.2182661570	2.1399344481	0.0324
MDRG_819	SOFT TISSUE PROCEDURE S	1	0.5893024400	0.1356394914	4.3446228970	<.0001
MDRG_1003	O.R. PROCEDURE S FOR OBESITY	1	-0.1100078202	0.1321688238	-0.8323280563	0.4052
MDRG_1005	THYROID, PARATHYRO ID & THYROGLOS SAL PROCEDURE S	1	-0.2679634451	0.2189658535	-1.2237681848	0.2210
MDRG_1006	OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC	1	0.6454643061	0.1404246412	4.5965173964	<.0001
MDRG_1101	KIDNEY TRANSPLAN T	1	-0.2362309218	0.1233272388	-1.9154805066	0.0554
MDRG_1201	MAJOR MALE PELVIC PROCEDURE S	1	-0.3412188160	0.1738495450	-1.9627248145	0.0497
MDRG_1204	TRANSURET HRAL PROSTATEC TOMY	1	-0.3572797814	0.1950410145	-1.8318187192	0.0670
MDRG_1304	UTERINE & ADNEXA PROC FOR NON- MALIGNANC Y	1	-0.9389256853	0.1645001008	-5.7077514293	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1708	LYMPHOMA & NON-ACUTE LEUKEMIA W OTHER O.R. PROC	1	0.7564677877	0.1665711529	4.5414093277	<.0001
MDRG_1801	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURE	1	0.8972288435	0.0349650851	25.6607081636	<.0001
MDRG_1802	POSTOPERATIVE OR POST-TRAUMATIC INFECTIONS W O.R. PROC	1	0.4556897270	0.0792619166	5.7491636124	<.0001
MDRG_2102	SKIN GRAFTS FOR INJURIES	1	-1.161176385	0.3610667240	-3.2159606735	0.0013
MDRG_2104	OTHER O.R. PROCEDURES FOR INJURIES	1	0.0927616391	0.1012799967	0.9158929906	0.3597
MDRG_2501	HIV W EXTENSIVE O.R. PROCEDURE	1	1.1242957199	0.2004411658	5.6091058712	<.0001
MDRG_7702	LIVER TRANSPLANT	1	-1.836421323	0.1536364568	-11.9530309474	<.0001
TRANSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.2439700582	0.0273246771	8.9285614337	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
RegVarPS04_DVT_PE_ANY	PSI04 DVT PE Regression variable: Any Triggering Complication POA	1	-0.2532579747	0.0595142108	-4.2554202006	<.0001
RegVarPS04_DVT_PE_SEVERE	PSI04 DVT PE Regression variable: Triggering Complication Severe	1	0.4444426238	0.0486775218	9.1303461501	<.0001
RegVarPS04_GIHEMORRHAGE_SEVERE	PSI04 GIHEMORRHAGE Regression variable: Triggering Complication Severe	1	0.3028855038	0.0867896239	3.4898815100	0.0005
RegVarPS04_PNEUMONIA_SEVERE	PSI04 PNEUMONIA Regression variable: Triggering Complication Severe	1	-0.2363077466	0.0246202210	-9.5981163729	<.0001
RegVarPS04_SEPSIS_ANY	PSI04 SEPSIS Regression variable: Any Triggering Complication POA	1	-0.2547369529	0.0361402971	-7.0485572433	<.0001
RegVarPS04_SEPSIS_SEVERE	PSI04 SEPSIS Regression variable: Triggering Complication Severe	1	0.9225990622	0.0308184579	29.9365745147	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
RegVarPS04_SHOCK_ANY	PSI04 SHOCK Regression variable: Any Triggering Complication POA	1	-0.2711641296	0.0258943198	-10.4719541294	<.0001
RegVarPS04_SHOCK_SEVERE	PSI04 SHOCK Regression variable: Triggering Complication Severe	1	2.2877108166	0.0233191029	98.1045807678	<.0001
DNR	Do not resuscitate flag	1	1.0200748228	0.0447338652	22.8031899114	<.0001
COVIDDX_Q2	COVID, Quarter 2, 2020	1	1.0638119487	0.1517008280	7.0125652099	<.0001
COVIDDX_Q3	COVID, Quarter 3, 2020	1	0.7074589101	0.1628466868	4.3443248606	<.0001
COVIDDX_Q4	COVID, Quarter 4, 2020	1	0.6490048813	0.1359400729	4.7741984197	<.0001
COVIDDX_Q5	COVID, Quarter 1, 2021	1	0.5541316740	0.1443196929	3.8396123407	0.0001
COVIDDX_Q6	COVID, Quarter 2, 2021	1	0.3698588217	0.2039803780	1.8132078453	0.0698
COVIDDX_Q7	COVID, Quarter 3, 2021	1	0.9547796202	0.1935259987	4.9335987244	<.0001
COVIDDX_Q8	COVID, Quarter 4, 2021	1	0.8545033502	0.1636944215	5.2201128306	<.0001
YEAR_2019	Discharge YEAR is 2019 or before 2019	1	-0.0062619909	0.0375118400	-0.1669337165	0.8674

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Q1	Quarter 1, 2020	1	-0.0017123174	0.0424573332	-0.0403303091	0.9678
Q2	Quarter 2, 2020	1	-0.0252423347	0.0442316492	-0.5706849081	0.5682
Q3	Quarter 3, 2020	1	0.0123547040	0.0438895611	0.2814952740	0.7783
Q4	Quarter 4, 2020	1	-0.0680387586	0.0432165758	-1.5743671819	0.1154
Q5	Quarter 1, 2021	1	0.0451241775	0.0464891292	0.9706393358	0.3317
Q6	Quarter 2, 2021	1	-0.1270492047	0.0457533710	-2.7768271894	0.0055
Q7	Quarter 3, 2021	1	0.0201679486	0.0465296684	0.4334427764	0.6647

c-statistic=0.855

C-statistics for hospital-level indicator modules are based on the test data (a random sample of 2019-2021 HCUP reference population, not used for the LASSO feature selection).

AHRQ Quality Indicators
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Table 7. Risk Adjustment Coefficients for PSI 04 - Death Rate among Surgical Inpatients with Serious Treatable Complications Stratum: Gastrointestinal (GI) Hemorrhage/Acute Ulcer

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Intercept	Intercept	1	-3.418496584	0.1237285510	-27.6290036381	<.0001
Age_LT30	Age < 30	1	-1.078116049	0.1944574382	-5.5442263274	<.0001
Age_30_34	30 <= Age <= 34	1	-0.4718427417	0.1528985339	-3.0859860443	0.0020
Age_35_39	35 <= Age <= 39	1	-0.6555801271	0.1491968685	-4.3940609057	<.0001
Age_40_44	40 <= Age <= 44	1	-0.4363724477	0.1335058052	-3.2685653407	0.0011
Age_45_49	45 <= Age <= 49	1	-0.3616045136	0.1063554022	-3.3999637629	0.0007
Age_50_54	50 <= Age <= 54	1	-0.1963346660	0.0825520533	-2.3783135371	0.0174
Age_55_59	55 <= Age <= 59	1	-0.0967206363	0.0703899919	-1.3740680132	0.1694
Age_60_64	60 <= Age <= 64	1	-0.0153183798	0.0931557853	-0.1644383091	0.8694
Age_70_74	70 <= Age <= 74	1	0.0642261173	0.0648514729	0.9903571098	0.3220
Age_75_79	75 <= Age <= 79	1	0.2140064084	0.0631213939	3.3903942109	0.0007
Age_80_84	80 <= Age <= 84	1	0.2921144841	0.0676633231	4.3171761401	<.0001
Age_85Plus	Age >= 85	1	0.3136045067	0.0846503906	3.7047024183	0.0002
MALE	Patient Sex Flag: 1=Male / 0=Female	1	-0.1138391904	0.0387483747	-2.9379087849	0.0033
Age_60_64_MALE	60 <= Age <= 64 MALE	1	-0.1124422546	0.1034394856	-1.0870341626	0.2770
CMR_ANEMDEF	Anemias due to other nutritional deficiencies	1	-0.4517240011	0.0450600903	-10.0249244575	<.0001
CMR_BLDLOSS	Chronic blood loss anemia (iron deficiency)	1	-0.5130096026	0.1225127499	-4.1873976618	<.0001
CMR_CANCER_LEUK	Leukemia	1	0.1935609641	0.1845383497	1.0488928965	0.2942

**AHRQ Quality Indicators
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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_CANCER_METS	Metastatic cancer	1	0.3680775310	0.0795745189	4.6255702953	<.0001
CMR_CBVD	Cerebrovascular disease	1	0.2181338864	0.0648243341	3.3650000312	0.0008
CMR_COAG	Coagulopathy	1	0.6178645225	0.0451470469	13.6856021632	<.0001
CMR_DEPRESS	Depression	1	-0.3271040405	0.0629712581	-5.1944974647	<.0001
CMR_DIAB_CX	Diabetes with chronic complications	1	-0.1430245196	0.0419448952	-3.4098194540	0.0007
CMR_HF	Heart failure	1	0.3931623692	0.0478990715	8.2081417602	<.0001
CMR_HTN_CX	Hypertension, complicated	1	-0.3243637783	0.0512162528	-6.3332196499	<.0001
CMR_HTN_UNCX	Hypertension, uncomplicated	1	-0.3040505592	0.0496245054	-6.1270244738	<.0001
CMR_LIVER_SEV	Liver disease, moderate to severe	1	0.4339684299	0.0752062291	5.7703787983	<.0001
CMR_LUNG_CHRONIC	Chronic pulmonary disease	1	0.0623926052	0.0425777225	1.4653814626	0.1428
CMR_NEURO_OTH	Other neurological disorders	1	0.5784462588	0.0507236582	11.4038750121	<.0001
CMR_OBESE	Obesity	1	-0.1887284534	0.0489061414	-3.8589929235	0.0001
CMR_PERIVASC	Peripheral vascular disease	1	0.1811017226	0.0428927400	4.2221999046	<.0001
CMR_PSYCHOSES	Psychoses	1	-0.4407631162	0.1267634482	-3.4770521185	0.0005
CMR_RENLFL_SEV	Renal failure, severe	1	0.4256211781	0.0570585215	7.4593797262	<.0001
CMR_THYROID_HYPO	Hypothyroidism	1	-0.2361948075	0.0568693543	-4.1532880113	<.0001
CMR_ULCER_PEP TIC	Peptic ulcer disease x bleeding	1	-0.2372957259	0.0541408010	-4.3829371129	<.0001
CMR_WGHTLOSS	Weight loss	1	0.0420491199	0.0488250107	0.8612209053	0.3891

**AHRQ Quality Indicators
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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDC_4	Diseases and disorders of the respiratory system	1	0.9820679128	0.1209479137	8.1197590185	<.0001
MDC_5	Diseases and disorders of the circulatory system	1	0.8644386900	0.0862878594	10.0180801293	<.0001
MDC_8	Diseases and disorders of the musculoskeletal system and connective tissue	1	-0.3112346751	0.1278883252	-2.4336441548	0.0149
MDC_10	Endocrine, nutritional and metabolic diseases and disorders	1	-0.5557013525	0.2256701008	-2.4624500568	0.0138
MDC_11	Diseases and disorders of the kidney and urinary tract	1	-1.006210306	0.2331563901	-4.3156025244	<.0001
MDC_12	Diseases and disorders of the male reproductive system	1	-1.069643547	0.5781623462	-1.8500747311	0.0643
MDC_13	Diseases and disorders of the female reproductive system	1	-1.604365934	0.5049981732	-3.1769737382	0.0015
MDC_18	Infectious and parasitic diseases, systemic or unspecified sites	1	0.5767616552	0.0945923696	6.0973380584	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_101	INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE	1	1.1964492659	0.2382343189	5.0221532801	<.0001
MDRG_102	CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX	1	1.6771239122	0.1127777689	14.8710506352	<.0001
MDRG_402	OTHER RESP SYSTEM O.R. PROCEDURES	1	0.4811061286	0.1679053676	2.8653409685	0.0042
MDRG_501	OTHER HEART ASSIST SYSTEM IMPLANT	1	1.3825731108	0.1120853852	12.3349989724	<.0001
MDRG_503	CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC	1	0.0308790295	0.1134929830	0.2720787544	0.7856
MDRG_506	CORONARY BYPASS W PTCA	1	-0.6792439720	0.4655930397	-1.4588791371	0.1446
MDRG_507	CORONARY BYPASS WITH CARDIAC CATHETERIZATION OR OPEN ABLATION	1	-0.8893043246	0.2454556949	-3.6230747258	0.0003
MDRG_508	CORONARY BYPASS W/O CARDIAC CATH	1	-0.8083734951	0.2263201685	-3.5718137730	0.0004

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_510	PERMANENT CARDIAC PACEMAKER IMPLANT AND PROCEDURE S	1	-1.833847393	0.4751783419	-3.8592823605	0.0001
MDRG_511	PERC CARDIOVAS C PROC W DRUG- ELUTING STENT	1	-0.4995212690	0.0795590942	-6.2786193598	<.0001
MDRG_537	CARDIAC DEFIBRILLA TOR IMPLANT W AMI/HF/SHO CK	1	-2.404940839	0.6594450815	-3.6469160305	0.0003
MDRG_538	CARDIAC DEFIBRILLA TOR IMPLANT W/OUT AMI/HF/SHO CK	1	-2.732332036	0.6237710206	-4.3803446223	<.0001
MDRG_539	CARDIAC DEFIBRILLA TOR IMPLANT W/OUT CARDIAC CATH	1	-2.158099496	0.5651325675	-3.8187491215	0.0001
MDRG_540	ENDOVASCU LAR CARDIAC VALVE REPLACEME NT	1	-1.533546431	0.1979458594	-7.7473023986	<.0001

**AHRQ Quality Indicators
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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_541	AORTIC AND HEART ASSIST PROCEDURES EXCEPT PULSATION BALLOON	1	0.0926212078	0.1422676351	0.6510349856	0.5150
MDRG_542	OTHER MAJOR CARDIOVASCULAR PROCEDURES	1	-0.0713911182	0.0790590511	-0.9030100573	0.3665
MDRG_543	PERCUTANEOUS AND OTHER INTRACARDIAC PROCEDURES	1	-1.037720628	0.2895060995	-3.5844516910	0.0003
MDRG_807	MAJOR JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY	1	-1.254804668	0.4224426449	-2.9703551082	0.0030
MDRG_1802	POSTOPERATIVE OR POST-TRAUMATIC INFECTIONS W O.R. PROC	1	-0.4091438111	0.1595033899	-2.5651104433	0.0103
TRNSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.3352279963	0.0457079321	7.3341317484	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
RegVarPS04_DVT_PE_SEVERE	PSI04 DVT PE Regression variable: Triggering Complication Severe	1	0.2024660075	0.1158166673	1.7481595023	0.0804
RegVarPS04_GIHEMORRHAGE_ANY	PSI04 GIHEMORRHAGE Regression variable: Any Triggering Complication POA	1	-0.3999954129	0.0387645409	-10.3185902270	<.0001
RegVarPS04_GIHEMORRHAGE_SEVERE	PSI04 GIHEMORRHAGE Regression variable: Triggering Complication Severe	1	0.1483199626	0.0756562497	1.9604456092	0.0499
RegVarPS04_PNEUMONIA_SEVERE	PSI04 PNEUMONIA Regression variable: Triggering Complication Severe	1	0.1085755236	0.1659200134	0.6543847329	0.5129
RegVarPS04_SEPSIS_SEVERE	PSI04 SEPSIS Regression variable: Triggering Complication Severe	1	1.6676819224	0.0674256485	24.7336430336	<.0001
RegVarPS04_SHOCK_ANY	PSI04 SHOCK Regression variable: Any Triggering Complication POA	1	0.8039213786	0.0570969368	14.0799388496	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
RegVarPS04_SHOCK_SEVERE	PSI04 SHOCK Regression variable: Triggering Complication Severe	1	2.4114137523	0.0666097610	36.2021078519	<.0001
DNR	Do not resuscitate flag	1	0.7694080105	0.0691059564	11.1337437626	<.0001
COVIDDX_Q2	COVID, Quarter 2, 2020	1	1.0231770294	0.3016649701	3.3917661340	0.0007
COVIDDX_Q3	COVID, Quarter 3, 2020	1	0.6367270808	0.2970764252	2.1433107001	0.0321
COVIDDX_Q4	COVID, Quarter 4, 2020	1	1.1246085240	0.2095806241	5.3659947280	<.0001
COVIDDX_Q5	COVID, Quarter 1, 2021	1	1.0279139034	0.1979761012	5.1921110535	<.0001
COVIDDX_Q6	COVID, Quarter 2, 2021	1	1.2360447798	0.3772529352	3.2764351569	0.0011
COVIDDX_Q7	COVID, Quarter 3, 2021	1	1.0010207632	0.3180482421	3.1473865616	0.0016
COVIDDX_Q8	COVID, Quarter 4, 2021	1	1.4275738269	0.2673440037	5.3398385861	<.0001
YEAR_2019	Discharge YEAR is 2019 or before 2019	1	-0.0056097977	0.0801071850	-0.0700286462	0.9442
Q1	Quarter 1, 2020	1	-0.0596861873	0.0995927421	-0.5993025798	0.5490
Q2	Quarter 2, 2020	1	-0.0351015272	0.0993124047	-0.3534455471	0.7238
Q3	Quarter 3, 2020	1	0.1023964073	0.0909001878	1.1264708011	0.2600

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Q4	Quarter 4, 2020	1	-0.0194048390	0.0964963183	-0.2010940869	0.8406
Q5	Quarter 1, 2021	1	0.1545080843	0.1036081067	1.4912740829	0.1359
Q6	Quarter 2, 2021	1	-0.0700361453	0.1080094108	-0.6484263251	0.5167
Q7	Quarter 3, 2021	1	0.1332901933	0.1013540604	1.3150947550	0.1885

c-statistic=0.862

C-statistics for hospital-level indicator modules are based on the test data (a random sample of 2019-2021 HCUP reference population, not used for the LASSO feature selection).

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Table 8. Risk Adjustment Coefficients for PSI 06 - Iatrogenic Pneumothorax Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Intercept	Intercept	1	-8.102547611	0.0638131693	-126.9729697748	<.0001
Age_LT30	Age < 30	1	-0.3815288920	0.0656467169	-5.8118503123	<.0001
Age_30_34	30 <= Age <= 34	1	-0.4925400470	0.0817325607	-6.0262402469	<.0001
Age_35_39	35 <= Age <= 39	1	-0.4580614821	0.0746820824	-6.1334856692	<.0001
Age_40_44	40 <= Age <= 44	1	-0.2665497926	0.0660888168	-4.0332057018	<.0001
Age_45_49	45 <= Age <= 49	1	-0.2956080451	0.0566320301	-5.2198030761	<.0001
Age_50_54	50 <= Age <= 54	1	-0.2135825201	0.0514389174	-4.1521581498	<.0001
Age_55_59	55 <= Age <= 59	1	-0.1298441504	0.0450915834	-2.8795651138	0.0040
Age_60_64	60 <= Age <= 64	1	-0.0096450786	0.0528192014	-0.1826055361	0.8551
Age_70_74	70 <= Age <= 74	1	0.0501804171	0.0378672011	1.3251683697	0.1851
Age_75_79	75 <= Age <= 79	1	0.1474998608	0.0397539808	3.7103167511	0.0002
Age_80_84	80 <= Age <= 84	1	0.1347059196	0.0408237216	3.2996971942	0.0010
Age_85_89	85 <= Age <= 89	1	0.2263038452	0.0428464830	5.2817367817	<.0001
Age_90Plus	Age >= 90	1	0.0727546211	0.0511378305	1.4227162230	0.1548
MALE	Patient Sex Flag: 1=Male / 0=Female	1	-0.2781501380	0.0210480239	-13.2150238861	<.0001
Age_60_64_MALE	60 <= Age <= 64 MALE	1	-0.1181380115	0.0626305632	-1.8862677489	0.0593
CMR_ANEMDEF	Anemias due to other nutritional deficiencies	1	-0.1645745491	0.0264425403	-6.2238554572	<.0001
CMR_DIAB_UNCX	Diabetes without chronic complications	1	-0.1989612705	0.0346190968	-5.7471537037	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_HTN_UNCX	Hypertension, uncomplicated	1	-0.1629182783	0.0215603437	-7.5563859698	<.0001
CMR_NEURO_OTH	Other neurological disorders	1	0.4861631996	0.0329835779	14.7395531692	<.0001
CMR_OBESE	Obesity	1	-0.4848489666	0.0290829517	-16.6712434040	<.0001
CMR_PARALYSIS	Paralysis	1	0.2385645896	0.0419265986	5.6900535053	<.0001
CMR_PSYCHOSES	Psychoses	1	-0.0448099060	0.0498852672	-0.8982593156	0.3690
CMR_PULMCIRC	Pulmonary circulation disease	1	0.1399309465	0.0412476308	3.3924602210	0.0007
CMR_WGHTLOSS	Weight loss	1	0.8757510883	0.0286557330	30.5611127650	<.0001
MDC_3	Diseases and disorders of the ear, nose, mouth and throat	1	1.2043001344	0.0774953143	15.5402961564	<.0001
MDC_4	Diseases and disorders of the respiratory system	1	2.0078921258	0.0358095214	56.0714594709	<.0001
MDC_8	Diseases and disorders of the musculoskeletal system and connective tissue	1	-0.5041250617	0.0526967388	-9.5665324523	<.0001
MDC_18	Infectious and parasitic diseases, systemic or unspecified sites	1	0.7491215274	0.0335850632	22.3051992915	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_101	INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE	1	1.5538398337	0.1820499093	8.5352409117	<.0001
MDRG_102	CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX	1	0.7884934319	0.1197847635	6.5825853719	<.0001
MDRG_103	CRANIOTOMY & ENDOVASCULAR INTRACRANIAL PROCEDURES	1	0.0352733426	0.1034385029	0.3410078613	0.7331
MDRG_108	PERIPH/CRANIAL NERVE & OTHER NERV SYST PROC	1	0.9814375734	0.1222543294	8.0278349123	<.0001
MDRG_121	NONTRAUMATIC STUPOR & COMA	1	1.4921606386	0.5755196324	2.5927189180	0.0095
MDRG_126	BACTERIAL & TUBERCULOUS INFECTIONS OF NERVOUS SYSTEM	1	1.6492841238	0.3141620724	5.2497875097	<.0001
MDRG_402	OTHER RESP SYSTEM O.R. PROCEDURES	1	-0.5761080075	0.1305923572	-4.4114986485	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_403	PULMONAR Y EMBOLISM	1	-2.769746004	0.3332061113	-8.3124105770	<.0001
MDRG_404	RESPIRATOR Y INFECTIONS & INFLAMMAT IONS	1	-3.121245162	0.0969855941	-32.1825647690	<.0001
MDRG_408	PULMONAR Y EDEMA & RESPIRATOR Y FAILURE	1	-2.262130787	0.1900382611	-11.9035544399	<.0001
MDRG_410	SIMPLE PNEUMONIA & PLEURISY	1	-2.415458631	0.1522895328	-15.8609629110	<.0001
MDRG_501	OTHER HEART ASSIST SYSTEM IMPLANT	1	0.7974657983	0.2761053311	2.8882665726	0.0039
MDRG_505	OTHER CARDIOTHO RACIC PROCEDURE S	1	0.5406602760	0.2471235883	2.1878133109	0.0287
MDRG_510	PERMANENT CARDIAC PACEMAKER IMPLANT AND PROCEDURE S	1	3.3367195222	0.0382935586	87.1352686974	<.0001
MDRG_516	CARDIAC PACEMAKER DEVICE REPLACEME NT	1	2.5148356520	0.1968545043	12.7750983445	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_517	CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEME NT	1	1.4622822868	0.1674042546	8.7350365754	<.0001
MDRG_519	OTHER CIRCULATO RY SYSTEM O.R. PROCEDURE S	1	0.2690343193	0.2414440997	1.1142716666	0.2652
MDRG_526	CARDIAC ARREST, UNEXPLAIN ED	1	2.1391376588	0.2997409678	7.1366209116	<.0001
MDRG_539	CARDIAC DEFIBRILLA TOR IMPLANT W/OUT CARDIAC CATH	1	3.1768753273	0.0650776331	48.8167005266	<.0001
MDRG_540	ENDOVASCU LAR CARDIAC VALVE REPLACEME NT	1	0.5030582114	0.1247478248	4.0326010656	<.0001
MDRG_611	OTHER DIGESTIVE SYSTEM O.R. PROCEDURE S	1	0.4250417767	0.1669810507	2.5454491690	0.0109
MDRG_706	HEPATOBI LI ARY DIAGNOSTIC PROCEDURE S	1	1.5661392792	0.2482606751	6.3084468728	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_802	SPINAL FUS EXC CERV W SPINAL CURV/MALI G/INFECTION OR EXT FUS	1	2.0695610338	0.1514464633	13.6652978773	<.0001
MDRG_805	WND DEBRID & SKN GRFT EXC HAND, FOR MUSCULO- CONN TISS DIS	1	-0.1391197670	0.2902279763	-0.4793465082	0.6317
MDRG_807	MAJOR JOINT REPLACEME NT OR REATTACHM ENT OF LOWER EXTREMITY	1	-2.372000072	0.2089484354	-11.3520834313	<.0001
MDRG_903	OTHER SKIN, SUBCUT TISS & BREAST PROC	1	0.3388910583	0.1272553661	2.6630787266	0.0077
MDRG_908	MALIGNANT BREAST DISORDERS	1	2.0566708508	0.3967482781	5.1838179632	<.0001
MDRG_1002	AMPUTAT OF LOWER LIMB FOR ENDOCRINE, NUTRIT,& METABOL DIS	1	-2.018009338	0.5000088783	-4.0359470111	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1103	KIDNEY & URETER PROCEDURE S FOR NEOPLASM	1	2.2196717517	0.0757135800	29.3166926287	<.0001
MDRG_1109	OTHER KIDNEY & URINARY TRACT PROCEDURE S	1	0.0505933258	0.1591171753	0.3179626944	0.7505
MDRG_1708	LYMPHOMA & NON-ACUTE LEUKEMIA W OTHER O.R. PROC	1	1.3528686321	0.1574306450	8.5934262159	<.0001
MDRG_1714	OTHER MYELOPROLIF DIS OR POORLY DIFF NEOPL DIAG	1	1.5972869288	0.3554093805	4.4942171381	<.0001
MDRG_1807	SEPTICEMIA OR SEVERE SEPSIS W MV >96 HOURS	1	2.0694176191	0.0582002997	35.5568206576	<.0001
MDRG_2502	HIV W MAJOR RELATED CONDITION	1	1.4954208089	0.2245509538	6.6596056860	<.0001
MDRG_7702	LIVER TRANSPLANT	1	2.3670696383	0.1517666937	15.5967661955	<.0001
TRNSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.1954146069	0.0354110751	5.5184601504	<.0001

**AHRQ Quality Indicators
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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MEDICDR	Medical DRGs flag	1	-1.653216328	0.0270563770	-61.1026497398	<.0001
COVIDDX_Q1	COVID, Quarter 1, 2020	1	0.4633850434	0.3704497094	1.2508716612	0.2110
COVIDDX_Q2	COVID, Quarter 2, 2020	1	1.7077048438	0.0840934878	20.3072186409	<.0001
COVIDDX_Q3	COVID, Quarter 3, 2020	1	1.5322685910	0.0801873864	19.1085987445	<.0001
COVIDDX_Q4	COVID, Quarter 4, 2020	1	1.5261595589	0.0707017425	21.5858832570	<.0001
COVIDDX_Q5	COVID, Quarter 1, 2021	1	1.4964101195	0.0788977153	18.9664569277	<.0001
COVIDDX_Q6	COVID, Quarter 2, 2021	1	1.8131251869	0.1133005857	16.0027874159	<.0001
COVIDDX_Q7	COVID, Quarter 3, 2021	1	1.9866198646	0.1035944832	19.1768886148	<.0001
COVIDDX_Q8	COVID, Quarter 4, 2021	1	1.6770379178	0.0933457354	17.9658761202	<.0001
YEAR_2019	Discharge YEAR is 2019 or before 2019	1	0.0296139415	0.0525933904	0.5630734439	0.5734
Q1	Quarter 1, 2020	1	0.0354065154	0.0580705257	0.6097157719	0.5421
Q2	Quarter 2, 2020	1	0.1334839152	0.0624437456	2.1376666928	0.0325
Q3	Quarter 3, 2020	1	0.1429843133	0.0590633620	2.4208630941	0.0155
Q4	Quarter 4, 2020	1	0.0601982790	0.0608870943	0.9886870073	0.3228
Q5	Quarter 1, 2021	1	0.0150676974	0.0657440902	0.2291871005	0.8187
Q6	Quarter 2, 2021	1	0.0120518765	0.0675982325	0.1782868579	0.8585

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Q7	Quarter 3, 2021	1	-0.1438998398	0.0671320769	-2.1435332620	0.0321

c-statistic=0.852

C-statistics for hospital-level indicator modules are based on the test data (a random sample of 2019-2021 HCUP reference population, not used for the LASSO feature selection).

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Table 9. Risk Adjustment Coefficients for PSI 07 - Central Venous Catheter-Related Blood Stream Infection Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Intercept	Intercept	1	-8.430405180	0.0950894475	-88.6576313247	<.0001
Age_LT30	Age < 30	1	0.3981292320	0.0660264780	6.0298420235	<.0001
Age_30_34	30 <= Age <= 34	1	0.4052293230	0.0722155470	5.6113861871	<.0001
Age_35_39	35 <= Age <= 39	1	0.3612954628	0.0680278051	5.3109969135	<.0001
Age_40_44	40 <= Age <= 44	1	0.1884751336	0.0663227944	2.8417851725	0.0045
Age_45_49	45 <= Age <= 49	1	0.1515085390	0.0882707429	1.7164072037	0.0861
Age_50_54	50 <= Age <= 54	1	0.1241488034	0.0606010555	2.0486244384	0.0405
Age_55_59	55 <= Age <= 59	1	0.1104917365	0.0561786578	1.9667920313	0.0492
Age_60_64	60 <= Age <= 64	1	0.0631026881	0.0529691487	1.1913102181	0.2335
Age_70_74	70 <= Age <= 74	1	-0.1556933150	0.0562086111	-2.7699192692	0.0056
Age_75_79	75 <= Age <= 79	1	-0.3244655594	0.0665272806	-4.8771805586	<.0001
Age_80_84	80 <= Age <= 84	1	-0.5734151140	0.0750147618	-7.6440303247	<.0001
Age_85_89	85 <= Age <= 89	1	-1.043906809	0.1125504159	-9.2750151231	<.0001
Age_90Plus	Age >= 90	1	-1.442481726	0.1645624174	-8.7655598929	<.0001
MALE	Patient Sex Flag: 1=Male / 0=Female	1	0.0967534975	0.0301172446	3.2125613983	0.0013
Age_45_49_MALE	45 <= Age <= 49 MALE	1	0.0787045101	0.0996628525	0.7897075803	0.4297
CMR_COAG	Coagulopathy	1	0.5143345438	0.0433183254	11.8733709012	<.0001
CMR_DEMENTIA	Dementia	1	-0.3823632513	0.0793866388	-4.8164685776	<.0001
CMR_DRUG_ABUSE	Drug abuse	1	0.5887601131	0.0552676327	10.6528918264	<.0001
CMR_NEURO_OTH	Other neurological disorders	1	0.4897327169	0.0438203498	11.1759198359	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_PARALYSIS	Paralysis	1	0.3678611626	0.0497304997	7.3970936309	<.0001
CMR_WGHTLOSS	Weight loss	1	1.0432919213	0.0486782691	21.4323956250	<.0001
MDC_4	Diseases and disorders of the respiratory system	1	0.1307796994	0.0631049367	2.0724162989	0.0382
MDC_8	Diseases and disorders of the musculoskeletal system and connective tissue	1	-1.293382093	0.0784763103	-16.4811786848	<.0001
MDC_14	Pregnancy, childbirth and the puerperium	1	-3.361006144	0.1558352941	-21.5676824885	<.0001
MDC_18	Infectious and parasitic diseases, systemic or unspecified sites	1	0.5844109258	0.0454638805	12.8544004506	<.0001
MDRG_416	RESPIRATORY SYSTEM DIAGNOSIS WITH VENTILATOR SUPPORT	1	2.5776577386	0.0625627754	41.2011411324	<.0001
MDRG_601	STOMACH, ESOPHAGEAL & DUODENAL PROC	1	0.5952926174	0.1349050465	4.4126786414	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1109	OTHER KIDNEY & URINARY TRACT PROCEDURE S	1	1.7605168406	0.1307411312	13.4656693328	<.0001
MDRG_1807	SEPTICEMIA OR SEVERE SEPSIS W MV >96 HOURS	1	2.3358519744	0.0659058638	35.4422480784	<.0001
TRNSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.6515611272	0.0503108833	12.9506994143	<.0001
MEDICDR	Medical DRGs flag	1	-1.996223162	0.0491440683	-40.6198190076	<.0001
COVIDDX_Q2	COVID, Quarter 2, 2020	1	2.3111584244	0.0885802834	26.0911157265	<.0001
COVIDDX_Q3	COVID, Quarter 3, 2020	1	2.0410203978	0.0915439344	22.2955284918	<.0001
COVIDDX_Q4	COVID, Quarter 4, 2020	1	1.5818476376	0.0865978334	18.2665960027	<.0001
COVIDDX_Q5	COVID, Quarter 1, 2021	1	1.8706651156	0.0961509622	19.4555007405	<.0001
COVIDDX_Q6	COVID, Quarter 2, 2021	1	1.8117739904	0.1393044001	13.0058633443	<.0001
COVIDDX_Q7	COVID, Quarter 3, 2021	1	1.5738045565	0.1121353278	14.0348682970	<.0001
COVIDDX_Q8	COVID, Quarter 4, 2021	1	1.7349639881	0.1047651687	16.5605039281	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
YEAR_2019	Discharge YEAR is 2019 or before 2019	1	-0.0600716853	0.0821638885	-0.7311202813	0.4647
Q1	Quarter 1, 2020	1	-0.1223051848	0.0904825568	-1.3516990353	0.1765
Q2	Quarter 2, 2020	1	0.0036947425	0.0929341534	0.0397565628	0.9683
Q3	Quarter 3, 2020	1	0.0844411104	0.0907487801	0.9304930631	0.3521
Q4	Quarter 4, 2020	1	0.0259845203	0.0904178082	0.2873827719	0.7738
Q5	Quarter 1, 2021	1	0.0449752659	0.0941522724	0.4776864618	0.6329
Q6	Quarter 2, 2021	1	-0.0860278968	0.1028686421	-0.8362888340	0.4030
Q7	Quarter 3, 2021	1	0.0306178629	0.0981482234	0.3119553455	0.7551

c-statistic=0.849

C-statistics for hospital-level indicator modules are based on the test data (a random sample of 2019-2021 HCUP reference population, not used for the LASSO feature selection).

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Table 10. Risk Adjustment Coefficients for PSI 08 - In-Hospital Fall-Associated Fracture Rate

Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
Intercept	Intercept	1	-7.288986513	0.0537951384	#####	<.0001
Age_LT30	Age < 30	1	-1.454378857	0.0895581634	263.7210203482	<.0001
Age_30_34	30 <= Age <= 34	1	-1.157801562	0.1034789678	125.1883992544	<.0001
Age_35_39	35 <= Age <= 39	1	-1.176931015	0.0992945403	140.4918968633	<.0001
Age_40_44	40 <= Age <= 44	1	-1.084665686	0.0909231977	142.3122876649	<.0001
Age_45_49	45 <= Age <= 49	1	-0.7023668831	0.0540865363	168.6357747850	<.0001
Age_50_54	50 <= Age <= 54	1	-0.3912344907	0.0432389880	81.8697054715	<.0001
Age_55_59	55 <= Age <= 59	1	-0.1905580564	0.0468873958	16.5174273724	<.0001
Age_60_64	60 <= Age <= 64	1	-0.0972247139	0.0430409706	5.1025731063	0.0239
Age_70_74	70 <= Age <= 74	1	0.1715797759	0.0388279415	19.5273566674	<.0001
Age_75_79	75 <= Age <= 79	1	0.3285521585	0.0388475503	71.5288717616	<.0001
Age_80_84	80 <= Age <= 84	1	0.4695424115	0.0402901436	135.8163398263	<.0001
Age_85_89	85 <= Age <= 89	1	0.4997529260	0.0371151771	181.3040964713	<.0001
Age_90Plus	Age >= 90	1	0.5333093407	0.0481900719	122.4738110932	<.0001
MALE	Patient Sex Flag: 1=Male / 0=Female	1	-0.3403049262	0.0307236904	122.6845039683	<.0001
Age_LT30_MALE	Age < 30 MALE	1	0.9512479380	0.1045451419	82.7903548107	<.0001
Age_30_34_MALE	30 <= Age <= 34 MALE	1	0.5556579580	0.1296322411	18.3733783751	<.0001
Age_35_39_MALE	35 <= Age <= 39 MALE	1	0.6628047280	0.1230560397	29.0111755601	<.0001
Age_40_44_MALE	40 <= Age <= 44 MALE	1	0.5377430670	0.1164575943	21.3213161711	<.0001
Age_55_59_MALE	55 <= Age <= 59 MALE	1	-0.1280220594	0.0652998366	3.8436641211	0.0499
Age_60_64_MALE	60 <= Age <= 64 MALE	1	-0.1306218786	0.0597043429	4.7865214000	0.0287

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Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
Age_70_74_MALE	70 <= Age <= 74 MALE	1	-0.1306435736	0.0544524291	5.7562757109	0.0164
Age_75_79_MALE	75 <= Age <= 79 MALE	1	-0.0933324994	0.0542570888	2.9590534974	0.0854
Age_80_84_MALE	80 <= Age <= 84 MALE	1	-0.0967622934	0.0568580308	2.8962008601	0.0888
Age_90Plus_MALE	Age >= 90 MALE	1	0.1137692166	0.0726291166	2.4537369982	0.1172
CMR_ALCOHOL	Alcohol abuse	1	0.3213480661	0.0340132773	89.2594944503	<.0001
CMR_ANEMDEF	Anemias due to other nutritional deficiencies	1	0.0686563120	0.0205306294	11.1829507799	0.0008
CMR_AUTOIMMUNE	Autoimmune conditions	1	0.1738268028	0.0370544922	22.0065393211	<.0001
CMR_CANCER_LEUK	Leukemia	1	0.3637840120	0.0784951286	21.4783940827	<.0001
CMR_CANCER_LYMPH	Lymphoma	1	0.1953181634	0.0693879340	7.9235052525	0.0049
CMR_CBVD	Cerebrovascular disease	1	0.0143875693	0.0374680303	0.1474528372	0.7010
CMR_COAG	Coagulopathy	1	0.0781947543	0.0306139946	6.5240193040	0.0106
CMR_DEMENTIA	Dementia	1	0.5434802611	0.0253352991	460.1670105276	<.0001
CMR_DEPRESS	Depression	1	0.2900540632	0.0210148422	190.5046760200	<.0001
CMR_DIAB_CX	Diabetes with chronic complications	1	0.0699798315	0.0219119799	10.1995859511	0.0014
CMR_DIAB_UNCX	Diabetes without chronic complications	1	-0.1517358645	0.0293906120	26.6538056467	<.0001
CMR_DRUG_ABUSE	Drug abuse	1	0.1122269789	0.0380569921	8.6961219982	0.0032
CMR_HF	Heart failure	1	0.0756907063	0.0232803172	10.5707871485	0.0011
CMR_HTN_UNCX	Hypertension, uncomplicated	1	-0.1530498397	0.0203279336	56.6864538610	<.0001
CMR_LIVER_MILD	Liver disease, mild	1	0.1207273409	0.0358203858	11.3592786081	0.0008

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Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
CMR_LIVER_SEV	Liver disease, moderate to severe	1	0.3749841560	0.0582444167	41.4493033763	<.0001
CMR_LUNG_CHRONIC	Chronic pulmonary disease	1	0.2089282277	0.0186836529	125.0462469865	<.0001
CMR_NEURO_MOVT	Neurological disorders affecting movement	1	0.0046925195	0.0414946694	0.0127887339	0.9100
CMR_NEURO_OTH	Other neurological disorders	1	0.1229748402	0.0266067384	21.3623612882	<.0001
CMR_NEURO_SEIZ	Seizures and epilepsy	1	0.2029429692	0.0353058513	33.0411111671	<.0001
CMR_OBESE	Obesity	1	-0.1735768813	0.0229242644	57.3314526423	<.0001
CMR_PARALYSIS	Paralysis	1	-0.1330282164	0.0414931893	10.2785985188	0.0013
CMR_PSYCHOSES	Psychoses	1	0.2498150080	0.0335526450	55.4349330759	<.0001
CMR_PULMCIRC	Pulmonary circulation disease	1	0.1332757392	0.0359351758	13.7550651286	0.0002
CMR_RENLFL_MOD	Renal failure, moderate	1	-0.1376742625	0.0266077030	26.7726122181	<.0001
CMR_RENLFL_SEV	Renal failure, severe	1	0.0326317616	0.0332102919	0.9654630415	0.3258
CMR_THYROID_HYPO	Hypothyroidism	1	0.0414867699	0.0212641585	3.8064738022	0.0511
CMR_THYROID_OTH	Other thyroid disorders	1	0.0604120616	0.0634857331	0.9055137188	0.3413
CMR_WGHTLOSS	Weight loss	1	0.4089350645	0.0240066514	290.1653359539	<.0001
PS08_NonWt_1	PS08 Comorbidity count using non-weighted method, category 1, count > 3 and count <= 6	1	0.1381739126	0.0174759860	62.5127688671	<.0001

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Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
MDC_1	Diseases and disorders of the nervous system	1	1.8050358069	0.0544079894	#####	<.0001
MDC_2	Diseases and disorders of the eye	1	-0.2361601010	0.3175596485	0.5530474910	0.4571
MDC_3	Diseases and disorders of the ear, nose, mouth and throat	1	0.1137881087	0.1126999211	1.0194044710	0.3127
MDC_4	Diseases and disorders of the respiratory system	1	1.6139587970	0.0516269833	977.3078554781	<.0001
MDC_5	Diseases and disorders of the circulatory system	1	1.3476696013	0.0513255652	689.4446134354	<.0001
MDC_6	Diseases and disorders of the digestive system	1	0.5987506730	0.0548849056	119.0107481798	<.0001
MDC_7	Diseases and disorders of the hepatobiliary system and pancreas	1	1.4127613507	0.0848878790	276.9786187394	<.0001
MDC_10	Endocrine, nutritional and metabolic diseases and disorders	1	0.8807730888	0.0624049153	199.2005242640	<.0001
MDC_11	Diseases and disorders of the kidney and urinary tract	1	1.7831132273	0.0717810394	617.0755770650	<.0001

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Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
MDC_12	Diseases and disorders of the male reproductive system	1	-1.140820967	0.2151754376	28.1092720708	<.0001
MDC_13	Diseases and disorders of the female reproductive system	1	-2.405468931	0.2201452301	119.3935715318	<.0001
MDC_16	Diseases and disorders of blood, blood forming organs and immunologic disorders	1	0.7173291324	0.0959512594	55.8901891098	<.0001
MDC_17	Myeloproliferative diseases and disorders, poorly differentiated neoplasms	1	1.0187849201	0.1918417831	28.2019157842	<.0001
MDC_18	Infectious and parasitic diseases, systemic or unspecified sites	1	0.5427828358	0.0579532438	87.7196141015	<.0001
MDC_20	Alcohol or drug use or induced organic mental disorders	1	1.6122342294	0.0814080026	392.2130834661	<.0001
MDC_24	Multiple significant trauma	1	4.0194638727	0.1813949877	491.0047509188	<.0001

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Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
MDRG_101	INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE	1	-3.298569984	0.4497749702	53.7849585760	<.0001
MDRG_102	CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX	1	-2.794122126	0.1652598522	285.8617506501	<.0001
MDRG_103	CRANIOTOMY & ENDOVASCULAR INTRACRANIAL PROCEDURES	1	-2.740764569	0.1118647369	600.2843918176	<.0001
MDRG_104	SPINAL PROCEDURES	1	-1.857153675	0.1802461393	106.1606922501	<.0001
MDRG_105	VENTRICULAR SHUNT PROCEDURES	1	-3.142593931	0.3808416223	68.0906879059	<.0001
MDRG_106	CAROTID ARTERY STENT PROCEDURES	1	-3.561359708	0.3809064756	87.4168131764	<.0001
MDRG_107	EXTRACRANIAL PROCEDURES	1	-3.418426355	0.2017510524	287.0918332522	<.0001
MDRG_108	PERIPH/CRANIAL NERVE & OTHER NERV SYST PROC	1	-2.245015671	0.1513467316	220.0354524573	<.0001

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Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
MDRG_109	SPINAL DISORDERS & INJURIES	1	1.1441087904	0.3059593248	13.9832221398	0.0002
MDRG_110	NERVOUS SYSTEM NEOPLASMS	1	-0.5086945287	0.2028105720	6.2911921965	0.0121
MDRG_111	DEGENERATIVE NERVOUS SYSTEM DISORDERS	1	0.5449443730	0.0734720630	55.0123093042	<.0001
MDRG_112	MULTIPLE SCLEROSIS & CEREBELLAR ATAXIA	1	-1.069564214	0.5026799233	4.5272100704	0.0334
MDRG_113	ACUTE ISCHEMIC STROKE W USE OF THROMBOLYTIC AGENT	1	-1.136256260	0.2935830922	14.9792647520	0.0001
MDRG_114	INTRACRANIAL HEMORRHAGE OR CEREBRAL INFARCTION	1	-0.6457359314	0.0820932087	61.8721836724	<.0001
MDRG_115	NONSPECIFIC CVA & PRECEREBRAL OCCLUSION W/O INFARCT	1	-0.5911250084	0.4114595275	2.0639749419	0.1508
MDRG_116	TRANSIENT ISCHEMIA	1	-1.149251652	0.2191486374	27.5012683508	<.0001

**AHRQ Quality Indicators
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Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
MDRG_117	NONSPECIFIC CEREBROVASCULAR DISORDERS	1	-0.3798531983	0.1248934503	9.2502239567	0.0024
MDRG_118	CRANIAL & PERIPHERAL NERVE DISORDERS	1	-0.4263242415	0.1867909799	5.2091666975	0.0225
MDRG_120	HYPERTENSIVE ENCEPHALOPATHY	1	-0.5536936155	0.3814853521	2.1066059070	0.1467
MDRG_122	TRAUMATIC STUPOR & COMA, COMA >1 HR	1	0.8538479868	0.1096751614	60.6100375952	<.0001
MDRG_123	TRAUMATIC STUPOR & COMA, COMA <1 HR	1	0.2914218728	0.1248871369	5.4451377465	0.0196
MDRG_125	OTHER DISORDERS OF NERVOUS SYSTEM	1	-0.2864725976	0.1153791755	6.1646909498	0.0130
MDRG_129	HEADACHES	1	-1.374542090	0.4114885141	11.1583672622	0.0008
MDRG_206	OTHER DISORDERS OF THE EYE	1	1.6657988945	0.5175826599	10.3582336422	0.0013
MDRG_302	OTHER EAR, NOSE, MOUTH AND THROAT O.R. PROCEDURES	1	-1.976549383	0.5876826525	11.3117447397	0.0008
MDRG_304	MOUTH PROCEDURES	1	-1.287501210	0.5877518593	4.7985195528	0.0285

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Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
MDRG_401	MAJOR CHEST PROCEDURE S	1	-3.024141572	0.1553727571	378.8388343814	<.0001
MDRG_402	OTHER RESP SYSTEM O.R. PROCEDURE S	1	-2.447329056	0.1438870717	289.2951709105	<.0001
MDRG_403	PULMONAR Y EMBOLISM	1	-1.220310967	0.1830742082	44.4310626254	<.0001
MDRG_404	RESPIRATOR Y INFECTIONS & INFLAMMAT IONS	1	-0.6707595264	0.0831402711	65.0894835654	<.0001
MDRG_405	RESPIRATOR Y NEOPLASMS	1	-0.6542449184	0.1884252065	12.0559854893	0.0005
MDRG_406	MAJOR CHEST TRAUMA	1	0.9633472009	0.1357830999	50.3354830916	<.0001
MDRG_407	PLEURAL EFFUSION	1	-0.8490219307	0.2831288673	8.9922736313	0.0027
MDRG_408	PULMONAR Y EDEMA & RESPIRATOR Y FAILURE	1	-0.6599680371	0.1045123908	39.8758763391	<.0001
MDRG_409	CHRONIC OBSTRUCTIV E PULMONAR Y DISEASE	1	-0.5242882235	0.0952649119	30.2882558242	<.0001
MDRG_410	SIMPLE PNEUMONIA & PLEURISY	1	-0.7556531375	0.0889503430	72.1688402153	<.0001
MDRG_411	INTERSTITIA L LUNG DISEASE	1	-0.9426435411	0.3381918164	7.7690658689	0.0053

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Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
MDRG_412	PNEUMOTHORAX	1	0.5596210775	0.1421466250	15.4994048223	<.0001
MDRG_413	BRONCHITIS & ASTHMA	1	-1.222600974	0.2307845677	28.0644118924	<.0001
MDRG_414	RESPIRATORY SIGNS & SYMPTOMS	1	-1.288457606	0.5032245456	6.5556632144	0.0105
MDRG_415	OTHER RESPIRATORY SYSTEM DIAGNOSES	1	-0.1779257044	0.1972750224	0.8134543479	0.3671
MDRG_416	RESPIRATORY SYSTEM DIAGNOSIS WITH VENTILATOR SUPPORT	1	-0.2442736147	0.1029582131	5.6289983916	0.0177
MDRG_501	OTHER HEART ASSIST SYSTEM IMPLANT	1	-2.762308800	0.3361544964	67.5253127607	<.0001
MDRG_502	PERCUTANEOUS CARDIOVASCULAR PROC WITH NON-DRUG-ELUTING STENT	1	-2.691282550	0.4493304762	35.8745811430	<.0001
MDRG_503	CARDIAC VALVE & OTHER MAJOR CARDIOTHORACIC PROC	1	-2.555184911	0.1415566657	325.8247116462	<.0001
MDRG_505	OTHER CARDIOTHORACIC PROCEDURES	1	-2.405315282	0.2224020048	116.9678818719	<.0001

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Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
MDRG_507	CORONARY BYPASS WITH CARDIAC CATHETERIZATION OR OPEN ABLATION	1	-2.872470935	0.2129896384	181.8839316349	<.0001
MDRG_508	CORONARY BYPASS W/O CARDIAC CATH	1	-2.665894537	0.1795079713	220.5557842116	<.0001
MDRG_509	AMPUTATION FOR CIRC SYS DISORDERS EXC UPPER LIMB & TOE	1	-2.642896630	0.2047645694	166.5906909495	<.0001
MDRG_510	PERMANENT CARDIAC PACEMAKER IMPLANT AND PROCEDURES	1	-2.876997427	0.1382589032	433.0048212666	<.0001
MDRG_511	PERC CARDIOVASC PROC W DRUG-ELUTING STENT	1	-3.302737363	0.1138573186	841.4458561342	<.0001
MDRG_512	AICD PROCEDURES	1	-2.337102610	0.5019608889	21.6778297598	<.0001
MDRG_513	PERC CARDIOVASC PROC W/O CORONARY ARTERY STENT	1	-3.482320583	0.4492856822	60.0748012064	<.0001

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Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
MDRG_514	OTHER VASCULAR PROCEDURE S	1	-2.747492545	0.1219233655	507.8075589128	<.0001
MDRG_515	UPPER LIMB & TOE AMPUTATIO N FOR CIRC SYSTEM DISORDERS	1	-1.842504968	0.2921282340	39.7805028386	<.0001
MDRG_517	CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEME NT	1	-2.614213875	0.3191630326	67.0898876551	<.0001
MDRG_519	OTHER CIRCULATO RY SYSTEM O.R. PROCEDURE S	1	-2.225875394	0.2175973081	104.6392601667	<.0001
MDRG_520	ACUTE MYOCARDIA L INFARCTION	1	-0.6109039654	0.0982534227	38.6589907325	<.0001
MDRG_524	HEART FAILURE & SHOCK	1	-0.5127221425	0.0677029909	57.3519826993	<.0001
MDRG_527	PERIPHERAL VASCULAR DISORDERS	1	-0.6197467046	0.1687587345	13.4863967701	0.0002
MDRG_529	HYPERTENSI ON	1	-0.6558865282	0.1802341353	13.2429069184	0.0003
MDRG_530	CARDIAC CONGENITA L & VALVULAR DISORDERS	1	0.0209909698	0.3051525423	0.0047318506	0.9452

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Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
MDRG_531	CARDIAC ARRHYTHMI A & CONDUCTIO N DISORDERS	1	-0.8280895351	0.1059904714	61.0409024008	<.0001
MDRG_534	CHEST PAIN	1	-0.9933759327	0.2341033562	18.0057819934	<.0001
MDRG_535	OTHER CIRCULATO RY SYSTEM DIAGNOSES	1	-0.6869074000	0.1594756842	18.5527136684	<.0001
MDRG_537	CARDIAC DEFIBRILLA TOR IMPLANT W AMI/HF/SHO CK	1	-1.454438518	0.3047582551	22.7761218775	<.0001
MDRG_538	CARDIAC DEFIBRILLA TOR IMPLANT W/OUT AMI/HF/SHO CK	1	-2.100350978	0.3361864200	39.0322344626	<.0001
MDRG_539	CARDIAC DEFIBRILLA TOR IMPLANT W/OUT CARDIAC CATH	1	-2.480271607	0.2618381229	89.7289788966	<.0001
MDRG_540	ENDOVASCU LAR CARDIAC VALVE REPLACEME NT	1	-3.190201712	0.1659635140	369.4971083051	<.0001

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Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
MDRG_541	AORTIC AND HEART ASSIST PROCEDURES EXCEPT PULSATION BALLOON	1	-3.305030888	0.3193205682	107.1265845227	<.0001
MDRG_542	OTHER MAJOR CARDIOVASCULAR PROCEDURES	1	-2.836838880	0.1535342692	341.3962045030	<.0001
MDRG_543	PERCUTANEOUS AND OTHER INTRACARDIAC PROCEDURES	1	-4.005526338	0.3045778166	172.9508279860	<.0001
MDRG_601	STOMACH, ESOPHAGEAL & DUODENAL PROC	1	-2.190856803	0.1806534650	147.0738269814	<.0001
MDRG_602	MAJOR SMALL & LARGE BOWEL PROCEDURES	1	-2.162413177	0.0992135332	475.0458478045	<.0001
MDRG_604	PERITONEAL ADHESIOLYSIS	1	-2.180417597	0.2235049921	95.1710587841	<.0001
MDRG_605	APPENDECTOMY W COMPLICATED PRINCIPAL DIAG	1	-2.880087471	0.5023698020	32.8673208634	<.0001

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Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
MDRG_607	MINOR SMALL & LARGE BOWEL PROCEDURES	1	-1.310443047	0.2927323568	20.0398673820	<.0001
MDRG_609	INGUINAL & FEMORAL HERNIA PROCEDURES	1	-1.971944167	0.3369346935	34.2529330074	<.0001
MDRG_610	HERNIA PROCEDURES EXCEPT INGUINAL & FEMORAL	1	-2.970417471	0.3810735144	60.7599560175	<.0001
MDRG_611	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES	1	-1.491187251	0.1735363383	73.8386088068	<.0001
MDRG_612	MAJOR ESOPHAGEAL DISORDERS	1	0.5335651274	0.2818703602	3.5832412894	0.0584
MDRG_614	DIGESTIVE MALIGNANCY	1	0.4861011268	0.1806749360	7.2386476370	0.0071
MDRG_615	G.I. HEMORRHAGE	1	0.2236543679	0.0912116961	6.0124808410	0.0142
MDRG_701	PANCREAS, LIVER & SHUNT PROCEDURES	1	-2.737272099	0.2482404672	121.5880186711	<.0001

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Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
MDRG_702	BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E.	1	-2.380076265	0.5063608699	22.0933448819	<.0001
MDRG_704	CHOLECYST ECTOMY EXCEPT BY LAPAROSCOPE W/O C.D.E.	1	-3.042256023	0.4543555357	44.8332138101	<.0001
MDRG_705	LAPAROSCOPIC CHOLECYST ECTOMY W/O C.D.E.	1	-3.669512133	0.1967651807	347.7924568115	<.0001
MDRG_706	HEPATOBI LARY DIAGNOSTIC PROCEDURE S	1	-2.355303249	0.5062081518	21.6488780075	<.0001
MDRG_707	OTHER HEPATOBI LARY OR PANCREAS O.R. PROCEDURE S	1	-2.069375690	0.4156128443	24.7913835360	<.0001
MDRG_708	CIRRHOSIS & ALCOHOLIC HEPATITIS	1	-0.4665650081	0.1504208131	9.6207396947	0.0019
MDRG_709	MALIGNANC Y OF HEPATOBI LARY SYSTEM OR PANCREAS	1	-0.1772222751	0.1912690883	0.8585133228	0.3542

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Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
MDRG_710	DISORDERS OF PANCREAS EXCEPT MALIGNANCY	1	-0.6852776054	0.1605522873	18.2179742886	<.0001
MDRG_712	DISORDERS OF THE BILIARY TRACT	1	-0.9697846848	0.2234705386	18.8325917083	<.0001
MDRG_801	COMBINED ANTERIOR/POSTERIOR SPINAL FUSION	1	-0.4367218499	0.0915187726	22.7713861513	<.0001
MDRG_802	SPINAL FUS EXC CERV W SPINAL CURV/MALIG/INFEC OR EXT FUS	1	-0.1597408810	0.2059089902	0.6018406712	0.4379
MDRG_803	SPINAL FUSION EXCEPT CERVICAL	1	-1.024734298	0.1240329947	68.2571397427	<.0001
MDRG_805	WND DEBRID & SKN GRFT EXC HAND, FOR MUSCULO-CONN TISS DIS	1	0.4284301921	0.0992076531	18.6496113468	<.0001
MDRG_808	CERVICAL SPINAL FUSION	1	-1.493625169	0.1787449806	69.8257383637	<.0001

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Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
MDRG_809	AMPUTATION FOR MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE DIS	1	-0.8013492415	0.2517963319	10.1284936988	0.0015
MDRG_810	BIOPSIES OF MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE	1	-0.3484113673	0.1763105581	3.9050625217	0.0481
MDRG_812	MAJOR JOINT/LIMB REATTACHMENT PROCEDURE OF UPPER EXTREMITIES	1	0.2023071143	0.0686538937	8.6834431356	0.0032
MDRG_813	KNEE PROCEDURES WITH PDX OF INFECTION	1	-1.614727149	0.4480654630	12.9871948151	0.0003
MDRG_814	KNEE PROCEDURES WITHOUT PDX OF INFECTION	1	-0.6434565836	0.3344170283	3.7022158078	0.0543
MDRG_815	BACK & NECK PROC EXC SPINAL FUSION OR DISC DEVICE/NEUROMODULATION	1	-1.295172602	0.2198269165	34.7131129522	<.0001

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Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
MDRG_816	LOWER EXTREM & HUMER PROC EXCEPT HIP,FOOT,FE MUR	1	0.9104534940	0.1209955233	56.6209209887	<.0001
MDRG_818	LOCAL EXCISION & REMOVAL INT FIX DEVICES OF HIP & FEMUR	1	-0.0721354566	0.4483083568	0.0258907065	0.8722
MDRG_819	SOFT TISSUE PROCEDURE S	1	-0.7065069187	0.1980224460	12.7292846151	0.0004
MDRG_820	FOOT PROCEDURE S	1	-0.7579402456	0.2900245929	6.8296788821	0.0090
MDRG_824	SHOULDER,E LBOW OR FOREARM PROC,EXC MAJOR JOINT PROC	1	0.5131307214	0.3792484109	1.8306633811	0.1760
MDRG_825	HAND OR WRIST PROC, EXCEPT MAJOR THUMB OR JOINT PROC	1	-0.9317762833	0.4092943470	5.1826491731	0.0228
MDRG_826	OTHER MUSCULOSK ELET SYS & CONN TISS O.R. PROC	1	-1.074063446	0.1875722392	32.7885904250	<.0001

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Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
MDRG_829	SPRAINS, STRAINS, & DISLOCATIONS OF HIP, PELVIS & THIGH	1	2.9469472278	0.3810362719	59.8152715752	<.0001
MDRG_831	PATHOLOGICAL FRACTURES & MUSCULOSKELETAL & CONNECTIVE TISSUE MALIG	1	1.9061664842	0.1560254347	149.2556759952	<.0001
MDRG_832	CONNECTIVE TISSUE DISORDERS	1	1.4038552976	0.2713865815	26.7588810697	<.0001
MDRG_834	MEDICAL BACK PROBLEMS	1	1.4669645476	0.1498697188	95.8101348938	<.0001
MDRG_835	BONE DISEASES & ARTHROPATHIES	1	1.3110217386	0.2400789091	29.8202834827	<.0001
MDRG_836	SIGNS & SYMPTOMS OF MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE	1	1.8692385243	0.1912660145	95.5110961225	<.0001
MDRG_837	TENDONITIS, MYOSITIS & BURSITIS	1	1.3071984418	0.2181209514	35.9160259155	<.0001
MDRG_838	AFTERCARE, MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE	1	2.7429960955	0.0764918227	#####	<.0001

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Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
MDRG_839	FX, SPRN, STRN & DISL EXCEPT FEMUR, HIP, PELVIS & THIGH	1	2.4201935771	0.2401490351	101.5637005200	<.0001
MDRG_840	OTHER MUSCULOSKELETAL SYS & CONNECTIVE TISSUE DIAGNOSES	1	1.6260014493	0.2092534813	60.3804677035	<.0001
MDRG_901	SKIN GRAFT FOR SKIN ULCER OR CELLULITIS	1	-0.4139117210	0.3791874247	1.1915371778	0.2750
MDRG_902	SKIN GRAFT EXC FOR SKIN ULCER OR CELLULITIS	1	-1.357952828	0.5007814713	7.3531404934	0.0067
MDRG_903	OTHER SKIN, SUBCUT TISS & BREAST PROC	1	-1.534857685	0.1877149443	66.8557134892	<.0001
MDRG_910	CELLULITIS	1	1.0648655767	0.1049203626	103.0077759837	<.0001
MDRG_911	TRAUMA TO THE SKIN, SUBCUT TISS & BREAST	1	0.8095851287	0.2711918116	8.9119327241	0.0028
MDRG_913	SKIN DEBRIDEMENT FOR SKIN ULCER OR CELLULITIS	1	-1.919813640	0.3345215005	32.9359408319	<.0001

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Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
MDRG_1002	AMPUTAT OF LOWER LIMB FOR ENDOCRINE, NUTRIT,& METABOL DIS	1	-2.438495361	0.2308718378	111.5583153773	<.0001
MDRG_1003	O.R. PROCEDURE S FOR OBESITY	1	-3.955222589	0.3829172697	106.6920233793	<.0001
MDRG_1004	SKIN GRAFTS & WOUND DEBRID FOR ENDOC, NUTRIT & METAB DIS	1	-1.788359672	0.2491738758	51.5115621677	<.0001
MDRG_1005	THYROID, PARATHYRO ID & THYROGLOS SAL PROCEDURE S	1	-2.503755282	0.5033204621	24.7454059957	<.0001
MDRG_1006	OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC	1	0.0593572594	0.1087961584	0.2976600570	0.5854
MDRG_1010	ENDOCRINE DISORDERS	1	0.4153348308	0.1580544170	6.9053140168	0.0086
MDRG_1101	KIDNEY TRANSPLAN T	1	-3.774020267	0.5049800872	55.8547291577	<.0001
MDRG_1102	MAJOR BLADDER PROCEDURE S	1	-3.043916105	0.3399426562	80.1777804953	<.0001

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Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
MDRG_1103	KIDNEY & URETER PROCEDURES FOR NEOPLASMS	1	-3.710214233	0.3087918134	144.3664969348	<.0001
MDRG_1104	KIDNEY & URETER PROCEDURES FOR NON-NEOPLASMS	1	-3.419347541	0.1646624068	431.2186851665	<.0001
MDRG_1105	MINOR BLADDER PROCEDURES	1	-2.666250149	0.4522071431	34.7637764913	<.0001
MDRG_1106	PROSTATECTOMY	1	-2.724328823	0.5045649877	29.1531057592	<.0001
MDRG_1107	TRANSURETHRAL PROCEDURES	1	-2.923925302	0.2753669520	112.7480169556	<.0001
MDRG_1109	OTHER KIDNEY & URINARY TRACT PROCEDURES	1	-2.746860747	0.1529699233	322.4491146374	<.0001
MDRG_1110	RENAL FAILURE	1	-1.125354932	0.1066333120	111.3764163956	<.0001
MDRG_1113	KIDNEY & URINARY TRACT INFECTIONS	1	-0.8642585494	0.1030242385	70.3734013770	<.0001
MDRG_1115	URINARY STONES	1	-1.203531277	0.4533411842	7.0479759402	0.0079
MDRG_1118	OTHER KIDNEY & URINARY TRACT DIAGNOSES	1	-1.405211579	0.1620954220	75.1522419586	<.0001

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Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
MDRG_1204	TRANSURET HRAL PROSTATEC TOMY	1	-0.8551802107	0.6155927319	1.9298711677	0.1648
MDRG_1309	MALIGNANC Y, FEMALE REPRODUCTI VE SYSTEM	1	3.4090539234	0.4646237755	53.8350204675	<.0001
MDRG_1602	OTHER O.R. PROC OF THE BLOOD & BLOOD FORMING ORGANS	1	-2.127824746	0.5846992026	13.2436198953	0.0003
MDRG_1605	COAGULATI ON DISORDERS	1	0.3781942729	0.2521749818	2.2491887335	0.1337
MDRG_1707	LYMPHOMA & LEUKEMIA W MAJOR O.R. PROCEDURE	1	-2.087171251	0.4501295192	21.5001346143	<.0001
MDRG_1708	LYMPHOMA & NON- ACUTE LEUKEMIA W OTHER O.R. PROC	1	-1.533767168	0.2889119948	28.1830329542	<.0001
MDRG_1709	MYELOPROL IF DISORD OR POORLY DIFF NEOPL W MAJ O.R. PROC	1	-1.997535951	0.4230678248	22.2930357917	<.0001

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Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
MDRG_1710	MYELOPROLIF DISORD OR POORLY DIFF NEOPL W OTHER O.R. PROC	1	-0.7127195051	0.2924198041	5.9405099123	0.0148
MDRG_1711	ACUTE LEUKEMIA W/O MAJOR O.R. PROCEDURE	1	1.3927668924	0.2517805875	30.5993628902	<.0001
MDRG_1712	CHEMO W ACUTE LEUKEMIA	1	0.5496022457	0.3428400723	2.5698858968	0.1089
MDRG_1713	LYMPHOMA & NON-ACUTE LEUKEMIA	1	0.3565717955	0.2661437643	1.7949873222	0.1803
MDRG_1714	OTHER MYELOPROLIF DIS OR POORLY DIFF NEOPL DIAG	1	0.6170775197	0.3679142455	2.8131069436	0.0935
MDRG_1801	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURE	1	-0.8837281614	0.0669997551	173.9766476712	<.0001
MDRG_1802	POSTOPERATIVE OR POST-TRAUMATIC INFECTIONS W O.R. PROC	1	-1.303518788	0.1531430032	72.4503139545	<.0001

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Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
MDRG_1806	OTHER INFECTIOUS & PARASITIC DISEASES DIAGNOSES	1	1.1705319798	0.3188370066	13.4781138508	0.0002
MDRG_1807	SEPTICEMIA OR SEVERE SEPSIS W MV >96 HOURS	1	0.7827348971	0.1269906414	37.9914578936	<.0001
MDRG_1909	O.R. PROCEDURE W PRINCIPAL DIAGNOSES OF MENTAL ILLNESS	1	2.8859528916	0.1046417122	760.6218576631	<.0001
MDRG_1910	ACUTE ADJUSTMENT REACTION & PSYCHOSOCIAL DYSFUNCTION	1	1.8424584945	0.2016488697	83.4841139979	<.0001
MDRG_1911	DEPRESSIVE NEUROSES	1	1.8872631195	0.1695502101	123.8991256170	<.0001
MDRG_1913	DISORDERS OF PERSONALITY & IMPULSE CONTROL	1	2.4336656897	0.2824011241	74.2658227303	<.0001
MDRG_1914	ORGANIC DISTURBANCES & MENTAL RETARDATION	1	2.9443430587	0.0825804453	#####	<.0001
MDRG_1915	PSYCHOSES	1	2.5955246395	0.0584654876	#####	<.0001

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Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
MDRG_1916	BEHAVIORAL & DEVELOPMENTAL DISORDERS	1	2.5711128518	0.5797811275	19.6659137172	<.0001
MDRG_2101	WOUND DEBRIDEMENTS FOR INJURIES	1	-1.007834051	0.3789922072	7.0715968625	0.0078
MDRG_2103	HAND PROCEDURES FOR INJURIES	1	-0.5638016957	0.5782557526	0.9506328808	0.3296
MDRG_2104	OTHER O.R. PROCEDURES FOR INJURIES	1	-0.3829981731	0.1186381574	10.4218452186	0.0012
MDRG_2105	TRAUMATIC INJURY	1	2.2474401798	0.2812471888	63.8557340515	<.0001
MDRG_2107	POISONING & TOXIC EFFECTS OF DRUGS	1	1.2579689959	0.1193006242	111.1871102932	<.0001
MDRG_2201	FULL THICKNESS BURN W SKIN GRAFT OR INHAL INJ	1	-0.3448011543	0.3548851982	0.9439775164	0.3313
MDRG_2301	O.R. PROC W DIAGNOSES OF OTHER CONTACT W HEALTH SERVICES	1	0.6743687587	0.1713425391	15.4904662000	<.0001
MDRG_2302	REHABILITATION	1	2.1452469082	0.1563283665	188.3124308898	<.0001
MDRG_2303	SIGNS & SYMPTOMS	1	1.8923432034	0.1028552524	338.4907934078	<.0001
MDRG_2304	AFTERCARE	1	2.5492121377	0.1220556038	436.2108945559	<.0001

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Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
MDRG_2305	OTHER FACTORS INFLUENCING HEALTH STATUS	1	-0.5156325004	0.3808730516	1.8328210971	0.1758
MDRG_2406	CRANIOTOMY FOR MULTIPLE SIGNIFICANT TRAUMA	1	-1.026198507	0.3244347799	10.0047892904	0.0016
MDRG_2408	OTHER O.R. PROCEDURES FOR MULTIPLE SIGNIFICANT TRAUMA	1	-2.298402347	0.2291351433	100.6163840541	<.0001
MDRG_2409	OTHER MULTIPLE SIGNIFICANT TRAUMA	1	0.2367583777	0.2226880628	1.1303601447	0.2877
MDRG_2501	HIV W EXTENSIVE O.R. PROCEDURE	1	1.0190008366	0.3355629586	9.2214889782	0.0024
MDRG_2502	HIV W MAJOR RELATED CONDITION	1	1.3447899590	0.2930345602	21.0606236916	<.0001
MDRG_7701	HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM	1	-1.057468571	0.2540162772	17.3305299504	<.0001
MDRG_7702	LIVER TRANSPLANT	1	-1.368117571	0.2426879243	31.7797522178	<.0001

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Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
MDRG_7705	ALLOGENEI C OR AUTOLOGO US BONE MARROW TRANSPLAN T	1	-0.4172602055	0.2359034441	3.1285663671	0.0769
TRNSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	-0.0082479766	0.0281529025	0.0858318517	0.7695
MEDICDR	Medical DRGs flag	1	-2.762535462	0.0372841582	#####	<.0001
COVIDDX_Q1	COVID, Quarter 1, 2020	1	-0.1361107824	0.5013480110	0.0737066153	0.7860
COVIDDX_Q2	COVID, Quarter 2, 2020	1	-0.1062643393	0.1186443519	0.8021968563	0.3704
COVIDDX_Q3	COVID, Quarter 3, 2020	1	-0.0921402410	0.1223121410	0.5674917478	0.4513
COVIDDX_Q4	COVID, Quarter 4, 2020	1	-0.0042972250	0.0926509457	0.0021511786	0.9630
COVIDDX_Q5	COVID, Quarter 1, 2021	1	0.1250177243	0.1068289044	1.3695113291	0.2419
COVIDDX_Q6	COVID, Quarter 2, 2021	1	-0.0138764713	0.2017068599	0.0047327847	0.9452
COVIDDX_Q7	COVID, Quarter 3, 2021	1	-0.0759108192	0.1699038883	0.1996184689	0.6550
COVIDDX_Q8	COVID, Quarter 4, 2021	1	0.1469346591	0.1294417954	1.2885445631	0.2563

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Variable Name	Label	DF	Estimate	Standard Error	Wald Chi-Square	Prob Chi-Square
YEAR_2019	Discharge YEAR is 2019 or before 2019	1	0.1172270396	0.0397407657	8.7012797914	0.0032
Q1	Quarter 1, 2020	1	0.0663260226	0.0457058904	2.1058312281	0.1467
Q2	Quarter 2, 2020	1	0.2094246934	0.0469716149	19.8785541665	<.0001
Q3	Quarter 3, 2020	1	0.1983548197	0.0455369061	18.9739816088	<.0001
Q4	Quarter 4, 2020	1	0.1868246255	0.0459705469	16.5161530920	<.0001
Q5	Quarter 1, 2021	1	0.0510682524	0.0530475766	0.9267677137	0.3357
Q6	Quarter 2, 2021	1	-0.0721051667	0.0530259294	1.8490820840	0.1739
Q7	Quarter 3, 2021	1	0.0002245883	0.0527405710	0.0000181336	0.9966

c-statistic=0.768

C-statistics for hospital-level indicator modules are based on the test data (a random sample of 2019-2021 HCUP reference population, not used for the LASSO feature selection).

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Table 11. Risk Adjustment Coefficients for PSI 09 - Postoperative Hemorrhage or Hematoma Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Intercept	Intercept	1	-6.254835477	0.0366693452	-170.5739615592	<.0001
Age_LT30	Age < 30	1	-0.2542397971	0.0371177535	-6.8495469910	<.0001
Age_30_34	30 <= Age <= 34	1	-0.1750678031	0.0379727256	-4.6103565161	<.0001
Age_35_39	35 <= Age <= 39	1	-0.1485591778	0.0349632903	-4.2490045035	<.0001
Age_40_44	40 <= Age <= 44	1	-0.0504348474	0.0298811184	-1.6878500590	0.0914
Age_45_49	45 <= Age <= 49	1	-0.0082431406	0.0351766341	-0.2343356841	0.8147
Age_50_54	50 <= Age <= 54	1	0.0076063504	0.0254426226	0.2989609423	0.7650
Age_55_59	55 <= Age <= 59	1	0.0121782714	0.0326099469	0.3734526607	0.7088
Age_60_64	60 <= Age <= 64	1	0.0007859692	0.0307638821	0.0255484409	0.9796
Age_70_74	70 <= Age <= 74	1	0.0090673793	0.0221224075	0.4098730825	0.6819
Age_75_79	75 <= Age <= 79	1	0.0356493572	0.0234651119	1.5192494004	0.1287
Age_80_84	80 <= Age <= 84	1	-0.0045603598	0.0285674679	-0.1596347232	0.8732
Age_85_89	85 <= Age <= 89	1	-0.1678315078	0.0402644154	-4.1682340650	<.0001
Age_90Plus	Age >= 90	1	-0.3602165684	0.0561509045	-6.4151516612	<.0001
MALE	Patient Sex Flag: 1=Male / 0=Female	1	0.1116734433	0.0147876868	7.5517858137	<.0001
Age_45_49_MALE	45 <= Age <= 49 MALE	1	-0.0887601516	0.0475924158	-1.8650062235	0.0622
Age_55_59_MALE	55 <= Age <= 59 MALE	1	0.0002543057	0.0382862293	0.0066422242	0.9947
Age_60_64_MALE	60 <= Age <= 64 MALE	1	0.0328237244	0.0355354920	0.9236884747	0.3556
CMR_ANEMDEF	Anemias due to other nutritional deficiencies	1	-0.3045987199	0.0205470758	-14.8244316118	<.0001
CMR_CANCER_LEUK	Leukemia	1	0.3526091566	0.0818723127	4.3068180795	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_CANCER_METS	Metastatic cancer	1	0.1455549083	0.0273057952	5.3305500593	<.0001
CMR_CANCER_NSITU	Solid tumor without metastasis, in situ	1	0.7813270730	0.1241503186	6.2933956321	<.0001
CMR_CBVD	Cerebrovascular disease	1	0.0466526434	0.0306754160	1.5208479472	0.1283
CMR_COAG	Coagulopathy	1	0.2963936262	0.2402853028	1.2335070964	0.2174
CMR_DEMENTIA	Dementia	1	-0.2499558802	0.0391818759	-6.3793750127	<.0001
CMR_DIAB_CX	Diabetes with chronic complications	1	-0.0870695273	0.0170700033	-5.1007328761	<.0001
CMR_DIAB_UNCX	Diabetes without chronic complications	1	-0.1587858309	0.0226999390	-6.9949893335	<.0001
CMR_HF	Heart failure	1	0.1467198312	0.0219603738	6.6811171937	<.0001
CMR_HTN_CX	Hypertension, complicated	1	0.1045369589	0.0189260023	5.5234569475	<.0001
CMR_LIVER_SEV	Liver disease, moderate to severe	1	0.2316505485	0.0695961151	3.3284982655	0.0009
CMR_NEURO_OTH	Other neurological disorders	1	0.0312395511	0.0304211510	1.0269023367	0.3045
CMR_OBESE	Obesity	1	-0.0640749139	0.0159164736	-4.0256978733	<.0001
CMR_PARALYSIS	Paralysis	1	0.1799995517	0.0300536511	5.9892740177	<.0001
CMR_PERIVASC	Peripheral vascular disease	1	0.4531950586	0.0188743282	24.0111888755	<.0001
CMR_PULMCIRC	Pulmonary circulation disease	1	0.0208388768	0.0333187943	0.6254391016	0.5317
CMR_RENLFL_SEV	Renal failure, severe	1	0.2217227614	0.0272996563	8.1218151118	<.0001
CMR_THYROID_HYPO	Hypothyroidism	1	0.0154454386	0.0177871909	0.8683461421	0.3852

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_ULCER_P EPTIC	Peptic ulcer disease x bleeding	1	0.3610338179	0.0567076789	6.3665772413	<.0001
CMR_VALVE	Valvular disease	1	0.2074661718	0.0233514596	8.8845055267	<.0001
CMR_WGHTLO SS	Weight loss	1	0.4480212464	0.0250148177	17.9102343152	<.0001
PS09_NonWt_1	PS09 Comorbidity count using non-weighted method, category 1, count > 1 and count <= 3	1	0.0636203730	0.0119276692	5.3338478762	<.0001
MDC_2	Diseases and disorders of the eye	1	-1.535991820	0.3144573071	-4.8845798295	<.0001
MDC_4	Diseases and disorders of the respiratory system	1	0.0852079698	0.0699773640	1.2176504655	0.2234
MDRG_101	INTRACRANI AL VASCULAR PROCEDURE S W PDX HEMORRHA GE	1	0.9867454466	0.1096878015	8.9959451575	<.0001
MDRG_102	CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX	1	-0.5675684102	0.0746203139	-7.6060844597	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_103	CRANIOTOMY & ENDOVASCULAR INTRACRANIAL PROCEDURES	1	0.4291480300	0.0453636147	9.4601815399	<.0001
MDRG_104	SPINAL PROCEDURES	1	0.2161369598	0.0790138215	2.7354323037	0.0062
MDRG_105	VENTRICULAR SHUNT PROCEDURES	1	-2.431149077	0.3724712114	-6.5270791469	<.0001
MDRG_107	EXTRACRANIAL PROCEDURES	1	0.9899312737	0.0391833129	25.2641035184	<.0001
MDRG_301	MAJOR HEAD AND NECK PROCEDURES	1	0.9808282699	0.0679758352	14.4290727267	<.0001
MDRG_302	OTHER EAR, NOSE, MOUTH AND THROAT O.R. PROCEDURES	1	1.1605002562	0.0758192479	15.3061430799	<.0001
MDRG_401	MAJOR CHEST PROCEDURES	1	0.1161433748	0.0875661587	1.3263500024	0.1847
MDRG_402	OTHER RESP SYSTEM O.R. PROCEDURES	1	-1.119491560	0.1430804749	-7.8242091450	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_501	OTHER HEART ASSIST SYSTEM IMPLANT	1	1.0981506170	0.0717616641	15.3027473786	<.0001
MDRG_503	CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC	1	1.0639507508	0.0488552801	21.7776000770	<.0001
MDRG_505	OTHER CARDIOTHORACIC PROCEDURES	1	0.5891857621	0.0679794924	8.6671103441	<.0001
MDRG_506	CORONARY BYPASS W PTCA	1	0.9006350864	0.1439294517	6.2574759783	<.0001
MDRG_507	CORONARY BYPASS WITH CARDIAC CATHETERIZATION OR OPEN ABLATION	1	0.6511825077	0.0529953415	12.2875424363	<.0001
MDRG_508	CORONARY BYPASS W/O CARDIAC CATH	1	0.4916311852	0.0489500933	10.0435188498	<.0001
MDRG_509	AMPUTATION FOR CIRCULATORY DISORDERS EXCEPT UPPER LIMB & TOE	1	-0.2670305419	0.0702162529	-3.8029733958	0.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_511	PERC CARDIOVAS C PROC W DRUG- ELUTING STENT	1	-1.494428599	0.0551705245	-27.0874459412	<.0001
MDRG_513	PERC CARDIOVAS C PROC W/O CORONARY ARTERY STENT	1	-1.430046112	0.1712903373	-8.3486677340	<.0001
MDRG_514	OTHER VASCULAR PROCEDURE S	1	0.6177246216	0.0342211239	18.0509741261	<.0001
MDRG_515	UPPER LIMB & TOE AMPUTATIO N FOR CIRC SYSTEM DISORDERS	1	-1.959382112	0.3328783049	-5.8861814766	<.0001
MDRG_517	CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEME NT	1	0.4124268592	0.1347896006	3.0597824851	0.0022
MDRG_518	VEIN LIGATION & STRIPPING	1	0.2599401085	0.5023269246	0.5174719805	0.6048
MDRG_519	OTHER CIRCULATO RY SYSTEM O.R. PROCEDURE S	1	0.0754951453	0.0959824080	0.7865518995	0.4315

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_542	OTHER MAJOR CARDIOVASCULAR PROCEDURES	1	0.4115179636	0.0385754814	10.6678633474	<.0001
MDRG_543	PERCUTANEOUS AND OTHER INTRACARDIAC PROCEDURES	1	-0.8974556768	0.1014203574	-8.8488711686	<.0001
MDRG_601	STOMACH, ESOPHAGEAL & DUODENAL PROC	1	0.2244162647	0.0446796288	5.0227871352	<.0001
MDRG_603	RECTAL RESECTION	1	0.1087287667	0.1782635215	0.6099327884	0.5419
MDRG_605	APPENDECTOMY W COMPLICATED PRINCIPAL DIAG	1	-1.419681572	0.1708924644	-8.3074556656	<.0001
MDRG_606	APPENDECTOMY W/O COMPLICATED PRINCIPAL DIAG	1	-0.5972561647	0.0904384436	-6.6040075562	<.0001
MDRG_610	HERNIA PROCEDURES EXCEPT INGUINAL & FEMORAL	1	0.3855680878	0.0549389635	7.0181172524	<.0001
MDRG_701	PANCREAS, LIVER & SHUNT PROCEDURES	1	0.4764809393	0.0677296327	7.0350438933	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_702	BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E.	1	0.2267044271	0.1660841885	1.3649970483	0.1723
MDRG_705	LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E.	1	-0.6910005749	0.0515090998	-13.4151164951	<.0001
MDRG_707	OTHER HEPATOBILIARY OR PANCREAS O.R. PROCEDURES	1	-0.2825409378	0.2580500862	-1.0949073567	0.2736
MDRG_801	COMBINED ANTERIOR/POSTERIOR SPINAL FUSION	1	-0.3745164103	0.0593721270	-6.3079500287	<.0001
MDRG_803	SPINAL FUSION EXCEPT CERVICAL	1	-0.4426572360	0.0576609145	-7.6769028004	<.0001
MDRG_804	BILATERAL OR MULTIPLE MAJOR JOINT PROCS OF LOWER EXTREMITY	1	-1.641502416	0.2576274402	-6.3716132673	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_805	WND DEBRID & SKN GRFT EXC HAND, FOR MUSCULO- CONN TISS DIS	1	0.3812957506	0.0550550606	6.9257166630	<.0001
MDRG_806	REVISION OF HIP OR KNEE REPLACEME NT	1	-1.053081695	0.0849309345	-12.3992712510	<.0001
MDRG_807	MAJOR JOINT REPLACEME NT OR REATTACHM ENT OF LOWER EXTREMITY	1	-2.826794317	0.0747807321	-37.8011051320	<.0001
MDRG_808	CERVICAL SPINAL FUSION	1	0.2470085834	0.0420657254	5.8719677661	<.0001
MDRG_810	BIOPSIES OF MUSCULOSK ELETAL SYSTEM & CONNECTIV E TISSUE	1	-0.9128532249	0.1530829748	-5.9631270294	<.0001
MDRG_811	HIP & FEMUR PROCEDURE S EXCEPT MAJOR JOINT	1	-1.989845244	0.0835112641	-23.8272676738	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_812	MAJOR JOINT/LIMB REATTACHM ENT PROCEDURE OF UPPER EXTREMITIE S	1	-2.488433166	0.1405710466	-17.7023165658	<.0001
MDRG_813	KNEE PROCEDURE S W PDX OF INFECTION	1	-1.349243571	0.2423926687	-5.5663547011	<.0001
MDRG_814	KNEE PROCEDURE S W/O PDX OF INFECTION	1	-2.113548731	0.3151532396	-6.7064160090	<.0001
MDRG_815	BACK & NECK PROC EXC SPINAL FUSION OR DISC DEVICE/NEU ROSTIM	1	0.3648935388	0.0556668915	6.5549472703	<.0001
MDRG_816	LOWER EXTREM & HUMER PROC EXCEPT HIP,FOOT,FE MUR	1	-2.415520472	0.1255106901	-19.2455357391	<.0001
MDRG_817	LOCAL EXCISION & REMOVAL INT FIX DEVICES EXC HIP & FEMUR	1	-0.4546651148	0.1694262454	-2.6835577547	0.0073

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_820	FOOT PROCEDURE S	1	-1.851452204	0.2579252244	-7.1782517902	<.0001
MDRG_824	SHOULDER,E LBOW OR FOREARM PROC,EXC MAJOR JOINT PROC	1	-3.343732464	0.4995099275	-6.6940260434	<.0001
MDRG_825	HAND OR WRIST PROC, EXCEPT MAJOR THUMB OR JOINT PROC	1	-1.846692889	0.3247491797	-5.6865205643	<.0001
MDRG_826	OTHER MUSCULOSK ELET SYS & CONN TISS O.R. PROC	1	-0.4080571193	0.0669614998	-6.0939065051	<.0001
MDRG_841	HIP REPLACEME NT WITH PRINCIPAL DIAGNOSIS OF HIP FRACTURE	1	-2.195088982	0.2349796891	-9.3416115687	<.0001
MDRG_902	SKIN GRAFT EXC FOR SKIN ULCER OR CELLULITIS	1	1.3932857440	0.0752495846	18.5155273685	<.0001
MDRG_903	OTHER SKIN, SUBCUT TISS & BREAST PROC	1	1.7449814680	0.0366956853	47.5527695828	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_904	MASTECTOMY FOR MALIGNANCY	1	1.8913071838	0.0716728041	26.3880729762	<.0001
MDRG_905	BREAST BIOPSY, LOCAL EXCISION & OTHER BREAST PROCEDURES	1	1.7196883381	0.0712155435	24.1476544865	<.0001
MDRG_913	SKIN DEBRIDEMENT FOR SKIN ULCER OR CELLULITIS	1	0.3864554490	0.0744540493	5.1905229147	<.0001
MDRG_1002	AMPUTATION OF LOWER LIMB FOR ENDOCRINE, NUTRIT,& METABOL DIS	1	-0.8383882117	0.0899292258	-9.3227558081	<.0001
MDRG_1005	THYROID, PARATHYROID & THYROIDECTOMY PROCEDURES	1	1.7304632568	0.0558431548	30.9879207810	<.0001
MDRG_1006	OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC	1	-0.5363096706	0.1179129635	-4.5483520620	<.0001
MDRG_1101	KIDNEY TRANSPLANT	1	1.1939123707	0.0814174730	14.6640804131	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1103	KIDNEY & URETER PROCEDURE S FOR NEOPLASM	1	-0.3652323000	0.0773344465	-4.7227634858	<.0001
MDRG_1104	KIDNEY & URETER PROCEDURE S FOR NON- NEOPLASM	1	-0.1766776177	0.0869798023	-2.0312487851	0.0422
MDRG_1105	MINOR BLADDER PROCEDURE S	1	1.7322031267	0.1117948658	15.4944783374	<.0001
MDRG_1106	PROSTATEC TOMY	1	-1.672064962	0.4441423551	-3.7647050386	0.0002
MDRG_1107	TRANSURET HRAL PROCEDURE S	1	-2.666954797	0.4052095851	-6.5816675974	<.0001
MDRG_1304	UTERINE & ADNEXA PROC FOR NON- MALIGNANC Y	1	0.3403325765	0.0412884893	8.2427955694	<.0001
MDRG_1305	D&C, CONIZATION , LAPAROSCO PY & TUBAL INTERRUPTI ON	1	-0.5440001187	0.2180247385	-2.4951302423	0.0126

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1602	OTHER O.R. PROC OF THE BLOOD & BLOOD FORMING ORGANS	1	-0.7295458603	0.3164598353	-2.3053347657	0.0211
MDRG_1707	LYMPHOMA & LEUKEMIA W MAJOR O.R. PROCEDURE	1	0.6557733311	0.1092738453	6.0011920468	<.0001
MDRG_1708	LYMPHOMA & NON- ACUTE LEUKEMIA W OTHER O.R. PROC	1	-0.8105073164	0.2362795607	-3.4302895856	0.0006
MDRG_1709	MYELOPROL IF DISORD OR POORLY DIFF NEOPL W MAJ O.R. PROC	1	0.6444078644	0.0939657173	6.8579039575	<.0001
MDRG_2102	SKIN GRAFTS FOR INJURIES	1	0.7433117161	0.1359136188	5.4690009910	<.0001
MDRG_7701	HEART TRANSPLAN T OR IMPLANT OF HEART ASSIST SYSTEM	1	2.3370924608	0.0933492769	25.0359996264	<.0001
MDRG_7702	LIVER TRANSPLAN T	1	1.9528342375	0.1256931152	15.5365250890	<.0001
MDRG_7703	LUNG TRANSPLAN T	1	1.5686170981	0.1834863701	8.5489570547	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_7704	SIMULTANEOUS PANCREAS/KIDNEY TRANSPLANT	1	2.1161687924	0.2241201440	9.4421177628	<.0001
TRANSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.1087673494	0.0258752332	4.2035311811	<.0001
COVIDDX_Q2	COVID, Quarter 2, 2020	1	0.3060303855	0.1750559466	1.7481861734	0.0804
COVIDDX_Q3	COVID, Quarter 3, 2020	1	-0.2643297395	0.2134196040	-1.2385447941	0.2155
COVIDDX_Q4	COVID, Quarter 4, 2020	1	-0.1133956523	0.1747115091	-0.6490451193	0.5163
COVIDDX_Q5	COVID, Quarter 1, 2021	1	0.1580893888	0.1458881760	1.0836340073	0.2785
COVIDDX_Q6	COVID, Quarter 2, 2021	1	0.5252546654	0.2074960076	2.5313964908	0.0114
COVIDDX_Q7	COVID, Quarter 3, 2021	1	0.0550061226	0.2572523729	0.2138216334	0.8307
COVIDDX_Q8	COVID, Quarter 4, 2021	1	0.4223951180	0.1827317162	2.3115588622	0.0208
YEAR_2019	Discharge YEAR is 2019 or before 2019	1	0.1295479146	0.0298018366	4.3469775477	<.0001
Q1	Quarter 1, 2020	1	0.1643836623	0.0338231541	4.8600926434	<.0001
Q2	Quarter 2, 2020	1	0.0753850320	0.0357789234	2.1069675902	0.0351

**AHRQ Quality Indicators
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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Q3	Quarter 3, 2020	1	0.1038952749	0.0335444751	3.0972395497	0.0020
Q4	Quarter 4, 2020	1	0.0833330118	0.0332826114	2.5038002811	0.0123
Q5	Quarter 1, 2021	1	0.0802831840	0.0348694037	2.3023962393	0.0213
Q6	Quarter 2, 2021	1	0.0856265977	0.0357829506	2.3929440223	0.0167
Q7	Quarter 3, 2021	1	0.0303569014	0.0334675142	0.9070557540	0.3644

c-statistic=0.758

C-statistics for hospital-level indicator modules are based on the test data (a random sample of 2019-2021 HCUP reference population, not used for the LASSO feature selection).

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Table 12. Risk Adjustment Coefficients for PSI 10 - Postoperative Acute Kidney Injury Requiring Dialysis Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Intercept	Intercept	1	-7.718286579	0.1122348750	-68.7690575479	<.0001
Age_LT30	Age < 30	1	-1.032700706	0.1517026681	-6.8073997580	<.0001
Age_30_34	30 <= Age <= 34	1	-0.9450951697	0.1692575329	-5.5837702091	<.0001
Age_35_39	35 <= Age <= 39	1	-0.7834835190	0.1278263176	-6.1292817762	<.0001
Age_40_44	40 <= Age <= 44	1	-0.5636537949	0.1082959946	-5.2047520020	<.0001
Age_45_49	45 <= Age <= 49	1	-0.5377003424	0.0809544999	-6.6420068423	<.0001
Age_50_54	50 <= Age <= 54	1	-0.3148967809	0.0643499976	-4.8935010532	<.0001
Age_55_59	55 <= Age <= 59	1	-0.2026008547	0.0537610106	-3.7685462471	0.0002
Age_60_64	60 <= Age <= 64	1	-0.0843922078	0.0445956306	-1.8923873630	0.0584
Age_70_74	70 <= Age <= 74	1	0.1127883398	0.0414486147	2.7211606655	0.0065
Age_75_79	75 <= Age <= 79	1	0.1467142186	0.0455024682	3.2243134164	0.0013
Age_80_84	80 <= Age <= 84	1	0.0588942868	0.0538919271	1.0928220603	0.2745
Age_85_89	85 <= Age <= 89	1	-0.1716775215	0.1124394215	-1.5268445828	0.1268
Age_90Plus	Age >= 90	1	-0.6275369713	0.2303789303	-2.7239338709	0.0065
MALE	Patient Sex Flag: 1=Male / 0=Female	1	0.0102869955	0.0305990135	0.3361871625	0.7367
Age_85_89_MALE	85 <= Age <= 89 MALE	1	-0.0119147640	0.1433870378	-0.0830951264	0.9338
Age_90Plus_MALE	Age >= 90 MALE	1	-0.1563681715	0.3214174584	-0.4864955759	0.6266
CMR_ALCOHOL	Alcohol abuse	1	0.3019212981	0.0754479576	4.0017159885	<.0001
CMR_ANEMDEF	Anemias due to other nutritional deficiencies	1	0.3544147794	0.0451788101	7.8447125598	<.0001

**AHRQ Quality Indicators
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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_CANCER_LEUK	Leukemia	1	0.4877080096	0.1396690572	3.4918830232	0.0005
CMR_CANCER_LYMPH	Lymphoma	1	0.1481480304	0.1485370163	0.9973812195	0.3186
CMR_CANCER_METS	Metastatic cancer	1	0.3620122842	0.0785426486	4.6091173470	<.0001
CMR_CANCER_SOLID	Solid tumor without metastasis, malignant	1	0.1101967573	0.0657441724	1.6761448712	0.0937
CMR_CBVD	Cerebrovascular disease	1	-0.0883970295	0.0673905073	-1.3117133709	0.1896
CMR_COAG	Coagulopathy	1	0.5583765251	0.0553309795	10.0915712985	<.0001
CMR_DEMENTIA	Dementia	1	-0.3023828699	0.1120720807	-2.6981106080	0.0070
CMR_DEPRESS	Depression	1	-0.0903210992	0.0457174997	-1.9756351433	0.0482
CMR_DIAB_CX	Diabetes with chronic complications	1	0.3768201959	0.0355887745	10.5881756520	<.0001
CMR_DIAB_UNCX	Diabetes without chronic complications	1	-0.6728135337	0.0705914741	-9.5310877450	<.0001
CMR_DRUG_ABUSE	Drug abuse	1	0.2004543642	0.1080317950	1.8555126677	0.0635
CMR_HF	Heart failure	1	0.4235814397	0.0495238301	8.5530832066	<.0001
CMR_HTN_CX	Hypertension, complicated	1	0.4028177023	0.0484433686	8.3152289681	<.0001
CMR_HTN_UNCX	Hypertension, uncomplicated	1	-0.5582697326	0.0520836798	-10.7187075730	<.0001
CMR_LIVER_MLD	Liver disease, mild	1	0.4038769489	0.0617912261	6.5361536643	<.0001
CMR_LIVER_SEV	Liver disease, moderate to severe	1	1.0360637557	0.0929651959	11.1446412340	<.0001
CMR_LUNG_CHRONIC	Chronic pulmonary disease	1	0.1071408679	0.0322151612	3.3257902150	0.0009

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_NEURO_MOVT	Neurological disorders affecting movement	1	-0.3647792448	0.1113550068	-3.2758225708	0.0011
CMR_NEURO_OTH	Other neurological disorders	1	0.3663947011	0.1002596499	3.6544582144	0.0003
CMR_NEURO_SEIZ	Seizures and epilepsy	1	0.1374044791	0.0902981625	1.5216752520	0.1281
CMR_OBESE	Obesity	1	0.4442116705	0.0351860744	12.6246442250	<.0001
CMR_PARALYSIS	Paralysis	1	0.3882898530	0.0926474864	4.1910457396	<.0001
CMR_PERIVASCULAR	Peripheral vascular disease	1	0.5275565481	0.0447829088	11.7803099930	<.0001
CMR_PSYCHOSES	Psychoses	1	-0.3130829732	0.1089481950	-2.8736866464	0.0041
CMR_PULMONARY_CIRCULATION	Pulmonary circulation disease	1	0.4819287770	0.0469361408	10.2677546284	<.0001
CMR_RENLFL_MODERATE	Renal failure, moderate	1	0.5677426263	0.0454349583	12.4957223904	<.0001
CMR_RENLFL_SEVERE	Renal failure, severe	1	1.9830970998	0.0628894231	31.5330782639	<.0001
CMR_THYROID_HYPOTHYROIDISM	Hypothyroidism	1	-0.1251276894	0.0442332359	-2.8288160892	0.0047
CMR_THYROID_OTHER	Other thyroid disorders	1	-0.3809152245	0.1393816572	-2.7328934963	0.0063
CMR_ULCER_PEP_TIC	Peptic ulcer disease x bleeding	1	0.2675817861	0.1425733354	1.8768010541	0.0605
CMR_WGHTLOSS	Weight loss	1	1.0835145930	0.0554942406	19.5248116205	<.0001
PS10_NonWt_1	PS10 Comorbidity count using non-weighted method, category 1, count > 3 and count <= 5	1	-0.0464101561	0.0507458686	-0.9145602854	0.3604

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
PS10_NonWt_2	PS10 Comorbidity count using non-weighted method, category 2, count ≥ 6	1	-0.4393785332	0.0794726956	-5.5286728352	<.0001
MDC_1	Diseases and disorders of the nervous system	1	-1.169172843	0.1616576722	-7.2323993441	<.0001
MDC_3	Diseases and disorders of the ear, nose, mouth and throat	1	-0.4565102035	0.2547595710	-1.7919256251	0.0731
MDC_4	Diseases and disorders of the respiratory system	1	2.1584064599	0.1379064387	15.6512377481	<.0001
MDC_5	Diseases and disorders of the circulatory system	1	3.7125877962	0.1078867036	34.4119124223	<.0001
MDC_6	Diseases and disorders of the digestive system	1	2.0908353071	0.1078971132	19.3780467781	<.0001
MDC_7	Diseases and disorders of the hepatobiliary system and pancreas	1	2.9109633293	0.2065532887	14.0930379143	<.0001
MDC_8	Diseases and disorders of the musculoskeletal system and connective tissue	1	-0.8996193888	0.0960097255	-9.3700860440	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDC_9	Diseases and disorders of the skin, subcutaneous tissue and breast	1	-0.8857646848	0.2625967757	-3.3730980984	0.0007
MDC_11	Diseases and disorders of the kidney and urinary tract	1	1.3240004213	0.1816975665	7.2868362891	<.0001
MDC_17	Myeloproliferative diseases and disorders, poorly differentiated neoplasms	1	1.0507242396	0.1591789704	6.6008985802	<.0001
MDC_21	Injuries, poisonings and toxic effects of drugs	1	0.1386360367	0.2672876055	0.5186773868	0.6040
MDRG_107	EXTRACRANIAL PROCEDURES	1	-0.3325531457	0.2601175013	-1.2784727828	0.2011
MDRG_301	MAJOR HEAD AND NECK PROCEDURES	1	-0.9379147600	0.4779882393	-1.9622130480	0.0497
MDRG_401	MAJOR CHEST PROCEDURES	1	-1.792091103	0.1623326560	-11.0396216427	<.0001
MDRG_402	OTHER RESP SYSTEM O.R. PROCEDURES	1	-2.356666498	0.2687227282	-8.7698815575	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_501	OTHER HEART ASSIST SYSTEM IMPLANT	1	-0.9964166410	0.1250793557	-7.9662757753	<.0001
MDRG_503	CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC	1	-1.801628426	0.0835789648	-21.5560031166	<.0001
MDRG_505	OTHER CARDIOTHORACIC PROCEDURES	1	-2.567513382	0.1247381842	-20.5832191452	<.0001
MDRG_506	CORONARY BYPASS W PTCA	1	-1.304002495	0.2529004635	-5.1561886310	<.0001
MDRG_507	CORONARY BYPASS WITH CARDIAC CATHETERIZATION OR OPEN ABLATION	1	-2.403070820	0.1170646267	-20.5277280399	<.0001
MDRG_508	CORONARY BYPASS W/O CARDIAC CATH	1	-2.616875767	0.0986633826	-26.5232723446	<.0001
MDRG_509	AMPUTATION FOR CIRCULATORY DISORDERS EXCEPT UPPER LIMB & TOE	1	-3.994261751	0.2251602285	-17.7396415760	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_510	PERMANENT CARDIAC PACEMAKER IMPLANT AND PROCEDURE S	1	-3.459723244	0.3939432093	-8.7822893322	<.0001
MDRG_511	PERC CARDIOVAS C PROC W DRUG- ELUTING STENT	1	-3.908933064	0.1867456399	-20.9318571834	<.0001
MDRG_513	PERC CARDIOVAS C PROC W/O CORONARY ARTERY STENT	1	-3.662678900	0.5027950273	-7.2846362862	<.0001
MDRG_514	OTHER VASCULAR PROCEDURE S	1	-4.069682125	0.1447317077	-28.1188012599	<.0001
MDRG_515	UPPER LIMB & TOE AMPUTATIO N FOR CIRC SYSTEM DISORDERS	1	-3.873384948	0.5902218024	-6.5625921176	<.0001
MDRG_519	OTHER CIRCULATO RY SYSTEM O.R. PROCEDURE S	1	-3.940593512	0.4459358135	-8.8366832019	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_536	OTHER ENDOVASCULAR CARDIAC VALVE PROCEDURES	1	-3.691095505	0.5891589124	-6.2650253227	<.0001
MDRG_538	CARDIAC DEFIBRILLATOR IMPLANT W/OUT AMI/HF/SHOCK	1	-2.894180811	0.5641486627	-5.1301740167	<.0001
MDRG_539	CARDIAC DEFIBRILLATOR IMPLANT W/OUT CARDIAC CATH	1	-3.940836229	0.3458096360	-11.3959699738	<.0001
MDRG_540	ENDOVASCULAR CARDIAC VALVE REPLACEMENT	1	-4.137933811	0.1079499243	-38.3319751138	<.0001
MDRG_541	AORTIC AND HEART ASSIST PROCEDURES EXCEPT PULSATION BALLOON	1	-2.489296439	0.1105646458	-22.5143979956	<.0001
MDRG_542	OTHER MAJOR CARDIOVASCULAR PROCEDURES	1	-2.505371823	0.1189501124	-21.0623745734	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_543	PERCUTANEOUS AND OTHER INTRACARDIAC PROCEDURES	1	-4.155863960	0.2498715440	-16.6320017619	<.0001
MDRG_601	STOMACH, ESOPHAGEAL & DUODENAL PROC	1	-1.405051332	0.1164441072	-12.0663154750	<.0001
MDRG_602	MAJOR SMALL & LARGE BOWEL PROCEDURES	1	-1.694121729	0.1031229934	-16.4281667212	<.0001
MDRG_603	RECTAL RESECTION	1	-2.413921955	0.5086966026	-4.7453077986	<.0001
MDRG_604	PERITONEAL ADHESIOLYSIS	1	-1.401667235	0.1821645266	-7.6945125450	<.0001
MDRG_609	INGUINAL & FEMORAL HERNIA PROCEDURES	1	-2.479272202	0.4815745009	-5.1482630355	<.0001
MDRG_610	HERNIA PROCEDURES EXCEPT INGUINAL & FEMORAL	1	-1.973594432	0.2050360692	-9.6255963187	<.0001
MDRG_611	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES	1	-1.943233425	0.3178792941	-6.1131173407	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_701	PANCREAS, LIVER & SHUNT PROCEDURE S	1	-1.498970786	0.1956519339	-7.6614156375	<.0001
MDRG_702	BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E.	1	-2.444692416	0.4639102163	-5.2697533500	<.0001
MDRG_704	CHOLECYST ECTOMY EXCEPT BY LAPAROSCO PE W/O C.D.E.	1	-2.407502725	0.3249213345	-7.4094941447	<.0001
MDRG_705	LAPAROSCO PIC CHOLECYST ECTOMY W/O C.D.E.	1	-2.983926793	0.3241767301	-9.2046298097	<.0001
MDRG_706	HEPATOBI LI ARY DIAGNOSTIC PROCEDURE S	1	-3.234831459	0.6062985913	-5.3353768339	<.0001
MDRG_707	OTHER HEPATOBI LI ARY OR PANCREAS O.R. PROCEDURE S	1	-2.197698705	0.5239710113	-4.1943135350	<.0001
MDRG_802	SPINAL FUS EXC CERV W SPINAL CURV/MALI G/INFEC OR EXT FUS	1	0.9197732556	0.2586091194	3.5566157053	0.0004

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_805	WND DEBRID & SKN GRFT EXC HAND, FOR MUSCULO- CONN TISS DIS	1	0.8872626635	0.1978246270	4.4850971129	<.0001
MDRG_807	MAJOR JOINT REPLACEME NT OR REATTACHM ENT OF LOWER EXTREMITY	1	-1.242689350	0.1226863158	-10.1289972035	<.0001
MDRG_812	MAJOR JOINT/LIMB REATTACHM ENT PROCEDURE OF UPPER EXTREMITIE S	1	-1.670088835	0.3042445307	-5.4892978061	<.0001
MDRG_903	OTHER SKIN, SUBCUT TISS & BREAST PROC	1	-1.069957428	0.5352386541	-1.9990286946	0.0456
MDRG_1002	AMPUTAT OF LOWER LIMB FOR ENDOCRINE, NUTRIT,& METABOL DIS	1	-0.6799862110	0.3210424027	-2.1180573202	0.0342
MDRG_1003	O.R. PROCEDURE S FOR OBESITY	1	-1.268337795	0.1753216260	-7.2343488028	<.0001

**AHRQ Quality Indicators
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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1101	KIDNEY TRANSPLAN T	1	-0.1561402959	0.5906944773	-0.2643334276	0.7915
MDRG_1102	MAJOR BLADDER PROCEDURE S	1	0.0175072582	0.1877585832	0.0932434507	0.9257
MDRG_1103	KIDNEY & URETER PROCEDURE S FOR NEOPLASM	1	-0.1923619006	0.1690815652	-1.1376870117	0.2553
MDRG_1104	KIDNEY & URETER PROCEDURE S FOR NON- NEOPLASM	1	-1.188805753	0.2321834111	-5.1201149456	<.0001
MDRG_1107	TRANSURET HRAL PROCEDURE S	1	-1.820125742	0.5295672905	-3.4370055978	0.0006
MDRG_1203	TESTES PROCEDURE S	1	1.6161813829	0.5986974785	2.6994958908	0.0069
MDRG_1304	UTERINE & ADNEXA PROC FOR NON- MALIGNANC Y	1	-1.143056901	0.2193442127	-5.2112471391	<.0001
MDRG_1601	SPLENECTO MY	1	0.9134905324	0.4575287020	1.9965753590	0.0459
MDRG_1710	MYELOPROL IF DISORD OR POORLY DIFF NEOPL W OTHER O.R. PROC	1	-0.6238967313	0.3392965168	-1.8387949785	0.0659

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1801	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURE	1	1.2599444786	0.1823394181	6.9098853775	<.0001
MDRG_1802	POSTOPERATIVE OR POST-TRAUMATIC INFECTIONS W O.R. PROC	1	-0.4394679399	0.3255891389	-1.3497622847	0.1771
MDRG_2104	OTHER O.R. PROCEDURES FOR INJURIES	1	0.2461209461	0.3024274261	0.8138182085	0.4157
MDRG_7701	HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM	1	0.0856052032	0.1436503079	0.5959277393	0.5512
MDRG_7702	LIVER TRANSPLANT	1	-0.3113800127	0.2689062640	-1.1579500163	0.2469
MDRG_7703	LUNG TRANSPLANT	1	0.7404204391	0.4149118573	1.7845246553	0.0743
MDRG_7705	ALLOGENEIC OR AUTOLOGOUS BONE MARROW TRANSPLANT	1	2.1121065770	0.3896047920	5.4211514338	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
TRNSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.1270238072	0.1053767246	1.2054256544	0.2280
COVIDDX_Q2	COVID, Quarter 2, 2020	1	1.2788839670	0.6470638835	1.9764415841	0.0481
COVIDDX_Q3	COVID, Quarter 3, 2020	1	0.9706372226	0.5959917412	1.6286085118	0.1034
COVIDDX_Q4	COVID, Quarter 4, 2020	1	0.1773057931	0.5901122850	0.3004611116	0.7638
COVIDDX_Q5	COVID, Quarter 1, 2021	1	0.6201143656	0.5660838980	1.0954460423	0.2733
COVIDDX_Q7	COVID, Quarter 3, 2021	1	1.3920639558	0.6063717989	2.2957267445	0.0217
YEAR_2019	Discharge YEAR is 2019 or before 2019	1	0.0961263366	0.0665222883	1.4450245023	0.1485
Q1	Quarter 1, 2020	1	0.0668061094	0.0734855882	0.9091049158	0.3633
Q2	Quarter 2, 2020	1	0.0856367403	0.0758321866	1.1292927736	0.2588
Q3	Quarter 3, 2020	1	-0.0127453175	0.0774413738	-0.1645802086	0.8693
Q4	Quarter 4, 2020	1	0.0383277649	0.0722058648	0.5308123515	0.5955
Q5	Quarter 1, 2021	1	0.0608436856	0.0780589450	0.7794582104	0.4357

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Q6	Quarter 2, 2021	1	0.0289732889	0.0759748858	0.3813535036	0.7029
Q7	Quarter 3, 2021	1	0.0612031564	0.0706196699	0.8666587713	0.3861

c-statistic=0.926

C-statistics for hospital-level indicator modules are based on the test data (a random sample of 2019-2021 HCUP reference population, not used for the LASSO feature selection).

**AHRQ Quality Indicators
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Table 13. Risk Adjustment Coefficients for PSI 11 - Postoperative Respiratory Failure Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Intercept	Intercept	1	-3.662314867	0.0547697413	-66.8674852178	<.0001
Age_LT30	Age < 30	1	-0.5118695700	0.0940316964	-5.4435854012	<.0001
Age_30_34	30 <= Age <= 34	1	-0.6100627007	0.0572377624	-10.6583953465	<.0001
Age_35_39	35 <= Age <= 39	1	-0.7956214212	0.0655157752	-12.1439671454	<.0001
Age_40_44	40 <= Age <= 44	1	-0.5093910698	0.0420663808	-12.1092202379	<.0001
Age_45_49	45 <= Age <= 49	1	-0.4587466278	0.0419990436	-10.9227874894	<.0001
Age_50_54	50 <= Age <= 54	1	-0.2603137281	0.0243317102	-10.6985380591	<.0001
Age_55_59	55 <= Age <= 59	1	-0.1266502001	0.0194342242	-6.5168642010	<.0001
Age_60_64	60 <= Age <= 64	1	-0.0161042746	0.0248693800	-0.6475543262	0.5173
Age_70_74	70 <= Age <= 74	1	0.0878542912	0.0169596831	5.1801847175	<.0001
Age_75_79	75 <= Age <= 79	1	0.1933711753	0.0180650108	10.7041826632	<.0001
Age_80_84	80 <= Age <= 84	1	0.2286331483	0.0216332408	10.5686036859	<.0001
Age_85_89	85 <= Age <= 89	1	0.2141879675	0.0403159191	5.3127392879	<.0001
Age_90Plus	Age >= 90	1	-0.0219676149	0.0737386366	-0.2979118669	0.7658
MALE	Patient Sex Flag: 1=Male / 0=Female	1	-0.0390005763	0.0130277517	-2.9936536411	0.0028
Age_LT30_MALE	Age < 30 MALE	1	0.4608870070	0.0752075811	6.1281987866	<.0001
Age_35_39_MALE	35 <= Age <= 39 MALE	1	0.5659739781	0.0853013595	6.6349936414	<.0001
Age_45_49_MALE	45 <= Age <= 49 MALE	1	0.2831814363	0.0527839944	5.3649110830	<.0001
Age_60_64_MALE	60 <= Age <= 64 MALE	1	-0.0650474227	0.0281607222	-2.3098634398	0.0209
Age_85_89_MALE	85 <= Age <= 89 MALE	1	0.0637275242	0.0506118420	1.2591425578	0.2080
Age_90Plus_MALE	Age >= 90 MALE	1	0.1113412436	0.1024846735	1.0864184845	0.2773

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_ALCOHOL	Alcohol abuse	1	0.5541629173	0.0299380162	18.5103419370	<.0001
CMR_ANEMDEF	Anemias due to other nutritional deficiencies	1	-0.0048242037	0.0201674636	-0.2392072605	0.8109
CMR_BLDLOSS	Chronic blood loss anemia (iron deficiency)	1	-0.0620651562	0.0614364141	-1.0102340311	0.3124
CMR_CANCER_LEUK	Leukemia	1	0.2047521866	0.0593353125	3.4507644412	0.0006
CMR_CANCER_LYMPH	Lymphoma	1	0.0874335960	0.0587227406	1.4889222672	0.1365
CMR_CANCER_METS	Metastatic cancer	1	0.1712868081	0.0301934074	5.6729870058	<.0001
CMR_COAG	Coagulopathy	1	0.4266864503	0.0221308664	19.2801512171	<.0001
CMR_DEPRESS	Depression	1	-0.0204993268	0.0177792975	-1.1529885713	0.2489
CMR_DIAB_CX	Diabetes with chronic complications	1	0.1191158548	0.0159372911	7.4740339305	<.0001
CMR_DIAB_UNCX	Diabetes without chronic complications	1	-0.2766228623	0.0210484092	-13.1422218135	<.0001
CMR_DRUG_ABUSE	Drug abuse	1	0.2819877646	0.0385611530	7.3127420300	<.0001
CMR_HF	Heart failure	1	0.4649006470	0.0214815000	21.6419080590	<.0001
CMR_HTN_CX	Hypertension, complicated	1	0.1471345752	0.0232676215	6.3235761102	<.0001
CMR_HTN_UNCX	Hypertension, uncomplicated	1	-0.2188111987	0.0198468900	-11.0249615134	<.0001
CMR_LIVER_MILD	Liver disease, mild	1	0.0695407805	0.0248279670	2.8009051480	0.0051
CMR_LIVER_SEV	Liver disease, moderate to severe	1	0.3680201401	0.0488333736	7.5362423926	<.0001
CMR_LUNG_CHRONIC	Chronic pulmonary disease	1	0.3742408696	0.0147582783	25.3580303864	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_NEURO_OTH	Other neurological disorders	1	0.9213509391	0.0310622388	29.6614466181	<.0001
CMR_NEURO_SEIZ	Seizures and epilepsy	1	0.3056214722	0.0288004388	10.6116950099	<.0001
CMR_OBESE	Obesity	1	0.2408705256	0.0170287160	14.1449610903	<.0001
CMR_PARALYSIS	Paralysis	1	0.5384101447	0.0267583403	20.1212085213	<.0001
CMR_PERIVASCULAR	Peripheral vascular disease	1	0.2226003496	0.0170321553	13.0694175566	<.0001
CMR_PSYCHOSES	Psychoses	1	0.1713171065	0.0314398480	5.4490437201	<.0001
CMR_PULMONARY_CIRCULATION	Pulmonary circulation disease	1	0.3036091401	0.0244401130	12.4225751357	<.0001
CMR_RENLFL_MODERATE	Renal failure, moderate	1	-0.0270552982	0.0202362139	-1.3369743140	0.1812
CMR_RENLFL_SEVERE	Renal failure, severe	1	0.4435697641	0.0265685206	16.6953128546	<.0001
CMR_THYROID_HYPOTHYROIDISM	Hypothyroidism	1	-0.0894485412	0.0154880362	-5.7753313490	<.0001
CMR_THYROID_OTH	Other thyroid disorders	1	-0.1675785826	0.0432225721	-3.8771080547	0.0001
CMR_ULCER_PEPTIC	Peptic ulcer disease x bleeding	1	0.6183407516	0.0480951672	12.8566088494	<.0001
CMR_VALVE	Valvular disease	1	0.0323309532	0.0237132217	1.3634146198	0.1728
CMR_WEIGHTLOSS	Weight loss	1	1.1388540221	0.0262852578	43.3267205832	<.0001
PSI1_NonWt_1	PSI1 Comorbidity count using non-weighted method, category 1, count > 2 and count <= 4	1	0.3973671166	0.0209682052	18.9509360720	<.0001

**AHRQ Quality Indicators
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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
PS11_NonWt_2	PS11 Comorbidity count using non-weighted method, category 2, count ≥ 5	1	0.3316246260	0.0343014662	9.6679431811	<.0001
MDC_2	Diseases and disorders of the eye	1	-2.721391257	0.4199422173	-6.4803945511	<.0001
MDC_3	Diseases and disorders of the ear, nose, mouth and throat	1	-1.691026683	0.1088874999	-15.5300349800	<.0001
MDC_9	Diseases and disorders of the skin, subcutaneous tissue and breast	1	-2.438300683	0.0812710309	-30.0020887714	<.0001
MDC_12	Diseases and disorders of the male reproductive system	1	-2.815902865	0.0743894843	-37.8535070080	<.0001
MDC_16	Diseases and disorders of blood, blood forming organs and immunologic disorders	1	-1.702935685	0.1414451224	-12.0395504365	<.0001
MDC_19	Mental diseases and disorders	1	-3.382973424	0.4888536933	-6.9202165609	<.0001
MDC_21	Injuries, poisonings and toxic effects of drugs	1	-1.673007843	0.0604405124	-27.6802392539	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDC_22	Burns	1	-1.975347246	0.2346926900	-8.4167395474	<.0001
MDC_23	Factors influencing health status and other contacts with health services	1	-2.635153126	0.1518647961	-17.3519682873	<.0001
MDC_24	Multiple significant trauma	1	-1.374464599	0.2962148964	-4.6400927681	<.0001
MDRG_101	INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE	1	-1.048605936	0.1821044699	-5.7582657693	<.0001
MDRG_102	CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX	1	-1.235725539	0.1145570149	-10.7869914406	<.0001
MDRG_103	CRANIOTOMY & ENDOVASCULAR INTRACRANIAL PROCEDURES	1	-1.902328830	0.0577393504	-32.9468346164	<.0001
MDRG_104	SPINAL PROCEDURES	1	-2.275966593	0.1091242989	-20.8566434321	<.0001
MDRG_105	VENTRICULAR SHUNT PROCEDURES	1	-3.403275692	0.1714237729	-19.8529972553	<.0001
MDRG_106	CAROTID ARTERY STENT PROCEDURE	1	-2.987102622	0.1087960704	-27.4559789891	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_107	EXTRACRANIAL PROCEDURE S	1	-2.607443942	0.0552816759	-47.1665140266	<.0001
MDRG_108	PERIPH/CRA NIAL NERVE & OTHER NERV SYST PROC	1	-2.718656792	0.1573778539	-17.2747100298	<.0001
MDRG_203	INTRAOCUL AR PROCEDURE S	1	0.2812125572	0.6492201458	0.4331543915	0.6649
MDRG_301	MAJOR HEAD AND NECK PROCEDURE S	1	-0.3713003478	0.1833980902	-2.0245595109	0.0429
MDRG_501	OTHER HEART ASSIST SYSTEM IMPLANT	1	-0.3114175931	0.0707882395	-4.3992843327	<.0001
MDRG_502	PERC CARDIOVAS C PROC W NON-DRUG- ELUTING STENT	1	-2.735579949	0.3387099615	-8.0764673611	<.0001
MDRG_503	CARDIAC VALVE & OTH MAJ CARDIOTH RACIC PROC	1	-0.3345176879	0.0452810682	-7.3875838468	<.0001
MDRG_505	OTHER CARDIOTH RACIC PROCEDURE S	1	-0.8334282160	0.0552128274	-15.0948295130	<.0001
MDRG_506	CORONARY BYPASS W PTCA	1	0.3189943752	0.1059104767	3.0119246470	0.0026

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_507	CORONARY BYPASS WITH CARDIAC CATHETERIZATION OR OPEN ABLATION	1	-0.3964867015	0.0474092557	-8.3630653053	<.0001
MDRG_509	AMPUTATION FOR CIRCULATORY DISORDERS EXCEPT UPPER LIMB & TOE	1	-2.139787056	0.0649982632	-32.9206805009	<.0001
MDRG_510	PERMANENT CARDIAC PACEMAKER IMPLANT AND PROCEDURES	1	-2.575772298	0.1652953478	-15.5828481083	<.0001
MDRG_511	PERCUTANEOUS CARDIOVASCULAR PROCEDURE WITH DRUG-ELUTING STENT	1	-2.818304241	0.0827628197	-34.0527818002	<.0001
MDRG_512	AICD PROCEDURES	1	-2.163697798	0.1985521751	-10.8973764535	<.0001
MDRG_513	PERCUTANEOUS CARDIOVASCULAR PROCEDURE WITHOUT CORONARY ARTERY STENT	1	-2.072695678	0.1828200700	-11.3373530484	<.0001
MDRG_514	OTHER VASCULAR PROCEDURES	1	-2.378236842	0.0458752815	-51.8413569194	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_515	UPPER LIMB & TOE AMPUTATION FOR CIRC SYSTEM DISORDERS	1	-2.821673043	0.2389287074	-11.8096861344	<.0001
MDRG_517	CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEMENT	1	-2.066249047	0.1837970806	-11.2420123328	<.0001
MDRG_518	VEIN LIGATION & STRIPPING	1	-2.392622925	0.5084838354	-4.7054060679	<.0001
MDRG_519	OTHER CIRCULATORY SYSTEM O.R. PROCEDURES	1	-2.072003755	0.1058310460	-19.5784113860	<.0001
MDRG_536	OTHER ENDOVASCULAR CARDIAC VALVE PROCEDURES	1	-2.713017780	0.2978199111	-9.1095916672	<.0001
MDRG_537	CARDIAC DEFIBRILLATOR IMPLANT W AMI/HF/SHOCK	1	-1.561994558	0.2075132322	-7.5272046138	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_538	CARDIAC DEFIBRILLA TOR IMPLANT W/OUT AMI/HF/SHO CK	1	-1.849514410	0.2007339562	-9.2137595696	<.0001
MDRG_539	CARDIAC DEFIBRILLA TOR IMPLANT W/OUT CARDIAC CATH	1	-2.233007355	0.0993430976	-22.4777302884	<.0001
MDRG_540	ENDOVASCU LAR CARDIAC VALVE REPLACEME NT	1	-2.827056064	0.0480759297	-58.8039811586	<.0001
MDRG_541	AORTIC AND HEART ASSIST PROCEDURE S EXCEPT PULSION BALLOON	1	-1.627287789	0.0443370490	-36.7026634759	<.0001
MDRG_542	OTHER MAJOR CARDIOVAS CULAR PROCEDURE S	1	-1.143591290	0.0438835146	-26.0597014871	<.0001
MDRG_543	PERCUTANE OUS AND OTHER INTRACARDI AC PROCEDURE S	1	-2.013790078	0.0736015486	-27.3607025468	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_601	STOMACH, ESOPHAGEAL & DUODENAL PROC	1	-1.405212497	0.0550185719	-25.5406937749	<.0001
MDRG_602	MAJOR SMALL & LARGE BOWEL PROCEDURES	1	-1.656573432	0.0429577271	-38.5628743754	<.0001
MDRG_603	RECTAL RESECTION	1	-2.252070761	0.1543733345	-14.5884700125	<.0001
MDRG_604	PERITONEAL ADHESIONS	1	-1.460091556	0.0658613183	-22.1691820529	<.0001
MDRG_605	APPENDECTOMY WITH COMPLICATED PRINCIPAL DIAG	1	-2.707121881	0.4026329512	-6.7235477700	<.0001
MDRG_606	APPENDECTOMY WITHOUT COMPLICATED PRINCIPAL DIAG	1	-2.191797617	0.2432196133	-9.0115989708	<.0001
MDRG_607	MINOR SMALL & LARGE BOWEL PROCEDURES	1	-2.188795871	0.1581862638	-13.8368264033	<.0001
MDRG_608	ANAL & STOMAL PROCEDURES	1	-2.686131387	0.1943972342	-13.8177448780	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_609	INGUINAL & FEMORAL HERNIA PROCEDURES	1	-1.612643421	0.1164101538	-13.8531164800	<.0001
MDRG_610	HERNIA PROCEDURES EXCEPT INGUINAL & FEMORAL	1	-1.556009619	0.0607185012	-25.6266144427	<.0001
MDRG_611	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES	1	-1.993465904	0.1001521775	-19.9043690657	<.0001
MDRG_701	PANCREAS, LIVER & SHUNT PROCEDURES	1	-1.140667342	0.0557374358	-20.4650128840	<.0001
MDRG_702	BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E.	1	-1.529835325	0.1446212567	-10.5782189923	<.0001
MDRG_703	CHOLECYSTECTOMY W C.D.E.	1	-1.624015363	0.4125318243	-3.9367032246	<.0001
MDRG_704	CHOLECYSTECTOMY EXCEPT BY LAPAROSCOPE W/O C.D.E.	1	-1.703362698	0.1036182313	-16.4388320118	<.0001
MDRG_705	LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E.	1	-2.104775987	0.0839534254	-25.0707577022	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_706	HEPATOBI LI ARY DIAGNOSTIC PROCEDURE S	1	-2.121648180	0.1821910951	-11.6451804578	<.0001
MDRG_707	OTHER HEPATOBI LI ARY OR PANCREAS O.R. PROCEDURE S	1	-2.120820504	0.2687646362	-7.8909953864	<.0001
MDRG_801	COMBINED ANTERIOR/P OSTERIOR SPINAL FUSION	1	-2.172264513	0.0505984797	-42.9314186245	<.0001
MDRG_802	SPINAL FUS EXC CERV W SPINAL CURV/MALI G/INFEC OR EXT FUS	1	-1.442440525	0.0692365769	-20.8335043397	<.0001
MDRG_803	SPINAL FUSION EXCEPT CERVICAL	1	-2.874554238	0.0558809919	-51.4406445061	<.0001
MDRG_804	BILATERAL OR MULTIPLE MAJOR JOINT PROCS OF LOWER EXTREMITY	1	-3.788736709	0.1896792222	-19.9744424593	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_805	WND DEBRID & SKN GRFT EXC HAND, FOR MUSCULO- CONN TISS DIS	1	-2.577786838	0.0920805424	-27.9949136976	<.0001
MDRG_806	REVISION OF HIP OR KNEE REPLACEME NT	1	-3.285711793	0.0702910728	-46.7443682778	<.0001
MDRG_807	MAJOR JOINT REPLACEME NT OR REATTACHM ENT OF LOWER EXTREMITY	1	-3.874060383	0.0508219028	-76.2281647394	<.0001
MDRG_808	CERVICAL SPINAL FUSION	1	-2.383030548	0.0545721023	-43.6675599201	<.0001
MDRG_809	AMPUTATIO N FOR MUSCULOSK ELETAL SYS & CONN TISSUE DIS	1	-2.637282545	0.1171893625	-22.5044533838	<.0001
MDRG_810	BIOPSIES OF MUSCULOSK ELETAL SYSTEM & CONNECTIV E TISSUE	1	-2.899490472	0.1936650132	-14.9716793142	<.0001
MDRG_811	HIP & FEMUR PROCEDURE S EXCEPT MAJOR JOINT	1	-2.932677005	0.1142838156	-25.6613501081	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_812	MAJOR JOINT/LIMB REATTACHM ENT PROCEDURE OF UPPER EXTREMITIE S	1	-3.658690507	0.0695602871	-52.5974038038	<.0001
MDRG_813	KNEE PROCEDURE S W PDX OF INFECTION	1	-3.080430716	0.2120097977	-14.5296620703	<.0001
MDRG_814	KNEE PROCEDURE S W/O PDX OF INFECTION	1	-3.425386133	0.1920845706	-17.8326979739	<.0001
MDRG_815	BACK & NECK PROC EXC SPINAL FUSION OR DISC DEVICE/NEU ROSTIM	1	-2.986820682	0.0906436657	-32.9512344678	<.0001
MDRG_816	LOWER EXTREM & HUMER PROC EXCEPT HIP,FOOT,FE MUR	1	-2.931270340	0.0941386028	-31.1378143745	<.0001
MDRG_817	LOCAL EXCISION & REMOVAL INT FIX DEVICES EXC HIP & FEMUR	1	-2.896457966	0.1811185218	-15.9920583309	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_818	LOCAL EXCISION & REMOVAL INT FIX DEVICES OF HIP & FEMUR	1	-2.881862705	0.3025767890	-9.5244011127	<.0001
MDRG_819	SOFT TISSUE PROCEDURE S	1	-2.402479918	0.1120602098	-21.4391881170	<.0001
MDRG_820	FOOT PROCEDURE S	1	-3.686406529	0.2865517714	-12.8647138055	<.0001
MDRG_822	MAJOR SHOULDER OR ELBOW JOINT PROCEDURE S	1	-2.332110901	0.4145818333	-5.6252124767	<.0001
MDRG_824	SHOULDER,ELBOW OR FOREARM PROC,EXC MAJOR JOINT PROC	1	-2.029182465	0.1993671169	-10.1781201290	<.0001
MDRG_825	HAND OR WRIST PROC, EXCEPT MAJOR THUMB OR JOINT PROC	1	-2.858050322	0.4126887969	-6.9254371410	<.0001
MDRG_826	OTHER MUSCULOSK ELET SYS & CONN TISS O.R. PROC	1	-2.950296649	0.0856192339	-34.4583397396	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_841	HIP REPLACEMENT WITH PRINCIPAL DIAGNOSIS OF HIP FRACTURE	1	-2.558714545	0.2486692343	-10.2896305283	<.0001
MDRG_901	SKIN GRAFT FOR SKIN ULCER OR CELLULITIS	1	-0.2019328048	0.2216419734	-0.9110765514	0.3623
MDRG_903	OTHER SKIN, SUBCUT TISS & BREAST PROC	1	-0.7458772855	0.1372496469	-5.4344568643	<.0001
MDRG_905	BREAST BIOPSY, LOCAL EXCISION & OTHER BREAST PROCEDURES	1	-0.7977806710	0.2403915012	-3.3186725281	0.0009
MDRG_1001	ADRENAL & PITUITARY PROCEDURES	1	-1.776642524	0.0840280232	-21.1434525665	<.0001
MDRG_1002	AMPUTATION OF LOWER LIMB FOR ENDOCRINE, NUTRIT,& METABOL DIS	1	-3.036035427	0.1316296794	-23.0649762299	<.0001
MDRG_1003	O.R. PROCEDURES FOR OBESITY	1	-3.503445895	0.0748470866	-46.8080463193	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1004	SKIN GRAFTS & WOUND DEBRID FOR ENDOC, NUTRIT & METAB DIS	1	-2.756337989	0.2050303709	-13.4435594880	<.0001
MDRG_1005	THYROID, PARATHYRO ID & THYROGLOS SAL PROCEDURE S	1	-1.814679133	0.1040182704	-17.4457729910	<.0001
MDRG_1006	OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC	1	-2.517207430	0.1485620501	-16.9438118820	<.0001
MDRG_1101	KIDNEY TRANSPLAN T	1	-2.540571212	0.1772989090	-14.3293110306	<.0001
MDRG_1102	MAJOR BLADDER PROCEDURE S	1	-1.447898346	0.0703556833	-20.5796927604	<.0001
MDRG_1103	KIDNEY & URETER PROCEDURE S FOR NEOPLASM	1	-1.858637096	0.0549248553	-33.8396357072	<.0001
MDRG_1104	KIDNEY & URETER PROCEDURE S FOR NON- NEOPLASM	1	-2.372156967	0.0789014673	-30.0648016924	<.0001
MDRG_1105	MINOR BLADDER PROCEDURE S	1	-2.658968984	0.2745889032	-9.6834538953	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1106	PROSTATECTOMY	1	-2.529095897	0.3058087773	-8.2701874030	<.0001
MDRG_1107	TRANSURETHRAL PROCEDURE S	1	-2.489711967	0.1602696977	-15.5345146493	<.0001
MDRG_1108	URETHRAL PROCEDURE S	1	-3.104262620	0.5828539836	-5.3259696378	<.0001
MDRG_1109	OTHER KIDNEY & URINARY TRACT PROCEDURE S	1	-2.245248217	0.1085401395	-20.6858792171	<.0001
MDRG_1301	PELVIC EVISCERATION, RAD HYSTERECTOMY & RAD VULVECTOMY	1	-2.453241261	0.1729845079	-14.1818553072	<.0001
MDRG_1302	UTERINE & ADNEXA PROC FOR OVARIAN OR ADNEXAL MALIGNANCY	1	-2.202133431	0.1021847376	-21.5505121739	<.0001
MDRG_1303	UTERINE,ADNEXA PROC FOR NON-OVARIAN/ADNEXAL MALIG	1	-2.074706798	0.0918562535	-22.5864513226	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1304	UTERINE & ADNEXA PROC FOR NON-MALIGNANCY	1	-3.017297840	0.0782874100	-38.5412908605	<.0001
MDRG_1305	D&C, CONIZATION, LAPAROSCOPY & TUBAL INTERRUPTION	1	-2.131094916	0.2566013107	-8.3050819605	<.0001
MDRG_1306	VAGINA, CERVIX & VULVA PROCEDURES	1	-2.737861348	0.1849392655	-14.8041106372	<.0001
MDRG_1307	FEMALE REPRODUCTIVE SYSTEM RECONSTRUCTIVE PROCEDURES	1	-2.793893944	0.2576633237	-10.8431960907	<.0001
MDRG_1308	OTHER FEMALE REPRODUCTIVE SYSTEM O.R. PROCEDURES	1	-1.864458532	0.1946841110	-9.5768397439	<.0001
MDRG_1601	SPLENECTOMY	1	-0.0052959229	0.2368138762	-0.0223632287	0.9822
MDRG_1707	LYMPHOMA & LEUKEMIA W MAJOR O.R. PROCEDURE	1	-1.759879448	0.1361616604	-12.9249264642	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1708	LYMPHOMA & NON-ACUTE LEUKEMIA W OTHER O.R. PROC	1	-2.098027350	0.1711300041	-12.2598451467	<.0001
MDRG_1709	MYELOPROLIF DISORD OR POORLY DIFF NEOPL W MAJ O.R. PROC	1	-1.252943579	0.0882136906	-14.2035048092	<.0001
MDRG_1710	MYELOPROLIF DISORD OR POORLY DIFF NEOPL W OTHER O.R. PROC	1	-2.059850625	0.1528544218	-13.4758981879	<.0001
MDRG_1801	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURE	1	-0.9135053582	0.0600081705	-15.2230163209	<.0001
MDRG_1802	POSTOPERATIVE OR POST-TRAUMATIC INFECTIONS W O.R. PROC	1	-2.298395174	0.0923559607	-24.8862678193	<.0001
MDRG_2101	WOUND DEBRIDEMENTS FOR INJURIES	1	-1.019412855	0.1844399563	-5.5270716583	<.0001
MDRG_2102	SKIN GRAFTS FOR INJURIES	1	-0.6660863564	0.2127964312	-3.1301575532	0.0017
MDRG_2501	HIV W EXTENSIVE O.R. PROCEDURE	1	-0.7384805689	0.3687239815	-2.0028004848	0.0452

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_7701	HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM	1	0.9566875455	0.0907133939	10.5462656024	<.0001
MDRG_7702	LIVER TRANSPLANT	1	-0.8375349672	0.1258452758	-6.6552753937	<.0001
MDRG_7704	SIMULTANEOUS PANCREAS/KIDNEY TRANSPLANT	1	-0.8702257032	0.2449828572	-3.5521901949	0.0004
TRNSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.1886464703	0.0495996318	3.8033844875	0.0001
COVIDDX_Q2	COVID, Quarter 2, 2020	1	0.9518425705	0.3694798333	2.5761692103	0.0100
COVIDDX_Q3	COVID, Quarter 3, 2020	1	0.7089256115	0.3207979122	2.2098822484	0.0271
COVIDDX_Q4	COVID, Quarter 4, 2020	1	0.9969527873	0.1836881104	5.4274214338	<.0001
COVIDDX_Q5	COVID, Quarter 1, 2021	1	1.1877000955	0.2294358276	5.1766112895	<.0001
COVIDDX_Q6	COVID, Quarter 2, 2021	1	0.3788893406	0.4816962375	0.7865731786	0.4315
COVIDDX_Q7	COVID, Quarter 3, 2021	1	1.1189130595	0.3881753717	2.8824936896	0.0039

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
COVIDDX_Q8	COVID, Quarter 4, 2021	1	1.0419580087	0.3152340676	3.3053470927	0.0009
YEAR_2019	Discharge YEAR is 2019 or before 2019	1	0.2255334237	0.0344797214	6.5410454229	<.0001
Q1	Quarter 1, 2020	1	0.2067637474	0.0365749832	5.6531467432	<.0001
Q2	Quarter 2, 2020	1	0.1473338973	0.0385765579	3.8192598107	0.0001
Q3	Quarter 3, 2020	1	0.1430678440	0.0376922352	3.7956847951	0.0001
Q4	Quarter 4, 2020	1	0.1638157567	0.0350008819	4.6803322546	<.0001
Q5	Quarter 1, 2021	1	0.0933451969	0.0332377059	2.8084127469	0.0050
Q6	Quarter 2, 2021	1	0.1122644092	0.0298085715	3.7661787664	0.0002
Q7	Quarter 3, 2021	1	0.0714093864	0.0287530712	2.4835394371	0.0130

c-statistic=0.873

C-statistics for hospital-level indicator modules are based on the test data (a random sample of 2019-2021 HCUP reference population, not used for the LASSO feature selection).

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Table 14. Risk Adjustment Coefficients for PSI 12 - Perioperative Pulmonary Embolism or Deep Vein Thrombosis Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Intercept	Intercept	1	-5.438349565	0.0348335852	-156.1237391775	<.0001
Age_LT30	Age < 30	1	-0.3525342339	0.0307033847	-11.4819339243	<.0001
Age_30_34	30 <= Age <= 34	1	-0.4632560263	0.0531952229	-8.7086020287	<.0001
Age_35_39	35 <= Age <= 39	1	-0.1493878867	0.0307416813	-4.8594572712	<.0001
Age_40_44	40 <= Age <= 44	1	-0.1923315784	0.0276026172	-6.9678747084	<.0001
Age_45_49	45 <= Age <= 49	1	-0.1396434920	0.0238339321	-5.8590203048	<.0001
Age_50_54	50 <= Age <= 54	1	-0.1193961762	0.0217455384	-5.4906056661	<.0001
Age_55_59	55 <= Age <= 59	1	-0.0820744554	0.0184764756	-4.4421055853	<.0001
Age_60_64	60 <= Age <= 64	1	-0.0211592212	0.0177326444	-1.1932355234	0.2328
Age_70_74	70 <= Age <= 74	1	0.1479582937	0.0218659416	6.7666097549	<.0001
Age_75_79	75 <= Age <= 79	1	0.1771350461	0.0224581353	7.8873443158	<.0001
Age_80_84	80 <= Age <= 84	1	0.1106731189	0.0211061777	5.2436362784	<.0001
Age_85_89	85 <= Age <= 89	1	0.1257457131	0.0318617298	3.9466065978	<.0001
Age_90Plus	Age >= 90	1	-0.0801390068	0.0337885305	-2.3717813586	0.0177
MALE	Patient Sex Flag: 1=Male / 0=Female	1	0.1660447912	0.0122467378	13.5582874078	<.0001
Age_30_34_MALE	30 <= Age <= 34 MALE	1	0.3504868518	0.0639187093	5.4833217931	<.0001
Age_70_74_MALE	70 <= Age <= 74 MALE	1	-0.1521885840	0.0257749992	-5.9045039373	<.0001
Age_75_79_MALE	75 <= Age <= 79 MALE	1	-0.1683328444	0.0280445602	-6.0023349673	<.0001
Age_85_89_MALE	85 <= Age <= 89 MALE	1	-0.1975885764	0.0438645268	-4.5045185837	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_AIDS	Acquired immune deficiency syndrome	1	0.1169110780	0.0597757508	1.9558278469	0.0505
CMR_ALCOHOL	Alcohol abuse	1	-0.0487680952	0.0245242000	-1.9885702751	0.0467
CMR_ANEMDEF	Anemias due to other nutritional deficiencies	1	-0.1071327761	0.0158469517	-6.7604658795	<.0001
CMR_BLDLOSS	Chronic blood loss anemia (iron deficiency)	1	0.0995497117	0.0448357298	2.2203209835	0.0264
CMR_CANCER_LEUK	Leukemia	1	-0.0268460317	0.0571780222	-0.4695166199	0.6387
CMR_CANCER_LYMPH	Lymphoma	1	0.1930420453	0.0432020643	4.4683523430	<.0001
CMR_CANCER_METS	Metastatic cancer	1	0.6118165945	0.0208060409	29.4057191541	<.0001
CMR_CANCER_NSITU	Solid tumor without metastasis, in situ	1	0.2525457526	0.1705220369	1.4810153411	0.1386
CMR_CANCER_SOLID	Solid tumor without metastasis, malignant	1	0.1754263765	0.0233936859	7.4988771555	<.0001
CMR_CBVD	Cerebrovascular disease	1	-0.1887872189	0.0257067094	-7.3438889494	<.0001
CMR_COAG	Coagulopathy	1	0.2386064320	0.0177583625	13.4362857297	<.0001
CMR_DEMENTIA	Dementia	1	-0.1642867692	0.0234843408	-6.9955878505	<.0001
CMR_DEPRESS	Depression	1	-0.1786990546	0.0149276176	-11.9710364549	<.0001
CMR_DIAB_CX	Diabetes with chronic complications	1	-0.1659412697	0.0151300021	-10.9676964322	<.0001
CMR_DIAB_UNCX	Diabetes without chronic complications	1	-0.3433621217	0.0179206861	-19.1600991290	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_DRUG_A BUSE	Drug abuse	1	-0.0773685629	0.0266946650	-2.8982780974	0.0038
CMR_HF	Heart failure	1	0.0235096089	0.0159179108	1.4769280467	0.1397
CMR_HTN_UN CX	Hypertension, uncomplicated	1	-0.4141013411	0.0139856726	-29.6089686433	<.0001
CMR_LIVER_M LD	Liver disease, mild	1	-0.1934253631	0.0212968299	-9.0823546977	<.0001
CMR_LIVER_S EV	Liver disease, moderate to severe	1	-0.2830861645	0.0443496711	-6.3830499219	<.0001
CMR_LUNG_C HRONIC	Chronic pulmonary disease	1	-0.0957565560	0.0124425763	-7.6958785302	<.0001
CMR_NEURO_ MOVT	Neurological disorders affecting movement	1	-0.1807179046	0.0298939335	-6.0453036254	<.0001
CMR_NEURO_ OTH	Other neurological disorders	1	0.3845563694	0.0188358287	20.4162171234	<.0001
CMR_OBESE	Obesity	1	0.2446251091	0.0130634081	18.7259792267	<.0001
CMR_PARALYS IS	Paralysis	1	0.2573114555	0.0245238803	10.4922815068	<.0001
CMR_PERIVAS C	Peripheral vascular disease	1	0.1474422028	0.0169908968	8.6777175348	<.0001
CMR_PULMCIR C	Pulmonary circulation disease	1	0.4580093076	0.0233114099	19.6474305693	<.0001
CMR_RENLFL_ MOD	Renal failure, moderate	1	-0.4052277237	0.0177579169	-22.8195528318	<.0001
CMR_RENLFL_ SEV	Renal failure, severe	1	-0.3206024115	0.0245956528	-13.0349218496	<.0001
CMR_THYROID HYPO	Hypothyroidis m	1	-0.2510511092	0.0156100742	-16.0826339366	<.0001
CMR_THYROID OTH	Other thyroid disorders	1	0.1542185779	0.0372641094	4.1385284749	<.0001
CMR_ULCER_P EPTIC	Peptic ulcer disease x bleeding	1	0.4473960274	0.0319261307	14.0134747987	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_VALVE	Valvular disease	1	-0.1649221188	0.0214487504	-7.6891248001	<.0001
CMR_WGHTLOSS	Weight loss	1	0.5239278999	0.0168174187	31.1538832985	<.0001
PS12_NonWt_1	PS12 Comorbidity count using non-weighted method, category 1, count > 1 and count <= 3	1	0.5921164110	0.0184978380	32.0100332948	<.0001
PS12_NonWt_2	PS12 Comorbidity count using non-weighted method, category 2, count >= 4	1	0.7299490525	0.0291207037	25.0663260382	<.0001
MDC_1	Diseases and disorders of the nervous system	1	0.2564371776	0.0359449868	7.1341569587	<.0001
MDC_2	Diseases and disorders of the eye	1	-1.756000338	0.2145782210	-8.1834975138	<.0001
MDC_3	Diseases and disorders of the ear, nose, mouth and throat	1	-0.6096292849	0.0707715414	-8.6140455982	<.0001
MDC_4	Diseases and disorders of the respiratory system	1	0.4997354108	0.0295964054	16.8850035421	<.0001

**AHRQ Quality Indicators
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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDC_9	Diseases and disorders of the skin, subcutaneous tissue and breast	1	-1.271866695	0.0608334488	-20.9073580349	<.0001
MDC_10	Endocrine, nutritional and metabolic diseases and disorders	1	-1.381557835	0.0544319450	-25.3813791995	<.0001
MDC_11	Diseases and disorders of the kidney and urinary tract	1	-0.4930182660	0.0504255393	-9.7771540514	<.0001
MDC_12	Diseases and disorders of the male reproductive system	1	-1.080181337	0.0660778654	-16.3470979306	<.0001
MDC_16	Diseases and disorders of blood, blood forming organs and immunologic disorders	1	-0.1784605374	0.0843337093	-2.1161234203	0.0343
MDC_20	Alcohol or drug use or induced organic mental disorders	1	0.2163332087	0.1844726766	1.1727113880	0.2409
MDC_21	Injuries, poisonings and toxic effects of drugs	1	-0.2460483386	0.0357294137	-6.8864364946	<.0001
MDC_22	Burns	1	2.1970427663	0.1215236790	18.0791330897	<.0001

**AHRQ Quality Indicators
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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDC_23	Factors influencing health status and other contacts with health services	1	-0.7027009822	0.1327558128	-5.2931842864	<.0001
MDC_24	Multiple significant trauma	1	1.2545243984	0.0425582428	29.4778241539	<.0001
MDRG_101	INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE	1	0.9416534976	0.1977370492	4.7621500433	<.0001
MDRG_103	CRANIOTOMY & ENDOVASCULAR INTRACRANIAL PROCEDURES	1	-0.9150983594	0.0466983199	-19.5959589460	<.0001
MDRG_104	SPINAL PROCEDURES	1	-0.3026089236	0.0665913081	-4.5442706013	<.0001
MDRG_105	VENTRICULAR SHUNT PROCEDURES	1	-1.535053119	0.1278486366	-12.0068008528	<.0001
MDRG_106	CAROTID ARTERY STENT PROCEDURES	1	-2.522677446	0.1797642445	-14.0332547893	<.0001
MDRG_107	EXTRACRANIAL PROCEDURES	1	-3.016668137	0.1410418492	-21.3884613179	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_108	PERIPH/CRA NIAL NERVE & OTHER NERV SYST PROC	1	-0.8267983731	0.0917495139	-9.0114741518	<.0001
MDRG_301	MAJOR HEAD AND NECK PROCEDURE S	1	-1.032569524	0.1397879510	-7.3866847332	<.0001
MDRG_302	OTHER EAR, NOSE, MOUTH AND THROAT O.R. PROCEDURE S	1	-1.179628501	0.1942534890	-6.0726245237	<.0001
MDRG_401	MAJOR CHEST PROCEDURE S	1	-1.176745895	0.0527198443	-22.3207391768	<.0001
MDRG_402	OTHER RESP SYSTEM O.R. PROCEDURE S	1	-1.109395499	0.0585245136	-18.9560823254	<.0001
MDRG_501	OTHER HEART ASSIST SYSTEM IMPLANT	1	-0.4174334896	0.0679741962	-6.1410581192	<.0001
MDRG_502	PERC CARDIOVAS C PROC W NON-DRUG- ELUTING STENT	1	-1.547282877	0.1699473596	-9.1044831834	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_503	CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC	1	-0.6661556839	0.0435419836	-15.2991579244	<.0001
MDRG_505	OTHER CARDIOTHORACIC PROCEDURES	1	-0.7494586245	0.0779604478	-9.6133186210	<.0001
MDRG_506	CORONARY BYPASS W PTCA	1	-0.0434354759	0.1261180765	-0.3444032539	0.7305
MDRG_507	CORONARY BYPASS WITH CARDIAC CATHETERIZATION OR OPEN ABLATION	1	-0.6339372898	0.0497005736	-12.7551302594	<.0001
MDRG_508	CORONARY BYPASS W/O CARDIAC CATH	1	-1.005195557	0.0541981632	-18.5466720015	<.0001
MDRG_509	AMPUTATION FOR CIRC SYS DISORDERS EXC UPPER LIMB & TOE	1	-0.8918193483	0.0648624304	-13.7493976626	<.0001
MDRG_510	PERMANENT CARDIAC PACEMAKER IMPLANT AND PROCEDURES	1	-1.031250314	0.1086691853	-9.4898136119	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_511	PERC CARDIOVAS C PROC W DRUG- ELUTING STENT	1	-2.338662644	0.0458199797	-51.0402374525	<.0001
MDRG_512	AICD PROCEDURE S	1	-1.653826203	0.2284082132	-7.2406599579	<.0001
MDRG_513	PERC CARDIOVAS C PROC W/O CORONARY ARTERY STENT	1	-1.961640989	0.1421083962	-13.8038359548	<.0001
MDRG_514	OTHER VASCULAR PROCEDURE S	1	-1.188125622	0.0479503885	-24.7782272313	<.0001
MDRG_515	UPPER LIMB & TOE AMPUTATIO N FOR CIRC SYSTEM DISORDERS	1	-1.990167063	0.2174250124	-9.1533492017	<.0001
MDRG_517	CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEME NT	1	-0.7484011145	0.1423445108	-5.2576745678	<.0001
MDRG_519	OTHER CIRCULATO RY SYSTEM O.R. PROCEDURE S	1	-1.124893018	0.0929068372	-12.1077527979	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_536	OTHER ENDOVASCULAR CARDIAC VALVE PROCEDURES	1	-0.6497720964	0.1887069231	-3.4432870058	0.0006
MDRG_537	CARDIAC DEFIBRILLATOR IMPLANT W AMI/HF/SHOCK	1	-0.9505788694	0.1503272300	-6.3233977595	<.0001
MDRG_539	CARDIAC DEFIBRILLATOR IMPLANT W/OUT CARDIAC CATH	1	-1.551515205	0.1027660666	-15.0975439303	<.0001
MDRG_540	ENDOVASCULAR CARDIAC VALVE REPLACEMENT	1	-1.968105340	0.0749342554	-26.2644277934	<.0001
MDRG_541	AORTIC AND HEART ASSIST PROCEDURES EXCEPT PULSATION BALLOON	1	-0.9547987690	0.0711079681	-13.4274511636	<.0001
MDRG_543	PERCUTANEOUS AND OTHER INTRACARDIAC PROCEDURES	1	-1.652292014	0.0956615072	-17.2722766170	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_602	MAJOR SMALL & LARGE BOWEL PROCEDURES	1	-0.2659551497	0.0224040903	-11.8708300993	<.0001
MDRG_605	APPENDECTOMY WITH COMPLICATED PRINCIPAL DIAG	1	-1.599967038	0.1203428474	-13.2950738061	<.0001
MDRG_606	APPENDECTOMY W/O COMPLICATED PRINCIPAL DIAG	1	-2.500899116	0.1507634141	-16.5882361524	<.0001
MDRG_607	MINOR SMALL & LARGE BOWEL PROCEDURES	1	-1.063559804	0.1202680942	-8.8432415197	<.0001
MDRG_608	ANAL & STOMAL PROCEDURES	1	-1.679030114	0.1706790830	-9.8373513905	<.0001
MDRG_609	INGUINAL & FEMORAL HERNIA PROCEDURES	1	-1.054070667	0.1150128243	-9.1648098697	<.0001
MDRG_610	HERNIA PROCEDURES EXCEPT INGUINAL & FEMORAL	1	-0.6513839521	0.0630276409	-10.3348934374	<.0001

AHRQ Quality Indicators
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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_611	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES	1	-0.2693212843	0.0499562519	-5.3911427312	<.0001
MDRG_702	BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E.	1	-0.7945707987	0.1553247642	-5.1155448573	<.0001
MDRG_703	CHOLECYSTECTOMY W C.D.E.	1	-0.7704008777	0.3324233034	-2.3175296972	0.0205
MDRG_704	CHOLECYSTECTOMY EXCEPT BY LAPAROSCOPE W/O C.D.E.	1	-0.9110029597	0.1148222235	-7.9340299469	<.0001
MDRG_705	LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E.	1	-2.016247442	0.0603655507	-33.4006302936	<.0001
MDRG_706	HEPATOBIILIARY DIAGNOSTIC PROCEDURES	1	-0.5308070369	0.1334338390	-3.9780541479	<.0001
MDRG_801	COMBINED ANTERIOR/POSTERIOR SPINAL FUSION	1	-0.1732617058	0.0448355333	-3.8643837365	0.0001

AHRQ Quality Indicators
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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_802	SPINAL FUS EXC CERV W SPINAL CURV/MALI G/INFEC OR EXT FUS	1	0.4851657279	0.0559744346	8.6676307013	<.0001
MDRG_803	SPINAL FUSION EXCEPT CERVICAL	1	-0.4623503512	0.0391025356	-11.8240503861	<.0001
MDRG_804	BILATERAL OR MULTIPLE MAJOR JOINT PROCS OF LOWER EXTREMITY	1	-0.0152500406	0.0909330741	-0.1677062034	0.8668
MDRG_806	REVISION OF HIP OR KNEE REPLACEME NT	1	-0.5138844431	0.0411987659	-12.4732969977	<.0001
MDRG_807	MAJOR JOINT REPLACEME NT OR REATTACHM ENT OF LOWER EXTREMITY	1	-1.015930307	0.0294067655	-34.5475025962	<.0001
MDRG_808	CERVICAL SPINAL FUSION	1	-1.143848714	0.0562493847	-20.3353106815	<.0001
MDRG_809	AMPUTATIO N FOR MUSCULOSK ELETAL SYS & CONN TISSUE DIS	1	-0.8380096658	0.0873729835	-9.5911760389	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_810	BIOPSIES OF MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE	1	-0.6106320180	0.0789025963	-7.7390611561	<.0001
MDRG_811	HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT	1	-0.1455461521	0.0235629229	-6.1769141509	<.0001
MDRG_812	MAJOR JOINT/LIMB REATTACHMENT PROCEDURE OF UPPER EXTREMITIES	1	-2.125645932	0.0890618373	-23.8670792769	<.0001
MDRG_815	BACK & NECK PROC EXC SPINAL FUSION OR DISC DEVICE/NEUROSTIM	1	-0.7032101758	0.0548211165	-12.8273596044	<.0001
MDRG_816	LOWER EXTREM & HUMER PROC EXCEPT HIP, FOOT, FEMUR	1	-0.8111788569	0.0404393428	-20.0591503569	<.0001

**AHRQ Quality Indicators
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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_817	LOCAL EXCISION & REMOVAL INT FIX DEVICES EXC HIP & FEMUR	1	-1.271251603	0.1579860063	-8.0466088931	<.0001
MDRG_818	LOCAL EXCISION & REMOVAL INT FIX DEVICES OF HIP & FEMUR	1	-0.6588471276	0.2079327058	-3.1685593900	0.0015
MDRG_819	SOFT TISSUE PROCEDURE S	1	-1.123788376	0.0840150871	-13.3760305979	<.0001
MDRG_820	FOOT PROCEDURE S	1	-1.968407601	0.1745181693	-11.2790983771	<.0001
MDRG_824	SHOULDER,E LBOW OR FOREARM PROC,EXC MAJOR JOINT PROC	1	-1.651618164	0.1430956097	-11.5420603527	<.0001
MDRG_825	HAND OR WRIST PROC, EXCEPT MAJOR THUMB OR JOINT PROC	1	-2.450389586	0.2651452498	-9.2416876696	<.0001
MDRG_826	OTHER MUSCULOSK ELET SYS & CONN TISS O.R. PROC	1	-0.8665120100	0.0536421735	-16.1535589056	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_903	OTHER SKIN, SUBCUT TISS & BREAST PROC	1	-0.5362651841	0.1066548117	-5.0280449185	<.0001
MDRG_1001	ADRENAL & PITUITARY PROCEDURE S	1	0.7282791010	0.1144273202	6.3645561179	<.0001
MDRG_1003	O.R. PROCEDURE S FOR OBESITY	1	-1.851414972	0.1187484229	-15.5910699785	<.0001
MDRG_1006	OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC	1	-0.0118189901	0.1211067703	-0.0975914897	0.9223
MDRG_1101	KIDNEY TRANSPLAN T	1	-0.5251377245	0.1225662054	-4.2845229859	<.0001
MDRG_1102	MAJOR BLADDER PROCEDURE S	1	0.6272080058	0.0745843850	8.4093742347	<.0001
MDRG_1103	KIDNEY & URETER PROCEDURE S FOR NEOPLASM	1	-0.0745443317	0.0781917180	-0.9533532916	0.3404
MDRG_1104	KIDNEY & URETER PROCEDURE S FOR NON-NEOPLASM	1	-0.3688768493	0.0864480165	-4.2670365891	<.0001
MDRG_1106	PROSTATEC TOMY	1	-0.3843139826	0.1757041201	-2.1872792872	0.0287

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1107	TRANSURET HRAL PROCEDURE S	1	-0.2110528383	0.0994764706	-2.1216357699	0.0339
MDRG_1206	OTHER MALE REPRODUCTI VE SYSTEM O.R. PROC EXC MALIGNANC Y	1	-0.2230822993	0.2060273444	-1.0827800547	0.2789
MDRG_1301	PELVIC EVISCERATI ON, RAD HYSTERECT OMY & RAD VULVECTO MY	1	-0.0462955849	0.1319452572	-0.3508696399	0.7257
MDRG_1302	UTERINE & ADNEXA PROC FOR OVARIAN OR ADNEXAL MALIGNANC Y	1	-0.2523880062	0.0738566328	-3.4172693305	0.0006
MDRG_1303	UTERINE,AD NEXA PROC FOR NON- OVARIAN/A DNEXAL MALIG	1	-0.1801884858	0.0730926158	-2.4652077883	0.0137
MDRG_1304	UTERINE & ADNEXA PROC FOR NON- MALIGNANC Y	1	-1.447711110	0.0665411931	-21.7566148389	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1307	FEMALE REPRODUCTIVE SYSTEM RECONSTRUCTIVE PROCEDURES	1	-1.493464657	0.3792457334	-3.9379867066	<.0001
MDRG_1601	SPLENECTOMY	1	0.4765523957	0.1484555047	3.2100688798	0.0013
MDRG_1707	LYMPHOMA & LEUKEMIA W MAJOR O.R. PROCEDURE	1	-0.0763139376	0.0757439488	-1.0075252052	0.3137
MDRG_1709	MYELOPROLIF DISORD OR POORLY DIFF NEOPL W MAJ O.R. PROC	1	-0.1772970386	0.0768929373	-2.3057649337	0.0211
MDRG_1710	MYELOPROLIF DISORD OR POORLY DIFF NEOPL W OTHER O.R. PROC	1	-0.4759095069	0.1123910613	-4.2344070899	<.0001
MDRG_1801	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURE	1	-0.1286873309	0.0216355655	-5.9479531827	<.0001
MDRG_1802	POSTOPERATIVE OR POST-TRAUMATIC INFECTIONS W O.R. PROC	1	-0.2688951423	0.0418583841	-6.4239255363	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_2101	WOUND DEBRIDEMENTS FOR INJURIES	1	-0.1614491744	0.1042160364	-1.5491778415	0.1213
MDRG_2103	HAND PROCEDURES FOR INJURIES	1	-2.522573581	0.5012866202	-5.0321981072	<.0001
MDRG_2201	FULL THICKNESS BURN W SKIN GRAFT OR INHAL INJ	1	-2.639774522	0.1545808201	-17.0769861389	<.0001
MDRG_2210	EXTENSIVE BURNS OR FULL THICKNESS BURNS W MV >96 HRS W SKIN GRAFT	1	-1.000404181	0.1377864616	-7.2605404716	<.0001
MDRG_2406	CRANIOTOMY FOR MULTIPLE SIGNIFICANT TRAUMA	1	-0.2012834694	0.4645266839	-0.4333087342	0.6648
MDRG_2408	OTHER O.R. PROCEDURES FOR MULTIPLE SIGNIFICANT TRAUMA	1	-0.0014227991	0.0503004897	-0.0282859893	0.9774
MDRG_2501	HIV W EXTENSIVE O.R. PROCEDURE	1	0.0841434008	0.1429071390	0.5887977423	0.5560

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_7701	HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM	1	0.2919768759	0.0781421555	3.7364835154	0.0002
MDRG_7703	LUNG TRANSPLANT	1	0.4137073416	0.1910155153	2.1658310890	0.0303
MDRG_7705	ALLOGENEIC OR AUTOLOGOUS BONE MARROW TRANSPLANT	1	-0.0596225054	0.3922546523	-0.1519994856	0.8792
TRNSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.4711373073	0.0195984359	24.0395360500	<.0001
COVIDDX_Q2	COVID, Quarter 2, 2020	1	1.6398302899	0.0716031925	22.9016365561	<.0001
COVIDDX_Q3	COVID, Quarter 3, 2020	1	1.0621200373	0.0772614185	13.7470947047	<.0001
COVIDDX_Q4	COVID, Quarter 4, 2020	1	0.8395119403	0.0657329630	12.7715517832	<.0001
COVIDDX_Q5	COVID, Quarter 1, 2021	1	1.2962139878	0.0558716320	23.1998590416	<.0001
COVIDDX_Q6	COVID, Quarter 2, 2021	1	1.4360939397	0.0806783122	17.8002476886	<.0001
COVIDDX_Q7	COVID, Quarter 3, 2021	1	1.4176454246	0.0783962910	18.0830675259	<.0001

**AHRQ Quality Indicators
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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
COVIDDX_Q8	COVID, Quarter 4, 2021	1	1.7009593884	0.0584568666	29.0976832782	<.0001
YEAR_2019	Discharge YEAR is 2019 or before 2019	1	-0.0345738513	0.0247609857	-1.3963035126	0.1626
Q1	Quarter 1, 2020	1	-0.0937805281	0.0284173973	-3.3001096867	0.0010
Q2	Quarter 2, 2020	1	-0.1289127046	0.0293491046	-4.3923896999	<.0001
Q3	Quarter 3, 2020	1	-0.0769570282	0.0263940348	-2.9156977668	0.0035
Q4	Quarter 4, 2020	1	-0.0457082137	0.0260118592	-1.7572067181	0.0789
Q5	Quarter 1, 2021	1	-0.0797869721	0.0292805594	-2.7249128346	0.0064
Q6	Quarter 2, 2021	1	-0.0687478469	0.0278649340	-2.4671814035	0.0136
Q7	Quarter 3, 2021	1	-0.0487038032	0.0283032274	-1.7207862023	0.0853

c-statistic=0.761

C-statistics for hospital-level indicator modules are based on the test data (a random sample of 2019-2021 HCUP reference population, not used for the LASSO feature selection).

AHRQ Quality Indicators
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Table 15. Risk Adjustment Coefficients for PSI 13 - Postoperative Sepsis Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Intercept	Intercept	1	-4.413424558	0.0516559951	-85.4387676218	<.0001
Age_LT30	Age < 30	1	-0.6331624607	0.0525995896	-12.0374030509	<.0001
Age_30_34	30 <= Age <= 34	1	-0.6254666748	0.0572810968	-10.9192510290	<.0001
Age_35_39	35 <= Age <= 39	1	-0.5455897103	0.0475049905	-11.4848925315	<.0001
Age_40_44	40 <= Age <= 44	1	-0.4672492644	0.0404274889	-11.5577117766	<.0001
Age_45_49	45 <= Age <= 49	1	-0.4044709126	0.0367613173	-11.0026229182	<.0001
Age_50_54	50 <= Age <= 54	1	-0.2858445044	0.0290467197	-9.8408532065	<.0001
Age_55_59	55 <= Age <= 59	1	-0.1751900477	0.0252059948	-6.9503326078	<.0001
Age_60_64	60 <= Age <= 64	1	-0.0947988526	0.0220813190	-4.2931698387	<.0001
Age_70_74	70 <= Age <= 74	1	0.1308940881	0.0223060916	5.8680870876	<.0001
Age_75_79	75 <= Age <= 79	1	0.2440597848	0.0231363873	10.5487421807	<.0001
Age_80_84	80 <= Age <= 84	1	0.2766742729	0.0373943949	7.3988166766	<.0001
Age_85_89	85 <= Age <= 89	1	0.1655216593	0.0528133253	3.1340889524	0.0017
Age_90Plus	Age >= 90	1	0.1647836546	0.0621590838	2.6509987689	0.0080
MALE	Patient Sex Flag: 1=Male / 0=Female	1	0.2346647711	0.0140313670	16.7242985696	<.0001
Age_80_84_MALE	80 <= Age <= 84 MALE	1	-0.0373930721	0.0435479546	-0.8586642568	0.3905
Age_85_89_MALE	85 <= Age <= 89 MALE	1	0.0632178783	0.0672559792	0.9399592282	0.3472
CMR_AIDS	Acquired immune deficiency syndrome	1	0.0116679021	0.0909203023	0.1283310969	0.8979
CMR_ALCOHOL	Alcohol abuse	1	0.4412023710	0.0367126825	12.0177099682	<.0001
CMR_CANCER_LEUK	Leukemia	1	0.3803813872	0.0610892045	6.2266547796	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_CANCER_METS	Metastatic cancer	1	0.1703167566	0.0312958083	5.4421587454	<.0001
CMR_CANCER_SOLID	Solid tumor without metastasis, malignant	1	0.0190357499	0.0299295467	0.6360186516	0.5248
CMR_CBVD	Cerebrovascular disease	1	-0.2126637104	0.0404924793	-5.2519310801	<.0001
CMR_COAG	Coagulopathy	1	0.5082000762	0.0298776646	17.0093641274	<.0001
CMR_DEMENTIA	Dementia	1	0.3081934987	0.0410374285	7.5100587344	<.0001
CMR_DIAB_CX	Diabetes with chronic complications	1	0.2101760274	0.0203271605	10.3396648875	<.0001
CMR_DIAB_UNCX	Diabetes without chronic complications	1	-0.4376519001	0.0278082356	-15.7382117365	<.0001
CMR_DRUG_ABUSE	Drug abuse	1	0.3327342107	0.0507185907	6.5603993687	<.0001
CMR_HF	Heart failure	1	0.6908958818	0.0265056773	26.0659584433	<.0001
CMR_HTN_CX	Hypertension, complicated	1	0.0283246037	0.0262318415	1.0797794597	0.2802
CMR_HTN_UNCX	Hypertension, uncomplicated	1	-0.4370477856	0.0226397866	-19.3044127617	<.0001
CMR_LIVER_SEV	Liver disease, moderate to severe	1	-0.0421407566	0.0689197781	-0.6114464918	0.5409
CMR_LUNG_CHRONIC	Chronic pulmonary disease	1	0.1223590686	0.0175522343	6.9711391888	<.0001
CMR_NEURO_OTH	Other neurological disorders	1	0.8271823695	0.0394384725	20.9739961494	<.0001
CMR_NEURO_SEIZ	Seizures and epilepsy	1	0.2178766576	0.0377955571	5.7646102999	<.0001
CMR_PARALYSIS	Paralysis	1	0.8060263496	0.0399646615	20.1684768528	<.0001
CMR_PERIVASCULAR	Peripheral vascular disease	1	0.2348224588	0.0243380331	9.6483745468	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_PSYCHOS ES	Psychoses	1	0.2476704461	0.0385942560	6.4172877417	<.0001
CMR_PULMCIR C	Pulmonary circulation disease	1	0.1999813981	0.0348910179	5.7316011401	<.0001
CMR_RENLFL_ SEV	Renal failure, severe	1	0.2970177725	0.0331278879	8.9657926132	<.0001
CMR_THYROID _HYPO	Hypothyroidis m	1	-0.2092940229	0.0194474805	-10.7620122233	<.0001
CMR_ULCER_P EPTIC	Peptic ulcer disease x bleeding	1	0.5068819046	0.0547997879	9.2497055861	<.0001
CMR_VALVE	Valvular disease	1	-0.1616834301	0.0286962293	-5.6343092478	<.0001
CMR_WGHTLO SS	Weight loss	1	1.1065768518	0.0288536687	38.3513397052	<.0001
PS13_NonWt_1	PS13 Comorbidity count using non-weighted method, category 1, count > 2 and count <= 4	1	0.3849957030	0.0285142870	13.5018527065	<.0001
PS13_NonWt_2	PS13 Comorbidity count using non-weighted method, category 2, count >= 5	1	0.1545458201	0.0489191715	3.1592076346	0.0016
MDRG_101	INTRACRANI AL VASCULAR PROCEDURE S W PDX HEMORRHA GE	1	-0.6108348319	0.2117855785	-2.8842135344	0.0039

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_102	CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX	1	-1.556565442	0.1463038342	-10.6392662244	<.0001
MDRG_103	CRANIOTOM Y & ENDOVASCU LAR INTRACRANI AL PROCEDURE S	1	-2.354067785	0.0708013852	-33.2488944837	<.0001
MDRG_104	SPINAL PROCEDURE S	1	-2.187974712	0.1498223312	-14.6037956748	<.0001
MDRG_105	VENTRICUL AR SHUNT PROCEDURE S	1	-2.927482564	0.1994151142	-14.6803444443	<.0001
MDRG_106	CAROTID ARTERY STENT PROCEDURE	1	-3.473567089	0.1892747860	-18.3519800126	<.0001
MDRG_107	EXTRACRAN IAL PROCEDURE S	1	-3.137818953	0.0954905853	-32.8599824152	<.0001
MDRG_108	PERIPH/CRA NIAL NERVE & OTHER NERV SYST PROC	1	-1.910295200	0.1640338780	-11.6457357664	<.0001
MDRG_301	MAJOR HEAD AND NECK PROCEDURE S	1	-1.854175205	0.1047113192	-17.7074954246	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_302	OTHER EAR, NOSE, MOUTH AND THROAT O.R. PROCEDURES	1	-2.112286491	0.1912991779	-11.0417959667	<.0001
MDRG_304	MOUTH PROCEDURES	1	-2.645234199	0.5777128075	-4.5788048400	<.0001
MDRG_401	MAJOR CHEST PROCEDURES	1	-1.385012884	0.0530208182	-26.1220579121	<.0001
MDRG_402	OTHER RESP SYSTEM O.R. PROCEDURES	1	-1.924831300	0.1076416674	-17.8818421079	<.0001
MDRG_502	PERC CARDIOVASC PROC W NON-DRUG-ELUTING STENT	1	-2.989819215	0.5734600189	-5.2136489310	<.0001
MDRG_503	CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC	1	-1.315885514	0.0541816989	-24.2865310684	<.0001
MDRG_505	OTHER CARDIOTHORACIC PROCEDURES	1	-1.908717365	0.0940007297	-20.3053462547	<.0001
MDRG_506	CORONARY BYPASS W PTCA	1	-1.004074180	0.2233826576	-4.4948618230	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_507	CORONARY BYPASS WITH CARDIAC CATHETERIZATION OR OPEN ABLATION	1	-1.504862932	0.0739194504	-20.3581455684	<.0001
MDRG_508	CORONARY BYPASS W/O CARDIAC CATH	1	-1.689817394	0.0523603863	-32.2728213543	<.0001
MDRG_509	AMPUTATION FOR CIRCULAR SYSTEMS DISORDERS EXCEPT UPPER LIMB & TOE	1	-0.8013608896	0.1302749048	-6.1513066588	<.0001
MDRG_510	PERMANENT CARDIAC PACEMAKER IMPLANT AND PROCEDURES	1	-2.372160297	0.2201044772	-10.7774286446	<.0001
MDRG_511	PERCUTANEOUS CARDIOVASCULAR PROCEDURE WITH DRUG-ELUTING STENT	1	-2.671502635	0.0925970576	-28.8508372087	<.0001
MDRG_512	AICD PROCEDURE	1	-1.836732060	0.2277879189	-8.0633427288	<.0001
MDRG_513	PERCUTANEOUS CARDIOVASCULAR PROCEDURE WITHOUT CORONARY ARTERY STENT	1	-2.453975322	0.2965357369	-8.2754791966	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_514	OTHER VASCULAR PROCEDURE S	1	-2.205955493	0.0570617322	-38.6591049250	<.0001
MDRG_517	CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEME NT	1	-2.692182903	0.5756774064	-4.6765477901	<.0001
MDRG_519	OTHER CIRCULATO RY SYSTEM O.R. PROCEDURE S	1	-1.624624709	0.1337537859	-12.1463829863	<.0001
MDRG_536	OTHER ENDOVASCU LAR CARDIAC VALVE PROCEDURE S	1	-2.178450147	0.2909554319	-7.4872296860	<.0001
MDRG_537	CARDIAC DEFIBRILLA TOR IMPLANT W AMI/HF/SHO CK	1	-2.060479272	0.3242302953	-6.3549868781	<.0001
MDRG_538	CARDIAC DEFIBRILLA TOR IMPLANT W/OUT AMI/HF/SHO CK	1	-2.085159101	0.3030951075	-6.8795538077	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_539	CARDIAC DEFIBRILLA TOR IMPLANT W/OUT CARDIAC CATH	1	-3.062503877	0.2043124100	-14.9893189382	<.0001
MDRG_540	ENDOVASCU LAR CARDIAC VALVE REPLACEME NT	1	-3.170447100	0.0591609215	-53.5902251377	<.0001
MDRG_541	AORTIC AND HEART ASSIST PROCEDURE S EXCEPT PULSATION BALLOON	1	-1.667443486	0.0614330657	-27.1424430407	<.0001
MDRG_542	OTHER MAJOR CARDIOVAS CULAR PROCEDURE S	1	-1.271737016	0.0566876553	-22.4341086245	<.0001
MDRG_543	PERCUTANE OUS AND OTHER INTRACARDI AC PROCEDURE S	1	-2.306772926	0.1041304649	-22.1527189844	<.0001
MDRG_601	STOMACH, ESOPHAGEA L & DUODENAL PROC	1	-0.1222035258	0.0374925661	-3.2594068244	0.0011

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_602	MAJOR SMALL & LARGE BOWEL PROCEDURE S	1	-0.3926067173	0.0323337611	-12.1423151516	<.0001
MDRG_603	RECTAL RESECTION	1	-1.482163620	0.1717840603	-8.6280625648	<.0001
MDRG_607	MINOR SMALL & LARGE BOWEL PROCEDURE S	1	-1.198677675	0.1638902517	-7.3139046548	<.0001
MDRG_608	ANAL & STOMAL PROCEDURE S	1	-1.944218758	0.2240114592	-8.6791040262	<.0001
MDRG_609	INGUINAL & FEMORAL HERNIA PROCEDURE S	1	-1.786912410	0.1761936833	-10.1417506932	<.0001
MDRG_610	HERNIA PROCEDURE S EXCEPT INGUINAL & FEMORAL	1	-1.387629735	0.0792736820	-17.5042927267	<.0001
MDRG_611	OTHER DIGESTIVE SYSTEM O.R. PROCEDURE S	1	-1.209442408	0.0948927549	-12.7453609052	<.0001
MDRG_701	PANCREAS, LIVER & SHUNT PROCEDURE S	1	-0.1680125403	0.0504749364	-3.3286330291	0.0009

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_702	BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E.	1	0.0265010206	0.1189695748	0.2227546051	0.8237
MDRG_703	CHOLECYST ECTOMY W C.D.E.	1	-0.8333648695	0.5853740040	-1.4236451633	0.1545
MDRG_705	LAPAROSCO PIC CHOLECYST ECTOMY W/O C.D.E.	1	-1.157885439	0.1094726215	-10.5769408140	<.0001
MDRG_707	OTHER HEPATOBILI ARY OR PANCREAS O.R. PROCEDURE S	1	-0.5011553134	0.1926731464	-2.6010646678	0.0093
MDRG_801	COMBINED ANTERIOR/P OSTERIOR SPINAL FUSION	1	-1.662757489	0.0518192093	-32.0876661743	<.0001
MDRG_802	SPINAL FUS EXC CERV W SPINAL CURV/MALI G/INFEC OR EXT FUS	1	-1.113718615	0.0887031269	-12.5555733303	<.0001
MDRG_803	SPINAL FUSION EXCEPT CERVICAL	1	-1.982333662	0.0546786235	-36.2542715348	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_804	BILATERAL OR MULTIPLE MAJOR JOINT PROCS OF LOWER EXTREMITY	1	-2.904205135	0.1853514081	-15.6686434966	<.0001
MDRG_805	WND DEBRID & SKN GRFT EXC HAND, FOR MUSCULO-CONN TISS DIS	1	-1.453144175	0.1076807709	-13.4949272995	<.0001
MDRG_806	REVISION OF HIP OR KNEE REPLACEMENT	1	-2.717345281	0.0877403905	-30.9702893464	<.0001
MDRG_807	MAJOR JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY	1	-3.311712772	0.0502178040	-65.9469850847	<.0001
MDRG_808	CERVICAL SPINAL FUSION	1	-2.441213133	0.0663307550	-36.8036385624	<.0001
MDRG_809	AMPUTATION FOR MUSCULOSKELETAL SYS & CONN TISSUE DIS	1	-1.787380714	0.1944302637	-9.1929141078	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_810	BIOPSIES OF MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE	1	-1.585337711	0.1910563231	-8.2977505559	<.0001
MDRG_811	HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT	1	-1.986288929	0.1126114344	-17.6384302321	<.0001
MDRG_812	MAJOR JOINT/LIMB REATTACHMENT PROCEDURE OF UPPER EXTREMITIES	1	-3.588493125	0.0979740982	-36.6269574340	<.0001
MDRG_814	KNEE PROCEDURES W/O PDX OF INFECTION	1	-2.972966368	0.2564449173	-11.5930017248	<.0001
MDRG_815	BACK & NECK PROC EXC SPINAL FUSION OR DISC DEVICE/NEUROSTIM	1	-2.371837529	0.0924502878	-25.6552747065	<.0001
MDRG_816	LOWER EXTREM & HUMER PROC EXCEPT HIP, FOOT, FEMUR	1	-2.510283476	0.1180056035	-21.2725785998	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_817	LOCAL EXCISION & REMOVAL INT FIX DEVICES EXC HIP & FEMUR	1	-2.419409895	0.2785207147	-8.6866425609	<.0001
MDRG_818	LOCAL EXCISION & REMOVAL INT FIX DEVICES OF HIP & FEMUR	1	-1.776332525	0.3514601133	-5.0541511197	<.0001
MDRG_819	SOFT TISSUE PROCEDURE S	1	-2.120933428	0.1603335367	-13.2282582416	<.0001
MDRG_820	FOOT PROCEDURE S	1	-2.440943350	0.3312080365	-7.3698192125	<.0001
MDRG_824	SHOULDER,E LBOW OR FOREARM PROC,EXC MAJOR JOINT PROC	1	-2.379623496	0.3778219161	-6.2982675032	<.0001
MDRG_826	OTHER MUSCULOSK ELET SYS & CONN TISS O.R. PROC	1	-2.373870462	0.0918571939	-25.8430544226	<.0001
MDRG_841	HIP REPLACEME NT WITH PRINCIPAL DIAGNOSIS OF HIP FRACTURE	1	-2.796840816	0.3840706268	-7.2821002713	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_902	SKIN GRAFT EXC FOR SKIN ULCER OR CELLULITIS	1	-1.490842682	0.1286508440	-11.5882852747	<.0001
MDRG_903	OTHER SKIN, SUBCUT TISS & BREAST PROC	1	-2.746683517	0.1605753620	-17.1052612429	<.0001
MDRG_904	MASTECTO MY FOR MALIGNANC Y	1	-2.505480877	0.2632298468	-9.5182248811	<.0001
MDRG_905	BREAST BIOPSY, LOCAL EXCISION & OTHER BREAST PROCEDURE S	1	-2.539996689	0.2539648970	-10.0013691629	<.0001
MDRG_913	SKIN DEBRIDEME NT FOR SKIN ULCER OR CELLULITIS	1	-1.641864775	0.2075587337	-7.9103622647	<.0001
MDRG_1001	ADRENAL & PITUITARY PROCEDURE S	1	-1.584341746	0.1122614808	-14.1129596259	<.0001
MDRG_1002	AMPUTAT OF LOWER LIMB FOR ENDOCRINE, NUTRIT,& METABOL DIS	1	-1.849750474	0.4479402496	-4.1294580588	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1003	O.R. PROCEDURE S FOR OBESITY	1	-2.512761013	0.0707964594	-35.4927497218	<.0001
MDRG_1004	SKIN GRAFTS & WOUND DEBRID FOR ENDOC, NUTRIT & METAB DIS	1	-1.537220698	0.2951922957	-5.2075230982	<.0001
MDRG_1005	THYROID, PARATHYRO ID & THYROGLOS SAL PROCEDURE S	1	-2.259212797	0.1558148106	-14.4993456596	<.0001
MDRG_1006	OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC	1	-1.245853133	0.1838301902	-6.7771954738	<.0001
MDRG_1101	KIDNEY TRANSPLAN T	1	-2.572530290	0.1431369127	-17.9725148542	<.0001
MDRG_1102	MAJOR BLADDER PROCEDURE S	1	0.0128087964	0.0526553479	0.2432572733	0.8078
MDRG_1103	KIDNEY & URETER PROCEDURE S FOR NEOPLASM	1	-1.319616624	0.0561090883	-23.5187678770	<.0001
MDRG_1104	KIDNEY & URETER PROCEDURE S FOR NON-NEOPLASM	1	-0.7301383908	0.0617439378	-11.8252644284	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1105	MINOR BLADDER PROCEDURE S	1	-1.461091444	0.2401288097	-6.0846153613	<.0001
MDRG_1106	PROSTATEC TOMY	1	-1.793211583	0.3251312753	-5.5153463215	<.0001
MDRG_1107	TRANSURET HRAL PROCEDURE S	1	-1.486093437	0.1536652216	-9.6709809901	<.0001
MDRG_1108	URETHRAL PROCEDURE S	1	-1.949685596	0.4986512344	-3.9099183184	<.0001
MDRG_1109	OTHER KIDNEY & URINARY TRACT PROCEDURE S	1	-1.937862465	0.1362992499	-14.2177045475	<.0001
MDRG_1201	MAJOR MALE PELVIC PROCEDURE S	1	-2.017307969	0.0881148407	-22.8940772313	<.0001
MDRG_1203	TESTES PROCEDURE S	1	-1.256828561	0.4535133832	-2.7713152629	0.0056
MDRG_1204	TRANSURET HRAL PROSTATEC TOMY	1	-1.208090176	0.1051614375	-11.4879579970	<.0001
MDRG_1302	UTERINE & ADNEXA PROC FOR OVARIAN OR ADNEXAL MALIGNANC Y	1	-0.6814217371	0.0695913073	-9.7917651360	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1304	UTERINE & ADNEXA PROC FOR NON- MALIGNANC Y	1	-1.735486946	0.0602810505	-28.7899254040	<.0001
MDRG_1305	D&C, CONIZATION , LAPAROSCO PY & TUBAL INTERRUPTI ON	1	-1.121833620	0.2661774028	-4.2146087861	<.0001
MDRG_1306	VAGINA, CERVIX & VULVA PROCEDURE S	1	-2.075437918	0.2165161303	-9.5856041529	<.0001
MDRG_1601	SPLENECTO MY	1	-1.028324376	0.2116233034	-4.8592208874	<.0001
MDRG_1602	OTHER O.R. PROC OF THE BLOOD & BLOOD FORMING ORGANS	1	-2.325171325	0.3221253956	-7.2182179884	<.0001
MDRG_1707	LYMPHOMA & LEUKEMIA W MAJOR O.R. PROCEDURE	1	-1.300218688	0.1229409182	-10.5759637022	<.0001
MDRG_1708	LYMPHOMA & NON- ACUTE LEUKEMIA W OTHER O.R. PROC	1	-1.373473969	0.1897582509	-7.2380197530	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1709	MYELOPROLIF DISORD OR POORLY DIFF NEOPL W MAJ O.R. PROC	1	-0.3444776853	0.0653277765	-5.2730661264	<.0001
MDRG_2101	WOUND DEBRIDEMENTS FOR INJURIES	1	-1.423255544	0.2173433940	-6.5484186909	<.0001
MDRG_2102	SKIN GRAFTS FOR INJURIES	1	-1.679299231	0.3007728176	-5.5832812427	<.0001
MDRG_2201	FULL THICKNESS BURN W SKIN GRAFT OR INHAL INJ	1	-2.175130315	0.3739289637	-5.8169613110	<.0001
MDRG_2210	EXTENSIVE BURNS OR FULL THICKNESS BURNS W MV >96 HRS W SKIN GRAFT	1	1.6909110345	0.2770161622	6.1040158130	<.0001
MDRG_2301	O.R. PROC W DIAGNOSES OF OTHER CONTACT W HEALTH SERVICES	1	-1.634027086	0.1464082214	-11.1607604449	<.0001
MDRG_2501	HIV W EXTENSIVE O.R. PROCEDURE	1	0.0609164005	0.4389701316	0.1387711740	0.8896

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_7701	HEART TRANSPLAN T OR IMPLANT OF HEART ASSIST SYSTEM	1	0.2898591962	0.0890516644	3.2549554033	0.0011
MDRG_7702	LIVER TRANSPLAN T	1	-1.138122494	0.1791876333	-6.3515683163	<.0001
MDRG_7703	LUNG TRANSPLAN T	1	-1.287032855	0.3433412526	-3.7485529205	0.0002
MDRG_7704	SIMULTANE OUS PANCREAS/K IDNEY TRANSPLAN T	1	-1.851264515	0.5186613959	-3.5693123292	0.0004
MDRG_7705	ALLOGENEI C OR AUTOLOGO US BONE MARROW TRANSPLAN T	1	1.9859390817	0.2751829200	7.2167963096	<.0001
TRNSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.4595069907	0.0634890996	7.2375729580	<.0001
HPPS13_1	Medium immune risk	1	0.2705945286	0.0345827472	7.8245527077	<.0001
HPPS13_2	High immune risk	1	0.4646923256	0.0273118769	17.0142948369	<.0001
HPPS13_3	Very High immune risk	1	1.1160543723	0.0904755213	12.3354290307	<.0001
COVIDDX_Q2	COVID, Quarter 2, 2020	1	1.4778856169	0.3167279268	4.6661045386	<.0001

**AHRQ Quality Indicators
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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
COVIDDX_Q3	COVID, Quarter 3, 2020	1	1.3749419157	0.3002184974	4.5798041353	<.0001
COVIDDX_Q4	COVID, Quarter 4, 2020	1	1.4513129770	0.1779044897	8.1578209730	<.0001
COVIDDX_Q5	COVID, Quarter 1, 2021	1	1.2827283502	0.2549987282	5.0303323448	<.0001
COVIDDX_Q6	COVID, Quarter 2, 2021	1	1.5082575997	0.3584297557	4.2079586743	<.0001
COVIDDX_Q7	COVID, Quarter 3, 2021	1	0.9751952501	0.3960349435	2.4623969829	0.0138
COVIDDX_Q8	COVID, Quarter 4, 2021	1	1.3431329788	0.3084780141	4.3540638803	<.0001
YEAR_2019	Discharge YEAR is 2019 or before 2019	1	0.0771821936	0.0324970838	2.3750498399	0.0175
Q1	Quarter 1, 2020	1	0.0795167718	0.0349841116	2.2729395744	0.0230
Q2	Quarter 2, 2020	1	0.0085862862	0.0384125151	0.2235283521	0.8231
Q3	Quarter 3, 2020	1	0.0570180229	0.0347368293	1.6414285366	0.1007
Q4	Quarter 4, 2020	1	0.1158017812	0.0338531802	3.4207061336	0.0006
Q5	Quarter 1, 2021	1	-0.0252870934	0.0388993716	-0.6500643143	0.5157
Q6	Quarter 2, 2021	1	0.0142437951	0.0373640523	0.3812165483	0.7030
Q7	Quarter 3, 2021	1	0.0145417726	0.0385181988	0.3775299220	0.7058

c-statistic=0.861

C-statistics for hospital-level indicator modules are based on the test data (a random sample of 2019-2021 HCUP reference population, not used for the LASSO feature selection).

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Table 16. Risk Adjustment Coefficients for PSI 14 - Postoperative Wound Dehiscence Rate Stratum: Open Approach

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Intercept	Intercept	1	-6.482891688	0.0972861903	-66.6373270994	<.0001
Age_LT30	Age < 30	1	-0.7026059204	0.1602094544	-4.3855459283	<.0001
Age_30_34	30 <= Age <= 34	1	-0.5205549107	0.1005279952	-5.1782084169	<.0001
Age_35_39	35 <= Age <= 39	1	-0.5711745324	0.0929890387	-6.1423855991	<.0001
Age_40_44	40 <= Age <= 44	1	-0.4285030203	0.1268715100	-3.3774566120	0.0007
Age_45_49	45 <= Age <= 49	1	-0.3539830534	0.0701047496	-5.0493448111	<.0001
Age_50_54	50 <= Age <= 54	1	-0.2063826552	0.0922767007	-2.2365630069	0.0253
Age_55_59	55 <= Age <= 59	1	-0.0451214530	0.0563237206	-0.8011092412	0.4231
Age_60_64	60 <= Age <= 64	1	-0.0193565891	0.0520608984	-0.3718066663	0.7100
Age_70_74	70 <= Age <= 74	1	0.0118318979	0.0547207729	0.2162231504	0.8288
Age_75_79	75 <= Age <= 79	1	-0.1456072466	0.0619581130	-2.3500916932	0.0188
Age_80_84	80 <= Age <= 84	1	-0.1108988854	0.0720463983	-1.5392703590	0.1237
Age_85_89	85 <= Age <= 89	1	-0.1731626351	0.1420925173	-1.2186611822	0.2230
Age_90Plus	Age >= 90	1	-0.5015652666	0.1436834314	-3.4907662044	0.0005
MALE	Patient Sex Flag: 1=Male / 0=Female	1	0.6876562509	0.0351573792	19.5593717660	<.0001
Age_LT30_MALE	Age < 30 MALE	1	0.1497911882	0.1726306908	0.8676973229	0.3856
Age_40_44_MALE	40 <= Age <= 44 MALE	1	-0.1016915054	0.1552662860	-0.6549490429	0.5125
Age_50_54_MALE	50 <= Age <= 54 MALE	1	-0.1592093236	0.1091832229	-1.4581848688	0.1448
Age_85_89_MALE	85 <= Age <= 89 MALE	1	-0.0255318452	0.1725972483	-0.1479273014	0.8824

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_AIDS	Acquired immune deficiency syndrome	1	0.1929005157	0.1820327616	1.0597021875	0.2893
CMR_ALCOHOL	Alcohol abuse	1	0.3684740117	0.0572641687	6.4346347799	<.0001
CMR_ANEMDEF	Anemias due to other nutritional deficiencies	1	-0.3190167623	0.0455500084	-7.0036597936	<.0001
CMR_AUTOIMMUNE	Autoimmune conditions	1	0.0680943457	0.0835232892	0.8152737567	0.4149
CMR_BLDLOSS	Chronic blood loss anemia (iron deficiency)	1	-0.5633450242	0.1582806091	-3.5591537541	0.0004
CMR_CANCER_METS	Metastatic cancer	1	-0.3942285320	0.0560094798	-7.0386037089	<.0001
CMR_CANCER_SOLID	Solid tumor without metastasis, malignant	1	-0.4334961552	0.0750216198	-5.7782830629	<.0001
CMR_CBVD	Cerebrovascular disease	1	0.0155601611	0.0876228629	0.1775810629	0.8591
CMR_DEMENTIA	Dementia	1	-0.1064800774	0.0897363912	-1.1865874709	0.2354
CMR_DEPRESS	Depression	1	0.0493364223	0.0458564730	1.0758878536	0.2820
CMR_DIAB_CX	Diabetes with chronic complications	1	-0.4152583189	0.0514171432	-8.0762619878	<.0001
CMR_DIAB_UNCX	Diabetes without chronic complications	1	-0.6405037280	0.0633891558	-10.1043107389	<.0001
CMR_DRUG_ABUSE	Drug abuse	1	0.1910542085	0.0742718262	2.5723644931	0.0101
CMR_HF	Heart failure	1	0.1283618772	0.0536169424	2.3940544063	0.0167
CMR_HTN_CX	Hypertension, complicated	1	-0.0818297709	0.0597898673	-1.3686227226	0.1711
CMR_HTN_UNCX	Hypertension, uncomplicated	1	-0.3482306299	0.0386119021	-9.0187380330	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_LIVER_SEV	Liver disease, moderate to severe	1	0.1972497203	0.1133337872	1.7404317383	0.0818
CMR_LUNG_CHRONIC	Chronic pulmonary disease	1	0.3727831972	0.0352446589	10.5770124964	<.0001
CMR_NEURO_MOVT	Neurological disorders affecting movement	1	-0.2975219132	0.1090560576	-2.7281557747	0.0064
CMR_NEURO_SEIZ	Seizures and epilepsy	1	0.0269537585	0.0872664816	0.3088672542	0.7574
CMR_OBESE	Obesity	1	0.5338672978	0.0370572798	14.4065430600	<.0001
CMR_PSYCHOSIS	Psychoses	1	0.2397302559	0.0680230183	3.5242519635	0.0004
CMR_PULMCIRC	Pulmonary circulation disease	1	0.1298585401	0.0926577933	1.4014853522	0.1611
CMR_RENLFL_MOD	Renal failure, moderate	1	-0.3081081212	0.0664979026	-4.6333509676	<.0001
CMR_RENLFL_SEV	Renal failure, severe	1	-0.3008177197	0.0808821286	-3.7192112147	0.0002
CMR_THYROID_HYPO	Hypothyroidism	1	-0.1650633518	0.0502798387	-3.2828934221	0.0010
CMR_THYROID_OTH	Other thyroid disorders	1	-0.4209555762	0.1880597416	-2.2384140947	0.0252
CMR_ULCER_PEP	Peptic ulcer disease x bleeding	1	-0.1330468853	0.0805204539	-1.6523365029	0.0985
CMR_VALVE	Valvular disease	1	-0.3139915938	0.0763231630	-4.1139751199	<.0001
CMR_WGHTLOSS	Weight loss	1	0.5021787782	0.0405363793	12.3883481120	<.0001
PS14_OPEN_NoWt_1	PS14_OPEN Comorbidity count using non-weighted method, category 1, count > 1 and count <= 3	1	0.4231310786	0.0471444064	8.9752127776	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
PS14_OPEN_No nWt_2	PS14_OPEN Comorbidity count using non-weighted method, category 2, count ≥ 4	1	0.5696008177	0.0738736823	7.7104700930	<.0001
MDC_4	Diseases and disorders of the respiratory system	1	0.8773050235	0.1358233165	6.4591636124	<.0001
MDC_6	Diseases and disorders of the digestive system	1	1.9860463510	0.1022774740	19.4182186267	<.0001
MDC_8	Diseases and disorders of the musculoskelet al system and connective tissue	1	-2.805206053	0.1693379048	-16.5657302554	<.0001
MDC_9	Diseases and disorders of the skin, subcutaneous tissue and breast	1	-0.4990365149	0.2471837804	-2.0188885940	0.0435
MDC_11	Diseases and disorders of the kidney and urinary tract	1	-0.1297095085	0.1570345158	-0.8259936221	0.4088
MDC_12	Diseases and disorders of the male reproductive system	1	-1.135392960	0.5801244252	-1.9571542078	0.0503

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDC_13	Diseases and disorders of the female reproductive system	1	-0.6674594350	0.2159026038	-3.0914839521	0.0020
MDC_18	Infectious and parasitic diseases, systemic or unspecified sites	1	1.5600205912	0.1130714914	13.7967632030	<.0001
MDC_20	Alcohol or drug use or induced organic mental disorders	1	1.4752032680	0.4539563950	3.2496585226	0.0012
MDC_21	Injuries, poisonings and toxic effects of drugs	1	0.3061656593	0.1225712371	2.4978589310	0.0125
MDRG_401	MAJOR CHEST PROCEDURE S	1	-1.996038251	0.5084964250	-3.9253732229	<.0001
MDRG_402	OTHER RESP SYSTEM O.R. PROCEDURE S	1	0.6242448412	0.2784554874	2.2418119571	0.0250
MDRG_503	CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC	1	-0.1039043085	0.2789245104	-0.3725176694	0.7095

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_507	CORONARY BYPASS WITH CARDIAC CATHETERIZATION OR OPEN ABLATION	1	0.7614346151	0.4511029524	1.6879397731	0.0914
MDRG_508	CORONARY BYPASS W/O CARDIAC CATH	1	0.6739149295	0.5161201454	1.3057326586	0.1916
MDRG_514	OTHER VASCULAR PROCEDURES	1	-0.5863424341	0.2942518939	-1.9926547504	0.0463
MDRG_519	OTHER CIRCULATORY SYSTEM O.R. PROCEDURES	1	0.6429911846	0.2449974967	2.6244806301	0.0087
MDRG_541	AORTIC AND HEART ASSIST PROCEDURES EXCEPT PULSATION BALLOON	1	0.1160255119	0.1648974865	0.7036220767	0.4817
MDRG_542	OTHER MAJOR CARDIOVASCULAR PROCEDURES	1	-0.6977051634	0.1528284069	-4.5652845413	<.0001
MDRG_601	STOMACH, ESOPHAGEAL & DUODENAL PROC	1	-1.612039776	0.1057906760	-15.2380137550	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_602	MAJOR SMALL & LARGE BOWEL PROCEDURE S	1	-1.454317128	0.0908365997	-16.0102550437	<.0001
MDRG_603	RECTAL RESECTION	1	-2.740020219	0.4479188329	-6.1172248597	<.0001
MDRG_604	PERITONEAL ADHESIOLY SIS	1	-1.912909821	0.1259729771	-15.1850806827	<.0001
MDRG_605	APPENDECT OMY W COMPLICAT ED PRINCIPAL DIAG	1	-1.941160943	0.2525444535	-7.6864128910	<.0001
MDRG_606	APPENDECT OMY W/O COMPLICAT ED PRINCIPAL DIAG	1	-2.530851600	0.3649198504	-6.9353629236	<.0001
MDRG_607	MINOR SMALL & LARGE BOWEL PROCEDURE S	1	-2.500378333	0.2195905215	-11.3865494566	<.0001
MDRG_609	INGUINAL & FEMORAL HERNIA PROCEDURE S	1	-4.210493785	0.3836861817	-10.9737957355	<.0001
MDRG_610	HERNIA PROCEDURE S EXCEPT INGUINAL & FEMORAL	1	1.2991658586	0.1561172796	8.3217300621	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_611	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES	1	-3.242671493	0.2671496087	-12.1380357217	<.0001
MDRG_704	CHOLECYSTECTOMY EXCEPT BY LAPAROSCOPE W/O C.D.E.	1	-1.318231995	0.2177720491	-6.0532653281	<.0001
MDRG_705	LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E.	1	-0.1448620754	0.4125198617	-0.3511638806	0.7255
MDRG_706	HEPATOBIILIARY DIAGNOSTIC PROCEDURES	1	-0.3691030977	0.3576346504	-1.0320674946	0.3020
MDRG_707	OTHER HEPATOBIILIARY OR PANCREAS O.R. PROCEDURES	1	-0.2503562436	0.5062720459	-0.4945093169	0.6209
MDRG_803	SPINAL FUSION EXCEPT CERVICAL	1	-0.5815643950	0.3553984359	-1.6363729726	0.1018
MDRG_805	WND DEBRID & SKN GRFT EXC HAND, FOR MUSCULO-CONN TISS DIS	1	4.4095973629	0.2967265487	14.8608116873	<.0001

**AHRQ Quality Indicators
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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_811	HIP & FEMUR PROCEDURE S EXCEPT MAJOR JOINT	1	3.7289532370	0.4781295581	7.7990435304	<.0001
MDRG_816	LOWER EXTREM & HUMER PROC EXCEPT HIP,FOOT,FE MUR	1	4.1951022770	0.6073279879	6.9074739850	<.0001
MDRG_819	SOFT TISSUE PROCEDURE S	1	3.5828288439	0.4271302302	8.3881415796	<.0001
MDRG_913	SKIN DEBRIDEME NT FOR SKIN ULCER OR CELLULITIS	1	1.2090090792	0.5638250418	2.1442983012	0.0320
MDRG_1003	O.R. PROCEDURE S FOR OBESITY	1	-0.4520570787	0.3582060097	-1.2620030555	0.2069
MDRG_1101	KIDNEY TRANSPLAN T	1	-0.3860745320	0.2101044035	-1.8375366039	0.0661
MDRG_1102	MAJOR BLADDER PROCEDURE S	1	0.9934053495	0.1703006176	5.8332457231	<.0001
MDRG_1103	KIDNEY & URETER PROCEDURE S FOR NEOPLASM	1	-0.5241517901	0.2110566685	-2.4834647191	0.0130

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1105	MINOR BLADDER PROCEDURES	1	-0.5520166483	0.5973236277	-0.9241500297	0.3554
MDRG_1201	MAJOR MALE PELVIC PROCEDURES	1	0.1327125544	0.6526966940	0.2033295949	0.8389
MDRG_1301	PELVIC EVISCERATION, RAD HYSTERECTOMY & RAD VULVECTOMY	1	0.6400876717	0.3962906847	1.6151973702	0.1063
MDRG_1302	UTERINE & ADNEXA PROC FOR OVARIAN OR ADNEXAL MALIGNANCY	1	-0.2795277622	0.3288912530	-0.8499093839	0.3954
MDRG_1304	UTERINE & ADNEXA PROC FOR NON-MALIGNANCY	1	-0.6861241417	0.2527430736	-2.7147099704	0.0066
MDRG_1307	FEMALE REPRODUCTIVE SYSTEM RECONSTRUCTIVE PROCEDURES	1	1.7736514964	0.6313500515	2.8092996781	0.0050

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1801	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURE	1	-0.8284216653	0.1085244585	-7.6335019509	<.0001
MDRG_1802	POSTOPERATIVE OR POST-TRAUMATIC INFECTIONS W O.R. PROC	1	-1.153410299	0.1710737380	-6.7421821301	<.0001
MDRG_2101	WOUND DEBRIDEMENTS FOR INJURIES	1	2.3867213218	0.2125617918	11.2283647082	<.0001
MDRG_2102	SKIN GRAFTS FOR INJURIES	1	2.5047464949	0.4219582226	5.9360058904	<.0001
MDRG_2407	LIMB REATTACHMENT, HIP & FEMUR PROC FOR MULTIPLE SIGNIFICANT TRAUMA	1	1.2881905123	0.2021473503	6.3725322670	<.0001
MDRG_2408	OTHER O.R. PROCEDURES FOR MULTIPLE SIGNIFICANT TRAUMA	1	1.0122470043	0.1048732485	9.6520992611	<.0001
MDRG_7702	LIVER TRANSPLANT	1	-1.045621585	0.3206617825	-3.2608238414	0.0011

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Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
TRNSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.2848518763	0.0559524830	5.0909604217	<.0001
COVIDDX_Q2	COVID, Quarter 2, 2020	1	-0.6116128984	0.5132971693	-1.1915376414	0.2334
COVIDDX_Q3	COVID, Quarter 3, 2020	1	0.2745581610	0.3081457563	0.8910009481	0.3729
COVIDDX_Q4	COVID, Quarter 4, 2020	1	-0.1144415750	0.3224370579	-0.3549268676	0.7226
COVIDDX_Q5	COVID, Quarter 1, 2021	1	0.9277981353	0.2026302113	4.5787749480	<.0001
COVIDDX_Q6	COVID, Quarter 2, 2021	1	-0.0634803263	0.4537446826	-0.1399031852	0.8887
COVIDDX_Q7	COVID, Quarter 3, 2021	1	-0.0477294497	0.4640254011	-0.1028595624	0.9181
COVIDDX_Q8	COVID, Quarter 4, 2021	1	0.0023426713	0.3429563925	0.0068308138	0.9945
YEAR_2019	Discharge YEAR is 2019 or before 2019	1	-0.0295392234	0.0629980734	-0.4688909017	0.6391
Q1	Quarter 1, 2020	1	-0.0912051839	0.0728313792	-1.2522786872	0.2105
Q2	Quarter 2, 2020	1	-0.0618921667	0.0784668292	-0.7887685443	0.4302
Q3	Quarter 3, 2020	1	-0.0926087803	0.0764367819	-1.2115735113	0.2257
Q4	Quarter 4, 2020	1	-0.0612868858	0.0724337511	-0.8461095131	0.3975
Q5	Quarter 1, 2021	1	-0.0777210270	0.0861549406	-0.9021076029	0.3670

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Q6	Quarter 2, 2021	1	-0.0471742580	0.0786152970	-0.6000646162	0.5485
Q7	Quarter 3, 2021	1	-0.0814554305	0.0835333431	-0.9751247523	0.3295

c-statistic=0.817

C-statistics for hospital-level indicator modules are based on the test data (a random sample of 2019-2021 HCUP reference population, not used for the LASSO feature selection).

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Table 17. Risk Adjustment Coefficients for PSI 14 - Postoperative Wound Dehiscence Rate Stratum: Non-Open Approach

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Intercept	Intercept	1	-9.177493598	0.2897177441	-31.6773611077	<.0001
Age_LT60	Age<60	1	-0.6117193802	0.1587657796	-3.8529674461	0.0001
Age_70Plus	Age >= 70	1	-0.2375686616	0.1552784859	-1.5299522028	0.1260
MALE	Patient Sex Flag: 1=Male / 0=Female	1	0.6773439988	0.1299793018	5.2111681569	<.0001
CMR_HTN_CX	Hypertension, complicated	1	0.4211964043	0.1795517066	2.3458223386	0.0190
CMR_LUNG_CHRONIC	Chronic pulmonary disease	1	0.7912060529	0.1377215845	5.7449676882	<.0001
CMR_WGHTLOSS	Weight loss	1	0.6886589472	0.2064301940	3.3360378816	0.0008
PS14_NONOPEN_NonWt_2	PS14_NONOPEN Comorbidity count using non-weighted method, category 2, count >= 5	1	0.2805996949	0.1857500810	1.5106302693	0.1309
MDC_7	Diseases and disorders of the hepatobiliary system and pancreas	1	-0.9597905759	0.2554743114	-3.7568966154	0.0002
MDC_11	Diseases and disorders of the kidney and urinary tract	1	1.1446546256	0.2473288187	4.6280681396	<.0001
MDRG_602	MAJOR SMALL & LARGE BOWEL PROCEDURE S	1	1.2159889094	0.1599635470	7.6016625780	<.0001

**AHRQ Quality Indicators
Patient Safety Indicators (PSI) Parameter Estimates, v2023**

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_610	HERNIA PROCEDURE S EXCEPT INGUINAL & FEMORAL	1	5.5435994744	0.4065112262	13.6370144720	<.0001
MDRG_1103	KIDNEY & URETER PROCEDURE S FOR NEOPLASM	1	0.2838705678	0.2859310646	0.9927937286	0.3208
TRNSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	-0.0391783859	0.3267601911	-0.1198995074	0.9046
YEAR_2019	Discharge YEAR is 2019 or before 2019	1	-0.2007647250	0.2502570877	-0.8022339221	0.4224
Q1	Quarter 1, 2020	1	-0.2548156193	0.3065990385	-0.8311037783	0.4059
Q2	Quarter 2, 2020	1	-0.0517654874	0.3197909790	-0.1618728821	0.8714
Q3	Quarter 3, 2020	1	-0.2776242651	0.3170027464	-0.8757787376	0.3812
Q4	Quarter 4, 2020	1	0.0212843790	0.2991284129	0.0711546550	0.9433
Q5	Quarter 1, 2021	1	-0.1896204017	0.3320482849	-0.5710627350	0.5680
Q6	Quarter 2, 2021	1	-0.8988655746	0.4071122543	-2.2079059646	0.0273
Q7	Quarter 3, 2021	1	-0.8487656746	0.4255098849	-1.9947026019	0.0461

c-statistic=0.796

C-statistics for hospital-level indicator modules are based on the test data (a random sample of 2019-2021 HCUP reference population, not used for the LASSO feature selection).

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Table 18. Risk Adjustment Coefficients for PSI 15 - Abdominopelvic Accidental Puncture or Laceration Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Intercept	Intercept	1	-6.771741515	0.0735554997	-92.0630210361	<.0001
Age_LT30	Age < 30	1	-0.4052549079	0.0755303476	-5.3654580048	<.0001
Age_30_34	30 <= Age <= 34	1	-0.3619729613	0.0864729738	-4.1859663844	<.0001
Age_35_39	35 <= Age <= 39	1	-0.2735602911	0.0753845501	-3.6288641482	0.0003
Age_40_44	40 <= Age <= 44	1	-0.1123196069	0.0614425282	-1.8280433804	0.0675
Age_45_49	45 <= Age <= 49	1	-0.0928070670	0.0538573494	-1.7232015320	0.0849
Age_50_54	50 <= Age <= 54	1	-0.1191512370	0.0501983118	-2.3736104407	0.0176
Age_55_59	55 <= Age <= 59	1	-0.0860749360	0.0475700632	-1.8094349730	0.0704
Age_60_64	60 <= Age <= 64	1	-0.0300084719	0.0438836967	-0.6838182331	0.4941
Age_70_74	70 <= Age <= 74	1	0.0169036074	0.0437479818	0.3863859938	0.6992
Age_75_79	75 <= Age <= 79	1	0.1185575156	0.0448711648	2.6421760232	0.0082
Age_80_84	80 <= Age <= 84	1	0.1048448008	0.0519638959	2.0176470394	0.0436
Age_85_89	85 <= Age <= 89	1	-0.0145062695	0.0653569004	-0.2219546738	0.8243
Age_90Plus	Age >= 90	1	-0.0587528950	0.0902289918	-0.6511531805	0.5149
MALE	Patient Sex Flag: 1=Male / 0=Female	1	-0.0834279879	0.0237695576	-3.5098670868	0.0004
CMR_CANCER_LEUK	Leukemia	1	0.1426467475	0.1517690780	0.9398933524	0.3473
CMR_WGHTLOSS	Weight loss	1	0.6163817390	0.0321793234	19.1545897850	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
PS15_NonWt_2	PS15 Comorbidity count using non-weighted method, category 2, count >= 2	1	0.1738173422	0.0335349757	5.1831658931	<.0001
MDC_7	Diseases and disorders of the hepatobiliary system and pancreas	1	0.3953420503	0.0602004245	6.5670973809	<.0001
MDC_8	Diseases and disorders of the musculoskelet al system and connective tissue	1	-1.271991083	0.0941087862	-13.5161777597	<.0001
MDC_13	Diseases and disorders of the female reproductive system	1	0.4564437726	0.0603502583	7.5632447248	<.0001
MDRG_101	INTRACRANI AL VASCULAR PROCEDURE S W PDX HEMORRHA GE	1	-0.3413574821	0.5781354209	-0.5904455423	0.5549
MDRG_402	OTHER RESP SYSTEM O.R. PROCEDURE S	1	-0.9769571935	0.2900457540	-3.3682864855	0.0008
MDRG_514	OTHER VASCULAR PROCEDURE S	1	-1.412626822	0.2633832574	-5.3633888340	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_542	OTHER MAJOR CARDIOVASCULAR PROCEDURES	1	0.2422645843	0.0986088946	2.4568228375	0.0140
MDRG_601	STOMACH, ESOPHAGEAL & DUODENAL PROC	1	1.1203842887	0.0547821588	20.4516272041	<.0001
MDRG_602	MAJOR SMALL & LARGE BOWEL PROCEDURES	1	1.5551898116	0.0396528077	39.2201688231	<.0001
MDRG_701	PANCREAS, LIVER & SHUNT PROCEDURES	1	0.2973461453	0.1013819070	2.9329310740	0.0034
MDRG_702	BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E.	1	2.2724987235	0.1030033577	22.0623751925	<.0001
MDRG_703	CHOLECYSTECTOMY W C.D.E.	1	1.6557560445	0.2521396061	6.5668225243	<.0001
MDRG_704	CHOLECYSTECTOMY EXCEPT BY LAPAROSCOPE W/O C.D.E.	1	1.3985586382	0.1145388148	12.2103466910	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_706	HEPATOBI LARY DIAGNOSTIC PROCEDURE S	1	0.5813678720	0.1806494592	3.2182098674	0.0013
MDRG_709	MALIGNANC Y OF HEPATOBI LARY SYSTEM OR PANCREAS	1	0.6525493707	0.2844341359	2.2942020254	0.0218
MDRG_1003	O.R. PROCEDURE S FOR OBESITY	1	-0.5871681537	0.1300763258	-4.5140278217	<.0001
MDRG_1102	MAJOR BLADDER PROCEDURE S	1	1.2062829857	0.1038666415	11.6137671142	<.0001
MDRG_1104	KIDNEY & URETER PROCEDURE S FOR NON- NEOPLASM	1	-0.8689825253	0.0967077091	-8.9856592949	<.0001
MDRG_1308	OTHER FEMALE REPRODUCTI VE SYSTEM O.R. PROCEDURE S	1	0.1161746806	0.2699780113	0.4303116391	0.6670
MDRG_1801	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURE	1	0.5784176117	0.0474413247	12.1922736296	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1802	POSTOPERATIVE OR POST-TRAUMATIC INFECTIONS W O.R. PROC	1	1.1699070150	0.1147992584	10.1908934902	<.0001
MDRG_2301	O.R. PROC W DIAGNOSES OF OTHER CONTACT W HEALTH SERVICES	1	-0.6698534674	0.5734755159	-1.1680594008	0.2428
MDRG_2501	HIV W EXTENSIVE O.R. PROCEDURE	1	1.0488553015	0.4393524339	2.3872755001	0.0170
TRNSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.2293530600	0.0478590826	4.7922577617	<.0001
HPPS15_3	1 major ther PR/no diag PR	1	-1.390788722	0.0499865466	-27.8232608049	<.0001
HPPS15_4	1 major ther PR/minor diag PR	1	-1.199332817	0.0757876787	-15.8249050185	<.0001
HPPS15_5	1 major ther PR/major diag PR	1	-1.146044188	0.0903855904	-12.6795010351	<.0001
HPPS15_6	2 major therapeutic PR	1	-0.8125742858	0.0364445310	-22.2961927162	<.0001
MEDICDR	Medical DRGs flag	1	-3.391010214	0.0792271252	-42.8011265900	<.0001
COVIDDX_Q2	COVID, Quarter 2, 2020	1	-0.4209167309	0.4038555677	-1.0422457050	0.2973
COVIDDX_Q3	COVID, Quarter 3, 2020	1	0.0134776492	0.3349667111	0.0402357869	0.9679

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
COVIDDX_Q4	COVID, Quarter 4, 2020	1	0.1107109375	0.2642527596	0.4189584913	0.6752
COVIDDX_Q5	COVID, Quarter 1, 2021	1	-0.6136843701	0.3523215867	-1.7418301726	0.0815
COVIDDX_Q6	COVID, Quarter 2, 2021	1	0.2996151468	0.3549946728	0.8439989942	0.3987
COVIDDX_Q7	COVID, Quarter 3, 2021	1	-0.0660106847	0.4059722892	-0.1625989914	0.8708
COVIDDX_Q8	COVID, Quarter 4, 2021	1	-0.2576337736	0.3549222169	-0.7258879872	0.4679
YEAR_2019	Discharge YEAR is 2019 or before 2019	1	-0.1309617446	0.0534792334	-2.4488336157	0.0143
Q1	Quarter 1, 2020	1	-0.1185939579	0.0617040224	-1.9219809897	0.0546
Q2	Quarter 2, 2020	1	-0.2042927911	0.0643769615	-3.1733835569	0.0015
Q3	Quarter 3, 2020	1	-0.2144975440	0.0636874789	-3.3679704019	0.0008
Q4	Quarter 4, 2020	1	-0.1324621531	0.0631344177	-2.0980973281	0.0359
Q5	Quarter 1, 2021	1	-0.1789819542	0.0683369774	-2.6191084369	0.0088
Q6	Quarter 2, 2021	1	-0.0952750811	0.0625239116	-1.5238183051	0.1276
Q7	Quarter 3, 2021	1	0.0545962704	0.0657040364	0.8309424102	0.4060

c-statistic=0.85

C-statistics for hospital-level indicator modules are based on the test data (a random sample of 2019-2021 HCUP reference population, not used for the LASSO feature selection).

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Table 19. Composite Weights for PSI 90, v2023

Indicator	Harm Weight	Volume Weight	Component Weight
PSI 03 Pressure Ulcer Rate	0.3080	0.1155	0.1809
PSI 06 Iatrogenic Pneumothorax Rate	0.1381	0.0464	0.0326
PSI 08 In Hospital Fall-Associated Fracture Rate	0.1440	0.0669	0.0490
PSI 09 Postoperative Hemorrhage or Hematoma Rate	0.0570	0.1347	0.0390
PSI 10 Postoperative Acute Kidney Injury Requiring Dialysis Rate	0.3584	0.0281	0.0512
PSI 11 Postoperative Respiratory Failure Rate	0.2219	0.2097	0.2366
PSI 12 Perioperative Pulmonary Embolism or Deep Vein Thrombosis Rate	0.1557	0.2195	0.1738
PSI 13 Postoperative Sepsis Rate	0.3102	0.1244	0.1963
PSI 14 Postoperative Wound Dehiscence Rate	0.1441	0.0227	0.0166
PSI 15 Abdominopelvic Accidental Puncture or Laceration Rate	0.1474	0.0322	0.0241
SUM			1.0000

Source: The volume weight is derived from Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project, State Inpatient Databases (SID), 2019, 2020, 2021. The harm weight was estimated using 2012-2013 Medicare Fee-for-Service claims data in combination with information from the published literature.

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Table A.1. Population Age Categories

POPCAT	Age Range
Age LT30	< 30
Age 30 34	30 - 34
Age 35 39	35 - 39
Age 40 44	40 - 44
Age 45 49	45 - 49
Age 50 54	50 - 54
Age 55 59	55 - 59
Age 60 64	60 - 64
Age 65 69	65 - 69
Age 70 74	70 - 74
Age 75 79	75 - 79
Age 80 84	80 - 84
Age 85 89	85 - 89
Age 90Plus	90 plus

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Table A.2. Modified Diagnosis-Related Group (MDRG) Categories

M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
S	7701	1	HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM WITH MCC
S	7701	2	HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM WITHOUT MCC
S	7799	3	ECMO OR TRACHEOSTOMY WITH MV >96 HOURS OR PDX EXCEPT FACE MOUTH AND NECK WITH MAJOR O.R. PROCEDURE
S	7799	4	TRACHEOSTOMY WITH MV >96 HOURS OR PDX EXCEPT FACE MOUTH AND NECK WITHOUT MAJOR O.R. PROCEDURE
S	7702	5	LIVER TRANSPLANT WITH MCC OR INTESTINAL TRANSPLANT
S	7702	6	LIVER TRANSPLANT WITHOUT MCC
S	7703	7	LUNG TRANSPLANT
S	7704	8	SIMULTANEOUS PANCREAS AND KIDNEY TRANSPLANT
S	7706	10	PANCREAS TRANSPLANT
S	7799	11	TRACHEOSTOMY FOR FACE, MOUTH & NECK DIAGNOSES OR LARYNGECTOMY W MCC
S	7799	12	TRACHEOSTOMY FOR FACE, MOUTH & NECK DIAGNOSES OR LARYNGECTOMY W CC
S	7799	13	TRACHEOSTOMY FOR FACE, MOUTH & NECK DIAGNOSES OR LARYNGECTOMY W/O CC/MCC
M	7705	14	ALLOGENEIC BONE MARROW TRANSPLANT
M	7705	16	AUTOLOGOUS BONE MARROW TRANSPLANT WITH CC/MCC
M	7705	17	AUTOLOGOUS BONE MARROW TRANSPLANT WITHOUT CC/MCC
M	7707	18	CHIMERIC ANTIGEN RECEPTOR (CAR) T-CELL IMMUNOTHERAPY
S	7704	19	SIMULTANEOUS PANCREAS AND KIDNEY TRANSPLANT WITH HEMODIALYSIS
S	101	20	INTRACRANIAL VASCULAR PROCEDURES WITH PDX HEMORRHAGE WITH MCC
S	101	21	INTRACRANIAL VASCULAR PROCEDURES WITH PDX HEMORRHAGE WITH CC
S	101	22	INTRACRANIAL VASCULAR PROCEDURES WITH PDX HEMORRHAGE WITHOUT CC/MCC
S	102	23	CRANIOTOMY W MAJOR DEVICE IMPLANT OR ACUTE COMPLEX CNS PDX W MCC OR CHEMOTHERAPY IMPLANT OR EPILEP

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M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
S	102	24	CRANIOTOMY WITH MAJOR DEVICE IMPLANT OR ACUTE COMPLEX CNS PDX WITHOUT MCC
S	103	25	CRANIOTOMY AND ENDOVASCULAR INTRACRANIAL PROCEDURES WITH MCC
S	103	26	CRANIOTOMY AND ENDOVASCULAR INTRACRANIAL PROCEDURES WITH CC
S	103	27	CRANIOTOMY AND ENDOVASCULAR INTRACRANIAL PROCEDURES WITHOUT CC/MCC
S	104	28	SPINAL PROCEDURES WITH MCC
S	104	29	SPINAL PROCEDURES WITH CC OR SPINAL NEUROSTIMULATORS
S	104	30	SPINAL PROCEDURES WITHOUT CC/MCC
S	105	31	VENTRICULAR SHUNT PROCEDURES WITH MCC
S	105	32	VENTRICULAR SHUNT PROCEDURES WITH CC
S	105	33	VENTRICULAR SHUNT PROCEDURES WITHOUT CC/MCC
S	106	34	CAROTID ARTERY STENT PROCEDURE WITH MCC
S	106	35	CAROTID ARTERY STENT PROCEDURE WITH CC
S	106	36	CAROTID ARTERY STENT PROCEDURE WITHOUT CC/MCC
S	107	37	EXTRACRANIAL PROCEDURES WITH MCC
S	107	38	EXTRACRANIAL PROCEDURES WITH CC
S	107	39	EXTRACRANIAL PROCEDURES WITHOUT CC/MCC
S	108	40	PERIPHERAL CRANIAL NERVE AND OTHER NERVOUS SYSTEM PROCEDURES WITH MCC
S	108	41	PERIPHERAL CRANIAL NERVE AND OTHER NERVOUS SYSTEM PROCEDURES WITH CC OR PERIPHERAL NEUROSTIMULATOR
S	108	42	PERIPHERAL CRANIAL NERVE AND OTHER NERVOUS SYSTEM PROCEDURES WITHOUT CC/MCC
M	109	52	SPINAL DISORDERS AND INJURIES WITH CC/MCC
M	109	53	SPINAL DISORDERS AND INJURIES WITHOUT CC/MCC
M	110	54	NERVOUS SYSTEM NEOPLASMS WITH MCC
M	110	55	NERVOUS SYSTEM NEOPLASMS WITHOUT MCC
M	111	56	DEGENERATIVE NERVOUS SYSTEM DISORDERS WITH MCC
M	111	57	DEGENERATIVE NERVOUS SYSTEM DISORDERS WITHOUT MCC
M	112	58	MULTIPLE SCLEROSIS AND CEREBELLAR ATAXIA WITH MCC
M	112	59	MULTIPLE SCLEROSIS AND CEREBELLAR ATAXIA WITH CC
M	112	60	MULTIPLE SCLEROSIS AND CEREBELLAR ATAXIA WITHOUT CC/MCC

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M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
M	113	61	ISCHEMIC STROKE, PRECEREBRAL OCCLUSION OR TRANSIENT ISCHEMIA WITH THROMBOLYTIC AGENT WITH MCC
M	113	62	ISCHEMIC STROKE, PRECEREBRAL OCCLUSION OR TRANSIENT ISCHEMIA WITH THROMBOLYTIC AGENT WITH CC
M	113	63	ISCHEMIC STROKE, PRECEREBRAL OCCLUSION OR TRANSIENT ISCHEMIA WITH THROMBOLYTIC AGENT WITHOUT CC/MC
M	114	64	INTRACRANIAL HEMORRHAGE OR CEREBRAL INFARCTION WITH MCC
M	114	65	INTRACRANIAL HEMORRHAGE OR CEREBRAL INFARCTION WITH CC OR TPA IN 24 HOURS
M	114	66	INTRACRANIAL HEMORRHAGE OR CEREBRAL INFARCTION WITHOUT CC/MCC
M	115	67	NONSPECIFIC CVA AND PRECEREBRAL OCCLUSION WITHOUT INFARCTION WITH MCC
M	115	68	NONSPECIFIC CVA AND PRECEREBRAL OCCLUSION WITHOUT INFARCTION WITHOUT MCC
M	116	69	TRANSIENT ISCHEMIA W/O THROMBOLYTIC
M	117	70	NONSPECIFIC CEREBROVASCULAR DISORDERS WITH MCC
M	117	71	NONSPECIFIC CEREBROVASCULAR DISORDERS WITH CC
M	117	72	NONSPECIFIC CEREBROVASCULAR DISORDERS WITHOUT CC/MCC
M	118	73	CRANIAL AND PERIPHERAL NERVE DISORDERS WITH MCC
M	118	74	CRANIAL AND PERIPHERAL NERVE DISORDERS WITHOUT MCC
M	119	75	VIRAL MENINGITIS WITH CC/MCC
M	119	76	VIRAL MENINGITIS WITHOUT CC/MCC
M	120	77	HYPERTENSIVE ENCEPHALOPATHY WITH MCC
M	120	78	HYPERTENSIVE ENCEPHALOPATHY WITH CC
M	120	79	HYPERTENSIVE ENCEPHALOPATHY WITHOUT CC/MCC
M	121	80	NONTRAUMATIC STUPOR AND COMA WITH MCC
M	121	81	NONTRAUMATIC STUPOR AND COMA WITHOUT MCC
M	122	82	TRAUMATIC STUPOR AND COMA COMA >1 HOUR WITH MCC
M	122	83	TRAUMATIC STUPOR AND COMA COMA >1 HOUR WITH CC
M	122	84	TRAUMATIC STUPOR AND COMA COMA >1 HOUR WITHOUT CC/MCC
M	123	85	TRAUMATIC STUPOR AND COMA COMA <1 HOUR WITH MCC
M	123	86	TRAUMATIC STUPOR AND COMA COMA <1 HOUR WITH CC
M	123	87	TRAUMATIC STUPOR AND COMA COMA <1 HOUR WITHOUT CC/MCC
M	124	88	CONCUSSION WITH MCC

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M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
M	124	89	CONCUSSION WITH CC
M	124	90	CONCUSSION WITHOUT CC/MCC
M	125	91	OTHER DISORDERS OF NERVOUS SYSTEM WITH MCC
M	125	92	OTHER DISORDERS OF NERVOUS SYSTEM WITH CC
M	125	93	OTHER DISORDERS OF NERVOUS SYSTEM WITHOUT CC/MCC
M	126	94	BACTERIAL AND TUBERCULOUS INFECTIONS OF NERVOUS SYSTEM WITH MCC
M	126	95	BACTERIAL AND TUBERCULOUS INFECTIONS OF NERVOUS SYSTEM WITH CC
M	126	96	BACTERIAL AND TUBERCULOUS INFECTIONS OF NERVOUS SYSTEM WITHOUT CC/MCC
M	127	97	NON-BACTERIAL INFECTION OF NERVOUS SYSTEM EXCEPT VIRAL MENINGITIS WITH MCC
M	127	98	NON-BACTERIAL INFECTION OF NERVOUS SYSTEM EXCEPT VIRAL MENINGITIS WITH CC
M	127	99	NON-BACTERIAL INFECTION OF NERVOUS SYSTEM EXCEPT VIRAL MENINGITIS WITHOUT CC/MCC
M	128	100	SEIZURES WITH MCC
M	128	101	SEIZURES WITHOUT MCC
M	129	102	HEADACHES WITH MCC
M	129	103	HEADACHES WITHOUT MCC
S	201	113	ORBITAL PROCEDURES WITH CC/MCC
S	201	114	ORBITAL PROCEDURES WITHOUT CC/MCC
S	202	115	EXTRAOCULAR PROCEDURES EXCEPT ORBIT
S	203	116	INTRAOCULAR PROCEDURES WITH CC/MCC
S	203	117	INTRAOCULAR PROCEDURES WITHOUT CC/MCC
M	204	121	ACUTE MAJOR EYE INFECTIONS WITH CC/MCC
M	204	122	ACUTE MAJOR EYE INFECTIONS WITHOUT CC/MCC
M	205	123	NEUROLOGICAL EYE DISORDERS
M	206	124	OTHER DISORDERS OF THE EYE WITH MCC
M	206	125	OTHER DISORDERS OF THE EYE WITHOUT MCC
S	301	129	MAJOR HEAD AND NECK PROCEDURES WITH CC/MCC OR MAJOR DEVICE
S	301	130	MAJOR HEAD AND NECK PROCEDURES WITHOUT CC/MCC
S	301	131	CRANIAL AND FACIAL PROCEDURES WITH CC/MCC
S	301	132	CRANIAL AND FACIAL PROCEDURES WITHOUT CC/MCC
S	302	133	OTHER EAR NOSE MOUTH AND THROAT O.R. PROCEDURES WITH CC/MCC
S	302	134	OTHER EAR NOSE MOUTH AND THROAT O.R. PROCEDURES WITHOUT CC/MCC
S	303	135	SINUS AND MASTOID PROCEDURES WITH CC/MCC
S	303	136	SINUS AND MASTOID PROCEDURES WITHOUT CC/MCC

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M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
S	304	137	MOUTH PROCEDURES WITH CC/MCC
S	304	138	MOUTH PROCEDURES WITHOUT CC/MCC
S	305	139	SALIVARY GLAND PROCEDURES
S	301	140	MAJOR HEAD AND NECK PROCEDURES WITH MCC
S	301	141	MAJOR HEAD AND NECK PROCEDURES WITH CC
S	301	142	MAJOR HEAD AND NECK PROCEDURES WITHOUT CC/MCC
S	302	143	OTHER EAR, NOSE, MOUTH AND THROAT O.R. PROCEDURES WITH MCC
S	302	144	OTHER EAR, NOSE, MOUTH AND THROAT O.R. PROCEDURES WITH CC
S	302	145	OTHER EAR, NOSE, MOUTH AND THROAT O.R. PROCEDURES WITHOUT CC/MCC
M	306	146	EAR NOSE MOUTH AND THROAT MALIGNANCY WITH MCC
M	306	147	EAR NOSE MOUTH AND THROAT MALIGNANCY WITH CC
M	306	148	EAR NOSE MOUTH AND THROAT MALIGNANCY WITHOUT CC/MCC
M	307	149	DYSEQUILIBRIUM
M	308	150	EPISTAXIS WITH MCC
M	308	151	EPISTAXIS WITHOUT MCC
M	309	152	OTITIS MEDIA AND URI WITH MCC
M	309	153	OTITIS MEDIA AND URI WITHOUT MCC
M	310	154	OTHER EAR NOSE MOUTH AND THROAT DIAGNOSES WITH MCC
M	310	155	OTHER EAR NOSE MOUTH AND THROAT DIAGNOSES WITH CC
M	310	156	OTHER EAR NOSE MOUTH AND THROAT DIAGNOSES WITHOUT CC/MCC
M	311	157	DENTAL AND ORAL DISEASES WITH MCC
M	311	158	DENTAL AND ORAL DISEASES WITH CC
M	311	159	DENTAL AND ORAL DISEASES WITHOUT CC/MCC
S	401	163	MAJOR CHEST PROCEDURES WITH MCC
S	401	164	MAJOR CHEST PROCEDURES WITH CC
S	401	165	MAJOR CHEST PROCEDURES WITHOUT CC/MCC
S	402	166	OTHER RESPIRATORY SYSTEM O.R. PROCEDURES WITH MCC
S	402	167	OTHER RESPIRATORY SYSTEM O.R. PROCEDURES WITH CC
S	402	168	OTHER RESPIRATORY SYSTEM O.R. PROCEDURES WITHOUT CC/MCC
M	403	175	PULMONARY EMBOLISM W MCC OR ACUTE COR PULMONALE
M	403	176	PULMONARY EMBOLISM WITHOUT MCC
M	404	177	RESPIRATORY INFECTIONS AND INFLAMMATIONS WITH MCC
M	404	178	RESPIRATORY INFECTIONS AND INFLAMMATIONS WITH CC

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Patient Safety Indicators (PSI) Parameter Estimates, v2023**

M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
M	404	179	RESPIRATORY INFECTIONS AND INFLAMMATIONS WITHOUT CC/MCC
M	405	180	RESPIRATORY NEOPLASMS WITH MCC
M	405	181	RESPIRATORY NEOPLASMS WITH CC
M	405	182	RESPIRATORY NEOPLASMS WITHOUT CC/MCC
M	406	183	MAJOR CHEST TRAUMA WITH MCC
M	406	184	MAJOR CHEST TRAUMA WITH CC
M	406	185	MAJOR CHEST TRAUMA WITHOUT CC/MCC
M	407	186	PLEURAL EFFUSION WITH MCC
M	407	187	PLEURAL EFFUSION WITH CC
M	407	188	PLEURAL EFFUSION WITHOUT CC/MCC
M	408	189	PULMONARY EDEMA AND RESPIRATORY FAILURE
M	409	190	CHRONIC OBSTRUCTIVE PULMONARY DISEASE WITH MCC
M	409	191	CHRONIC OBSTRUCTIVE PULMONARY DISEASE WITH CC
M	409	192	CHRONIC OBSTRUCTIVE PULMONARY DISEASE WITHOUT CC/MCC
M	410	193	SIMPLE PNEUMONIA AND PLEURISY WITH MCC
M	410	194	SIMPLE PNEUMONIA AND PLEURISY WITH CC
M	410	195	SIMPLE PNEUMONIA AND PLEURISY WITHOUT CC/MCC
M	411	196	INTERSTITIAL LUNG DISEASE WITH MCC
M	411	197	INTERSTITIAL LUNG DISEASE WITH CC
M	411	198	INTERSTITIAL LUNG DISEASE WITHOUT CC/MCC
M	412	199	PNEUMOTHORAX WITH MCC
M	412	200	PNEUMOTHORAX WITH CC
M	412	201	PNEUMOTHORAX WITHOUT CC/MCC
M	413	202	BRONCHITIS AND ASTHMA WITH CC/MCC
M	413	203	BRONCHITIS AND ASTHMA WITHOUT CC/MCC
M	414	204	RESPIRATORY SIGNS AND SYMPTOMS
M	415	205	OTHER RESPIRATORY SYSTEM DIAGNOSES WITH MCC
M	415	206	OTHER RESPIRATORY SYSTEM DIAGNOSES WITHOUT MCC
M	416	207	RESPIRATORY SYSTEM DIAGNOSIS W VENTILATOR SUPPORT >96 HOURS OR PERIPHERAL EXTRACORPOREAL MEMBRANE
M	416	208	RESPIRATORY SYSTEM DIAGNOSIS W VENTILATOR SUPPORT <=96 HOURS
S	501	215	OTHER HEART ASSIST SYSTEM IMPLANT
S	503	216	CARDIAC VALVE AND OTHER MAJOR CARDIOTHORACIC PROCEDURES WITH CARDIAC CATHETERIZATION WITH MCC
S	503	217	CARDIAC VALVE AND OTHER MAJOR CARDIOTHORACIC PROCEDURES WITH CARDIAC CATHETERIZATION WITH CC

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M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
S	503	218	CARDIAC VALVE AND OTHER MAJOR CARDIOTHORACIC PROCEDURES WITH CARDIAC CATHETERIZATION WITHOUT CC/MC
S	503	219	CARDIAC VALVE AND OTHER MAJOR CARDIOTHORACIC PROCEDURES WITHOUT CARDIAC CATHETERIZATION WITH MCC
S	503	220	CARDIAC VALVE AND OTHER MAJOR CARDIOTHORACIC PROCEDURES WITHOUT CARDIAC CATHETERIZATION WITH CC
S	503	221	CARDIAC VALVE AND OTHER MAJOR CARDIOTHORACIC PROCEDURES WITHOUT CARDIAC CATHETERIZATION WITHOUT CC
S	537	222	CARDIAC DEFIBRILLATOR IMPLANT WITH CARDIAC CATHETERIZATION WITH AMI/HF/SHOCK WITH MCC
S	537	223	CARDIAC DEFIBRILLATOR IMPLANT WITH CARDIAC CATHETERIZATION WITH AMI/HF/SHOCK WITHOUT MCC
S	538	224	CARDIAC DEFIBRILLATOR IMPLANT WITH CARDIAC CATHETERIZATION WITHOUT AMI/HF/SHOCK WITH MCC
S	538	225	CARDIAC DEFIBRILLATOR IMPLANT WITH CARDIAC CATHETERIZATION WITHOUT AMI/HF/SHOCK WITHOUT MCC
S	539	226	CARDIAC DEFIBRILLATOR IMPLANT WITHOUT CARDIAC CATHETERIZATION WITH MCC
S	539	227	CARDIAC DEFIBRILLATOR IMPLANT WITHOUT CARDIAC CATHETERIZATION WITHOUT MCC
S	505	228	OTHER CARDIOTHORACIC PROCEDURES WITH MCC
S	505	229	OTHER CARDIOTHORACIC PROCEDURES WITHOUT MCC
S	505	230	OTHER CARDIOTHORACIC PROCEDURES WITHOUT CC/MCC
S	506	231	CORONARY BYPASS WITH PTCA WITH MCC
S	506	232	CORONARY BYPASS WITH PTCA WITHOUT MCC
S	507	233	CORONARY BYPASS WITH CARDIAC CATHETERIZATION WITH MCC
S	507	234	CORONARY BYPASS WITH CARDIAC CATHETERIZATION WITHOUT MCC
S	508	235	CORONARY BYPASS WITHOUT CARDIAC CATHETERIZATION WITH MCC
S	508	236	CORONARY BYPASS WITHOUT CARDIAC CATHETERIZATION WITHOUT MCC

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M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
S	509	239	AMPUTATION FOR CIRCULATORY SYSTEM DISORDERS EXCEPT UPPER LIMB AND TOE WITH MCC
S	509	240	AMPUTATION FOR CIRCULATORY SYSTEM DISORDERS EXCEPT UPPER LIMB AND TOE WITH CC
S	509	241	AMPUTATION FOR CIRCULATORY SYSTEM DISORDERS EXCEPT UPPER LIMB AND TOE WITHOUT CC/MCC
S	510	242	PERMANENT CARDIAC PACEMAKER IMPLANT WITH MCC
S	510	243	PERMANENT CARDIAC PACEMAKER IMPLANT WITH CC
S	510	244	PERMANENT CARDIAC PACEMAKER IMPLANT WITHOUT CC/MCC
S	512	245	AICD GENERATOR PROCEDURES
S	511	246	PERCUTANEOUS CARDIOVASCULAR PROCEDURES W DRUG-ELUTING STENT W MCC OR 4+ ARTERIES OR STENTS
S	511	247	PERCUTANEOUS CARDIOVASCULAR PROCEDURES WITH DRUG-ELUTING STENT WITHOUT MCC
S	502	248	PERCUTANEOUS CARDIOVASCULAR PROCEDURES W NON-DRUG-ELUTING STENT W MCC OR 4+ ARTERIES OR STENTS
S	502	249	PERCUTANEOUS CARDIOVASCULAR PROCEDURES WITH NON-DRUG-ELUTING STENT WITHOUT MCC
S	513	250	PERCUTANEOUS CARDIOVASCULAR PROCEDURES WITHOUT CORONARY ARTERY STENT WITH MCC
S	513	251	PERCUTANEOUS CARDIOVASCULAR PROCEDURES WITHOUT CORONARY ARTERY STENT WITHOUT MCC
S	514	252	OTHER VASCULAR PROCEDURES WITH MCC
S	514	253	OTHER VASCULAR PROCEDURES WITH CC
S	514	254	OTHER VASCULAR PROCEDURES WITHOUT CC/MCC
S	515	255	UPPER LIMB AND TOE AMPUTATION FOR CIRCULATORY SYSTEM DISORDERS WITH MCC
S	515	256	UPPER LIMB AND TOE AMPUTATION FOR CIRCULATORY SYSTEM DISORDERS WITH CC
S	515	257	UPPER LIMB AND TOE AMPUTATION FOR CIRCULATORY SYSTEM DISORDERS WITHOUT CC/MCC
S	516	258	CARDIAC PACEMAKER DEVICE REPLACEMENT WITH MCC

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M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
S	516	259	CARDIAC PACEMAKER DEVICE REPLACEMENT WITHOUT MCC
S	517	260	CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEMENT WITH MCC
S	517	261	CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEMENT WITH CC
S	517	262	CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEMENT WITHOUT CC/MCC
S	518	263	VEIN LIGATION AND STRIPPING
S	519	264	OTHER CIRCULATORY SYSTEM O.R. PROCEDURES
S	512	265	AICD LEAD PROCEDURES
S	540	266	ENDOVASCULAR CARDIAC VALVE REPLACEMENT & SUPPLEMENT PROCEDURES W MCC
S	540	267	ENDOVASCULAR CARDIAC VALVE REPLACEMENT & SUPPLEMENT PROCEDURES W/O MCC
S	541	268	AORTIC AND HEART ASSIST PROCEDURES EXCEPT PULSATION BALLOON W MCC
S	541	269	AORTIC AND HEART ASSIST PROCEDURES EXCEPT PULSATION BALLOON W/O MCC
S	542	270	OTHER MAJOR CARDIOVASCULAR PROCEDURES W MCC
S	542	271	OTHER MAJOR CARDIOVASCULAR PROCEDURES W CC
S	542	272	OTHER MAJOR CARDIOVASCULAR PROCEDURES W/O CC/MCC
S	543	273	PERCUTANEOUS AND OTHER INTRACARDIAC PROCEDURES WITH MCC
S	543	274	PERCUTANEOUS AND OTHER INTRACARDIAC PROCEDURES WITHOUT MCC
M	520	280	ACUTE MYOCARDIAL INFARCTION DISCHARGED ALIVE WITH MCC
M	520	281	ACUTE MYOCARDIAL INFARCTION DISCHARGED ALIVE WITH CC
M	520	282	ACUTE MYOCARDIAL INFARCTION DISCHARGED ALIVE WITHOUT CC/MCC
M	520	283	ACUTE MYOCARDIAL INFARCTION EXPIRED WITH MCC
M	520	284	ACUTE MYOCARDIAL INFARCTION EXPIRED WITH CC
M	520	285	ACUTE MYOCARDIAL INFARCTION EXPIRED WITHOUT CC/MCC
M	522	286	CIRCULATORY DISORDERS EXCEPT AMI WITH CARDIAC CATETERIZATION WITH MCC
M	522	287	CIRCULATORY DISORDERS EXCEPT AMI WITH CARDIAC CATETERIZATION WITHOUT MCC
M	523	288	ACUTE AND SUBACUTE ENDOCARDITIS WITH MCC
M	523	289	ACUTE AND SUBACUTE ENDOCARDITIS WITH CC

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M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
M	523	290	ACUTE AND SUBACUTE ENDOCARDITIS WITHOUT CC/MCC
M	524	291	HEART FAILURE & SHOCK W MCC
M	524	292	HEART FAILURE AND SHOCK WITH CC
M	524	293	HEART FAILURE AND SHOCK WITHOUT CC/MCC
M	525	294	DEEP VEIN THROMBOPHLEBITIS WITH CC/MCC
M	525	295	DEEP VEIN THROMBOPHLEBITIS WITHOUT CC/MCC
M	526	296	CARDIAC ARREST, UNEXPLAINED W MCC
M	526	297	CARDIAC ARREST UNEXPLAINED WITH CC
M	526	298	CARDIAC ARREST UNEXPLAINED WITHOUT CC/MCC
M	527	299	PERIPHERAL VASCULAR DISORDERS WITH MCC
M	527	300	PERIPHERAL VASCULAR DISORDERS WITH CC
M	527	301	PERIPHERAL VASCULAR DISORDERS WITHOUT CC/MCC
M	528	302	ATHEROSCLEROSIS WITH MCC
M	528	303	ATHEROSCLEROSIS WITHOUT MCC
M	529	304	HYPERTENSION WITH MCC
M	529	305	HYPERTENSION WITHOUT MCC
M	530	306	CARDIAC CONGENITAL AND VALVULAR DISORDERS WITH MCC
M	530	307	CARDIAC CONGENITAL AND VALVULAR DISORDERS WITHOUT MCC
M	531	308	CARDIAC ARRHYTHMIA AND CONDUCTION DISORDERS WITH MCC
M	531	309	CARDIAC ARRHYTHMIA AND CONDUCTION DISORDERS WITH CC
M	531	310	CARDIAC ARRHYTHMIA AND CONDUCTION DISORDERS WITHOUT CC/MCC
M	532	311	ANGINA PECTORIS
M	533	312	SYNCOPE AND COLLAPSE
M	534	313	CHEST PAIN
M	535	314	OTHER CIRCULATORY SYSTEM DIAGNOSES WITH MCC
M	535	315	OTHER CIRCULATORY SYSTEM DIAGNOSES WITH CC
M	535	316	OTHER CIRCULATORY SYSTEM DIAGNOSES WITHOUT CC/MCC
S	536	319	OTHER ENDOVASCULAR CARDIAC VALVE PROCEDURES W MCC
S	536	320	OTHER ENDOVASCULAR CARDIAC VALVE PROCEDURES W/O MCC
S	601	326	STOMACH ESOPHAGEAL AND DUODENAL PROCEDURES WITH MCC
S	601	327	STOMACH ESOPHAGEAL AND DUODENAL PROCEDURES WITH CC
S	601	328	STOMACH ESOPHAGEAL AND DUODENAL PROCEDURES WITHOUT CC/MCC

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M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
S	602	329	MAJOR SMALL AND LARGE BOWEL PROCEDURES WITH MCC
S	602	330	MAJOR SMALL AND LARGE BOWEL PROCEDURES WITH CC
S	602	331	MAJOR SMALL AND LARGE BOWEL PROCEDURES WITHOUT CC/MCC
S	603	332	RECTAL RESECTION WITH MCC
S	603	333	RECTAL RESECTION WITH CC
S	603	334	RECTAL RESECTION WITHOUT CC/MCC
S	604	335	PERITONEAL ADHESIOLYSIS WITH MCC
S	604	336	PERITONEAL ADHESIOLYSIS WITH CC
S	604	337	PERITONEAL ADHESIOLYSIS WITHOUT CC/MCC
S	605	338	APPENDECTOMY WITH COMPLICATED PRINCIPAL DIAGNOSIS WITH MCC
S	605	339	APPENDECTOMY WITH COMPLICATED PRINCIPAL DIAGNOSIS WITH CC
S	605	340	APPENDECTOMY WITH COMPLICATED PRINCIPAL DIAGNOSIS WITHOUT CC/MCC
S	606	341	APPENDECTOMY WITHOUT COMPLICATED PRINCIPAL DIAGNOSIS WITH MCC
S	606	342	APPENDECTOMY WITHOUT COMPLICATED PRINCIPAL DIAGNOSIS WITH CC
S	606	343	APPENDECTOMY WITHOUT COMPLICATED PRINCIPAL DIAGNOSIS WITHOUT CC/MCC
S	607	344	MINOR SMALL AND LARGE BOWEL PROCEDURES WITH MCC
S	607	345	MINOR SMALL AND LARGE BOWEL PROCEDURES WITH CC
S	607	346	MINOR SMALL AND LARGE BOWEL PROCEDURES WITHOUT CC/MCC
S	608	347	ANAL AND STOMAL PROCEDURES WITH MCC
S	608	348	ANAL AND STOMAL PROCEDURES WITH CC
S	608	349	ANAL AND STOMAL PROCEDURES WITHOUT CC/MCC
S	609	350	INGUINAL AND FEMORAL HERNIA PROCEDURES WITH MCC
S	609	351	INGUINAL AND FEMORAL HERNIA PROCEDURES WITH CC
S	609	352	INGUINAL AND FEMORAL HERNIA PROCEDURES WITHOUT CC/MCC
S	610	353	HERNIA PROCEDURES EXCEPT INGUINAL AND FEMORAL WITH MCC
S	610	354	HERNIA PROCEDURES EXCEPT INGUINAL AND FEMORAL WITH CC
S	610	355	HERNIA PROCEDURES EXCEPT INGUINAL AND FEMORAL WITHOUT CC/MCC
S	611	356	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES WITH MCC
S	611	357	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES WITH CC
S	611	358	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES WITHOUT CC/MCC

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M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
M	612	368	MAJOR ESOPHAGEAL DISORDERS WITH MCC
M	612	369	MAJOR ESOPHAGEAL DISORDERS WITH CC
M	612	370	MAJOR ESOPHAGEAL DISORDERS WITHOUT CC/MCC
M	613	371	MAJOR GASTROINTESTINAL DISORDERS AND PERITONEAL INFECTIONS WITH MCC
M	613	372	MAJOR GASTROINTESTINAL DISORDERS AND PERITONEAL INFECTIONS WITH CC
M	613	373	MAJOR GASTROINTESTINAL DISORDERS AND PERITONEAL INFECTIONS WITHOUT CC/MCC
M	614	374	DIGESTIVE MALIGNANCY WITH MCC
M	614	375	DIGESTIVE MALIGNANCY WITH CC
M	614	376	DIGESTIVE MALIGNANCY WITHOUT CC/MCC
M	615	377	G.I. HEMORRHAGE WITH MCC
M	615	378	G.I. HEMORRHAGE WITH CC
M	615	379	G.I. HEMORRHAGE WITHOUT CC/MCC
M	616	380	COMPLICATED PEPTIC ULCER WITH MCC
M	616	381	COMPLICATED PEPTIC ULCER WITH CC
M	616	382	COMPLICATED PEPTIC ULCER WITHOUT CC/MCC
M	617	383	UNCOMPLICATED PEPTIC ULCER WITH MCC
M	617	384	UNCOMPLICATED PEPTIC ULCER WITHOUT MCC
M	618	385	INFLAMMATORY BOWEL DISEASE WITH MCC
M	618	386	INFLAMMATORY BOWEL DISEASE WITH CC
M	618	387	INFLAMMATORY BOWEL DISEASE WITHOUT CC/MCC
M	619	388	G.I. OBSTRUCTION WITH MCC
M	619	389	G.I. OBSTRUCTION WITH CC
M	619	390	G.I. OBSTRUCTION WITHOUT CC/MCC
M	620	391	ESOPHAGITIS GASTROENTERITIS AND MISCELLANEOUS DIGESTIVE DISORDERS WITH MCC
M	620	392	ESOPHAGITIS GASTROENTERITIS AND MISCELLANEOUS DIGESTIVE DISORDERS WITHOUT MCC
M	621	393	OTHER DIGESTIVE SYSTEM DIAGNOSES WITH MCC
M	621	394	OTHER DIGESTIVE SYSTEM DIAGNOSES WITH CC
M	621	395	OTHER DIGESTIVE SYSTEM DIAGNOSES WITHOUT CC/MCC
S	701	405	PANCREAS LIVER AND SHUNT PROCEDURES WITH MCC
S	701	406	PANCREAS LIVER AND SHUNT PROCEDURES WITH CC
S	701	407	PANCREAS LIVER AND SHUNT PROCEDURES WITHOUT CC/MCC
S	702	408	BILIARY TRACT PROCEDURE EXCEPT ONLY CHOLECYSTECTOMY WITH OR WITHOUT C.D.E. WITH MCC

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M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
S	702	409	BILIARY TRACT PROCEDURE EXCEPT ONLY CHOLECYSTECTOMY WITH OR WITHOUT C.D.E. WITH CC
S	702	410	BILIARY TRACT PROC EXCEPT ONLY CHOLECYST WITH OR WITHOUT C.D.E. WITHOUT CC/MCC
S	703	411	CHOLECYSTECTOMY WITH C.D.E. WITH MCC
S	703	412	CHOLECYSTECTOMY WITH C.D.E. WITH CC
S	703	413	CHOLECYSTECTOMY WITH C.D.E. WITHOUT CC/MCC
S	704	414	CHOLECYSTECTOMY EXCEPT BY LAPAROSCOPE WITHOUT C.D.E. WITH MCC
S	704	415	CHOLECYSTECTOMY EXCEPT BY LAPAROSCOPE WITHOUT C.D.E. WITH CC
S	704	416	CHOLECYSTECTOMY EXCEPT BY LAPAROSCOPE WITHOUT C.D.E. WITHOUT CC/MCC
S	705	417	LAPAROSCOPIC CHOLECYSTECTOMY WITHOUT C.D.E. WITH MCC
S	705	418	LAPAROSCOPIC CHOLECYSTECTOMY WITHOUT C.D.E. WITH CC
S	705	419	LAPAROSCOPIC CHOLECYSTECTOMY WITHOUT C.D.E. WITHOUT CC/MCC
S	706	420	HEPATOBIILIARY DIAGNOSTIC PROCEDURES WITH MCC
S	706	421	HEPATOBIILIARY DIAGNOSTIC PROCEDURES WITH CC
S	706	422	HEPATOBIILIARY DIAGNOSTIC PROCEDURES WITHOUT CC/MCC
S	707	423	OTHER HEPATOBIILIARY OR PANCREAS O.R. PROCEDURES WITH MCC
S	707	424	OTHER HEPATOBIILIARY OR PANCREAS O.R. PROCEDURES WITH CC
S	707	425	OTHER HEPATOBIILIARY OR PANCREAS O.R. PROCEDURES WITHOUT CC/MCC
M	708	432	CIRRHOSIS AND ALCOHOLIC HEPATITIS WITH MCC
M	708	433	CIRRHOSIS AND ALCOHOLIC HEPATITIS WITH CC
M	708	434	CIRRHOSIS AND ALCOHOLIC HEPATITIS WITHOUT CC/MCC
M	709	435	MALIGNANCY OF HEPATOBIILIARY SYSTEM OR PANCREAS WITH MCC
M	709	436	MALIGNANCY OF HEPATOBIILIARY SYSTEM OR PANCREAS WITH CC
M	709	437	MALIGNANCY OF HEPATOBIILIARY SYSTEM OR PANCREAS WITHOUT CC/MCC
M	710	438	DISORDERS OF PANCREAS EXCEPT MALIGNANCY WITH MCC
M	710	439	DISORDERS OF PANCREAS EXCEPT MALIGNANCY WITH CC

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M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
M	710	440	DISORDERS OF PANCREAS EXCEPT MALIGNANCY WITHOUT CC/MCC
M	711	441	DISORDERS OF LIVER EXCEPT MALIGNANCY CIRRHOSIS OR ALCOHOLIC HEPATITIS WITH MCC
M	711	442	DISORDERS OF LIVER EXCEPT MALIGNANCY CIRRHOSIS OR ALCOHOLIC HEPATITIS WITH CC
M	711	443	DISORDERS OF LIVER EXCEPT MALIGNANCY CIRRHOSIS OR ALCOHOLIC HEPATITIS WITHOUT CC/MCC
M	712	444	DISORDERS OF THE BILIARY TRACT WITH MCC
M	712	445	DISORDERS OF THE BILIARY TRACT WITH CC
M	712	446	DISORDERS OF THE BILIARY TRACT WITHOUT CC/MCC
S	801	453	COMBINED ANTERIOR/POSTERIOR SPINAL FUSION WITH MCC
S	801	454	COMBINED ANTERIOR/POSTERIOR SPINAL FUSION WITH CC
S	801	455	COMBINED ANTERIOR/POSTERIOR SPINAL FUSION WITHOUT CC/MCC
S	802	456	SPINAL FUSION EXCEPT CERVICAL WITH SPINAL CURVATURE OR MALIGNANCY OR INFECTION OR EXTENSIVE FUSION
S	802	457	SPINAL FUSION EXCEPT CERVICAL WITH SPINAL CURVATURE OR MALIGNANCY OR INFECTION OR EXTENSIVE FUSION
S	802	458	SPINAL FUSION EXCEPT CERVICAL WITH SPINAL CURVATURE OR MALIGNANCY OR INFECTION OR EXTENSIVE FUSION
S	803	459	SPINAL FUSION EXCEPT CERVICAL WITH MCC
S	803	460	SPINAL FUSION EXCEPT CERVICAL WITHOUT MCC
S	804	461	BILATERAL OR MULTIPLE MAJOR JOINT PROCEDURES OF LOWER EXTREMITY WITH MCC
S	804	462	BILATERAL OR MULTIPLE MAJOR JOINT PROCEDURES OF LOWER EXTREMITY WITHOUT MCC
S	805	463	WOUND DEBRIDEMENT AND SKIN GRAFT EXCEPT HAND FOR MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE DISO
S	805	464	WOUND DEBRIDEMENT AND SKIN GRAFT EXCEPT HAND FOR MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE DISO

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M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
S	805	465	WOUND DEBRIDEMENT AND SKIN GRAFT EXCEPT HAND FOR MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE DISO
S	806	466	REVISION OF HIP OR KNEE REPLACEMENT WITH MCC
S	806	467	REVISION OF HIP OR KNEE REPLACEMENT WITH CC
S	806	468	REVISION OF HIP OR KNEE REPLACEMENT WITHOUT CC/MCC
S	807	469	MAJOR HIP AND KNEE JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY W MCC OR TOTAL ANKLE REPLA
S	807	470	MAJOR HIP AND KNEE JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY W/O MCC
S	808	471	CERVICAL SPINAL FUSION WITH MCC
S	808	472	CERVICAL SPINAL FUSION WITH CC
S	808	473	CERVICAL SPINAL FUSION WITHOUT CC/MCC
S	809	474	AMPUTATION FOR MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE DISORDERS WITH MCC
S	809	475	AMPUTATION FOR MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE DISORDERS WITH CC
S	809	476	AMPUTATION FOR MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE DISORDERS WITHOUT CC/MCC
S	810	477	BIOPSIES OF MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE WITH MCC
S	810	478	BIOPSIES OF MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE WITH CC
S	810	479	BIOPSIES OF MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE WITHOUT CC/MCC
S	811	480	HIP AND FEMUR PROCEDURES EXCEPT MAJOR JOINT WITH MCC
S	811	481	HIP AND FEMUR PROCEDURES EXCEPT MAJOR JOINT WITH CC
S	811	482	HIP AND FEMUR PROCEDURES EXCEPT MAJOR JOINT WITHOUT CC/MCC
S	812	483	MAJOR JOINT/LIMB REATTACHMENT PROCEDURE OF UPPER EXTREMITIES
S	813	485	KNEE PROCEDURES WITH PDX OF INFECTION WITH MCC
S	813	486	KNEE PROCEDURES WITH PDX OF INFECTION WITH CC
S	813	487	KNEE PROCEDURES WITH PDX OF INFECTION WITHOUT CC/MCC

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M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
S	814	488	KNEE PROCEDURES WITHOUT PDX OF INFECTION WITH CC/MCC
S	814	489	KNEE PROCEDURES WITHOUT PDX OF INFECTION WITHOUT CC/MCC
S	816	492	LOWER EXTREMITY AND HUMERUS PROCEDURES EXCEPT HIP FOOT AND FEMUR WITH MCC
S	816	493	LOWER EXTREMITY AND HUMERUS PROCEDURES EXCEPT HIP FOOT AND FEMUR WITH CC
S	816	494	LOWER EXTREMITY AND HUMERUS PROCEDURES EXCEPT HIP FOOT AND FEMUR WITHOUT CC/MCC
S	817	495	LOCAL EXCISION AND REMOVAL OF INTERNAL FIXATIOM DEVICES EXCEPT HIP AND FEMUR WITH MCC
S	817	496	LOCAL EXCISION AND REMOVAL OF INTERNAL FIXATION DEVICES EXCEPT HIP AND FEMUR WITH CC
S	817	497	LOCAL EXCISION AND REMOVAL INTERNAL FIXATION DEVICES EXCEPT HIP AND FEMUR WITHOUT CC/MCC
S	818	498	LOCAL EXCISION AND REMOVAL INTERNAL FIXATION DEVICES OF HIP AND FEMUR WITH CC/MCC
S	818	499	LOCAL EXCISION AND REMOVAL INTERNAL FIXATION DEVICES OF HIP AND FEMUR WITHOUT CC/MCC
S	819	500	SOFT TISSUE PROCEDURES WITH MCC
S	819	501	SOFT TISSUE PROCEDURES WITH CC
S	819	502	SOFT TISSUE PROCEDURES WITHOUT CC/MCC
S	820	503	FOOT PROCEDURES WITH MCC
S	820	504	FOOT PROCEDURES WITH CC
S	820	505	FOOT PROCEDURES WITHOUT CC/MCC
S	821	506	MAJOR THUMB OR JOINT PROCEDURES
S	822	507	MAJOR SHOULDER OR ELBOW JOINT PROCEDURES WITH CC/MCC
S	822	508	MAJOR SHOULDER OR ELBOW JOINT PROCEDURES WITHOUT CC/MCC
S	823	509	ARTHROSCOPY
S	824	510	SHOULDER ELBOW OR FOREARM PROCEDURES EXCEPT MAJOR JOINT PROCEDURES WITH MCC

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M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
S	824	511	SHOULDER ELBOW OR FOREARM PROCEDURES EXCEPT MAJOR JOINT PROCEDURES WITH CC
S	824	512	SHOULDER ELBOW OR FOREARM PROCEDURES EXCEPT MAJOR JOINT PROCEDURES WITHOUT CC/MCC
S	825	513	HAND OR WRIST PROCEDURES EXCEPT MAJOR THUMB OR JOINT PROCEDURES WITH CC/MCC
S	825	514	HAND OR WRIST PROCEDURES EXCEPT MAJOR THUMB OR JOINT PROCEDURES WITHOUT CC/MCC
S	826	515	OTHER MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE O.R. PROCEDURES WITH MCC
S	826	516	OTHER MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE O.R. PROCEDURES WITH CC
S	826	517	OTHER MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE O.R. PROCEDURES WITHOUT CC/MCC
S	815	518	BACK AND NECK PROCEDURES EXCEPT SPINAL FUSION WITH MCC OR DISC DEVICE OR NEUROSTIMULATOR
S	815	519	BACK AND NECK PROCEDURES EXCEPT SPINAL FUSION WITH CC
S	815	520	BACK AND NECK PROCEDURES EXCEPT SPINAL FUSION WITHOUT CC/MCC
S	841	521	HIP REPLACEMENT WITH PRINCIPAL DIAGNOSIS OF HIP FRACTURE WITH MCC
S	841	522	HIP REPLACEMENT WITH PRINCIPAL DIAGNOSIS OF HIP FRACTURE WITHOUT MCC
M	827	533	FRACTURES OF FEMUR WITH MCC
M	827	534	FRACTURES OF FEMUR WITHOUT MCC
M	828	535	FRACTURES OF HIP AND PELVIS WITH MCC
M	828	536	FRACTURES OF HIP AND PELVIS WITHOUT MCC
M	829	537	SPRAINS STRAINS AND DISLOCATIONS OF HIP PELVIS AND THIGH WITH CC/MCC
M	829	538	SPRAINS STRAINS AND DISLOCATIONS OF HIP PELVIS AND THIGH WITHOUT CC/MCC
M	830	539	OSTEOMYELITIS WITH MCC
M	830	540	OSTEOMYELITIS WITH CC
M	830	541	OSTEOMYELITIS WITHOUT CC/MCC

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M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
M	831	542	PATHOLOGICAL FRACTURES AND MUSCULOSKELETAL AND CONNECTIVE TISSUE MALIGNANCY WITH MCC
M	831	543	PATHOLOGICAL FRACTURES AND MUSCULOSKELETAL AND CONNECTIVE TISSUE MALIGNANCY WITH CC
M	831	544	PATHOLOGICAL FRACTURES AND MUSCULOSKELETAL AND CONNECTIVE TISSUE MALIGNANCY WITHOUT CC/MCC
M	832	545	CONNECTIVE TISSUE DISORDERS WITH MCC
M	832	546	CONNECTIVE TISSUE DISORDERS WITH CC
M	832	547	CONNECTIVE TISSUE DISORDERS WITHOUT CC/MCC
M	833	548	SEPTIC ARTHRITIS WITH MCC
M	833	549	SEPTIC ARTHRITIS WITH CC
M	833	550	SEPTIC ARTHRITIS WITHOUT CC/MCC
M	834	551	MEDICAL BACK PROBLEMS WITH MCC
M	834	552	MEDICAL BACK PROBLEMS WITHOUT MCC
M	835	553	BONE DISEASES AND ARTHROPATHIES WITH MCC
M	835	554	BONE DISEASES AND ARTHROPATHIES WITHOUT MCC
M	836	555	SIGNS AND SYMPTOMS OF MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE WITH MCC
M	836	556	SIGNS AND SYMPTOMS OF MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE WITHOUT MCC
M	837	557	TENDONITIS MYOSITIS AND BURSITIS WITH MCC
M	837	558	TENDONITIS MYOSITIS AND BURSITIS WITHOUT MCC
M	838	559	AFTERCARE MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE WITH MCC
M	838	560	AFTERCARE MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE WITH CC
M	838	561	AFTERCARE MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE WITHOUT CC/MCC
M	839	562	FRACTURE SPRAIN STRAIN AND DISLOCATION EXCEPT FEMUR HIP PELVIS AND THIGH WITH MCC
M	839	563	FRACTURE SPRAIN STRAIN AND DISLOCATION EXCEPT FEMUR HIP PELVIS AND THIGH WITHOUT MCC
M	840	564	OTHER MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE DIAGNOSES WITH MCC
M	840	565	OTHER MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE DIAGNOSES WITH CC

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M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
M	840	566	OTHER MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE DIAGNOSES WITHOUT CC/MCC
S	913	570	SKIN DEBRIDEMENT WITH MCC
S	913	571	SKIN DEBRIDEMENT WITH CC
S	913	572	SKIN DEBRIDEMENT WITHOUT CC/MCC
S	901	573	SKIN GRAFT FOR SKIN ULCER OR CELLULITIS WITH MCC
S	901	574	SKIN GRAFT FOR SKIN ULCER OR CELLULITIS WITH CC
S	901	575	SKIN GRAFT FOR SKIN ULCER OR CELLULITIS WITHOUT CC/MCC
S	902	576	SKIN GRAFT EXCEPT FOR SKIN ULCER OR CELLULITIS WITH MCC
S	902	577	SKIN GRAFT EXCEPT FOR SKIN ULCER OR CELLULITIS WITH CC
S	902	578	SKIN GRAFT EXCEPT FOR SKIN ULCER OR CELLULITIS WITHOUT CC/MCC
S	903	579	OTHER SKIN SUBCUTANEOUS TISSUE AND BREAST PROCEDURES WITH MCC
S	903	580	OTHER SKIN SUBCUTANEOUS TISSUE AND BREAST PROCEDURES WITH CC
S	903	581	OTHER SKIN SUBCUTANEOUS TISSUE AND BREAST PROCEDURES WITHOUT CC/MCC
S	904	582	MASTECTOMY FOR MALIGNANCY WITH CC/MCC
S	904	583	MASTECTOMY FOR MALIGNANCY WITHOUT CC/MCC
S	905	584	BREAST BIOPSY LOCAL EXCISION AND OTHER BREAST PROCEDURES WITH CC/MCC
S	905	585	BREAST BIOPSY LOCAL EXCISION AND OTHER BREAST PROCEDURES WITHOUT CC/MCC
M	906	592	SKIN ULCERS WITH MCC
M	906	593	SKIN ULCERS WITH CC
M	906	594	SKIN ULCERS WITHOUT CC/MCC
M	907	595	MAJOR SKIN DISORDERS WITH MCC
M	907	596	MAJOR SKIN DISORDERS WITHOUT MCC
M	908	597	MALIGNANT BREAST DISORDERS WITH MCC
M	908	598	MALIGNANT BREAST DISORDERS WITH CC
M	908	599	MALIGNANT BREAST DISORDERS WITHOUT CC/MCC
M	909	600	NON-MALIGNANT BREAST DISORDERS WITH CC/MCC
M	909	601	NON-MALIGNANT BREAST DISORDERS WITHOUT CC/MCC
M	910	602	CELLULITIS WITH MCC
M	910	603	CELLULITIS WITHOUT MCC
M	911	604	TRAUMA TO THE SKIN SUBCUTANEOUS TISSUE AND BREAST WITH MCC

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M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
M	911	605	TRAUMA TO THE SKIN SUBCUTANEOUS TISSUE AND BREAST WITHOUT MCC
M	912	606	MINOR SKIN DISORDERS WITH MCC
M	912	607	MINOR SKIN DISORDERS WITHOUT MCC
S	1001	614	ADRENAL AND PITUITARY PROCEDURES WITH CC/MCC
S	1001	615	ADRENAL AND PITUITARY PROCEDURES WITHOUT CC/MCC
S	1002	616	AMPUTATION OF LOWER LIMB FOR ENDOCRINE NUTRITIONAL AND METABOLIC DISORDERS WITH MCC
S	1002	617	AMPUTATION OF LOWER LIMB FOR ENDOCRINE NUTRITIONAL AND METABOLIC DISORDERS WITH CC
S	1002	618	AMPUTATION OF LOWER LIMB FOR ENDOCRINE NUTRITIONAL AND METABOLIC DISORDERS WITHOUT CC/MCC
S	1003	619	O.R. PROCEDURES FOR OBESITY WITH MCC
S	1003	620	O.R. PROCEDURES FOR OBESITY WITH CC
S	1003	621	O.R. PROCEDURES FOR OBESITY WITHOUT CC/MCC
S	1004	622	SKIN GRAFTS AND WOUND DEBRIDEMENT FOR ENDOCRINE NUTRITIONAL AND METABOLIC DISORDERS WITH MCC
S	1004	623	SKIN GRAFTS AND WOUND DEBRIDEMENT FOR ENDOCRINE NUTRITIONAL AND METABOLIC DISORDERS WITH CC
S	1004	624	SKIN GRAFTS AND WOUND DEBRIDEMENT FOR ENDOCRINE NUTRITIONAL AND METABOLIC DISORDERS WITHOUT CC/MCC
S	1005	625	THYROID PARATHYROID AND THYROGLOSSAL PROCEDURES WITH MCC
S	1005	626	THYROID PARATHYROID AND THYROGLOSSAL PROCEDURES WITH CC
S	1005	627	THYROID PARATHYROID AND THYROGLOSSAL PROCEDURES WITHOUT CC/MCC
S	1006	628	OTHER ENDOCRINE NUTRITIONAL AND METABOLIC O.R. PROCEDURES WITH MCC
S	1006	629	OTHER ENDOCRINE NUTRITIONAL AND METABOLIC O.R. PROCEDURES WITH CC
S	1006	630	OTHER ENDOCRINE NUTRITIONAL AND METABOLIC O.R. PROCEDURE WITHOUT CC/MCC
M	1007	637	DIABETES WITH MCC
M	1007	638	DIABETES WITH CC
M	1007	639	DIABETES WITHOUT CC/MCC

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M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
M	1008	640	MISCELLANEOUS DISORDERS OF NUTRITION METABOLISM FLUIDS AND ELECTROLYTES WITH MCC
M	1008	641	MISCELLANEOUS DISORDERS OF NUTRITION METABOLISM FLUIDS AND ELECTROLYTES WITHOUT MCC
M	1009	642	INBORN AND OTHER DISORDERS OF METABOLISM
M	1010	643	ENDOCRINE DISORDERS WITH MCC
M	1010	644	ENDOCRINE DISORDERS WITH CC
M	1010	645	ENDOCRINE DISORDERS WITHOUT CC/MCC
S	1101	650	KIDNEY TRANSPLANT WITH HEMODIALYSIS WITH MCC
S	1101	651	KIDNEY TRANSPLANT WITH HEMODIALYSIS WITHOUT MCC
S	1101	652	KIDNEY TRANSPLANT
S	1102	653	MAJOR BLADDER PROCEDURES WITH MCC
S	1102	654	MAJOR BLADDER PROCEDURES WITH CC
S	1102	655	MAJOR BLADDER PROCEDURES WITHOUT CC/MCC
S	1103	656	KIDNEY AND URETER PROCEDURES FOR NEOPLASM WITH MCC
S	1103	657	KIDNEY AND URETER PROCEDURES FOR NEOPLASM WITH CC
S	1103	658	KIDNEY AND URETER PROCEDURES FOR NEOPLASM WITHOUT CC/MCC
S	1104	659	KIDNEY AND URETER PROCEDURES FOR NON-NEOPLASM WITH MCC
S	1104	660	KIDNEY AND URETER PROCEDURES FOR NON-NEOPLASM WITH CC
S	1104	661	KIDNEY AND URETER PROCEDURES FOR NON-NEOPLASM WITHOUT CC/MCC
S	1105	662	MINOR BLADDER PROCEDURES WITH MCC
S	1105	663	MINOR BLADDER PROCEDURES WITH CC
S	1105	664	MINOR BLADDER PROCEDURES WITHOUT CC/MCC
S	1106	665	PROSTATECTOMY WITH MCC
S	1106	666	PROSTATECTOMY WITH CC
S	1106	667	PROSTATECTOMY WITHOUT CC/MCC
S	1107	668	TRANSURETHRAL PROCEDURES WITH MCC
S	1107	669	TRANSURETHRAL PROCEDURES WITH CC
S	1107	670	TRANSURETHRAL PROCEDURES WITHOUT CC/MCC
S	1108	671	URETHRAL PROCEDURES WITH CC/MCC
S	1108	672	URETHRAL PROCEDURES WITHOUT CC/MCC
S	1109	673	OTHER KIDNEY AND URINARY TRACT PROCEDURES WITH MCC
S	1109	674	OTHER KIDNEY AND URINARY TRACT PROCEDURES WITH CC

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M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
S	1109	675	OTHER KIDNEY AND URINARY TRACT PROCEDURES WITHOUT CC/MCC
M	1110	682	RENAL FAILURE WITH MCC
M	1110	683	RENAL FAILURE WITH CC
M	1110	684	RENAL FAILURE WITHOUT CC/MCC
M	1118	685	ADMIT FOR RENAL DIALYSIS
M	1112	686	KIDNEY AND URINARY TRACT NEOPLASMS WITH MCC
M	1112	687	KIDNEY AND URINARY TRACT NEOPLASMS WITH CC
M	1112	688	KIDNEY AND URINARY TRACT NEOPLASMS WITHOUT CC/MCC
M	1113	689	KIDNEY AND URINARY TRACT INFECTIONS WITH MCC
M	1113	690	KIDNEY AND URINARY TRACT INFECTIONS WITHOUT MCC
M	1115	691	URINARY STONES WITH ESW LITHOTRIPSY WITH CC/MCC
M	1115	692	URINARY STONES WITH ESW LITHOTRIPSY WITHOUT CC/MCC
M	1115	693	URINARY STONES W MCC
M	1115	694	URINARY STONES W/O MCC
M	1116	695	KIDNEY AND URINARY TRACT SIGNS AND SYMPTOMS WITH MCC
M	1116	696	KIDNEY AND URINARY TRACT SIGNS AND SYMPTOMS WITHOUT MCC
M	1117	697	URETHRAL STRICTURE
M	1118	698	OTHER KIDNEY AND URINARY TRACT DIAGNOSES WITH MCC
M	1118	699	OTHER KIDNEY AND URINARY TRACT DIAGNOSES WITH CC
M	1118	700	OTHER KIDNEY AND URINARY TRACT DIAGNOSES WITHOUT CC/MCC
S	1201	707	MAJOR MALE PELVIC PROCEDURES WITH CC/MCC
S	1201	708	MAJOR MALE PELVIC PROCEDURES WITHOUT CC/MCC
S	1202	709	PENIS PROCEDURES WITH CC/MCC
S	1202	710	PENIS PROCEDURES WITHOUT CC/MCC
S	1203	711	TESTES PROCEDURES WITH CC/MCC
S	1203	712	TESTES PROCEDURES WITHOUT CC/MCC
S	1204	713	TRANSURETHRAL PROSTATECTOMY WITH CC/MCC
S	1204	714	TRANSURETHRAL PROSTATECTOMY WITHOUT CC/MCC
S	1205	715	OTHER MALE REPRODUCTIVE SYSTEM O.R. PROCEDURES FOR MALIGNANCY WITH CC/MCC
S	1205	716	OTHER MALE REPRODUCTIVE SYSTEM O.R. PROCEDURES FOR MALIGNANCY WITHOUT CC/MCC

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M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
S	1206	717	OTHER MALE REPRODUCTIVE SYSTEM O.R. PROCEDURES EXCEPT MALIGNANCY WITH CC/MCC
S	1206	718	OTHER MALE REPRODUCTIVE SYSTEM O.R. PROC EXCEPT MALIGNANCY WITHOUT CC/MCC
M	1207	722	MALIGNANCY MALE REPRODUCTIVE SYSTEM WITH MCC
M	1207	723	MALIGNANCY MALE REPRODUCTIVE SYSTEM WITH CC
M	1207	724	MALIGNANCY MALE REPRODUCTIVE SYSTEM WITHOUT CC/MCC
M	1208	725	BENIGN PROSTATIC HYPERTROPHY WITH MCC
M	1208	726	BENIGN PROSTATIC HYPERTROPHY WITHOUT MCC
M	1209	727	INFLAMMATION OF THE MALE REPRODUCTIVE SYSTEM WITH MCC
M	1209	728	INFLAMMATION OF THE MALE REPRODUCTIVE SYSTEM WITHOUT MCC
M	1210	729	OTHER MALE REPRODUCTIVE SYSTEM DIAGNOSES WITH CC/MCC
M	1210	730	OTHER MALE REPRODUCTIVE SYSTEM DIAGNOSES WITHOUT CC/MCC
S	1301	734	PELVIC EVISCERATION RADICAL HYSTERECTOMY AND RADICAL VULVECTOMY WITH CC/MCC
S	1301	735	PELVIC EVISCERATION RADICAL HYSTERECTOMY AND RADICAL VULVECTOMY WITHOUT CC/MCC
S	1302	736	UTERINE AND ADNEXA PROCEDURES FOR OVARIAN OR ADNEXAL MALIGNANCY WITH MCC
S	1302	737	UTERINE AND ADNEXA PROCEDURES FOR OVARIAN OR ADNEXAL MALIGNANCY WITH CC
S	1302	738	UTERINE AND ADNEXA PROCEDURES FOR OVARIAN OR ADNEXAL MALIGNANCY WITHOUT CC/MCC
S	1303	739	UTERINE ADNEXA PROCEDURES FOR NON-OVARIAN AND NON-ADNEXAL MALIGNANCY WITH MCC
S	1303	740	UTERINE ADNEXA PROCEDURES FOR NON-OVARIAN AND NON-ADNEXAL MALIGNANCY WITH CC
S	1303	741	UTERINE ADNEXA PROCEDURES FOR NON-OVARIAN AND NON-ADNEXAL MALIGNANCY WITHOUT CC/MCC

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M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
S	1304	742	UTERINE AND ADNEXA PROCEDURES FOR NON-MALIGNANCY WITH CC/MCC
S	1304	743	UTERINE AND ADNEXA PROCEDURES FOR NON-MALIGNANCY WITHOUT CC/MCC
S	1305	744	D&C CONIZATION LAPAROSCOPY AND TUBAL INTERRUPTION WITH CC/MCC
S	1305	745	D&C CONIZATION LAPAROSCOPY AND TUBAL INTERRUPTION WITHOUT CC/MCC
S	1306	746	VAGINA CERVIX AND VULVA PROCEDURES WITH CC/MCC
S	1306	747	VAGINA CERVIX AND VULVA PROCEDURES WITHOUT CC/MCC
S	1307	748	FEMALE REPRODUCTIVE SYSTEM RECONSTRUCTIVE PROCEDURES
S	1308	749	OTHER FEMALE REPRODUCTIVE SYSTEM O.R. PROCEDURES WITH CC/MCC
S	1308	750	OTHER FEMALE REPRODUCTIVE SYSTEM O.R. PROCEDURES WITHOUT CC/MCC
M	1309	754	MALIGNANCY FEMALE REPRODUCTIVE SYSTEM WITH MCC
M	1309	755	MALIGNANCY FEMALE REPRODUCTIVE SYSTEM WITH CC
M	1309	756	MALIGNANCY FEMALE REPRODUCTIVE SYSTEM WITHOUT CC/MCC
M	1310	757	INFECTIONS FEMALE REPRODUCTIVE SYSTEM WITH MCC
M	1310	758	INFECTIONS FEMALE REPRODUCTIVE SYSTEM WITH CC
M	1310	759	INFECTIONS FEMALE REPRODUCTIVE SYSTEM WITHOUT CC/MCC
M	1311	760	MENSTRUAL AND OTHER FEMALE REPRODUCTIVE SYSTEM DISORDERS WITH CC/MCC
M	1311	761	MENSTRUAL AND OTHER FEMALE REPRODUCTIVE SYSTEM DISORDERS WITHOUT CC/MCC
S	1401	765	CESAREAN SECTION WITH CC/MCC
S	1401	766	CESAREAN SECTION WITHOUT CC/MCC
S	1413	767	VAGINAL DELIVERY WITH STERILIZATION AND/OR D&C
S	1402	768	VAGINAL DELIVERY WITH O.R. PROCEDURE EXCEPT STERILIZATION AND/OR D&C
S	1403	769	POSTPARTUM AND POST ABORTION DIAGNOSES WITH O.R. PROCEDURE
S	1404	770	ABORTION WITH D&C ASPIRATION CURETTAGE OR HYSTEROTOMY
M	1405	774	VAGINAL DELIVERY WITH COMPLICATING DIAGNOSES
M	1405	775	VAGINAL DELIVERY WITHOUT COMPLICATING DIAGNOSES
M	1406	776	POSTPARTUM AND POST ABORTION DIAGNOSES WITHOUT O.R. PROCEDURE
M	1411	777	ECTOPIC PREGNANCY

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M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
M	1411	778	THREATENED ABORTION
M	1409	779	ABORTION WITHOUT D&C
M	1411	780	FALSE LABOR
M	1411	781	OTHER ANTEPARTUM DIAGNOSES WITH MEDICAL COMPLICATIONS
M	1411	782	OTHER ANTEPARTUM DIAGNOSES WITHOUT MEDICAL COMPLICATIONS
S	1401	783	CESAREAN SECTION W STERILIZATION W MCC
S	1401	784	CESAREAN SECTION W STERILIZATION W CC
S	1401	785	CESAREAN SECTION W STERILIZATION W/O CC/MCC
S	1401	786	CESAREAN SECTION W/O STERILIZATION W MCC
S	1401	787	CESAREAN SECTION W/O STERILIZATION W CC
S	1401	788	CESAREAN SECTION W/O STERILIZATION W/O CC/MCC
M	1501	789	NEONATES DIED OR TRANSFERRED TO ANOTHER ACUTE CARE FACILITY
M	1502	790	EXTREME IMMATURETY OR RESPIRATORY DISTRESS SYNDROME NEONATE
M	1503	791	PREMATURITY WITH MAJOR PROBLEMS
M	1504	792	PREMATURITY WITHOUT MAJOR PROBLEMS
M	1505	793	FULL TERM NEONATE WITH MAJOR PROBLEMS
M	1506	794	NEONATE WITH OTHER SIGNIFICANT PROBLEMS
M	1507	795	NORMAL NEWBORN
S	1413	796	VAGINAL DELIVERY W STERILIZATION/D&C W MCC
S	1413	797	VAGINAL DELIVERY W STERILIZATION/D&C W CC
S	1413	798	VAGINAL DELIVERY W STERILIZATION/D&C WO CC/MCC
S	1601	799	SPLENECTOMY WITH MCC
S	1601	800	SPLENECTOMY WITH CC
S	1601	801	SPLENECTOMY WITHOUT CC/MCC
S	1602	802	OTHER O.R. PROCEDURES OF THE BLOOD AND BLOOD FORMING ORGANS WITH MCC
S	1602	803	OTHER O.R. PROCEDURES OF THE BLOOD AND BLOOD FORMING ORGANS WITH CC
S	1602	804	OTHER O.R. PROCEDURES OF THE BLOOD AND BLOOD FORMING ORGANS WITHOUT CC/MCC
M	1405	805	VAGINAL DELIVERY W/O STERILIZATION/D&C W MCC
M	1405	806	VAGINAL DELIVERY W/O STERILIZATION/D&C W CC
M	1405	807	VAGINAL DELIVERY W/O STERILIZATION/D&C W/O CC/MCC
M	1603	808	MAJOR HEMATOLOGICAL AND IMMUNOLOGICAL DIAGNOSES EXCEPT SICKLE CELL CRISIS AND COAGULATION DISORDER

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M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
M	1603	809	MAJOR HEMATOLOGICAL AND IMMUNOLOGICAL DIAGNOSES EXCEPT SICKLE CELL CRISIS AND COAGULATION DISORDER
M	1603	810	MAJOR HEMATOLOGICAL AND IMMUNOLOGICAL DIAGNOSES EXCEPT SICKLE CELL CRISIS AND COAGULATION DISORDER
M	1604	811	RED BLOOD CELL DISORDERS WITH MCC
M	1604	812	RED BLOOD CELL DISORDERS WITHOUT MCC
M	1605	813	COAGULATION DISORDERS
M	1606	814	RETICULOENDOTHELIAL AND IMMUNITY DISORDERS WITH MCC
M	1606	815	RETICULOENDOTHELIAL AND IMMUNITY DISORDERS WITH CC
M	1606	816	RETICULOENDOTHELIAL AND IMMUNITY DISORDERS WITHOUT CC/MCC
S	1414	817	OTHER ANTEPARTUM DIAGNOSES W O.R. PROCEDURE W MCC
S	1414	818	OTHER ANTEPARTUM DIAGNOSES W O.R. PROCEDURE W CC
S	1414	819	OTHER ANTEPARTUM DIAGNOSES W O.R. PROCEDURE W/O CC/MCC
S	1707	820	LYMPHOMA AND LEUKEMIA WITH MAJOR O.R. PROCEDURE WITH MCC
S	1707	821	LYMPHOMA AND LEUKEMIA WITH MAJOR O.R. PROCEDURE WITH CC
S	1707	822	LYMPHOMA AND LEUKEMIA WITH MAJOR O.R. PROCEDURE WITHOUT CC/MCC
S	1708	823	LYMPHOMA & NON-ACUTE LEUKEMIA W OTHER PROC W MCC
S	1708	824	LYMPHOMA & NON-ACUTE LEUKEMIA W OTHER PROC W CC
S	1708	825	LYMPHOMA & NON-ACUTE LEUKEMIA W OTHER PROC W/O CC/MCC
S	1709	826	MYELOPROLIFERATIVE DISORDERS OR POORLY DIFFERENTIATED NEOPLASMS WITH MAJOR O.R. PROCEDURE WITH MCC
S	1709	827	MYELOPROLIFERATIVE DISORDERS OR POORLY DIFFERENTIATED NEOPLASMS WITH MAJOR O.R. PROCEDURE WITH CC
S	1709	828	MYELOPROLIFERATIVE DISORDERS OR POORLY DIFFERENTIATED NEOPLASMS WITH MAJOR O.R. PROCEDURE WITHOUT
S	1710	829	MYELOPROLIFERATIVE DISORDERS OR POORLY DIFFERENTIATED NEOPLASMS W OTHER PROCEDURE W CC/MCC

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M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
S	1710	830	MYELOPROLIFERATIVE DISORDERS OR POORLY DIFFERENTIATED NEOPLASMS W OTHER PROCEDURE W/O CC/MCC
M	1411	831	OTHER ANTEPARTUM DIAGNOSES W/O O.R. PROCEDURE W MCC
M	1411	832	OTHER ANTEPARTUM DIAGNOSES W/O O.R. PROCEDURE W CC
M	1411	833	OTHER ANTEPARTUM DIAGNOSES W/O O.R. PROCEDURE W/O CC/MCC
M	1711	834	ACUTE LEUKEMIA WITHOUT MAJOR O.R. PROCEDURE WITH MCC
M	1711	835	ACUTE LEUKEMIA WITHOUT MAJOR O.R. PROCEDURE WITH CC
M	1711	836	ACUTE LEUKEMIA WITHOUT MAJOR O.R. PROCEDURE WITHOUT CC/MCC
M	1712	837	CHEMOTHERAPY WITH ACUTE LEUKEMIA AS SDX OR WITH HIGH DOSE CHEMOTHERAPY AGENT WITH MCC
M	1712	838	CHEMOTHERPY WITH ACUTE LEUKEMIA AS SDX WITH CC OR HIGH DOSE CHEMOTHERAPY AGENT
M	1712	839	CHEMOTHERAPY WITH ACUTE LEUKEMIA AS SDX WITHOUT CC/MCC
M	1713	840	LYMPHOMA AND NON-ACUTE LEUKEMIA WITH MCC
M	1713	841	LYMPHOMA AND NON-ACUTE LEUKEMIA WITH CC
M	1713	842	LYMPHOMA AND NON-ACUTE LEUKEMIA WITHOUT CC/MCC
M	1714	843	OTHER MYELOPROLIFERATIVE DISORDERS OR POORLY DIFFERENTIATED NEOPLASTIC DIAGNOSES WITH MCC
M	1714	844	OTHER MYELOPROLIFERATIVE DISORDERS OR POORLY DIFFERENTIATED NEOPLASTIC DIAGNOSES WITH CC
M	1714	845	OTHER MYELOPROLIFERATIVE DISORDERS OR POORLY DIFFERENTIATED NEOPLASTIC DIAGNOSES WITHOUT CC/MCC
M	1715	846	CHEMOTHERAPY WITHOUT ACUTE LEUKEMIA AS SECONDARY DIAGNOSIS WITH MCC
M	1715	847	CHEMOTHERAPY WITHOUT ACUTE LEUKEMIA AS SECONDARY DIAGNOSIS WITH CC
M	1715	848	CHEMOTHERAPY WITHOUT ACUTE LEUKEMIA AS SECONDARY DIAGNOSIS WITHOUT CC/MCC
M	1716	849	RADIOTHERAPY

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M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
S	1801	853	INFECTIOUS AND PARASITIC DISEASES WITH O.R. PROCEDURE WITH MCC
S	1801	854	INFECTIOUS AND PARASITIC DISEASES WITH O.R. PROCEDURE WITH CC
S	1801	855	INFECTIOUS AND PARASITIC DISEASES WITH O.R. PROCEDURE WITHOUT CC/MCC
S	1802	856	POSTOPERATIVE OR POST-TRAUMATIC INFECTIONS WITH O.R. PROCEDURE WITH MCC
S	1802	857	POSTOPERATIVE OR POST-TRAUMATIC INFECTIONS WITH O.R. PROCEDURE WITH CC
S	1802	858	POSTOPERATIVE OR POST-TRAUMATIC INFECTIONS WITH O.R. PROCEDURE WITHOUT CC/MCC
M	1803	862	POSTOPERATIVE AND POST-TRAUMATIC INFECTIONS WITH MCC
M	1803	863	POSTOPERATIVE AND POST-TRAUMATIC INFECTIONS WITHOUT MCC
M	1804	864	FEVER AND INFLAMMATORY CONDITIONS
M	1805	865	VIRAL ILLNESS WITH MCC
M	1805	866	VIRAL ILLNESS WITHOUT MCC
M	1806	867	OTHER INFECTIOUS AND PARASITIC DISEASES DIAGNOSES WITH MCC
M	1806	868	OTHER INFECTIOUS AND PARASITIC DISEASES DIAGNOSES WITH CC
M	1806	869	OTHER INFECTIOUS AND PARASITIC DISEASES DIAGNOSES WITHOUT CC/MCC
M	1807	870	SEPTICEMIA OR SEVERE SEPSIS W MV >96 HOURS
M	1808	871	SEPTICEMIA OR SEVERE SEPSIS WITHOUT MV >96 HOURS WITH MCC
M	1808	872	SEPTICEMIA OR SEVERE SEPSIS WITHOUT MV >96 HOURS WITHOUT MCC
S	1909	876	O.R. PROCEDURE WITH PRINCIPAL DIAGNOSES OF MENTAL ILLNESS
M	1910	880	ACUTE ADJUSTMENT REACTION AND PSYCHOSOCIAL DYSFUNCTION
M	1911	881	DEPRESSIVE NEUROSES
M	1912	882	NEUROSES EXCEPT DEPRESSIVE
M	1913	883	DISORDERS OF PERSONALITY AND IMPULSE CONTROL
M	1914	884	ORGANIC DISTURBANCES AND INTELLECTUAL DISABILITY
M	1915	885	PSYCHOSES
M	1916	886	BEHAVIORAL AND DEVELOPMENTAL DISORDERS
M	1917	887	OTHER MENTAL DISORDER DIAGNOSES
M	2018	894	ALCOHOL DRUG ABUSE OR DEPENDENCE LEFT AMA

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M	2018	895	ALCOHOL DRUG ABUSE OR DEPENDENCE WITH REHABILITATION THERAPY
M	2018	896	ALCOHOL DRUG ABUSE OR DEPENDENCE WITHOUT REHABILITATION THERAPY WITH MCC
M	2018	897	ALCOHOL DRUG ABUSE OR DEPENDENCE WITHOUT REHABILITATION THERAPY WITHOUT MCC
S	2101	901	WOUND DEBRIDEMENTS FOR INJURIES WITH MCC
S	2101	902	WOUND DEBRIDEMENTS FOR INJURIES WITH CC
S	2101	903	WOUND DEBRIDEMENTS FOR INJURIES WITHOUT CC/MCC
S	2102	904	SKIN GRAFTS FOR INJURIES WITH CC/MCC
S	2102	905	SKIN GRAFTS FOR INJURIES WITHOUT CC/MCC
S	2103	906	HAND PROCEDURES FOR INJURIES
S	2104	907	OTHER O.R. PROCEDURES FOR INJURIES WITH MCC
S	2104	908	OTHER O.R. PROCEDURES FOR INJURIES WITH CC
S	2104	909	OTHER O.R. PROCEDURES FOR INJURIES WITHOUT CC/MCC
M	2105	913	TRAUMATIC INJURY WITH MCC
M	2105	914	TRAUMATIC INJURY WITHOUT MCC
M	2106	915	ALLERGIC REACTIONS WITH MCC
M	2106	916	ALLERGIC REACTIONS WITHOUT MCC
M	2107	917	POISONING AND TOXIC EFFECTS OF DRUGS WITH MCC
M	2107	918	POISONING AND TOXIC EFFECTS OF DRUGS WITHOUT MCC
M	2108	919	COMPLICATIONS OF TREATMENT WITH MCC
M	2108	920	COMPLICATIONS OF TREATMENT WITH CC
M	2108	921	COMPLICATIONS OF TREATMENT WITHOUT CC/MCC
M	2109	922	OTHER INJURY POISONING AND TOXIC EFFECT DIAGNOSES WITH MCC
M	2109	923	OTHER INJURY POISONING AND TOXIC EFFECT DIAGNOSES WITHOUT MCC
S	2210	927	EXTENSIVE BURNS OR FULL THICKNESS BURNS WITH MV >96 HOURS WITH SKIN GRAFT
S	2201	928	FULL THICKNESS BURN WITH SKIN GRAFT OR INHALATION INJURY WITH CC/MCC
S	2201	929	FULL THICKNESS BURN WITH SKIN GRAFT OR INHALATION INJURY WITHOUT CC/MCC
M	2212	933	EXTENSIVE BURNS OR FULL THICKNESS BURNS WITH MV >96 HOURS WITHOUT SKIN GRAFT
M	2213	934	FULL THICKNESS BURN WITHOUT SKIN GRFT OR INHALATION INJURY
M	2214	935	NON-EXTENSIVE BURNS

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M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
S	2301	939	O.R. PROCEDURES WITH DIAGNOSES OF OTHER CONTACT WITH HEALTH SERVICES WITH MCC
S	2301	940	O.R. PROCEDURES WITH DIAGNOSES OF OTHER CONTACT WITH HEALTH SERVICES WITH CC
S	2301	941	O.R. PROCEDURES WITH DIAGNOSES OF OTHER CONTACT WITH HEALTH SERVICES WITHOUT CC/MCC
M	2302	945	REHABILITATION WITH CC/MCC
M	2302	946	REHABILITATION WITHOUT CC/MCC
M	2303	947	SIGNS AND SYMPTOMS WITH MCC
M	2303	948	SIGNS AND SYMPTOMS WITHOUT MCC
M	2304	949	AFTERCARE WITH CC/MCC
M	2304	950	AFTERCARE WITHOUT CC/MCC
M	2305	951	OTHER FACTORS INFLUENCING HEALTH STATUS
S	2406	955	CRANIOTOMY FOR MULTIPLE SIGNIFICANT TRAUMA
S	2407	956	LIMB REATTACHMENT HIP AND FEMUR PROC FOR MULTIPLE SIGNIFICANT TRAUMA
S	2408	957	OTHER O.R. PROCEDURES FOR MULTIPLE SIGNIFICANT TRAUMA WITH MCC
S	2408	958	OTHER O.R. PROCEDURES FOR MULTIPLE SIGNIFICANT TRAUMA WITH CC
S	2408	959	OTHER O.R. PROCEDURES FOR MULTIPLE SIGNIFICANT TRAUMA WITHOUT CC/MCC
M	2409	963	OTHER MULTIPLE SIGNIFICANT TRAUMA WITH MCC
M	2409	964	OTHER MULTIPLE SIGNIFICANT TRAUMA WITH CC
M	2409	965	OTHER MULTIPLE SIGNIFICANT TRAUMA WITHOUT CC/MCC
S	2501	969	HIV WITH EXTENSIVE O.R. PROCEDURE WITH MCC
S	2501	970	HIV WITH EXTENSIVE O.R. PROCEDURE WITHOUT MCC
M	2502	974	HIV WITH MAJOR RELATED CONDITION WITH MCC
M	2502	975	HIV WITH MAJOR RELATED CONDITION WITH CC
M	2502	976	HIV WITH MAJOR RELATED CONDITION WITHOUT CC/MCC
M	2503	977	HIV WITH OR WITHOUT OTHER RELATED CONDITION
S	8899	981	EXTENSIVE O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS WITH MCC
S	8899	982	EXTENSIVE O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS WITH CC
S	8899	983	EXTENSIVE O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS WITHOUT CC/MCC
S	8897	984	PROSTATIC O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS WITH MCC

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M/S	MDRG	MS-DRG	MS-DRG DESCRIPTION
S	8897	985	PROSTATIC O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS WITH CC
S	8897	986	PROSTATIC O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS WITHOUT CC/MCC
S	8897	987	NON-EXTENSIVE O.R. PROC UNRELATED TO PRINCIPAL DIAGNOSIS WITH MCC
S	8897	988	NON-EXTENSIVE O.R. PROC UNRELATED TO PRINCIPAL DIAGNOSIS WITH CC
S	8897	989	NON-EXTENSIVE O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS WITHOUT CC/MCC

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Table A.3. Major Diagnostic Categories (MDC)

MDC	Label
1	Diseases and disorders of the nervous system
2	Diseases and disorders of the eye
3	Diseases and disorders of the ear, nose, mouth and throat
4	Diseases and disorders of the respiratory system
5	Diseases and disorders of the circulatory system
6	Diseases and disorders of the digestive system
7	Diseases and disorders of the hepatobiliary system and pancreas
8	Diseases and disorders of the musculoskeletal system and connective tissue
9	Diseases and disorders of the skin, subcutaneous tissue and breast
10	Endocrine, nutritional and metabolic diseases and disorders
11	Diseases and disorders of the kidney and urinary tract
12	Diseases and disorders of the male reproductive system
13	Diseases and disorders of the female reproductive system
14	Pregnancy, childbirth and the puerperium
15	Newborns and other neonates with conditions originating in perinatal period
16	Diseases and disorders of blood, blood forming organs and immunologic disorders
17	Myeloproliferative diseases and disorders, poorly differentiated neoplasms
18	Infectious and parasitic diseases, systemic or unspecified sites
19	Mental diseases and disorders
20	Alcohol or drug use or induced organic mental disorders
21	Injuries, poisonings and toxic effects of drugs
22	Burns
23	Factors influencing health status and other contacts with health services
24	Multiple significant trauma
25	Human immunodeficiency virus infections

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Table A.4. Comorbidity Categories (COMORB), Elixhauser Comorbidity Software Refined, Version v2023.1*

Comorbidity	Description	Uses POA?
CMR AIDS	Acquired immune deficiency syndrome	No
CMR ALCOHOL	Alcohol abuse	No
CMR ANEMDEF	Anemias due to other nutritional deficiencies	Yes
CMR AUTOIMMUNE	Autoimmune conditions	No
CMR BLDLOSS	Chronic blood loss (iron deficiency)	Yes
CMR CANCER LEUK	Leukemia	No
CMR CANCER LYMPH	Lymphoma	No
CMR CANCER METS	Metastatic cancer	No
CMR CANCER NSITU	Solid tumor without metastasis, in situ	No
CMR CANCER SOLID	Solid tumor without metastasis, malignant	No
CMR CBVD	Cerebrovascular disease	Yes
CMR COAG	Coagulopathy	Yes
CMR DEMENTIA	Dementia	No
CMR DEPRESS	Depression	No
CMR DIAB CX	Diabetes with chronic complications	No
CMR DIAB UNCX	Diabetes without chronic complications	No
CMR DRUG ABUSE	Drug abuse	No
CMR HF	Heart failure	Yes
CMR HTN CX	Hypertension, complicated	No
CMR HTN UNCX	Hypertension, uncomplicated	No
CMR LIVER MLD	Liver disease, mild	Yes
CMR LIVER SEV	Liver disease and failure, moderate to severe	Yes
CMR LUNG CHRONIC	Chronic pulmonary disease	No
CMR NEURO MOVT	Neurological disorders affecting movement	Yes
CMR NEURO OTH	Other neurological disorders	Yes
CMR NEURO SEIZ	Seizures and epilepsy	Yes
CMR OBESE	Obesity	No
CMR PARALYSIS	Paralysis	Yes
CMR PERIVASC	Peripheral vascular disease	No
CMR PSYCHOSES	Psychoses	Yes
CMR PULMCIRC	Pulmonary circulation disease	Yes
CMR RENLFL MOD	Renal (kidney) failure and disease, moderate	Yes
CMR RENLFL SEV	Renal (kidney) failure and disease, severe	Yes
CMR THYROID HYPO	Hypothyroidism	No
CMR THYROID OTH	Other thyroid disorders	No
CMR ULCER PEPTIC	Peptic ulcer with bleeding	Yes

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Comorbidity	Description	Uses POA?
CMR VALVE	Valvular disease	Yes
CMR WGHTLOSS	Weight loss	Yes

*Elixhauser Comorbidity Software Refined for ICD-10-CM Healthcare Cost and Utilization Project (HCUP). December 2022. Agency for Healthcare Research and Quality, Rockville, MD.

www.hcup-us.ahrq.gov/toolssoftware/comorbidityicd10/comorbidity_icd10.jsp

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Table A.5. Categorical Variables Definitions: Transfer, and HPPS

CATEGORY	DESCRIPTION	DEFINITION
TRNSFER	Transfer-in	If admission type (ATYPE) not equal to '4' (newborn) and
		- admission source (ASOURCE) equal to '2' (Another Hospital) or
		- point of origin (POINTOFORIGINUB04) equal to '4' (Transfer from a Hospital), then TRNSFER=1
HPPS13***	HPPS13 0	Any diagnosis code not meeting the inclusion rules for HPPS13_1, HPPS13_2, and HPPS13_3.
	HPPS13 1	Any diagnosis code for intermediate-risk immunocompromised state (IMMUITD), or
		Any diagnosis code for cirrhosis (HEPFA2D), and not meeting the inclusion rules for HPPS13_2, and HPPS13_3,
		Then HPPS13_1 = 1.
	HPPS13 2	Any diagnosis code for high-risk immunocompromised state (IMMUNHD), or
		Any procedure code for high-risk immunocompromised state (TRANSPP), and not meeting the inclusion rules for HPPS13_3,
		Then HPPS13_2 = 1.
	HPPS13 3	Any diagnosis code for hepatic failure (HEPFA3D),
		Then HPPS13_3 = 1.
HPPS15***	HPPS15 1	Discharges otherwise qualifying for the denominator with no therapeutic procedures and with any or no diagnostic procedures (PRCLASS).
	HPPS15 2	Discharges otherwise qualifying for the denominator with one or more minor therapeutic procedures, with any or no diagnostic procedures (PRCLASS), and not meeting the inclusion rules for HPPS15_1.
	HPPS15 3	Discharges otherwise qualifying for the denominator with one major therapeutic procedure, without any diagnostic procedures (PRCLASS), and not meeting the inclusion rules for HPPS15_1 or HPPS15_2.
	HPPS15 4	Discharges otherwise qualifying for the denominator with one major therapeutic procedure, with one or more minor diagnostic procedure(s) but no major diagnostic procedure(s) (PRCLASS), and not meeting the inclusion rules for HPPS15_1 through HPPS15_3.

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CATEGORY	DESCRIPTION	DEFINITION
	HPPS15_5	Discharges otherwise qualifying for the denominator with one major therapeutic procedure, with one or more major diagnostic procedure(s) (PRCLASS), and not meeting the inclusion rules for HPPS15_1 through HPPS15_4.
	HPPS15_6	Discharges otherwise qualifying for the denominator with two major therapeutic procedures, with any or no diagnostic procedures (PRCLASS), and not meeting the inclusion rules for HPPS15_1 through HPPS15_5.
	HPPS15_7	Discharges otherwise qualifying for the denominator with three or more major therapeutic procedures, with any or no diagnostic procedures (PRCLASS), and not meeting the inclusion rules for HPPS15_1 through HPPS15_6.
	HPPS15_9	Discharges otherwise qualifying for the denominator and not meeting the inclusion rules for HPPS15_1 through HPPS15_7.

*** Refer to All ICD-10-CM/PCS coding revisions in MS Excel format for a full list of codes in IMMUITD, IMMUNHD, HEPFA2D, HEPFA3D, TRANSPP, and PRCLASS.

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**Table A.6. SEVDPEDX: Severe Pulmonary Embolism or Deep Vein Thrombosis (PE/DVT)
Diagnosis Codes**

Diagnosis Code	Description
I2602	Saddle embolus of pulmonary artery with acute cor pulmonale
I2609	Other pulmonary embolism with acute cor pulmonale
I2692	Saddle embolus of pulmonary artery without acute cor pulmonale
I2694	Multiple subsegmental pulmonary emboli without acute cor pulmonale
I2699	Other pulmonary embolism without acute cor pulmonale

Note: SEVDPEDX setname is used in the risk-adjustment model for PSI04 deep vein thrombosis/pulmonary embolism stratum

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Table A.7. SEVPNEUDX: Severe Pneumonia Diagnosis Codes

Diagnosis Code	Description
J150	Pneumonia due to <i>Klebsiella pneumoniae</i>
J151	Pneumonia due to <i>Pseudomonas</i>
J1520	Pneumonia due to staphylococcus, unspecified
J15211	Pneumonia due to Methicillin susceptible <i>Staphylococcus aureus</i>
J15212	Pneumonia due to Methicillin resistant <i>Staphylococcus aureus</i>
J1529	Pneumonia due to other staphylococcus
J155	Pneumonia due to <i>Escherichia coli</i>
J156	Pneumonia due to other Gram-negative bacteria
J158	Pneumonia due to other specified bacteria
J690	Pneumonitis due to inhalation of food and vomit

Note: SEVPNEUDX setname is used in the risk-adjustment model for PSI04 pneumonia stratum.

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Table A.8. SEVSEPDY: Severe Sepsis Diagnosis Codes

Diagnosis Code	Description
R6520	Severe sepsis without septic shock
R6521	Severe sepsis with septic shock
T8112XA	Postprocedural septic shock, initial encounter

Note: SEVSEPDY setname is used in the risk-adjustment model for PSI04 sepsis stratum.

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Table A.9. SEVSCKDX: Severe Shock or Cardiac Arrest Diagnosis Codes

Diagnosis Code	Description
I462	Cardiac arrest due to underlying cardiac condition
I468	Cardiac arrest due to other underlying condition
I469	Cardiac arrest, cause unspecified
R092	Respiratory arrest

Note: SEVSCKDX setname is used in the risk-adjustment model for PSI04 shock/cardiac arrest stratum.

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Table A.10. SEVGIHDX: Severe Gastrointestinal Hemorrhage or Acute Ulcer Diagnosis Codes

Diagnosis Code	Description
I8501	Esophageal varices with bleeding
I8511	Secondary esophageal varices with bleeding
K251	Acute gastric ulcer with perforation
K252	Acute gastric ulcer with both hemorrhage and perforation
K261	Acute duodenal ulcer with perforation
K262	Acute duodenal ulcer with both hemorrhage and perforation
K271	Acute peptic ulcer, site unspecified, with perforation
K272	Acute peptic ulcer, site unspecified, with both hemorrhage and perforation
K281	Acute gastrojejunal ulcer with perforation
K282	Acute gastrojejunal ulcer with both hemorrhage and perforation

Note: SEVGIHDX setname is used in the risk-adjustment model for PSI04 gastrointestinal hemorrhage stratum.

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Table A.11. Do Not Resuscitate (DNR) Status Diagnosis Codes

Diagnosis Code	Description
Z66	Do not resuscitate

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Table A.12. Categorical Variables Used for Comorbidity Counts

Measure	Comorbidity Count Category	Description
PSI 02	PS02_NonWt_1	PS02 Comorbidity count using non-weighted method, category 1, count > 3 and count <= 4
PSI 02	PS02_NonWt_2	PS02 Comorbidity count using non-weighted method, category 2, count >= 5
PSI 03	PS03_NonWt_1	PS03 Comorbidity count using non-weighted method, category 1, count > 2 and count <= 4
PSI 03	PS03_NonWt_2	PS03 Comorbidity count using non-weighted method, category 2, count >= 5
PSI 04 DVT_PE	PS04_DVT_PE_NonWt_1	PS04_DVT_PE Comorbidity count using non-weighted method, category 1, count > 3 and count <= 5
PSI 04 DVT_PE	PS04_DVT_PE_NonWt_2	PS04_DVT_PE Comorbidity count using non-weighted method, category 2, count >= 6
PSI 04 GIHEMORRHAGE	PS04_GIHEMORRHAGE_NonWt_1	PS04_GIHEMORRHAGE Comorbidity count using non-weighted method, category 1, count > 2 and count <= 4
PSI 04 GIHEMORRHAGE	PS04_GIHEMORRHAGE_NonWt_2	PS04_GIHEMORRHAGE Comorbidity count using non-weighted method, category 2, count >= 5
PSI 04 PNEUMONIA	PS04_PNEUMONIA_NonWt_1	PS04_PNEUMONIA Comorbidity count using non-weighted method, category 1, count > 2 and count <= 4
PSI 04 PNEUMONIA	PS04_PNEUMONIA_NonWt_2	PS04_PNEUMONIA Comorbidity count using non-weighted method, category 2, count >= 5
PSI 04 SEPSIS	PS04_SEPSIS_NonWt_1	PS04_SEPSIS Comorbidity count using non-weighted method, category 1, count > 1 and count <= 3
PSI 04 SEPSIS	PS04_SEPSIS_NonWt_2	PS04_SEPSIS Comorbidity count using non-weighted method, category 2, count >= 4
PSI 04 SHOCK	PS04_SHOCK_NonWt_1	PS04_SHOCK Comorbidity count using non-weighted method, category 1, count > 1 and count <= 3

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Measure	Comorbidity Count Category	Description
PSI 04 SHOCK	PS04_SHOCK_NonWt_2	PS04_SHOCK Comorbidity count using non-weighted method, category 2, count ≥ 4
PSI 06	PS06_NonWt_1	PS06 Comorbidity count using non-weighted method, category 1, count > 1 and count ≤ 2
PSI 06	PS06_NonWt_2	PS06 Comorbidity count using non-weighted method, category 2, count ≥ 3
PSI 07	PS07_NonWt_1	PS07 Comorbidity count using non-weighted method, category 1, count > 1 and count ≤ 3
PSI 07	PS07_NonWt_2	PS07 Comorbidity count using non-weighted method, category 2, count ≥ 4
PSI 08	PS08_NonWt_1	PS08 Comorbidity count using non-weighted method, category 1, count > 3 and count ≤ 6
PSI 08	PS08_NonWt_2	PS08 Comorbidity count using non-weighted method, category 2, count ≥ 7
PSI 09	PS09_NonWt_1	PS09 Comorbidity count using non-weighted method, category 1, count > 1 and count ≤ 3
PSI 09	PS09_NonWt_2	PS09 Comorbidity count using non-weighted method, category 2, count ≥ 4
PSI 10	PS10_NonWt_1	PS10 Comorbidity count using non-weighted method, category 1, count > 3 and count ≤ 5
PSI 10	PS10_NonWt_2	PS10 Comorbidity count using non-weighted method, category 2, count ≥ 6
PSI 11	PS11_NonWt_1	PS11 Comorbidity count using non-weighted method, category 1, count > 2 and count ≤ 4
PSI 11	PS11_NonWt_2	PS11 Comorbidity count using non-weighted method, category 2, count ≥ 5
PSI 12	PS12_NonWt_1	PS12 Comorbidity count using non-weighted method, category 1, count > 1 and count ≤ 3

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Measure	Comorbidity Count Category	Description
PSI 12	PS12_NonWt_2	PS12 Comorbidity count using non-weighted method, category 2, count ≥ 4
PSI 13	PS13_NonWt_1	PS13 Comorbidity count using non-weighted method, category 1, count > 2 and count ≤ 4
PSI 13	PS13_NonWt_2	PS13 Comorbidity count using non-weighted method, category 2, count ≥ 5
PSI 14 NONOPEN	PS14_NONOPEN_NonWt_1	PS14_NONOPEN Comorbidity count using non-weighted method, category 1, count > 1 and count ≤ 4
PSI 14 NONOPEN	PS14_NONOPEN_NonWt_2	PS14_NONOPEN Comorbidity count using non-weighted method, category 2, count ≥ 5
PSI 14 OPEN	PS14_OPEN_NonWt_1	PS14_OPEN Comorbidity count using non-weighted method, category 1, count > 1 and count ≤ 3
PSI 14 OPEN	PS14_OPEN_NonWt_2	PS14_OPEN Comorbidity count using non-weighted method, category 2, count ≥ 4
PSI 15	PS15_NonWt_1	PS15 Comorbidity count using non-weighted method, category 1, count > 0 and count ≤ 1
PSI 15	PS15_NonWt_2	PS15 Comorbidity count using non-weighted method, category 2, count ≥ 2