

Patient Safety Indicators (PSI) Parameter Estimates, v2025

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Executive Summary

This document provides statistical parameters associated with Version 2025 Agency for Healthcare Research and Quality (AHRQ) Quality Indicators (QI) Patient Safety Indicators (PSI). The parameter estimates derived for the AHRQ PSIs are based on analysis of the 2020, 2021, and 2022 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.

The HCUP SID encompass about 97 percent of all annual inpatient discharges in the United States.² 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 2025 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 45 states and Washington, D.C. in 2020, 44 states and Washington, D.C. in 2021 and 2022, while 2 states are excluded due to incomplete information in the POA data element in 2020 and 3 states are excluded in 2021 and 2022. Discharges from the participating States are used to develop hospital-level indicators.³

¹Healthcare Cost and Utilization Project (HCUP) 2020, 2021, and 2022 State Inpatient Databases (SID). Agency for Healthcare Research and Quality, Rockville, MD.

²Introduction to the HCUP State Inpatient Databases (SID). Healthcare Cost and Utilization Project (HCUP). January 2025. Agency for Healthcare Research and Quality, Rockville, MD. https://hcup-us.ahrq.gov/db/state/siddist/Introduction_to_SID.pdf.

³States with data from 2020 included in the reference population for the hospital-level indicators are AK, AR, AZ, CA, CO, DC, FL, GA, HI, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, and WY. States with data from 2021 and 2022 included in the reference population are the states with 2020 data minus WY. Note that data 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). For hospital-level quality indicators, data from Colorado and Hawaii were not used in the development of PSI 17 due to missing age in days (AGEDAY data element).

Edit checks on 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:

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 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>).

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Table 1. Risk Adjustment Coefficients for PSI 03 - Pressure Ulcer Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Intercept	Intercept	1	-6.454325776	0.0729398128	-88.4883787237	<.0001
Age_LT30	Age < 30	1	-0.7039493693	0.0699332793	-10.0660140166	<.0001
Age_30_34	30 <= Age <= 34	1	-0.3112246744	0.0688243729	-4.5220124956	<.0001
Age_35_39	35 <= Age <= 39	1	-0.5243854676	0.0683648186	-7.6703994568	<.0001
Age_40_44	40 <= Age <= 44	1	-0.3665543363	0.0539544093	-6.7937790640	<.0001
Age_45_49	45 <= Age <= 49	1	-0.1657117248	0.0348404234	-4.7563062898	<.0001
Age_50_54	50 <= Age <= 54	1	-0.1172354144	0.0272344443	-4.3046743730	<.0001
Age_55_59	55 <= Age <= 59	1	-0.0493103011	0.0246497837	-2.0004354505	0.0455
Age_60_64	60 <= Age <= 64	1	-0.0160548717	0.0217734332	-0.7373605970	0.4609
Age_70_74	70 <= Age <= 74	1	0.0179894910	0.0201149583	0.8943339917	0.3711
Age_75_79	75 <= Age <= 79	1	0.0421662882	0.0219876932	1.9177222378	0.0551
Age_80_84	80 <= Age <= 84	1	-0.0245607608	0.0341732862	-0.7187122918	0.4723
Age_85_89	85 <= Age <= 89	1	-0.0513335135	0.0438026643	-1.1719267389	0.2412
Age_90Plus	Age >= 90	1	-0.1284626562	0.0507747377	-2.5300506148	0.0114
MALE	Patient Sex Flag: 1=Male / 0=Female	1	0.2398359294	0.0155040542	15.4692396598	<.0001
Age_LT30_MALE	Age < 30 MALE	1	0.4297324831	0.0731707861	5.8730062377	<.0001
Age_35_39_MALE	35 <= Age <= 39 MALE	1	0.3416817884	0.0707072207	4.8323464684	<.0001
Age_40_44_MALE	40 <= Age <= 44 MALE	1	0.2042442896	0.0637139759	3.2056434522	0.0013
Age_80_84_MALE	80 <= Age <= 84 MALE	1	-0.0767152648	0.0428511972	-1.7902712112	0.0734
Age_85_89_MALE	85 <= Age <= 89 MALE	1	-0.1002381482	0.0503429142	-1.9911073819	0.0465
Age_90Plus_MALE	Age >= 90 MALE	1	-0.2004383737	0.0665701194	-3.0109360692	0.0026
CMR_AIDS	Acquired immune deficiency syndrome	1	-0.1244775352	0.0822246524	-1.5138712240	0.1301
CMR_ALCOHOL	Alcohol abuse	1	-0.1382485899	0.0325619258	-4.2457129388	<.0001
CMR_ANEMDEF	Anemias due to other nutritional deficiencies	1	-0.2214985948	0.0321088359	-6.8983688897	<.0001
CMR_BLDLOSS	Chronic blood loss anemia (iron deficiency)	1	-0.2230953224	0.0700931808	-3.1828391823	0.0015
CMR_CANCER_LEUK	Leukemia	1	0.1917224247	0.0557547697	3.4386730603	0.0006
CMR_CANCER_METS	Metastatic cancer	1	-0.0208780895	0.0332748722	-0.6274431139	0.5304
CMR_CANCER_SOLID	Solid tumor without metastasis, malignant	1	-0.1146725138	0.0298590510	-3.8404607663	0.0001
CMR_CBVD	Cerebrovascular disease	1	-0.1796312912	0.0271030763	-6.6277085667	<.0001
CMR_COAG	Coagulopathy	1	0.0106765158	0.0221764663	0.4814344934	0.6302
CMR_DEMENTIA	Dementia	1	0.1788958996	0.0273019858	6.5524867242	<.0001
CMR_DEPRESS	Depression	1	-0.2011374280	0.0362017316	-5.5560167697	<.0001
CMR_DIAB_CX	Diabetes with chronic complications	1	0.2282014099	0.0216810189	10.5254006476	<.0001
CMR_DIAB_UNCX	Diabetes without chronic complications	1	-0.1825685084	0.0285367534	-6.3976621881	<.0001
CMR_DRUG_ABUSE	Drug abuse	1	-0.1396513693	0.0326582174	-4.2761479459	<.0001
CMR_HF	Heart failure	1	0.0624431770	0.0538294379	1.1600191155	0.2460
CMR_HTN_CX	Hypertension, complicated	1	-0.1176989865	0.0513997892	-2.2898729432	0.0220
CMR_HTN_UNCX	Hypertension, uncomplicated	1	-0.6004489901	0.0212834575	-28.2120040847	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_LIVER_MLD	Liver disease, mild	1	-0.1565520682	0.0320087276	-4.8909181957	<.0001
CMR_LIVER_SEV	Liver disease, moderate to severe	1	0.1402857274	0.0419625311	3.3431188152	0.0008
CMR_LUNG_CHRONIC	Chronic pulmonary disease	1	-0.1906626154	0.0182783816	-10.4310446888	<.0001
CMR_NEURO_MOVT	Neurological disorders affecting movement	1	-0.2052278197	0.0434629034	-4.7219077321	<.0001
CMR_NEURO_OTH	Other neurological disorders	1	0.2477731112	0.0266824857	9.2859831029	<.0001
CMR_NEURO_SEIZ	Seizures and epilepsy	1	-0.2464620359	0.0315086336	-7.8220477246	<.0001
CMR_OBESE	Obesity	1	0.0386862240	0.0188944255	2.0474940631	0.0406
CMR_PARALYSIS	Paralysis	1	0.5647581249	0.0265948747	21.2356001628	<.0001
CMR_PERIVASC	Peripheral vascular disease	1	0.1377448526	0.0231738840	5.9439691970	<.0001
CMR_PSYCHOSES	Psychoses	1	-0.1627579176	0.0364711044	-4.4626539402	<.0001
CMR_PULMCIRC	Pulmonary circulation disease	1	0.0207314637	0.0297185234	0.6975940013	0.4854
CMR_RENLFL_MOD	Renal failure, moderate	1	-0.4237493052	0.0533839975	-7.9377589738	<.0001
CMR_RENLFL_SEV	Renal failure, severe	1	0.2289418007	0.0365955239	6.2560055550	<.0001
CMR_THYROID_HYPO	Hypothyroidism	1	-0.2913591801	0.0306620242	-9.5022813279	<.0001
CMR_THYROID_OTH	Other thyroid disorders	1	-0.1922439905	0.0551171363	-3.4879168871	0.0005
CMR_ULCER_PEPTIC	Peptic ulcer disease x bleeding	1	0.1501505953	0.0439117870	3.4193688216	0.0006
CMR_VALVE	Valvular disease	1	-0.1451314301	0.0292758152	-4.9573830606	<.0001
CMR_WGHTLOSS	Weight loss	1	0.7688770940	0.0285864364	26.8965702226	<.0001
MDC_1	Diseases and disorders of the nervous system	1	1.4264210651	0.0486476017	29.3215084912	<.0001
MDC_2	Diseases and disorders of the eye	1	-2.392404237	0.3726394244	-6.4201586841	<.0001
MDC_3	Diseases and disorders of the ear, nose, mouth and throat	1	-0.2890485151	0.0921106632	-3.1380570413	0.0017
MDC_4	Diseases and disorders of the respiratory system	1	1.8071595970	0.0494172269	36.5694254783	<.0001
MDC_5	Diseases and disorders of the circulatory system	1	1.1553531140	0.0528363187	21.8666467042	<.0001
MDC_7	Diseases and disorders of the hepatobiliary system and pancreas	1	0.9221681784	0.0838413148	10.9989708657	<.0001
MDC_8	Diseases and disorders of the musculoskeletal system and connective tissue	1	0.0923534602	0.0502612925	1.8374668801	0.0661
MDC_9	Diseases and disorders of the skin, subcutaneous tissue and breast	1	-0.3578512722	0.0935357459	-3.8258236850	0.0001
MDC_12	Diseases and disorders of the male reproductive system	1	-2.061706255	0.2025840128	-10.1770432242	<.0001
MDC_13	Diseases and disorders of the female reproductive system	1	-1.570649829	0.1646330288	-9.5403081659	<.0001
MDC_18	Infectious and parasitic diseases, systemic or unspecified sites	1	2.1722594815	0.0548569168	39.5986433102	<.0001
MDC_21	Injuries, poisonings and toxic effects of drugs	1	0.9358598675	0.0840943380	11.1286905839	<.0001
MDC_22	Burns	1	-0.8004736141	0.1756127031	-4.5581760319	<.0001
MDRG_101	INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE	1	-2.530878998	0.2055384984	-12.3134060938	<.0001

Table 1. Risk Adjustment Coefficients for PSI 03 - Pressure Ulcer Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_102	CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX	1	-2.284791145	0.0980953434	-23.2915352127	<.0001
MDRG_103	CRANIOTOMY & ENDOVASCULAR INTRACRANIAL PROCEDURES	1	-2.797199492	0.1008208790	-27.7442482000	<.0001
MDRG_104	SPINAL PROCEDURES	1	-1.311593055	0.0992578575	-13.2139972467	<.0001
MDRG_105	VENTRICULAR SHUNT PROCEDURES	1	-2.849175995	0.3326338822	-8.5655014336	<.0001
MDRG_106	CAROTID ARTERY STENT PROCEDURES	1	-3.270476891	0.3788859551	-8.6318240260	<.0001
MDRG_107	EXTRACRANIAL PROCEDURES	1	-3.147292867	0.2597097348	-12.1185017192	<.0001
MDRG_108	PERIPH/CRANIAL NERVE & OTHER NERV SYST PROC	1	-1.120301931	0.0843321216	-13.2844034849	<.0001
MDRG_109	SPINAL DISORDERS & INJURIES	1	-0.8723819448	0.1775074307	-4.9146221156	<.0001
MDRG_110	NERVOUS SYSTEM NEOPLASMS	1	-3.361150649	0.1915273844	-17.5491909901	<.0001
MDRG_111	DEGENERATIVE NERVOUS SYSTEM DISORDERS	1	-2.542278502	0.0826994235	-30.7411877071	<.0001
MDRG_112	MULTIPLE SCLEROSIS & CEREBELLAR ATAXIA	1	-3.133677873	0.2880935869	-10.8772913224	<.0001
MDRG_113	ACUTE ISCHEMIC STROKE W USE OF THROMBOLYTIC AGENT	1	-3.648198196	0.2196262200	-16.6109410650	<.0001
MDRG_114	INTRACRANIAL HEMORRHAGE OR CEREBRAL INFARCTION	1	-3.398857375	0.0701998424	-48.4168803911	<.0001
MDRG_116	TRANSIENT ISCHEMIA	1	-4.484770518	0.4470462072	-10.0320066388	<.0001
MDRG_117	NONSPECIFIC CEREBROVASCULAR DISORDERS	1	-2.579510042	0.1184834989	-21.7710488503	<.0001
MDRG_118	CRANIAL & PERIPHERAL NERVE DISORDERS	1	-3.688424312	0.2354029931	-15.6685531609	<.0001
MDRG_119	VIRAL MENINGITIS	1	-2.727919599	0.5790386807	-4.7111180813	<.0001
MDRG_120	HYPERTENSIVE ENCEPHALOPATHY	1	-3.488481889	0.4901966271	-7.1164950882	<.0001
MDRG_122	TRAUMATIC STUPOR & COMA, COMA >1 HR	1	-3.319635310	0.1878840352	-17.6685331831	<.0001
MDRG_123	TRAUMATIC STUPOR & COMA, COMA <1 HR	1	-3.364565908	0.1854371848	-18.1439656326	<.0001
MDRG_125	OTHER DISORDERS OF NERVOUS SYSTEM	1	-2.483026687	0.1215301908	-20.4313567754	<.0001
MDRG_126	BACTERIAL & TUBERCULOUS INFECTIONS OF NERVOUS SYSTEM	1	-2.432968976	0.1959208467	-12.4181220003	<.0001
MDRG_127	NON-BACTERIAL INFECT OF NERVOUS SYS EXC VIRAL MENINGITIS	1	-2.236826329	0.1946281945	-11.4928175500	<.0001
MDRG_128	SEIZURES	1	-3.094901246	0.1010311429	-30.6331409961	<.0001
MDRG_301	MAJOR HEAD & NECK PROCEDURES	1	-1.771583058	0.3645467824	-4.8596864494	<.0001
MDRG_302	OTHER EAR, NOSE, MOUTH & THROAT O.R. PROCEDURES	1	-2.097713779	0.5880446452	-3.5672695881	0.0004
MDRG_306	EAR, NOSE, MOUTH & THROAT MALIGNANCY	1	-1.039626075	0.3222361129	-3.2262866674	0.0013
MDRG_310	OTHER EAR, NOSE, MOUTH & THROAT DIAGNOSES	1	-1.765404509	0.4125915122	-4.2788192599	<.0001
MDRG_311	DENTAL & ORAL DISEASES	1	-2.132649157	0.4513548950	-4.7249939689	<.0001
MDRG_401	MAJOR CHEST PROCEDURES	1	-2.794145623	0.1003260265	-27.8506557236	<.0001

Table 1. Risk Adjustment Coefficients for PSI 03 - Pressure Ulcer Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_402	OTHER RESP SYSTEM O.R. PROCEDURES	1	-1.402568047	0.0764900123	-18.3366168361	<.0001
MDRG_403	PULMONARY EMBOLISM	1	-3.862984841	0.1573540627	-24.5496352328	<.0001
MDRG_404	RESPIRATORY INFECTIONS & INFLAMMATIONS	1	-4.053687325	0.0544227504	-74.4851609730	<.0001
MDRG_405	RESPIRATORY NEOPLASMS	1	-3.440373086	0.1459341451	-23.5748329018	<.0001
MDRG_406	MAJOR CHEST TRAUMA	1	-4.163669377	0.3101494139	-13.4247210888	<.0001
MDRG_407	PLEURAL EFFUSION	1	-3.777897924	0.2476197000	-15.2568552637	<.0001
MDRG_408	PULMONARY EDEMA & RESPIRATORY FAILURE	1	-3.473974403	0.1457623788	-23.8331346622	<.0001
MDRG_409	CHRONIC OBSTRUCTIVE PULMONARY DISEASE	1	-4.845778994	0.1873925738	-25.8589702638	<.0001
MDRG_410	SIMPLE PNEUMONIA & PLEURISY	1	-4.122769127	0.1128048911	-36.5477869552	<.0001
MDRG_411	INTERSTITIAL LUNG DISEASE	1	-3.772579345	0.2643926259	-14.2688523616	<.0001
MDRG_412	PNEUMOTHORAX	1	-3.947988099	0.2044178306	-19.3133254956	<.0001
MDRG_413	BRONCHITIS & ASTHMA	1	-5.407478823	0.5042164702	-10.7245184202	<.0001
MDRG_414	RESPIRATORY SIGNS & SYMPTOMS	1	-4.141249496	0.5794120494	-7.1473306440	<.0001
MDRG_415	OTHER RESPIRATORY SYSTEM DIAGNOSES	1	-3.407979176	0.3297943654	-10.3336488838	<.0001
MDRG_416	RESPIRATORY SYSTEM DIAGNOSIS W VENTILATOR SUPPORT	1	-1.716225928	0.0370673248	-46.3002370920	<.0001
MDRG_501	OTHER HEART ASSIST SYSTEM IMPLANT	1	-1.249175855	0.1267477948	-9.8556022781	<.0001
MDRG_503	CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC	1	-1.679507289	0.0761586873	-22.0527342195	<.0001
MDRG_505	OTHER CARDIOTHORACIC PROCEDURES	1	-1.909163412	0.1551935469	-12.3018221450	<.0001
MDRG_506	CORONARY BYPASS W PTCA	1	-2.041761867	0.3525959866	-5.7906554372	<.0001
MDRG_507	CORONARY BYPASS WITH CARDIAC CATHETERIZATION OR OPEN ABLATION	1	-1.982253574	0.1063745535	-18.6346593950	<.0001
MDRG_508	CORONARY BYPASS W/O CARDIAC CATH	1	-2.728094234	0.1303878643	-20.9229152392	<.0001
MDRG_509	AMPUTATION FOR CIRC SYS DISORDERS EXC UPPER LIMB & TOE	1	-1.074777741	0.0735460368	-14.6136731281	<.0001
MDRG_510	PERMANENT CARDIAC PACEMAKER IMPLANT AND PROCEDURES	1	-3.183372895	0.1704850828	-18.6724424351	<.0001
MDRG_511	PERC CARDIOVASC PROC W INTRALUMINAL DEVICE	1	-3.355273493	0.1176926611	-28.5087741296	<.0001
MDRG_512	AICD PROCEDURES	1	-2.477788361	0.4063838984	-6.0971617492	<.0001
MDRG_513	PERC CARDIOVASC PROC W/O INTRALUMINAL DEVICE	1	-3.559008696	0.4481049881	-7.9423545613	<.0001
MDRG_514	OTHER VASCULAR PROCEDURES	1	-2.367163804	0.0930684549	-25.4346524459	<.0001
MDRG_515	UPPER LIMB & TOE AMPUTATION FOR CIRC SYSTEM DISORDERS	1	-2.333745369	0.2622962543	-8.8973644523	<.0001
MDRG_517	CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEMENT	1	-2.562630404	0.2993600800	-8.5603611695	<.0001

Table 1. Risk Adjustment Coefficients for PSI 03 - Pressure Ulcer Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_519	OTHER CIRCULATORY SYSTEM O.R. PROCEDURES	1	-0.8521785014	0.1020749063	-8.3485602138	<.0001
MDRG_520	ACUTE MYOCARDIAL INFARCTION	1	-3.142778447	0.1011973207	-31.0559451988	<.0001
MDRG_522	CIRCULATORY DISORDERS EXCEPT AMI, W CARD CATH	1	-3.286147099	0.1062320672	-30.9336642299	<.0001
MDRG_523	ACUTE & SUBACUTE ENDOCARDITIS	1	-2.425654151	0.3372263438	-7.1929556988	<.0001
MDRG_524	HEART FAILURE & SHOCK	1	-3.199150627	0.1088888262	-29.3799716397	<.0001
MDRG_526	CARDIAC ARREST, UNEXPLAINED	1	-1.843339361	0.2714438797	-6.7908672815	<.0001
MDRG_527	PERIPHERAL VASCULAR DISORDERS	1	-2.827302439	0.1346331189	-21.0000515573	<.0001
MDRG_528	ATHEROSCLEROSIS	1	-3.551521632	0.4475626840	-7.9352496507	<.0001
MDRG_529	HYPERTENSION	1	-5.064512336	0.4500743392	-11.2526129468	<.0001
MDRG_531	CARDIAC ARRHYTHMIA & CONDUCTION DISORDERS	1	-3.564948415	0.1218215182	-29.2637004329	<.0001
MDRG_533	SYNCOPE & COLLAPSE	1	-4.174016078	0.2888704574	-14.4494390834	<.0001
MDRG_535	OTHER CIRCULATORY SYSTEM DIAGNOSES	1	-2.585640930	0.1041981327	-24.8146570702	<.0001
MDRG_536	OTHER ENDOVASCULAR CARDIAC VALVE PROCEDURES	1	-1.448937449	0.2834471003	-5.1118443176	<.0001
MDRG_540	ENDOVASCULAR CARDIAC VALVE REPLACEMENT	1	-2.488036198	0.1746049141	-14.2495198991	<.0001
MDRG_541	AORTIC AND HEART ASSIST PROCEDURES EXCEPT PULSATION BALLOON	1	-1.246537298	0.1332388187	-9.3556615844	<.0001
MDRG_542	OTHER MAJOR CARDIOVASCULAR PROCEDURES	1	-1.699786027	0.0822045932	-20.6775066918	<.0001
MDRG_543	PERCUTANEOUS AND OTHER INTRACARDIAC PROCEDURES	1	-3.196409732	0.2383907756	-13.4082777519	<.0001
MDRG_544	CARDIAC DEFIBRILLATOR IMPLANT OR CAROTID SINUS NEUROSTIMULATOR	1	-2.452552071	0.1528988618	-16.0403553195	<.0001
MDRG_601	STOMACH, ESOPHAGEAL & DUODENAL PROC	1	-0.4854261045	0.0887685408	-5.4684474920	<.0001
MDRG_602	MAJOR SMALL & LARGE BOWEL PROCEDURES	1	-0.9626047618	0.0608088702	-15.8300057050	<.0001
MDRG_604	PERITONEAL ADHESIOLYSIS	1	-1.340208690	0.1634274138	-8.2006357353	<.0001
MDRG_607	MINOR SMALL & LARGE BOWEL PROCEDURES	1	-1.468731937	0.3150755866	-4.6615225025	<.0001
MDRG_609	INGUINAL & FEMORAL HERNIA PROCEDURES	1	-1.465643504	0.3334581656	-4.3952844924	<.0001
MDRG_610	HERNIA PROCEDURES EXCEPT INGUINAL & FEMORAL	1	-1.703436043	0.2368174825	-7.1930333211	<.0001
MDRG_611	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES	1	-0.5079357937	0.1014447670	-5.0070181910	<.0001
MDRG_612	MAJOR ESOPHAGEAL DISORDERS	1	-1.996319612	0.2426805032	-8.2261227644	<.0001
MDRG_613	MAJOR GASTROINTESTINAL DISORDERS & PERITONEAL INFECTIONS	1	-1.562607595	0.1356923695	-11.5158103621	<.0001
MDRG_614	DIGESTIVE MALIGNANCY	1	-1.636798707	0.1301593560	-12.5753442307	<.0001
MDRG_615	G.I. HEMORRHAGE	1	-2.112930616	0.1183975421	-17.8460682381	<.0001
MDRG_616	COMPLICATED PEPTIC ULCER	1	-1.752673906	0.2062239624	-8.4988858005	<.0001

Table 1. Risk Adjustment Coefficients for PSI 03 - Pressure Ulcer Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_617	UNCOMPLICATED PEPTIC ULCER	1	-1.950775662	0.5003377599	-3.8989175281	<.0001
MDRG_618	INFLAMMATORY BOWEL DISEASE	1	-2.602226637	0.2690350382	-9.6724450988	<.0001
MDRG_619	G.I. OBSTRUCTION	1	-2.255080964	0.1383692415	-16.2975596305	<.0001
MDRG_620	ESOPHAGITIS, GASTROENT & MISC DIGEST DISORDERS	1	-2.788163955	0.1344892073	-20.7315070898	<.0001
MDRG_621	OTHER DIGESTIVE SYSTEM DIAGNOSES	1	-2.057238792	0.1331267092	-15.4532385212	<.0001
MDRG_622	APPENDIX PROCEDURES	1	-3.054678253	0.4508981028	-6.7746531503	<.0001
MDRG_701	PANCREAS, LIVER & SHUNT PROCEDURES	1	-1.900263815	0.1717342083	-11.0651444045	<.0001
MDRG_702	BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E.	1	-1.833403668	0.3385020689	-5.4162258849	<.0001
MDRG_704	CHOLECYSTECTOMY EXCEPT BY LAPAROSCOPE W/O C.D.E.	1	-3.640616328	0.5846064042	-6.2274656967	<.0001
MDRG_705	LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E.	1	-3.522378426	0.2102501422	-16.7532748815	<.0001
MDRG_706	HEPATOBIILIARY DIAGNOSTIC PROCEDURES	1	-2.827370698	0.5793237018	-4.8804678437	<.0001
MDRG_708	CIRRHOSIS & ALCOHOLIC HEPATITIS	1	-2.671484056	0.1321188459	-20.2203102708	<.0001
MDRG_709	MALIGNANCY OF HEPATOBIILIARY SYSTEM OR PANCREAS	1	-2.779751426	0.1819303032	-15.2792106504	<.0001
MDRG_710	DISORDERS OF PANCREAS EXCEPT MALIGNANCY	1	-3.580516657	0.1821754505	-19.6542215044	<.0001
MDRG_711	DISORDERS OF LIVER EXCEPT MALIG,CIRR,ALC HEPA	1	-2.757028324	0.1682715700	-16.3843976947	<.0001
MDRG_712	DISORDERS OF THE BILIARY TRACT	1	-3.252601683	0.1995540072	-16.2993553865	<.0001
MDRG_801	COMBINED ANTERIOR/POSTERIOR SPINAL FUSION	1	-2.058229412	0.1636580957	-12.5763983980	<.0001
MDRG_803	SPINAL FUSION EXCEPT CERVICAL	1	-1.858334506	0.1614184050	-11.5125317099	<.0001
MDRG_806	REVISION OF HIP OR KNEE REPLACEMENT	1	-1.267576216	0.1419813249	-8.9277672014	<.0001
MDRG_807	MAJOR JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY	1	-1.764114884	0.1331779150	-13.2463020225	<.0001
MDRG_808	CERVICAL SPINAL FUSION	1	-1.581610340	0.1666884053	-9.4884244454	<.0001
MDRG_810	BIOPSIES OF MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE	1	-0.9714661494	0.1513093462	-6.4203975095	<.0001
MDRG_811	HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT	1	-1.217921123	0.0742819270	-16.3959279498	<.0001
MDRG_813	KNEE PROCEDURES W PDX OF INFECTION	1	-1.131627479	0.2288461570	-4.9449267327	<.0001
MDRG_814	KNEE PROCEDURES W/O PDX OF INFECTION	1	-2.260540553	0.5775300910	-3.9141519856	<.0001
MDRG_815	BACK & NECK PROC EXC SPINAL FUSION OR DISC DEVICE/NEUROSTIM	1	-1.439411182	0.1865373435	-7.7164773305	<.0001
MDRG_816	LOWER EXTREM & HUMER PROC EXCEPT HIP,FOOT,FEMUR	1	-1.982635551	0.1401828053	-14.1432149708	<.0001
MDRG_818	LOCAL EXCISION & REMOVAL INT FIX DEVICES OF HIP & FEMUR	1	-0.1200541500	0.3008393308	-0.3990640110	0.6898

Table 1. Risk Adjustment Coefficients for PSI 03 - Pressure Ulcer Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_819	SOFT TISSUE PROCEDURES	1	-0.9434677586	0.1453032652	-6.4930939942	<.0001
MDRG_820	FOOT PROCEDURES	1	-2.116741488	0.4273115301	-4.9536259576	<.0001
MDRG_824	SHOULDER,ELBOW OR FOREARM PROC,EXC MAJOR JOINT PROC	1	-2.238114713	0.4477017165	-4.9991202409	<.0001
MDRG_826	OTHER MUSCULOSKELET SYS & CONN TISS O.R. PROC	1	-1.388026845	0.1582950110	-8.7686076569	<.0001
MDRG_827	FRACTURES OF FEMUR	1	-0.8543742121	0.3528444650	-2.4213904334	0.0155
MDRG_828	FRACTURES OF HIP & PELVIS	1	-1.574552258	0.1880992775	-8.3708575564	<.0001
MDRG_830	OSTEOMYELITIS	1	-0.9343283523	0.2157353232	-4.3309011177	<.0001
MDRG_831	PATHOLOGICAL FRACTURES & MUSCULOSKELET & CONN TISS MALIG	1	-1.323011765	0.1418489198	-9.3269075774	<.0001
MDRG_832	CONNECTIVE TISSUE DISORDERS	1	-1.153425738	0.1893733306	-6.0907506563	<.0001
MDRG_834	MEDICAL BACK PROBLEMS	1	-1.662101354	0.1146015233	-14.5033094394	<.0001
MDRG_835	BONE DISEASES & ARTHROPATHIES	1	-1.690218473	0.2917054215	-5.7942648608	<.0001
MDRG_836	SIGNS & SYMPTOMS OF MUSCULOSKELETAL SYSTEM & CONN TISSUE	1	-2.737107580	0.5263315591	-5.2003485878	<.0001
MDRG_837	TENDONITIS, MYOSITIS & BURSITIS	1	-1.420658373	0.2379013607	-5.9716277738	<.0001
MDRG_839	FX, SPRN, STRN & DISL EXCEPT FEMUR, HIP, PELVIS & THIGH	1	-1.976131392	0.2100301823	-9.4087972037	<.0001
MDRG_840	OTHER MUSCULOSKELETAL SYS & CONNECTIVE TISSUE DIAGNOSES	1	-1.626039965	0.2416546466	-6.7287759113	<.0001
MDRG_841	HIP REPLACEMENT WITH PRINCIPAL DIAGNOSIS OF HIP FRACTURE	1	-1.053672257	0.0952512725	-11.0620281340	<.0001
MDRG_903	OTHER SKIN, SUBCUT TISS & BREAST PROC	1	-0.5465123121	0.1370642059	-3.9872723047	<.0001
MDRG_905	BREAST BIOPSY, LOCAL EXCISION & OTHER BREAST PROCEDURES	1	-1.566705777	0.5850425541	-2.6779347344	0.0074
MDRG_906	SKIN ULCERS	1	0.1358985850	0.1583484198	0.8582250783	0.3908
MDRG_907	MAJOR SKIN DISORDERS	1	-0.8610876665	0.3797604679	-2.2674494564	0.0234
MDRG_908	MALIGNANT BREAST DISORDERS	1	-1.341174443	0.4399349357	-3.0485745360	0.0023

Table 1. Risk Adjustment Coefficients for PSI 03 - Pressure Ulcer Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_910	CELLULITIS	1	-1.703225373	0.1550118184	-10.9877130051	<.0001
MDRG_911	TRAUMA TO THE SKIN, SUBCUT TISS & BREAST	1	-2.008738857	0.3529445489	-5.6913723786	<.0001
MDRG_912	MINOR SKIN DISORDERS	1	-1.643173395	0.3860983517	-4.2558415172	<.0001
MDRG_1002	AMPUTAT OF LOWER LIMB FOR ENDOCRINE,NUTRIT,& METABOL DIS	1	-1.387521877	0.1638303918	-8.4692581257	<.0001
MDRG_1003	O.R. PROCEDURES FOR OBESITY	1	-1.900908070	0.4106684767	-4.6288141838	<.0001
MDRG_1006	OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC	1	-0.7770393830	0.1457261440	-5.3321892806	<.0001
MDRG_1007	DIABETES	1	-2.041322215	0.1024092813	-19.9329805771	<.0001
MDRG_1008	MISC DISORDERS OF NUTRITION,METABOLISM,FLUIDS/ELECTROLYTES	1	-1.784248690	0.0918800857	-19.4193189595	<.0001
MDRG_1010	ENDOCRINE DISORDERS	1	-1.863762508	0.1741290538	-10.7033402403	<.0001
MDRG_1101	KIDNEY TRANSPLANT	1	-3.416197113	0.4879210762	-7.0015362735	<.0001
MDRG_1102	MAJOR BLADDER PROCEDURES	1	-1.028357899	0.2137309969	-4.8114588614	<.0001
MDRG_1103	KIDNEY & URETER PROCEDURES FOR NEOPLASM	1	-1.976421526	0.2858700140	-6.9137070319	<.0001
MDRG_1104	KIDNEY & URETER PROCEDURES FOR NON-NEOPLASM	1	-1.743311045	0.1583438339	-11.0096553988	<.0001
MDRG_1105	MINOR BLADDER PROCEDURES	1	-0.7094624455	0.3139490638	-2.2598011181	0.0238
MDRG_1107	TRANSURETHRAL PROCEDURES	1	-1.655787212	0.3005039816	-5.5100341864	<.0001
MDRG_1109	OTHER KIDNEY & URINARY TRACT PROCEDURES	1	-0.5694716730	0.0940045564	-6.0579156462	<.0001
MDRG_1110	RENAL FAILURE	1	-1.824002093	0.0970848007	-18.7877204263	<.0001
MDRG_1112	KIDNEY & URINARY TRACT NEOPLASMS	1	-1.831943358	0.3754874363	-4.8788406234	<.0001
MDRG_1113	KIDNEY & URINARY TRACT INFECTIONS	1	-1.869175760	0.1234011292	-15.1471527964	<.0001
MDRG_1115	URINARY STONES	1	-2.340512803	0.4983817787	-4.6962246682	<.0001
MDRG_1116	KIDNEY & URINARY TRACT SIGNS & SYMPTOMS	1	-2.024777828	0.5014272227	-4.0380293218	<.0001
MDRG_1118	OTHER KIDNEY & URINARY TRACT DIAGNOSES	1	-1.278730734	0.1962179890	-6.5168883852	<.0001
MDRG_1202	PENIS PROCEDURES	1	1.5490255030	0.5424075557	2.8558331952	0.0043
MDRG_1304	UTERINE & ADNEXA PROC FOR NON-MALIGNANCY	1	-1.714465466	0.6025607793	-2.8452988052	0.0044
MDRG_1601	SPLENIC PROCEDURES	1	-0.5934560249	0.3763629927	-1.5768182217	0.1148
MDRG_1602	OTHER O.R. PROC OF THE BLOOD & BLOOD FORMING ORGANS	1	-0.0993792506	0.2533751301	-0.3922218040	0.6949
MDRG_1603	MAJOR HEMATOL/IMMUN DIAG EXC SICKLE CELL CRISIS & COAGUL	1	-1.893491477	0.2192838742	-8.6348870130	<.0001
MDRG_1604	RED BLOOD CELL DISORDERS	1	-2.319965625	0.1491762294	-15.5518451836	<.0001
MDRG_1605	COAGULATION DISORDERS	1	-3.020884065	0.4077025419	-7.4095296317	<.0001
MDRG_1606	RETICULOENDOTHELIAL & IMMUNITY DISORDERS	1	-1.466094902	0.3035604225	-4.8296641910	<.0001
MDRG_1709	MYELOPROLIF DISORD OR POORLY DIFF NEOPL W MAJ O.R. PROC	1	-0.9915693158	0.2646729653	-3.7463944034	0.0002
MDRG_1711	ACUTE LEUKEMIA	1	-0.5672752216	0.1306225683	-4.3428576642	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1712	CHEMO W ACUTE LEUKEMIA	1	-2.173902756	0.2979214205	-7.2968998084	<.0001
MDRG_1713	LYMPHOMA & NON-ACUTE LEUKEMIA	1	-0.8044148476	0.1031770337	-7.7964525520	<.0001
MDRG_1714	OTHER MYELOPROLIF DIS OR POORLY DIFF NEOPL DIAG	1	-1.112609227	0.2318807916	-4.7981948798	<.0001
MDRG_1715	CHEMOTHERAPY W/O ACUTE LEUKEMIA AS SECONDARY DIAGNOSIS	1	-2.764811137	0.2558837664	-10.8049493559	<.0001
MDRG_1801	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURE	1	-1.877102490	0.0372839843	-50.3460808489	<.0001
MDRG_1802	POSTOPERATIVE OR POST-TRAUMATIC INFECTIONS W O.R. PROC	1	-2.815121552	0.0995851485	-28.2684877596	<.0001
MDRG_1803	POSTOPERATIVE & POST-TRAUMATIC INFECTIONS	1	-4.305771274	0.1960459589	-21.9630707896	<.0001
MDRG_1804	FEVER	1	-3.944094145	0.3423421960	-11.5209115080	<.0001
MDRG_1805	VIRAL ILLNESS	1	-4.073583278	0.3799464593	-10.7214666138	<.0001
MDRG_1806	OTHER INFECTIOUS & PARASITIC DISEASES DIAGNOSES	1	-3.338974235	0.2404865907	-13.8842428827	<.0001
MDRG_1807	SEPTICEMIA OR SEVERE SEPSIS W MV >96 HOURS	1	-1.741533554	0.0394403257	-44.1561655790	<.0001
MDRG_1808	SEPTICEMIA OR SEVERE SEPSIS W/O MV >96 HOURS	1	-3.577480221	0.0541756362	-66.0348538737	<.0001
MDRG_1909	O.R. PROCEDURE W PRINCIPAL DIAGNOSES OF MENTAL ILLNESS	1	-0.0786713115	0.2950887642	-0.2666021925	0.7898
MDRG_1910	ACUTE ADJUSTMENT REACTION & PSYCHOSOCIAL DYSFUNCTION	1	-3.187770831	0.5761144220	-5.5332251879	<.0001
MDRG_1913	DISORDERS OF PERSONALITY & IMPULSE CONTROL	1	-2.478010253	0.5795429076	-4.2758011883	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1914	ORGANIC DISTURBANCES & MENTAL RETARDATION	1	-1.221018445	0.1325193130	-9.2138905442	<.0001
MDRG_1915	PSYCHOSES	1	-3.882867030	0.1473856199	-26.3449516538	<.0001
MDRG_2018	ALCOHOL/DRUG ABUSE OR DEPENDENCE	1	-3.124773732	0.1619340125	-19.2965868222	<.0001
MDRG_2101	WOUND DEBRIDEMENTS FOR INJURIES	1	-0.6796459083	0.1651948149	-4.1142084793	<.0001
MDRG_2102	SKIN GRAFTS FOR INJURIES	1	-1.352403396	0.3054218074	-4.4279857010	<.0001
MDRG_2104	OTHER O.R. PROCEDURES FOR INJURIES	1	-2.018571597	0.1343885526	-15.0204132585	<.0001
MDRG_2106	ALLERGIC REACTIONS	1	-2.922512451	0.5080325179	-5.7526090324	<.0001
MDRG_2107	POISONING & TOXIC EFFECTS OF DRUGS	1	-2.665644914	0.1386066106	-19.2317300173	<.0001
MDRG_2108	COMPLICATIONS OF TREATMENT	1	-2.730843791	0.1719587451	-15.8808078643	<.0001
MDRG_2109	OTHER INJURY, POISONING & TOXIC EFFECT DIAG	1	-3.007493869	0.4490274720	-6.6977948038	<.0001
MDRG_2210	EXTENSIVE BURNS OR FULL THICKNESS BURNS W MV >96 HRS W SKIN GRAFT	1	2.6975827583	0.3690524069	7.3094842567	<.0001
MDRG_2301	O.R. PROC W DIAGNOSES OF OTHER CONTACT W HEALTH SERVICES	1	0.7247512892	0.1553450149	4.6654299754	<.0001
MDRG_2302	REHABILITATION	1	-0.6903516125	0.1403522207	-4.9187081532	<.0001
MDRG_2303	SIGNS & SYMPTOMS	1	-1.378641224	0.1255786520	-10.9783088215	<.0001
MDRG_2304	AFTERCARE	1	-0.2204037701	0.1446633315	-1.5235634894	0.1276
MDRG_2305	OTHER FACTORS INFLUENCING HEALTH STATUS	1	-2.085832564	0.3334090336	-6.2560769340	<.0001
MDRG_2406	CRANIOTOMY FOR MULTIPLE SIGNIFICANT TRAUMA	1	0.7577579510	0.1613766654	4.6955856298	<.0001
MDRG_2407	LIMB REATTACHMENT, HIP & FEMUR PROC FOR MULTIPLE SIGNIFICANT TRAUMA	1	-0.0133774827	0.1092432411	-0.1224559304	0.9025
MDRG_2408	OTHER O.R. PROCEDURES FOR MULTIPLE SIGNIFICANT TRAUMA	1	0.1927073911	0.0936615689	2.0574862606	0.0396
MDRG_2409	OTHER MULTIPLE SIGNIFICANT TRAUMA	1	-1.063677405	0.1689275914	-6.2966469629	<.0001
MDRG_2501	HIV W EXTENSIVE O.R. PROCEDURE	1	1.0759372701	0.1825882926	5.8926958293	<.0001
MDRG_2502	HIV W MAJOR RELATED CONDITION	1	-0.6526406046	0.1322801329	-4.9337764498	<.0001
MDRG_2503	HIV W OR W/O OTHER RELATED CONDITION	1	-1.587954777	0.5816585794	-2.7300461708	0.0063
MDRG_7701	HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM	1	0.3584970858	0.0835691459	4.2898258886	<.0001
MDRG_7702	LIVER TRANSPLANT	1	-1.215227516	0.1840710639	-6.6019475887	<.0001
MDRG_7703	LUNG TRANSPLANT	1	-1.860761941	0.3707279441	-5.0192114476	<.0001
MDRG_7705	ALLOGENEIC OR AUTOLOGOUS BONE MARROW TRANSPLANT	1	-1.127421999	0.1724056627	-6.5393559685	<.0001
COVIDDX	COVID-19 Diagnosis	1	0.6154754571	0.0489306654	12.5785221243	<.0001
Q1	Quarter 1, 2020	1	-0.2494351105	0.0424012936	-5.8827240702	<.0001
Q2	Quarter 2, 2020	1	-0.2167834036	0.0439578997	-4.9316142268	<.0001

Table 1. Risk Adjustment Coefficients for PSI 03 - Pressure Ulcer Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Q3	Quarter 3, 2020	1	-0.2164855328	0.0415114051	-5.2150856393	<.0001
Q4	Quarter 4, 2020	1	-0.0666314614	0.0382948747	-1.7399576820	0.0819
Q5	Quarter 1, 2021	1	-0.0039144569	0.0386568627	-0.1012616292	0.9193
Q6	Quarter 2, 2021	1	-0.2212904174	0.0393455104	-5.6242863628	<.0001
Q7	Quarter 3, 2021	1	-0.1453426411	0.0370230398	-3.9257349455	<.0001
Q8	Quarter 4, 2021	1	0.0552690361	0.0356103996	1.5520476227	0.1207
Q9	Quarter 1, 2022	1	0.1755360817	0.0336377381	5.2184270268	<.0001
Q10	Quarter 2, 2022	1	-0.0576121045	0.0344344835	-1.6730933236	0.0943
Q11	Quarter 3, 2022	1	-0.0060441545	0.0311078699	-0.1942966371	0.8459
COVDDX_Q1	COVID, Quarter 1, 2020	1	-1.610937017	0.5056767295	-3.1857052596	0.0014
COVDDX_Q2	COVID, Quarter 2, 2020	1	0.9395312228	0.0704816042	13.3301622855	<.0001
COVDDX_Q3	COVID, Quarter 3, 2020	1	0.6047769755	0.0593911489	10.1829479125	<.0001
COVDDX_Q5	COVID, Quarter 1, 2021	1	0.2923609554	0.0532549867	5.4898324776	<.0001
COVDDX_Q6	COVID, Quarter 2, 2021	1	0.5179279097	0.0654951812	7.9078781104	<.0001
COVDDX_Q7	COVID, Quarter 3, 2021	1	0.2286569555	0.0633550575	3.6091350000	0.0003
COVDDX_Q8	COVID, Quarter 4, 2021	1	0.4461763500	0.0546896808	8.1583279198	<.0001
COVDDX_Q9	COVID, Quarter 1, 2022	1	0.1805514888	0.0542844251	3.3260274639	0.0009
COVDDX_Q10	COVID, Quarter 2, 2022	1	0.4665671910	0.0737193143	6.3289681299	<.0001
COVDDX_Q11	COVID, Quarter 3, 2022	1	-0.3477055077	0.0806967384	-4.3087925813	<.0001
TRANSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.3169015073	0.0387291436	8.1825074737	<.0001
CSHOCKANOBDD	Cardiogenic shock, cardiac arrest, and anoxic brain damage diagnosis codes	1	0.2685115644	0.0300248923	8.9429651249	<.0001
PS03_NonWt_1	PS03 Comorbidity count using non-weighted method, category 1, count > 1 and count <= 4	1	0.2553315311	0.0357029313	7.1515565175	<.0001
PS03_NonWt_2	PS03 Comorbidity count using non-weighted method, category 2, count >= 5	1	0.2777797894	0.0477238759	5.8205622213	<.0001

c-statistic=0.853

C-statistics for hospital level indicators are based on the test data (a random sample of 2020-2022 HCUP reference population, not used for the LASSO feature selection).

Table 2. Risk Adjustment Coefficients for PSI 04 - Death Rate among Surgical Inpatients with Serious Treatable Complications Stratum: Deep Vein

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Intercept	Intercept	1	-4.282687054	0.0934656478	-45.8209743762	<.0001
Age_LT30	Age < 30	1	-0.9184499167	0.1458938373	-6.2953304511	<.0001
Age_30_34	30 <= Age <= 34	1	-0.6316269405	0.1514842005	-4.1695895579	<.0001
Age_35_39	35 <= Age <= 39	1	-0.5532730273	0.1297108029	-4.2654352207	<.0001
Age_40_44	40 <= Age <= 44	1	-0.5893095133	0.1254521846	-4.6974830714	<.0001
Age_45_49	45 <= Age <= 49	1	-0.3863710791	0.1065872453	-3.6249279000	0.0003
Age_50_54	50 <= Age <= 54	1	0.0344003367	0.0830266946	0.4143286307	0.6786
Age_55_59	55 <= Age <= 59	1	-0.1186058749	0.0814315057	-1.4565108921	0.1453
Age_60_64	60 <= Age <= 64	1	-0.0015782521	0.0779401363	-0.0202495428	0.9838
Age_70_74	70 <= Age <= 74	1	0.3207459797	0.0660567819	4.8556101333	<.0001
Age_75_79	75 <= Age <= 79	1	0.2075781772	0.0926315435	2.2409016350	0.0250
Age_80_84	80 <= Age <= 84	1	0.2438720640	0.1001887092	2.4341272170	0.0149
Age_85Plus	Age >= 85	1	0.5666987437	0.1024059647	5.5338450773	<.0001
MALE	Patient Sex Flag: 1=Male / 0=Female	1	-0.0721716287	0.0469195398	-1.5381998421	0.1240
Age_75_79_MALE	75 <= Age <= 79 MALE	1	0.0154598647	0.1123391467	0.1376177860	0.8905
Age_80_84_MALE	80 <= Age <= 84 MALE	1	0.3683747191	0.1219028875	3.0218703327	0.0025
Age_85Plus_MALE	Age >= 85 MALE	1	0.1023910893	0.1434549667	0.7137507447	0.4754
CMR_ANEMDEF	Anemias due to other nutritional deficiencies	1	-0.3029955838	0.0492105631	-6.1571249064	<.0001
CMR_BLDLOSS	Chronic blood loss anemia (iron deficiency)	1	-0.7307067856	0.2249267962	-3.2486426610	0.0012
CMR_CANCER_METS	Metastatic cancer	1	0.6891967932	0.0590962880	11.6622687570	<.0001
CMR_CBVD	Cerebrovascular disease	1	0.2813667674	0.0668642220	4.2080317245	<.0001
CMR_COAG	Coagulopathy	1	0.5487059759	0.0530479801	10.3435790511	<.0001
CMR_DEMENTIA	Dementia	1	0.0627952167	0.0776555060	0.8086383047	0.4187
CMR_DEPRESS	Depression	1	-0.2942165508	0.0650065349	-4.5259534521	<.0001
CMR_DRUG_ABUSE	Drug abuse	1	-0.2209943286	0.1226029879	-1.8025199247	0.0715
CMR_HF	Heart failure	1	0.3009811168	0.0491135997	6.1282642471	<.0001
CMR_HTN_UNCX	Hypertension, uncomplicated	1	-0.2469898172	0.0455621206	-5.4209464812	<.0001
CMR_LIVER_SEV	Liver disease, moderate to severe	1	0.5298511428	0.1565814009	3.3838702407	0.0007
CMR_LUNG_CHRONIC	Chronic pulmonary disease	1	0.1807870336	0.0460769791	3.9235869439	<.0001
CMR_NEURO_OTH	Other neurological disorders	1	0.5589835021	0.0537079302	10.4078392118	<.0001
CMR_OBESE	Obesity	1	-0.1540874734	0.0465941140	-3.3070158442	0.0009
CMR_PERIVASC	Peripheral vascular disease	1	0.2860601217	0.0457398180	6.2540721438	<.0001
CMR_PSYCHOSES	Psychoses	1	-0.2356644759	0.1119030903	-2.1059693287	0.0352
CMR_RENLFL_MOD	Renal failure, moderate	1	0.1423664775	0.0589761192	2.4139682209	0.0158
CMR_RENLFL_SEV	Renal failure, severe	1	0.5803672723	0.0806661747	7.1946794861	<.0001
CMR_THYROID_HYPO	Hypothyroidism	1	-0.1293887342	0.0590371193	-2.1916505365	0.0284
CMR_WGHTLOSS	Weight loss	1	0.0763798128	0.0576981343	1.3237830608	0.1856

Table 2. Risk Adjustment Coefficients for PSI 04 - Death Rate among Surgical Inpatients with Serious Treatable Complications Stratum: Deep Vein

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDC_9	Diseases and disorders of the skin, subcutaneous tissue and breast	1	-1.517593299	0.4128162961	-3.6761952302	0.0002
MDC_10	Endocrine, nutritional and metabolic diseases and disorders	1	-0.8251125587	0.3201045911	-2.5776342533	0.0099
MDC_22	Burns	1	1.5447150662	0.4521061518	3.4167087974	0.0006
MDRG_102	CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX	1	1.4203799836	0.0742016081	19.1421725107	<.0001
MDRG_103	CRANIOTOMY & ENDOVASCULAR INTRACRANIAL PROCEDURES	1	0.6856022045	0.1048559723	6.5385136350	<.0001
MDRG_401	MAJOR CHEST PROCEDURES	1	0.2874877265	0.1027835935	2.7970196101	0.0052
MDRG_402	OTHER RESP SYSTEM O.R. PROCEDURES	1	0.6285577965	0.1455110047	4.3196581438	<.0001
MDRG_501	OTHER HEART ASSIST SYSTEM IMPLANT	1	1.2986247020	0.2431664144	5.3404772422	<.0001
MDRG_511	PERCUTANEOUS CARDIOVASCULAR PROCEDURES WITH INTRALUMINAL DEVICE	1	-0.2325281413	0.1189224716	-1.9552918648	0.0505
MDRG_513	PERC CARDIOVASC PROC W/O INTRALUMINAL DEVICE	1	0.6436749487	0.2713909691	2.3717625931	0.0177
MDRG_541	AORTIC AND HEART ASSIST PROCEDURES EXCEPT PULSATION BALLOON	1	0.9126500739	0.2147770901	4.2492896877	<.0001
MDRG_543	PERCUTANEOUS AND OTHER INTRACARDIAC PROCEDURES	1	-1.105760278	0.4429425467	-2.4963966222	0.0125
MDRG_544	CARDIAC DEFIBRILLATOR IMPLANT OR CAROTID SINUS NEUROSTIMULATOR	1	-1.839334033	0.3883183312	-4.7366654758	<.0001
MDRG_611	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES	1	0.2841109718	0.1822882517	1.5585808141	0.1191
MDRG_801	COMBINED ANTERIOR/POSTERIOR SPINAL FUSION	1	-1.202474986	0.3087470323	-3.8946932621	<.0001
MDRG_806	REVISION OF HIP OR KNEE REPLACEMENT	1	-0.5475661223	0.2347449260	-2.3326004595	0.0197
MDRG_807	MAJOR JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY	1	-0.8621967027	0.1708109869	-5.0476653650	<.0001
MDRG_815	BACK & NECK PROC EXC SPINAL FUSION OR DISC DEVICE/NEUROSTIM	1	-1.338635742	0.5624603280	-2.3799647291	0.0173
MDRG_825	HAND OR WRIST PROC, EXCEPT MAJOR THUMB OR JOINT PROC	1	1.6995747594	0.4438351189	3.8292931022	0.0001
MDRG_905	BREAST BIOPSY, LOCAL EXCISION & OTHER BREAST PROCEDURES	1	3.1158335969	0.6238941503	4.9941702381	<.0001
MDRG_1103	KIDNEY & URETER PROCEDURES FOR NEOPLASM	1	-0.8679987482	0.4085629303	-2.1245166507	0.0336
MDRG_1303	UTERINE,ADNEXA PROC FOR NON-OVARIAN/ADNEXAL MALIG	1	-1.202530788	0.5647742107	-2.1292239724	0.0332
MDRG_1601	SPLenic PROCEDURES	1	0.9590882641	0.4347036644	2.2063036103	0.0274
MDRG_1801	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURES	1	0.2891110468	0.0810346436	3.5677462628	0.0004

Table 2. Risk Adjustment Coefficients for PSI 04 - Death Rate among Surgical Inpatients with Serious Treatable Complications Stratum: Deep Vein

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_2406	CRANIOTOMY FOR MULTIPLE SIGNIFICANT TRAUMA	1	3.2669546488	0.1987090717	16.4408933154	<.0001
MDRG_2408	OTHER O.R. PROCEDURES FOR MULTIPLE SIGNIFICANT TRAUMA	1	0.9295074586	0.1089438904	8.5319833484	<.0001
MDRG_7701	HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM	1	0.7914208842	0.4244889173	1.8644088265	0.0623
COVIDDX	COVID-19 Diagnosis	1	0.4065361221	0.1109326460	3.6647113070	0.0002
Q2	Quarter 2, 2020	1	0.2541308295	0.0831219378	3.0573256119	0.0022
Q3	Quarter 3, 2020	1	-0.0683237169	0.0802056417	-0.8518567450	0.3943
Q4	Quarter 4, 2020	1	0.0083060710	0.0778792528	0.1066531937	0.9151
Q5	Quarter 1, 2021	1	-0.0581950744	0.0813116058	-0.7157044037	0.4742
Q6	Quarter 2, 2021	1	0.0018892425	0.0804211473	0.0234918619	0.9813
Q7	Quarter 3, 2021	1	0.1562074202	0.0771408844	2.0249627862	0.0429
Q8	Quarter 4, 2021	1	0.0771325472	0.0800769185	0.9632307115	0.3354
Q9	Quarter 1, 2022	1	0.0959815458	0.0734998462	1.3058741028	0.1916
Q10	Quarter 2, 2022	1	-0.1365901941	0.0842944080	-1.6203944875	0.1051
Q11	Quarter 3, 2022	1	0.0500978514	0.0781795754	0.6408048534	0.5216
COVIDDX_Q2	COVID, Quarter 2, 2020	1	0.3799223608	0.2856607517	1.3299774594	0.1835
COVIDDX_Q3	COVID, Quarter 3, 2020	1	0.9664047852	0.2547175157	3.7940256392	0.0001
COVIDDX_Q4	COVID, Quarter 4, 2020	1	0.5761474287	0.2357452470	2.4439408047	0.0145
COVIDDX_Q5	COVID, Quarter 1, 2021	1	0.5751101356	0.2137302784	2.6908220019	0.0071
COVIDDX_Q7	COVID, Quarter 3, 2021	1	0.9040926220	0.2118643518	4.2673182843	<.0001
COVIDDX_Q8	COVID, Quarter 4, 2021	1	0.4743080003	0.2217284998	2.1391386345	0.0324
COVIDDX_Q11	COVID, Quarter 3, 2022	1	-0.3652997361	0.2854681116	-1.2796516361	0.2007
DNR	Do not resuscitate flag	1	0.9151837751	0.0669590370	13.6678156784	<.0001
ODC903	Ventilator Dependence flag	1	0.7447431251	0.1551918711	4.7988539601	<.0001
TRNSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.3630502044	0.0477836060	7.5977983806	<.0001
RegVarPS04_SHOCK_ANY	PSI04 SHOCK Regression variable: Any Triggering Complication POA	1	0.1946648685	0.1040270378	1.8712910851	0.0613
RegVarPS04_DVT_PE_ANY	PSI04 DVT PE Regression variable: Any Triggering Complication POA	1	-0.5014077745	0.0424741416	-11.8050125544	<.0001
RegVarPS04_SHOCK_SEVERE	PSI04 SHOCK Regression variable: Triggering Complication Severe	1	3.6291305976	0.0724526767	50.0896690444	<.0001
RegVarPS04_DVT_PE_SEVERE	PSI04 DVT PE Regression variable: Triggering Complication Severe	1	0.7447287414	0.0408982182	18.2093199543	<.0001
RegVarPS04_PNEUMONIA_ANY	PSI04 PNEUMONIA Regression variable: Any Triggering Complication POA	1	0.4431221978	0.1562826813	2.8353890148	0.0046

Table 2. Risk Adjustment Coefficients for PSI 04 - Death Rate among Surgical Inpatients with Serious Treatable Complications Stratum: Deep Vein

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
RegVarPS04_SEPSIS_SEVERE	PSI04 SEPSIS Regression variable: Triggering Complication Severe	1	1.7950468426	0.0803160086	22.3498014081	<.0001
RegVarPS04_PNEUMONIA_SEVERE	PSI04 PNEUMONIA Regression variable: Triggering Complication Severe	1	0.5825800955	0.1646358555	3.5385979181	0.0004
RegVarPS04_GIHEMORRHAGE_SEVERE	PSI04 GIHEMORRHAGE Regression variable: Triggering Complication Severe	1	1.0852147486	0.5426818661	1.9997254680	0.0455

c-statistic=0.884

C-statistics for hospital level indicators are based on the test data (a random sample of 2020-2022 HCUP reference population, not used for the LASSO feature selection).

Table 3. 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	-3.174413029	0.0400199498	-79.3207648464	<.0001
Age_LT30	Age < 30	1	-0.9957982663	0.0557082811	-17.8752287122	<.0001
Age_30_34	30 <= Age <= 34	1	-0.7335120364	0.0606592623	-12.0923336164	<.0001
Age_35_39	35 <= Age <= 39	1	-0.6354495200	0.0517733537	-12.2736789239	<.0001
Age_40_44	40 <= Age <= 44	1	-0.4428773982	0.0468530089	-9.4524857429	<.0001
Age_45_49	45 <= Age <= 49	1	-0.3854416647	0.0407042861	-9.4693139542	<.0001
Age_50_54	50 <= Age <= 54	1	-0.3505570877	0.0345997491	-10.1317811935	<.0001
Age_55_59	55 <= Age <= 59	1	-0.2728135738	0.0315300442	-8.6524957725	<.0001
Age_60_64	60 <= Age <= 64	1	-0.0672565664	0.0273458753	-2.4594775470	0.0139
Age_70_74	70 <= Age <= 74	1	0.1339356307	0.0252826759	5.2975259077	<.0001
Age_75_79	75 <= Age <= 79	1	0.2078956492	0.0354779194	5.8598602399	<.0001
Age_80_84	80 <= Age <= 84	1	0.2918872591	0.0382510634	7.6308273107	<.0001
Age_85Plus	Age >= 85	1	0.2912774826	0.0399775417	7.2860278611	<.0001
MALE	Patient Sex Flag: 1=Male / 0=Female	1	-0.0037806385	0.0186043134	-0.2032130085	0.8390
Age_75_79_MALE	75 <= Age <= 79 MALE	1	0.0304476895	0.0416462266	0.7311031985	0.4647
Age_80_84_MALE	80 <= Age <= 84 MALE	1	0.0547624105	0.0433232973	1.2640406869	0.2062
Age_85Plus_MALE	Age >= 85 MALE	1	0.2147853899	0.0492923452	4.3573781904	<.0001
CMR_ALCOHOL	Alcohol abuse	1	-0.1104796528	0.0273170479	-4.0443481812	<.0001
CMR_ANEMDEF	Anemias due to other nutritional deficiencies	1	-0.2559455710	0.0185342004	-13.8093667880	<.0001
CMR_CANCER_LYMPH	Lymphoma	1	0.1313791381	0.0702234058	1.8708739142	0.0614
CMR_CANCER_METS	Metastatic cancer	1	0.5039608002	0.0328330167	15.3492079068	<.0001
CMR_CANCER_SOLID	Solid tumor without metastasis, malignant	1	0.1245895595	0.0330985223	3.7642030835	0.0002
CMR_CBVD	Cerebrovascular disease	1	0.1492119704	0.0244093421	6.1129042289	<.0001
CMR_COAG	Coagulopathy	1	0.4325656325	0.0228842234	18.9023514121	<.0001
CMR_DEPRESS	Depression	1	-0.2816013829	0.0268834365	-10.4749027617	<.0001
CMR_DIAB_UNCX	Diabetes without chronic complications	1	-0.0644374659	0.0272536212	-2.3643634515	0.0181
CMR_DRUG_ABUSE	Drug abuse	1	-0.1617529746	0.0378780268	-4.2703643372	<.0001
CMR_HF	Heart failure	1	0.2596117216	0.0203502433	12.7571802492	<.0001
CMR_HTN_CX	Hypertension, complicated	1	-0.2505959935	0.0221469994	-11.3151217119	<.0001
CMR_HTN_UNCX	Hypertension, uncomplicated	1	-0.3212002435	0.0212992587	-15.0803484757	<.0001
CMR_LIVER_SEV	Liver disease, moderate to severe	1	0.7624304202	0.0474490880	16.0683893315	<.0001
CMR_LUNG_CHRONIC	Chronic pulmonary disease	1	-0.0589502662	0.0164924294	-3.5743834275	0.0004
CMR_NEURO_MOVT	Neurological disorders affecting movement	1	-0.0724862987	0.0401090011	-1.8072327099	0.0707
CMR_NEURO_OTH	Other neurological disorders	1	0.3024471047	0.0179297210	16.8684780444	<.0001
CMR_OBESE	Obesity	1	-0.1276548286	0.0195436260	-6.5317883348	<.0001
CMR_PARALYSIS	Paralysis	1	-0.2662329388	0.0257007557	-10.3589537112	<.0001
CMR_PERIVASC	Peripheral vascular disease	1	0.1305795783	0.0197460700	6.6129401201	<.0001
CMR_PSYCHOSES	Psychoses	1	-0.2839227375	0.0387291159	-7.3309893750	<.0001

Table 3. 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
CMR_PULMCIRC	Pulmonary circulation disease	1	0.1078484711	0.0289524131	3.7250252936	0.0002
CMR_RENLFL_MOD	Renal failure, moderate	1	0.1447867340	0.0235609270	6.1452053299	<.0001
CMR_RENLFL_SEV	Renal failure, severe	1	0.4489473976	0.0267833473	16.7621840946	<.0001
CMR_THYROID_HYPO	Hypothyroidism	1	-0.1247964435	0.0221412758	-5.6363709445	<.0001
CMR_THYROID_OTH	Other thyroid disorders	1	-0.3128254950	0.0671892666	-4.6558849464	<.0001
CMR_WGHTLOSS	Weight loss	1	0.1753139047	0.0204025865	8.5927293778	<.0001
MDC_3	Diseases and disorders of the ear, nose, mouth and throat	1	-0.8894439519	0.0996417343	-8.9264198200	<.0001
MDC_9	Diseases and disorders of the skin, subcutaneous tissue and breast	1	-0.2072527186	0.0998296132	-2.0760645264	0.0379
MDC_10	Endocrine, nutritional and metabolic diseases and disorders	1	-0.3199293735	0.1205836283	-2.6531742154	0.0080
MDC_12	Diseases and disorders of the male reproductive system	1	-0.8174104689	0.2452157899	-3.3334332554	0.0009
MDC_13	Diseases and disorders of the female reproductive system	1	-0.8459580199	0.1881100047	-4.4971452817	<.0001
MDC_22	Burns	1	0.5608149614	0.1976137743	2.8379345686	0.0045
MDRG_101	INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE	1	1.4993933511	0.0533110885	28.1253561698	<.0001
MDRG_102	CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX	1	1.6805325740	0.0345154616	48.6892683926	<.0001
MDRG_103	CRANIOTOMY & ENDOVASCULAR INTRACRANIAL PROCEDURES	1	1.2720211793	0.0404256665	31.4656823271	<.0001
MDRG_104	SPINAL PROCEDURES	1	0.8850450796	0.0866731490	10.2112948495	<.0001
MDRG_107	EXTRACRANIAL PROCEDURES	1	0.2780796823	0.1320239313	2.1062823954	0.0352
MDRG_501	OTHER HEART ASSIST SYSTEM IMPLANT	1	1.2747402961	0.0523869732	24.3331542065	<.0001
MDRG_507	CORONARY BYPASS WITH CARDIAC CATHETERIZATION OR OPEN ABLATION	1	-0.2080175561	0.0938222374	-2.2171455505	0.0266
MDRG_508	CORONARY BYPASS W/O CARDIAC CATH	1	-0.5683663494	0.0893187470	-6.3633488912	<.0001
MDRG_509	AMPUTATION FOR CIRC SYS DISORDERS EXC UPPER LIMB & TOE	1	0.3564458188	0.0712778486	5.0007937335	<.0001
MDRG_510	PERMANENT CARDIAC PACEMAKER IMPLANT AND PROCEDURES	1	-0.7010998464	0.1612296221	-4.3484555596	<.0001
MDRG_513	PERC CARDIOVASC PROC W/O INTRALUMINAL DEVICE	1	0.7041245072	0.0824313790	8.5419474465	<.0001
MDRG_514	OTHER VASCULAR PROCEDURES	1	0.2713091075	0.0550219375	4.9309260948	<.0001
MDRG_517	CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEMENT	1	0.2040919994	0.1804594435	1.1309577124	0.2581
MDRG_519	OTHER CIRCULATORY SYSTEM O.R. PROCEDURES	1	0.2103465806	0.1153804852	1.8230689552	0.0683
MDRG_536	OTHER ENDOVASCULAR CARDIAC VALVE PROCEDURES	1	0.9788669970	0.1666832344	5.8726182073	<.0001

Table 3. 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
MDRG_541	AORTIC AND HEART ASSIST PROCEDURES EXCEPT PULSATION BALLOON	1	0.4225541401	0.0851737974	4.9610813762	<.0001
MDRG_542	OTHER MAJOR CARDIOVASCULAR PROCEDURES	1	0.5109733949	0.0385887862	13.2414995277	<.0001
MDRG_543	PERCUTANEOUS AND OTHER INTRACARDIAC PROCEDURES	1	-0.7422996530	0.1384328357	-5.3621646148	<.0001
MDRG_544	CARDIAC DEFIBRILLATOR IMPLANT OR CAROTID SINUS NEUROSTIMULATOR	1	-1.699996782	0.1255619017	-13.5391130475	<.0001
MDRG_601	STOMACH, ESOPHAGEAL & DUODENAL PROC	1	-0.3230711627	0.0722594276	-4.4709897875	<.0001
MDRG_602	MAJOR SMALL & LARGE BOWEL PROCEDURES	1	-0.2243319359	0.0456001914	-4.9195393481	<.0001
MDRG_604	PERITONEAL ADHESIOLYSIS	1	-0.8215801514	0.1358122027	-6.0493838929	<.0001
MDRG_609	INGUINAL & FEMORAL HERNIA PROCEDURES	1	-0.7369524293	0.2067095243	-3.5651595249	0.0004
MDRG_610	HERNIA PROCEDURES EXCEPT INGUINAL & FEMORAL	1	-0.9482172941	0.1777932683	-5.3332575692	<.0001
MDRG_611	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES	1	0.1702796077	0.0809901669	2.1024726123	0.0355
MDRG_622	APPENDIX PROCEDURES	1	-0.8862388817	0.2117641788	-4.1850273569	<.0001
MDRG_705	LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E.	1	-1.040587324	0.1146347715	-9.0774143928	<.0001
MDRG_801	COMBINED ANTERIOR/POSTERIOR SPINAL FUSION	1	-0.8782724017	0.1455794432	-6.0329424416	<.0001
MDRG_803	SPINAL FUSION EXCEPT CERVICAL	1	-0.9081589457	0.1623812141	-5.5927586852	<.0001
MDRG_807	MAJOR JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY	1	-0.5728079459	0.0822740121	-6.9621977968	<.0001
MDRG_812	MAJOR JOINT/LIMB REATTACHMENT PROCEDURE OF UPPER EXTREMITIES	1	-1.024845616	0.2651887116	-3.8645898990	0.0001
MDRG_816	LOWER EXTREM & HUMER PROC EXCEPT HIP,FOOT,FEMUR	1	-0.3038770043	0.0952386999	-3.1906882856	0.0014
MDRG_826	OTHER MUSCULOSKELET SYS & CONN TISS O.R. PROC	1	-0.6477116548	0.1674204078	-3.8687736062	0.0001
MDRG_841	HIP REPLACEMENT WITH PRINCIPAL DIAGNOSIS OF HIP FRACTURE	1	-0.2137595678	0.0571103733	-3.7429201623	0.0002
MDRG_1002	AMPUTAT OF LOWER LIMB FOR ENDOCRINE,NUTRIT,& METABOL DIS	1	-0.3154065395	0.2539259142	-1.2421203264	0.2142
MDRG_1101	KIDNEY TRANSPLANT	1	-1.799213908	0.5716941159	-3.1471618446	0.0016
MDRG_1103	KIDNEY & URETER PROCEDURES FOR NEOPLASM	1	-0.9004711330	0.2114240849	-4.2590754657	<.0001
MDRG_1104	KIDNEY & URETER PROCEDURES FOR NON-NEOPLASM	1	-0.8591245225	0.2118076198	-4.0561549353	<.0001
MDRG_1107	TRANSURETHRAL PROCEDURES	1	-0.7858369525	0.2743519227	-2.8643391481	0.0042
MDRG_1109	OTHER KIDNEY & URINARY TRACT PROCEDURES	1	-0.9061053344	0.2037118533	-4.4479755098	<.0001
MDRG_1707	LYMPHOMA & LEUKEMIA W MAJOR O.R. PROC OR ACUTE LEUKEMIA W ANY O.R. PROC	1	0.6666012178	0.1903187160	3.5025520970	0.0005

Table 3. 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
MDRG_1801	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURE	1	0.0745665915	0.0272652710	2.7348560508	0.0062
MDRG_2210	EXTENSIVE BURNS OR FULL THICKNESS BURNS W MV >96 HRS W SKIN GRAFT	1	0.7714473365	0.2817949803	2.7376191567	0.0062
MDRG_2406	CRANIOTOMY FOR MULTIPLE SIGNIFICANT TRAUMA	1	2.6378741183	0.0787850830	33.4818980873	<.0001
MDRG_2407	LIMB REATTACHMENT, HIP & FEMUR PROC FOR MULTIPLE SIGNIFICANT TRAUMA	1	0.2822572241	0.0747213296	3.7774652272	0.0002
MDRG_2408	OTHER O.R. PROCEDURES FOR MULTIPLE SIGNIFICANT TRAUMA	1	0.6922379593	0.0534741079	12.9452923306	<.0001
MDRG_7701	HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM	1	0.3781963608	0.1073804911	3.5220211517	0.0004
MDRG_7702	LIVER TRANSPLANT	1	-2.091565331	0.4664742891	-4.4837740890	<.0001
COVIDDX	COVID-19 Diagnosis	1	0.2167024713	0.0639502368	3.3886109282	0.0007
Q2	Quarter 2, 2020	1	-0.0447501522	0.0295829796	-1.5126992890	0.1304
Q3	Quarter 3, 2020	1	0.0109089408	0.0278371422	0.3918843644	0.6951
Q4	Quarter 4, 2020	1	0.0079788392	0.0275095421	0.2900389678	0.7718
Q5	Quarter 1, 2021	1	0.0064647137	0.0284193828	0.2274755125	0.8201
Q6	Quarter 2, 2021	1	-0.0224259053	0.0276192917	-0.8119652588	0.4168
Q7	Quarter 3, 2021	1	0.0279299351	0.0274858503	1.0161568497	0.3096
Q8	Quarter 4, 2021	1	0.0909941600	0.0267244130	3.4049077118	0.0007
Q9	Quarter 1, 2022	1	0.0607366983	0.0278182061	2.1833434555	0.0290
Q10	Quarter 2, 2022	1	-0.0066022180	0.0277178875	-0.2381934050	0.8117
COVIDDX_Q4	COVID, Quarter 4, 2020	1	0.4555300807	0.2174031256	2.0953244321	0.0361
COVIDDX_Q7	COVID, Quarter 3, 2021	1	0.3968924242	0.2611880535	1.5195657646	0.1286
COVIDDX_Q8	COVID, Quarter 4, 2021	1	0.3389712278	0.2097965876	1.6157137332	0.1062
COVIDDX_Q10	COVID, Quarter 2, 2022	1	-0.5814610531	0.2404547753	-2.4181722005	0.0156
DNR	Do not resuscitate flag	1	0.7940159834	0.0286654115	27.6994447799	<.0001
ODC903	Ventilator Dependence flag	1	0.3617855505	0.0417592296	8.6636069181	<.0001
TRANSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.1834089979	0.0231095715	7.9364949596	<.0001
RegVarPS04_SHOCK_ANY	PSI04 SHOCK Regression variable: Any Triggering Complication POA	1	0.1831796513	0.0340869185	5.3738988304	<.0001
RegVarPS04_SHOCK_SEVERE	PSI04 SHOCK Regression variable: Triggering Complication Severe	1	1.8059142316	0.0333735136	54.1121995889	<.0001
RegVarPS04_DVT_PE_SEVERE	PSI04 DVT PE Regression variable: Triggering Complication Severe	1	0.3207664416	0.0373085435	8.5976672238	<.0001

Table 3. 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
RegVarPS04_PNEUMONIA_ANY	PSI04 PNEUMONIA Regression variable: Any Triggering Complication POA	1	-0.1848103158	0.0181744864	-10.1686678588	<.0001
RegVarPS04_SEPSIS_SEVERE	PSI04 SEPSIS Regression variable: Triggering Complication Severe	1	1.5074353669	0.0247125388	60.9988062333	<.0001
RegVarPS04_GIHEMORRHAGE_ANY	PSI04 GIHEMORRHAGE Regression variable: Any Triggering Complication POA	1	0.2835334639	0.0359030344	7.8972005686	<.0001
RegVarPS04_PNEUMONIA_SEVERE	PSI04 PNEUMONIA Regression variable: Triggering Complication Severe	1	0.4086262351	0.0169625380	24.0899230451	<.0001
RegVarPS04_GIHEMORRHAGE_SEVERE	PSI04 GIHEMORRHAGE Regression variable: Triggering Complication Severe	1	0.1596634630	0.0889999187	1.7939731337	0.0728
PS04_PNEUMONIA_NonWt_1	PS04_PNEUMONIA Comorbidity count using non-weighted method, category 1, count > 2 and count <= 5	1	0.0472196952	0.0145456524	3.2463098965	0.0012

c-statistic=0.811

C-statistics for hospital level indicators are based on the test data (a random sample of 2020-2022 HCUP reference population, not used for the LASSO feature selection).

Table 4. 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	-2.167614799	0.0405432233	-53.4642936838	<.0001
Age_LT30	Age < 30	1	-1.545921603	0.0824970045	-18.7391240703	<.0001
Age_30_34	30 <= Age <= 34	1	-0.9559621263	0.0584985620	-16.3416346369	<.0001
Age_35_39	35 <= Age <= 39	1	-0.8193109112	0.0512535771	-15.9854386280	<.0001
Age_40_44	40 <= Age <= 44	1	-0.6725413574	0.0465152829	-14.4585030003	<.0001
Age_45_49	45 <= Age <= 49	1	-0.5648041829	0.0423899629	-13.3240074964	<.0001
Age_50_54	50 <= Age <= 54	1	-0.4192781440	0.0345127934	-12.1484847362	<.0001
Age_55_59	55 <= Age <= 59	1	-0.2785199057	0.0435368318	-6.3973397712	<.0001
Age_60_64	60 <= Age <= 64	1	-0.0903592009	0.0382705624	-2.3610627912	0.0182
Age_70_74	70 <= Age <= 74	1	0.1409981970	0.0257851653	5.4681905355	<.0001
Age_75_79	75 <= Age <= 79	1	0.2704813627	0.0265786515	10.1766398122	<.0001
Age_80_84	80 <= Age <= 84	1	0.4044640985	0.0288314749	14.0285607873	<.0001
Age_85Plus	Age >= 85	1	0.4731445337	0.0350528067	13.4980499080	<.0001
MALE	Patient Sex Flag: 1=Male / 0=Female	1	-0.0343333139	0.0163540322	-2.0993791253	0.0358
Age_LT30_MALE	Age < 30 MALE	1	0.6147085394	0.0968694031	6.3457450919	<.0001
Age_55_59_MALE	55 <= Age <= 59 MALE	1	-0.0206633280	0.0494731324	-0.4176676707	0.6762
Age_60_64_MALE	60 <= Age <= 64 MALE	1	-0.0939790515	0.0432425591	-2.1732999486	0.0298
CMR_ALCOHOL	Alcohol abuse	1	-0.1404948577	0.0317578771	-4.4239373253	<.0001
CMR_ANEMDEF	Anemias due to other nutritional deficiencies	1	-0.2514515715	0.0202728878	-12.4033425126	<.0001
CMR_BLDLOSS	Chronic blood loss anemia (iron deficiency)	1	-0.2799178729	0.0830326228	-3.3711794632	0.0007
CMR_CANCER_LYMPH	Lymphoma	1	0.1304277595	0.0684238232	1.9061746846	0.0566
CMR_CANCER_METS	Metastatic cancer	1	0.3160658312	0.0303434138	10.4162911193	<.0001
CMR_CANCER_SOLID	Solid tumor without metastasis, malignant	1	0.0771545070	0.0351635558	2.1941611189	0.0282
CMR_COAG	Coagulopathy	1	0.4350944203	0.0218467551	19.9157458056	<.0001
CMR_DEMENTIA	Dementia	1	-0.1606112702	0.0349962956	-4.5893791796	<.0001
CMR_DEPRESS	Depression	1	-0.2682930135	0.0258256579	-10.3886226051	<.0001
CMR_DIAB_UNCX	Diabetes without chronic complications	1	-0.0902836335	0.0309314552	-2.9188291593	0.0035
CMR_DRUG_ABUSE	Drug abuse	1	-0.0856941784	0.0394525969	-2.1720795370	0.0298
CMR_HF	Heart failure	1	0.2435113541	0.0207897021	11.7130757005	<.0001
CMR_HTN_CX	Hypertension, complicated	1	-0.2136786627	0.0218899242	-9.7615076608	<.0001
CMR_HTN_UNCX	Hypertension, uncomplicated	1	-0.2764079652	0.0217097385	-12.7319804166	<.0001
CMR_LIVER_MLD	Liver disease, mild	1	0.1512925972	0.0303588082	4.9834827639	<.0001
CMR_LIVER_SEV	Liver disease, moderate to severe	1	0.6898469138	0.0455619773	15.1408466979	<.0001

Table 4. 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
CMR_LUNG_CHRONIC	Chronic pulmonary disease	1	0.0708717728	0.0174478970	4.0619091758	<.0001
CMR_NEURO_MOVT	Neurological disorders affecting movement	1	-0.0427899357	0.0466401391	-0.9174487139	0.3589
CMR_NEURO_OTH	Other neurological disorders	1	0.0860608362	0.0225338581	3.8191789449	0.0001
CMR_OBESE	Obesity	1	-0.0974882741	0.0188375312	-5.1752150159	<.0001
CMR_PARALYSIS	Paralysis	1	-0.2281017854	0.0298755600	-7.6350630939	<.0001
CMR_PERIVASC	Peripheral vascular disease	1	0.1952504485	0.0227837383	8.5697283584	<.0001
CMR_PSYCHOSES	Psychoses	1	-0.3973389770	0.0437090050	-9.0905518614	<.0001
CMR_PULMCIRC	Pulmonary circulation disease	1	0.1078138069	0.0315013427	3.4225146528	0.0006
CMR_RENLFLL_SEV	Renal failure, severe	1	0.3078446354	0.0248130174	12.4065779856	<.0001
CMR_THYROID_HYPO	Hypothyroidism	1	-0.0951545269	0.0238660534	-3.9870239739	<.0001
CMR_THYROID_OTH	Other thyroid disorders	1	-0.3490731633	0.0782633542	-4.4602377051	<.0001
CMR_ULCER_PEPTIC	Peptic ulcer disease x bleeding	1	-0.2983843806	0.0530214112	-5.6276205035	<.0001
CMR_VALVE	Valvular disease	1	0.0362647275	0.0267102471	1.3577084256	0.1746
CMR_WGHTLOSS	Weight loss	1	-0.0554254870	0.0204661213	-2.7081578442	0.0068
MDC_3	Diseases and disorders of the ear, nose, mouth and throat	1	-0.5245430642	0.0871448318	-6.0192102420	<.0001
MDC_4	Diseases and disorders of the respiratory system	1	0.2952710505	0.0463408521	6.3717225108	<.0001
MDC_8	Diseases and disorders of the musculoskeletal system and connective tissue	1	-0.3377857953	0.0400209721	-8.4402196636	<.0001
MDC_9	Diseases and disorders of the skin, subcutaneous tissue and breast	1	-0.5175266117	0.1132171282	-4.5710982060	<.0001
MDC_10	Endocrine, nutritional and metabolic diseases and disorders	1	-0.4285783412	0.0903410559	-4.7440041198	<.0001
MDC_11	Diseases and disorders of the kidney and urinary tract	1	-0.3361280987	0.0643417598	-5.2241048414	<.0001
MDC_12	Diseases and disorders of the male reproductive system	1	-1.263253198	0.2291333902	-5.5131781394	<.0001
MDC_13	Diseases and disorders of the female reproductive system	1	-0.4016209492	0.0979174025	-4.1016299342	<.0001
MDC_17	Myeloproliferative diseases and disorders, poorly differentiated neoplasms	1	0.5470184852	0.0827782038	6.6082429912	<.0001
MDC_21	Injuries, poisonings and toxic effects of drugs	1	-0.0267603620	0.0884729457	-0.3024694361	0.7623
MDC_22	Burns	1	0.6331614305	0.1233884562	5.1314478695	<.0001
MDC_24	Multiple significant trauma	1	0.3340968385	0.0674294167	4.9547638870	<.0001
MDRG_101	INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE	1	0.8279969029	0.0723007760	11.4521164115	<.0001
MDRG_102	CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX	1	1.0988908595	0.0481579284	22.8184827810	<.0001
MDRG_103	CRANIOTOMY & ENDOVASCULAR INTRACRANIAL PROCEDURES	1	0.6811232579	0.0534533104	12.7423961671	<.0001
MDRG_104	SPINAL PROCEDURES	1	0.4624226602	0.1069877358	4.3222025082	<.0001
MDRG_107	EXTRACRANIAL PROCEDURES	1	0.1793080359	0.1686930112	1.0629251007	0.2878
MDRG_401	MAJOR CHEST PROCEDURES	1	0.0940431786	0.0683411686	1.3760838532	0.1688

Table 4. 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
MDRG_402	OTHER RESP SYSTEM O.R. PROCEDURES	1	0.3734225283	0.0882578436	4.2310407007	<.0001
MDRG_501	OTHER HEART ASSIST SYSTEM IMPLANT	1	1.1957963332	0.0555355016	21.5321064613	<.0001
MDRG_503	CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC	1	0.3865041310	0.0495625030	7.7983174227	<.0001
MDRG_510	PERMANENT CARDIAC PACEMAKER IMPLANT AND PROCEDURES	1	-0.6016165810	0.2152482775	-2.7949890609	0.0052
MDRG_511	PERC CARDIOVASC PROC W INTRALUMINAL DEVICE	1	0.2492570850	0.0393178717	6.3395365653	<.0001
MDRG_512	AICD PROCEDURES	1	-1.094015466	0.3489973360	-3.1347387317	0.0017
MDRG_513	PERC CARDIOVASC PROC W/O INTRALUMINAL DEVICE	1	0.6123188694	0.0954461884	6.4153307712	<.0001
MDRG_514	OTHER VASCULAR PROCEDURES	1	0.1876373008	0.0467698490	4.0119287320	<.0001
MDRG_519	OTHER CIRCULATORY SYSTEM O.R. PROCEDURES	1	0.5580139769	0.1062008912	5.2543248040	<.0001
MDRG_536	OTHER ENDOVASCULAR CARDIAC VALVE PROCEDURES	1	0.5536628326	0.2070546511	2.6739937004	0.0075
MDRG_541	AORTIC AND HEART ASSIST PROCEDURES EXCEPT PULSATION BALLOON	1	0.7090802200	0.0709573512	9.9930480450	<.0001
MDRG_542	OTHER MAJOR CARDIOVASCULAR PROCEDURES	1	0.4699734901	0.0377446212	12.4514030223	<.0001
MDRG_543	PERCUTANEOUS AND OTHER INTRACARDIAC PROCEDURES	1	-0.3929096601	0.1452090010	-2.7058216591	0.0068
MDRG_544	CARDIAC DEFIBRILLATOR IMPLANT OR CAROTID SINUS NEUROSTIMULATOR	1	-1.203604240	0.1450845574	-8.2958811133	<.0001
MDRG_601	STOMACH, ESOPHAGEAL & DUODENAL PROC	1	-0.0602232336	0.0413321873	-1.4570541160	0.1451
MDRG_602	MAJOR SMALL & LARGE BOWEL PROCEDURES	1	-0.1831319407	0.0317422569	-5.7693421501	<.0001
MDRG_604	PERITONEAL ADHESIOLYSIS	1	-0.0879905325	0.0739690929	-1.1895580844	0.2342
MDRG_608	ANAL & STOMAL PROCEDURES	1	-0.4993831362	0.2832727682	-1.7629055536	0.0779
MDRG_611	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES	1	0.5598091586	0.0563462218	9.9351676210	<.0001
MDRG_702	BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E.	1	-0.4585466689	0.2129042334	-2.1537696156	0.0313
MDRG_705	LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E.	1	-0.7312679005	0.1606777704	-4.5511454313	<.0001
MDRG_707	OTHER HEPATOBILIARY OR PANCREAS O.R. PROCEDURES	1	0.1623776072	0.1627932507	0.9974468018	0.3185
MDRG_801	COMBINED ANTERIOR/POSTERIOR SPINAL FUSION	1	-0.5189753925	0.1193553901	-4.3481521217	<.0001
MDRG_803	SPINAL FUSION EXCEPT CERVICAL	1	-0.3424511508	0.1205094572	-2.8416952404	0.0045
MDRG_805	WND DEBRID & SKN GRFT EXC HAND, FOR MUSCULO-CONN TISS DIS	1	-0.2679703874	0.1262715576	-2.1221753543	0.0338
MDRG_807	MAJOR JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY	1	-0.2316494961	0.0871856819	-2.6569671865	0.0079

Table 4. 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
MDRG_809	AMPUTATION FOR MUSCULOSKELETAL SYS & CONN TISSUE DIS	1	-0.5610343632	0.1781123775	-3.1498898119	0.0016
MDRG_810	BIOPSIES OF MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE	1	0.4855559435	0.1994111094	2.4349493117	0.0149
MDRG_811	HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT	1	0.1113828538	0.0513879321	2.1674904843	0.0302
MDRG_1002	AMPUTAT OF LOWER LIMB FOR ENDOCRINE,NUTRIT,& METABOL DIS	1	-0.5897781291	0.1527069243	-3.8621570822	0.0001
MDRG_1004	SKIN GRAFTS & WOUND DEBRID FOR ENDOC, NUTRIT & METAB DIS	1	-0.4542266043	0.1993090751	-2.2790061321	0.0227
MDRG_1102	MAJOR BLADDER PROCEDURES	1	-0.2447189913	0.1012505243	-2.4169651771	0.0157
MDRG_1104	KIDNEY & URETER PROCEDURES FOR NON-NEOPLASM	1	-1.074802946	0.1538974257	-6.9838916454	<.0001
MDRG_1106	PROSTATECTOMY	1	-2.123798963	0.5818136393	-3.6503079670	0.0003
MDRG_1204	TRANSURETHRAL PROSTATECTOMY	1	-0.9348308264	0.4496573564	-2.0789848385	0.0376
MDRG_1304	UTERINE & ADNEXA PROC FOR NON-MALIGNANCY	1	-0.4918206087	0.2071114092	-2.3746669028	0.0176
MDRG_1709	MYELOPROLIF DISORD OR POORLY DIFF NEOPL W MAJ O.R. PROC	1	-0.5287011289	0.1672524235	-3.1610969677	0.0016
MDRG_1801	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURE	1	0.9331780882	0.1999994103	4.6659041992	<.0001
MDRG_2101	WOUND DEBRIDEMENTS FOR INJURIES	1	-0.6157765281	0.1772855100	-3.4733607269	0.0005
MDRG_2104	OTHER O.R. PROCEDURES FOR INJURIES	1	-0.1899684073	0.0992234007	-1.9145524745	0.0555
MDRG_2201	FULL THICKNESS BURN W SKIN GRAFT OR INHAL INJ	1	-0.8009438601	0.2151879211	-3.7220670010	0.0002
MDRG_2210	EXTENSIVE BURNS OR FULL THICKNESS BURNS W MV >96 HRS W SKIN GRAFT	1	0.6911968328	0.1377929620	5.0161983823	<.0001
MDRG_2301	O.R. PROC W DIAGNOSES OF OTHER CONTACT W HEALTH SERVICES	1	-0.5541756139	0.2374076562	-2.3342786110	0.0196
MDRG_2406	CRANIOTOMY FOR MULTIPLE SIGNIFICANT TRAUMA	1	1.3231917264	0.1271428082	10.4071299415	<.0001
MDRG_2408	OTHER O.R. PROCEDURES FOR MULTIPLE SIGNIFICANT TRAUMA	1	0.1977513410	0.0749300187	2.6391470933	0.0083
MDRG_2501	HIV W EXTENSIVE O.R. PROCEDURE	1	0.8101583866	0.2288308666	3.5404244133	0.0004
MDRG_7701	HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM	1	0.5803806455	0.0915272641	6.3410684356	<.0001
MDRG_7702	LIVER TRANSPLANT	1	-0.9587940885	0.1641868079	-5.8396536291	<.0001
MDRG_7703	LUNG TRANSPLANT	1	-0.9642692913	0.3566883111	-2.7033947043	0.0069
MDRG_7705	ALLOGENEIC OR AUTOLOGOUS BONE MARROW TRANSPLANT	1	0.4308319424	0.3163370833	1.3619394159	0.1732

Table 4. 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
COVIDDX	COVID-19 Diagnosis	1	0.4411019811	0.0468880473	9.4075570771	<.0001
Q2	Quarter 2, 2020	1	-0.0005505193	0.0319373554	-0.0172374744	0.9862
Q3	Quarter 3, 2020	1	0.0343713993	0.0293267797	1.1720141006	0.2412
Q4	Quarter 4, 2020	1	0.0317560665	0.0295902338	1.0731941726	0.2832
Q5	Quarter 1, 2021	1	0.1456245242	0.0289228873	5.0349234749	<.0001
Q6	Quarter 2, 2021	1	-0.0299422299	0.0292669530	-1.0230730191	0.3063
Q7	Quarter 3, 2021	1	0.0891745080	0.0318728396	2.7978212467	0.0051
Q8	Quarter 4, 2021	1	0.1008301878	0.0301270847	3.3468285668	0.0008
Q9	Quarter 1, 2022	1	0.0726528147	0.0300288105	2.4194369813	0.0155
Q10	Quarter 2, 2022	1	0.0287786544	0.0292576562	0.9836281579	0.3253
Q11	Quarter 3, 2022	1	-0.0113523016	0.0306448559	-0.3704472174	0.7110
COVIDDX_Q2	COVID, Quarter 2, 2020	1	0.6106327130	0.1386275755	4.4048430527	<.0001
COVIDDX_Q4	COVID, Quarter 4, 2020	1	0.4012462986	0.1087811838	3.6885634493	0.0002
COVIDDX_Q6	COVID, Quarter 2, 2021	1	0.3411039776	0.1358798858	2.5103345909	0.0121
COVIDDX_Q7	COVID, Quarter 3, 2021	1	0.5619232040	0.1126105786	4.9899681825	<.0001
COVIDDX_Q8	COVID, Quarter 4, 2021	1	0.3623317711	0.1044399503	3.4692832587	0.0005
COVIDDX_Q10	COVID, Quarter 2, 2022	1	-0.4260826078	0.1539153085	-2.7682925882	0.0056
COVIDDX_Q11	COVID, Quarter 3, 2022	1	-0.3539823938	0.1228748982	-2.8808357045	0.0040
DNR	Do not resuscitate flag	1	0.6746400025	0.0353135732	19.1042690071	<.0001
ODC903	Ventilator Dependence flag	1	0.1758530800	0.0419062132	4.1963486216	<.0001
TRNSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.1847166151	0.0242086381	7.6301943983	<.0001
RegVarPS04_SHOCK_ANY	PSI04 SHOCK Regression variable: Any Triggering Complication POA	1	-0.2171038166	0.0336223830	-6.4571216257	<.0001
RegVarPS04_DVT_PE_ANY	PSI04 DVT PE Regression variable: Any Triggering Complication POA	1	-0.1537571115	0.0474510294	-3.2403324729	0.0012
RegVarPS04_SEPSIS_ANY	PSI04 SEPSIS Regression variable: Any Triggering Complication POA	1	-0.4662283103	0.0201745859	-23.1096842395	<.0001
RegVarPS04_SHOCK_SEVERE	PSI04 SHOCK Regression variable: Triggering Complication Severe	1	1.2439778969	0.0320940953	38.7603353384	<.0001
RegVarPS04_DVT_PE_SEVERE	PSI04 DVT PE Regression variable: Triggering Complication Severe	1	0.2087075507	0.0401499571	5.1982010873	<.0001
RegVarPS04_SEPSIS_SEVERE	PSI04 SEPSIS Regression variable: Triggering Complication Severe	1	1.3631754387	0.0187306882	72.7776482526	<.0001
RegVarPS04_GIHEMORRHAGE_ANY	PSI04 GIHEMORRHAGE Regression variable: Any Triggering Complication POA	1	0.1761562968	0.0402600749	4.3754587430	<.0001
RegVarPS04_PNEUMONIA_SEVERE	PSI04 PNEUMONIA Regression variable: Triggering Complication Severe	1	0.0915654083	0.0176867943	5.1770494248	<.0001

Table 4. 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
RegVarPS04_GIHEMORRHAGE_SEVERE	PSI04 GIHEMORRHAGE Regression variable: Triggering Complication Severe	1	0.4282288533	0.0834969664	5.1286755900	<.0001

c-statistic=0.796

C-statistics for hospital level indicators are based on the test data (a random sample of 2020-2022 HCUP reference population, not used for the LASSO feature selection).

Table 5. 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	-2.998019299	0.0463408772	-64.6949190735	<.0001
Age_LT30	Age < 30	1	-0.3723217856	0.0512804964	-7.2604949639	<.0001
Age_30_34	30 <= Age <= 34	1	-0.4277039152	0.0489932742	-8.7298495941	<.0001
Age_35_39	35 <= Age <= 39	1	-0.3824866108	0.0462401325	-8.2717455694	<.0001
Age_40_44	40 <= Age <= 44	1	-0.1718008314	0.0447861508	-3.8360258298	0.0001
Age_45_49	45 <= Age <= 49	1	-0.1961429896	0.0398915382	-4.9169071550	<.0001
Age_50_54	50 <= Age <= 54	1	-0.1679110197	0.0348077593	-4.8239537064	<.0001
Age_55_59	55 <= Age <= 59	1	-0.0817611307	0.0417067201	-1.9603826549	0.0500
Age_60_64	60 <= Age <= 64	1	-0.0283707318	0.0293053751	-0.9681067602	0.3330
Age_70_74	70 <= Age <= 74	1	0.1268973235	0.0276955317	4.5818699171	<.0001
Age_75_79	75 <= Age <= 79	1	0.2986678871	0.0288033145	10.3692193802	<.0001
Age_80_84	80 <= Age <= 84	1	0.4009115090	0.0339415388	11.8118247761	<.0001
Age_85Plus	Age >= 85	1	0.5758951145	0.0402500682	14.3079289079	<.0001
MALE	Patient Sex Flag: 1=Male / 0=Female	1	0.0519824453	0.0164412431	3.1617101635	0.0016
Age_55_59_MALE	55 <= Age <= 59 MALE	1	-0.1216690153	0.0496052339	-2.4527455213	0.0142
CMR_ALCOHOL	Alcohol abuse	1	0.0804737223	0.0350324068	2.2971222865	0.0216
CMR_AUTOIMMUNE	Autoimmune conditions	1	0.1101699686	0.0388547740	2.8354294003	0.0046
CMR_CANCER_LEUK	Leukemia	1	0.4212958122	0.0799179338	5.2716054079	<.0001
CMR_CANCER_LYMPH	Lymphoma	1	0.2911407905	0.0703297540	4.1396531881	<.0001
CMR_CANCER_METS	Metastatic cancer	1	0.2781411156	0.0339134592	8.2014964729	<.0001
CMR_CANCER_SOLID	Solid tumor without metastasis, malignant	1	0.0774273644	0.0339232341	2.2824287378	0.0225
CMR_CBVD	Cerebrovascular disease	1	0.1919010857	0.0330572043	5.8051214421	<.0001
CMR_COAG	Coagulopathy	1	0.3770867049	0.0232332282	16.2304911827	<.0001
CMR_DEPRESS	Depression	1	-0.2252348422	0.0259278660	-8.6869795536	<.0001
CMR_DIAB_UNCX	Diabetes without chronic complications	1	0.0884279224	0.0289083403	3.0589069224	0.0022
CMR_HF	Heart failure	1	0.0454328618	0.0219618055	2.0687216143	0.0386
CMR_HTN_UNCX	Hypertension, uncomplicated	1	0.0950855707	0.0205746841	4.6214838642	<.0001
CMR_LIVER_MLD	Liver disease, mild	1	0.3223220545	0.0297958419	10.8176857446	<.0001
CMR_LIVER_SEV	Liver disease, moderate to severe	1	0.8320777061	0.0420716953	19.7776129795	<.0001
CMR_LUNG_CHRONIC	Chronic pulmonary disease	1	0.1231296876	0.0189022697	6.5140160089	<.0001
CMR_NEURO_OTH	Other neurological disorders	1	0.2780968310	0.0259177564	10.7299731975	<.0001
CMR_OBESE	Obesity	1	-0.1115421767	0.0197094463	-5.6593257400	<.0001
CMR_PARALYSIS	Paralysis	1	-0.3410133016	0.0344614691	-9.8954951954	<.0001
CMR_PERIVASC	Peripheral vascular disease	1	0.2098856560	0.0236443218	8.8767889967	<.0001
CMR_PSYCHOSES	Psychoses	1	-0.1787846826	0.0400390219	-4.4652609962	<.0001
CMR_RENLFL_MOD	Renal failure, moderate	1	0.2062034124	0.0273501975	7.5393756153	<.0001
CMR_RENLFL_SEV	Renal failure, severe	1	0.1745824691	0.0287155497	6.0797188694	<.0001
CMR_ULCER_PEPTIC	Peptic ulcer disease x bleeding	1	-0.1679666096	0.0384126404	-4.3726910687	<.0001

Table 5. 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
CMR_WGHTLOSS	Weight loss	1	-0.2264767485	0.0218405307	-10.3695625346	<.0001
MDRG_101	INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE	1	1.8651307133	0.0739983713	25.2050238336	<.0001
MDRG_102	CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX	1	2.1674106754	0.0509259502	42.5600438519	<.0001
MDRG_103	CRANIOTOMY & ENDOVASCULAR INTRACRANIAL PROCEDURES	1	0.9901017992	0.0669372555	14.7914908008	<.0001
MDRG_104	SPINAL PROCEDURES	1	0.6254374664	0.1198404368	5.2189184463	<.0001
MDRG_106	CAROTID ARTERY STENT PROCEDURES	1	-0.4738358742	0.1202019383	-3.9419986137	<.0001
MDRG_601	STOMACH, ESOPHAGEAL & DUODENAL PROC	1	0.6461673557	0.0433552028	14.9040325891	<.0001
MDRG_602	MAJOR SMALL & LARGE BOWEL PROCEDURES	1	0.7009755004	0.0288317187	24.3126504905	<.0001
MDRG_604	PERITONEAL ADHESIOLYSIS	1	0.7694912964	0.0619979846	12.4115533880	<.0001
MDRG_610	HERNIA PROCEDURES EXCEPT INGUINAL & FEMORAL	1	0.3895546727	0.0795443068	4.8973294071	<.0001
MDRG_611	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES	1	0.8823700931	0.0614476236	14.3597106255	<.0001
MDRG_701	PANCREAS, LIVER & SHUNT PROCEDURES	1	0.4375700046	0.0535088699	8.1775228167	<.0001
MDRG_702	BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E.	1	0.4844841065	0.1796390704	2.6969862708	0.0070
MDRG_704	CHOLECYSTECTOMY EXCEPT BY LAPAROSCOPE W/O C.D.E.	1	0.4445770005	0.1342323940	3.3119948717	0.0009
MDRG_706	HEPATOBIILIARY DIAGNOSTIC PROCEDURES	1	1.4880427592	0.1327152597	11.2122958788	<.0001
MDRG_707	OTHER HEPATOBIILIARY OR PANCREAS O.R. PROCEDURES	1	1.2414028380	0.0922212367	13.4611384831	<.0001
MDRG_801	COMBINED ANTERIOR/POSTERIOR SPINAL FUSION	1	-0.2402258783	0.0689035219	-3.4864092849	0.0005
MDRG_802	SPINAL FUS EXC CERV W SPINAL CURV/MALIG/INFEC OR EXT FUS	1	-0.4550600992	0.1124367245	-4.0472550354	<.0001
MDRG_806	REVISION OF HIP OR KNEE REPLACEMENT	1	-0.2782677698	0.0822789376	-3.3820048975	0.0007
MDRG_807	MAJOR JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY	1	-0.4639866743	0.0764199834	-6.0715359231	<.0001
MDRG_811	HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT	1	0.4130393354	0.0756863974	5.4572466071	<.0001
MDRG_812	MAJOR JOINT/LIMB REATTACHMENT PROCEDURE OF UPPER EXTREMITIES	1	-0.5181384931	0.1956174543	-2.6487334427	0.0081
MDRG_819	SOFT TISSUE PROCEDURES	1	0.5781931741	0.1249125094	4.6287851938	<.0001
MDRG_841	HIP REPLACEMENT WITH PRINCIPAL DIAGNOSIS OF HIP FRACTURE	1	0.4210555017	0.1596845302	2.6367958189	0.0084
MDRG_1004	SKIN GRAFTS & WOUND DEBRID FOR ENDOC, NUTRIT & METAB DIS	1	0.4406235864	0.1415157307	3.1136014639	0.0018
MDRG_1006	OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC	1	0.6705442031	0.1244902960	5.3863170415	<.0001

Table 5. 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
MDRG_1101	KIDNEY TRANSPLANT	1	-0.3965557222	0.1153292863	-3.4384650668	0.0006
MDRG_1201	MAJOR MALE PELVIC PROCEDURES	1	-0.4659944420	0.1732164378	-2.6902437666	0.0071
MDRG_1204	TRANSURETHRAL PROSTATECTOMY	1	-0.6537905149	0.1907256665	-3.4279104997	0.0006
MDRG_1302	UTERINE & ADNEXA PROC FOR OVARIAN OR ADNEXAL MALIGNANCY	1	-0.4309411518	0.1337076808	-3.2230096965	0.0013
MDRG_1304	UTERINE & ADNEXA PROC FOR NON-MALIGNANCY	1	-1.001961830	0.1404002176	-7.1364692085	<.0001
MDRG_1707	LYMPHOMA & LEUKEMIA W MAJOR O.R. PROC OR ACUTE LEUKEMIA W ANY O.R. PROC	1	0.8990707564	0.1353267226	6.6437045047	<.0001
MDRG_1708	LYMPHOMA & NON-ACUTE LEUKEMIA W OTHER O.R. PROC	1	0.9358126875	0.1485870936	6.2980751873	<.0001
MDRG_1710	MYELOPROLIF DISORD OR POORLY DIFF NEOPL W OTHER O.R. PROC	1	0.9312874268	0.1573687672	5.9178669529	<.0001
MDRG_1801	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURE	1	0.8153779489	0.0295726086	27.5720671317	<.0001
MDRG_1802	POSTOPERATIVE OR POST-TRAUMATIC INFECTIONS W O.R. PROC	1	0.3923048449	0.0683926588	5.7360665895	<.0001
MDRG_2102	SKIN GRAFTS FOR INJURIES	1	-0.9102195330	0.3272548437	-2.7813783369	0.0054
MDRG_2103	HAND PROCEDURES FOR INJURIES	1	0.9746870874	0.3176088033	3.0688289405	0.0021
MDRG_2104	OTHER O.R. PROCEDURES FOR INJURIES	1	0.5031516587	0.0548554144	9.1723244519	<.0001
MDRG_2301	O.R. PROC W DIAGNOSES OF OTHER CONTACT W HEALTH SERVICES	1	0.8883817113	0.2818281328	3.1522108967	0.0016
MDRG_2501	HIV W EXTENSIVE O.R. PROCEDURE	1	0.9938577200	0.1868561170	5.3188396291	<.0001
MDRG_7702	LIVER TRANSPLANT	1	-1.622438941	0.1258743273	-12.8893554084	<.0001
COVDDX	COVID-19 Diagnosis	1	0.3423388719	0.0497427320	6.8821887820	<.0001
Q2	Quarter 2, 2020	1	0.0194518327	0.0323092298	0.6020518841	0.5471
Q3	Quarter 3, 2020	1	0.0729129477	0.0294544167	2.4754504034	0.0133
Q4	Quarter 4, 2020	1	-0.0193119453	0.0317584460	-0.6080884851	0.5431
Q5	Quarter 1, 2021	1	0.0477146942	0.0295121096	1.6167835808	0.1059
Q6	Quarter 2, 2021	1	-0.0750623767	0.0298398972	-2.5155038641	0.0119
Q7	Quarter 3, 2021	1	0.0385698150	0.0298629844	1.2915592906	0.1965
Q8	Quarter 4, 2021	1	0.0301460315	0.0294374135	1.0240720200	0.3058
Q9	Quarter 1, 2022	1	-0.0013460672	0.0289839056	-0.0464418841	0.9630
Q10	Quarter 2, 2022	1	-0.0922760589	0.0297361766	-3.1031581532	0.0019
COVDDX_Q2	COVID, Quarter 2, 2020	1	0.7568161227	0.1591322169	4.7558950493	<.0001
COVDDX_Q4	COVID, Quarter 4, 2020	1	0.2921473735	0.1429730315	2.0433739874	0.0410
COVDDX_Q7	COVID, Quarter 3, 2021	1	0.7006220935	0.1344327264	5.2116929588	<.0001
COVDDX_Q8	COVID, Quarter 4, 2021	1	0.3235563913	0.1379849892	2.3448665915	0.0190
COVDDX_Q10	COVID, Quarter 2, 2022	1	-0.5410211944	0.2036855680	-2.6561587049	0.0079

Table 5. 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
DNR	Do not resuscitate flag	1	0.9604561587	0.0379158214	25.3312766100	<.0001
ODC903	Ventilator Dependence flag	1	-0.1858512495	0.0490165021	-3.7916057160	0.0001
TRNSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.2566991434	0.0261792827	9.8054307517	<.0001
RegVarPS04_SHOCK_ANY	PSI04 SHOCK Regression variable: Any Triggering Complication POA	1	-0.3391345580	0.0233831733	-14.5033590482	<.0001
RegVarPS04_SEPSIS_ANY	PSI04 SEPSIS Regression variable: Any Triggering Complication POA	1	-0.2630074951	0.0318342066	-8.2617889046	<.0001
RegVarPS04_SHOCK_SEVERE	PSI04 SHOCK Regression variable: Triggering Complication Severe	1	2.3106821018	0.0203995378	113.2712968866	<.0001
RegVarPS04_DVT_PEVERE	PSI04 DVT PE Regression variable: Triggering Complication Severe	1	0.3172623654	0.0375701649	8.4445294840	<.0001
RegVarPS04_SEPSIS_SEVERE	PSI04 SEPSIS Regression variable: Triggering Complication Severe	1	0.9345322812	0.0293431488	31.8483979992	<.0001
RegVarPS04_PNEUMONIA_SEVERE	PSI04 PNEUMONIA Regression variable: Triggering Complication Severe	1	-0.1980315542	0.0232064600	-8.5334667306	<.0001
RegVarPS04_GIHEMORRHAGE_SEVERE	PSI04 GIHEMORRHAGE Regression variable: Triggering Complication Severe	1	0.2635030180	0.0829922168	3.1750328889	0.0015
PS04_SHOCK_NonWt_1	PS04_SHOCK Comorbidity count using non-weighted method, category 1, count > 1 and count <= 3	1	0.1718544526	0.0283931845	6.0526656525	<.0001
PS04_SHOCK_NonWt_2	PS04_SHOCK Comorbidity count using non-weighted method, category 2, count >= 4	1	0.1637233068	0.0360580902	4.5405429321	<.0001

c-statistic=0.856

C-statistics for hospital level indicators are based on the test data (a random sample of 2020-2022 HCUP reference population, not used for the LASSO feature selection).

Table 6. Risk Adjustment Coefficients for PSI 04 - Death Rate among Surgical Inpatients with Serious Treatable Complications Stratum: Gastrointestinal (GI)

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Intercept	Intercept	1	-3.146000617	0.0731104297	-43.0308046257	<.0001
Age_LT30	Age < 30	1	-1.173227215	0.1752059939	-6.6962732772	<.0001
Age_30_34	30 <= Age <= 34	1	-0.5914016118	0.1451527493	-4.0743397184	<.0001
Age_35_39	35 <= Age <= 39	1	-0.7222964488	0.1268888376	-5.6923560989	<.0001
Age_40_44	40 <= Age <= 44	1	-0.5000896275	0.1169344635	-4.2766658580	<.0001
Age_45_49	45 <= Age <= 49	1	-0.4445639994	0.1391916684	-3.1938980568	0.0014
Age_50_54	50 <= Age <= 54	1	-0.2937166370	0.0784795763	-3.7425869348	0.0002
Age_55_59	55 <= Age <= 59	1	-0.2461055775	0.0698279649	-3.5244558227	0.0004
Age_60_64	60 <= Age <= 64	1	-0.0866644785	0.0606062093	-1.4299603860	0.1527
Age_70_74	70 <= Age <= 74	1	0.0930601845	0.0593459357	1.5680970147	0.1169
Age_75_79	75 <= Age <= 79	1	0.1934752788	0.0572806178	3.3776744415	0.0007
Age_80_84	80 <= Age <= 84	1	0.2384925430	0.0643157595	3.7081509245	0.0002
Age_85Plus	Age >= 85	1	0.4971520520	0.0917331043	5.4195489807	<.0001
MALE	Patient Sex Flag: 1=Male / 0=Female	1	-0.0807480766	0.0369817950	-2.1834547675	0.0290
Age_45_49_MALE	45 <= Age <= 49 MALE	1	-0.0968852780	0.1878686345	-0.5157075757	0.6061
Age_85Plus_MALE	Age >= 85 MALE	1	-0.3664720599	0.1218806257	-3.0068114428	0.0026
CMR_ANEMDEF	Anemias due to other nutritional deficiencies	1	-0.4544188215	0.0399676960	-11.3696526591	<.0001
CMR_BLDLOSS	Chronic blood loss anemia (iron deficiency)	1	-0.5381467875	0.1195999830	-4.4995557191	<.0001
CMR_CANCER_LEUK	Leukemia	1	0.4656430390	0.1599116447	2.9118769912	0.0036
CMR_CANCER_METS	Metastatic cancer	1	0.4094177921	0.0667522815	6.1333902395	<.0001
CMR_CBVD	Cerebrovascular disease	1	0.2253697319	0.0582281406	3.8704607325	0.0001
CMR_COAG	Coagulopathy	1	0.6357002273	0.0414996942	15.3181906550	<.0001
CMR_DEPRESS	Depression	1	-0.3277439500	0.0556207562	-5.8924756247	<.0001
CMR_DIAB_CX	Diabetes with chronic complications	1	-0.0541843803	0.0377081034	-1.4369426042	0.1507
CMR_DRUG_ABUSE	Drug abuse	1	-0.1926383635	0.0879486891	-2.1903494583	0.0285
CMR_HF	Heart failure	1	0.3314960375	0.0450085857	7.3651733810	<.0001
CMR_HTN_CX	Hypertension, complicated	1	-0.2835434963	0.0505554494	-5.6085644528	<.0001
CMR_HTN_UNCX	Hypertension, uncomplicated	1	-0.3626676220	0.0463663898	-7.8217783097	<.0001
CMR_LIVER_SEV	Liver disease, moderate to severe	1	0.4391943719	0.0688854826	6.3757174301	<.0001
CMR_LUNG_CHRONIC	Chronic pulmonary disease	1	0.0758303356	0.0393229362	1.9283996310	0.0538
CMR_NEURO_OTH	Other neurological disorders	1	0.5773615152	0.0471905135	12.2346944792	<.0001
CMR_OBESE	Obesity	1	-0.1960481279	0.0449174794	-4.3646288795	<.0001
CMR_PERIVASC	Peripheral vascular disease	1	0.2591204417	0.0417601674	6.2049665529	<.0001
CMR_PSYCHOSES	Psychoses	1	-0.2543566234	0.1094694998	-2.3235387384	0.0202
CMR_PULMCIRC	Pulmonary circulation disease	1	0.0951669267	0.0686408965	1.3864464420	0.1656
CMR_RENLFL_SEV	Renal failure, severe	1	0.3732232511	0.0534223440	6.9862762097	<.0001
CMR_THYROID_HYPO	Hypothyroidism	1	-0.2222718406	0.0525473333	-4.2299356892	<.0001
CMR_THYROID_OTH	Other thyroid disorders	1	-0.5830609060	0.1863035682	-3.1296282283	0.0018

Table 6. Risk Adjustment Coefficients for PSI 04 - Death Rate among Surgical Inpatients with Serious Treatable Complications Stratum: Gastrointestinal (GI)

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_ULCER_PEPTIC	Peptic ulcer disease x bleeding	1	-0.3091351369	0.0505797512	-6.1118358514	<.0001
CMR_WGHTLOSS	Weight loss	1	0.0576187940	0.0447643472	1.2871581428	0.1980
MDC_3	Diseases and disorders of the ear, nose, mouth and throat	1	-1.083482433	0.3591260143	-3.0169979054	0.0026
MDC_16	Diseases and disorders of blood, blood forming organs and immunologic disorders	1	-1.520469401	0.5882800995	-2.5846011150	0.0097
MDRG_102	CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX	1	1.1516635093	0.0840419948	13.7034290045	<.0001
MDRG_106	CAROTID ARTERY STENT PROCEDURES	1	-1.024966586	0.5778669827	-1.7737067811	0.0761
MDRG_402	OTHER RESP SYSTEM O.R. PROCEDURES	1	0.9737968033	0.1415246154	6.8807592280	<.0001
MDRG_501	OTHER HEART ASSIST SYSTEM IMPLANT	1	1.7351516260	0.1062623199	16.3289454535	<.0001
MDRG_503	CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC	1	0.4375198752	0.0993514027	4.4037614300	<.0001
MDRG_507	CORONARY BYPASS WITH CARDIAC CATHETERIZATION OR OPEN ABLATION	1	-0.5711346843	0.2540302232	-2.2482942271	0.0246
MDRG_510	PERMANENT CARDIAC PACEMAKER IMPLANT AND PROCEDURES	1	-1.429066801	0.4550163681	-3.1406931727	0.0017
MDRG_513	PERC CARDIOVASC PROC W/O INTRALUMINAL DEVICE	1	0.5714322673	0.1583070019	3.6096461959	0.0003
MDRG_540	ENDOVASCULAR CARDIAC VALVE REPLACEMENT	1	-0.7956451384	0.1623698463	-4.9002025724	<.0001
MDRG_541	AORTIC AND HEART ASSIST PROCEDURES EXCEPT PULSATION BALLOON	1	0.8095100334	0.1190947324	6.7971942736	<.0001
MDRG_542	OTHER MAJOR CARDIOVASCULAR PROCEDURES	1	0.3481106918	0.0625145680	5.5684731249	<.0001
MDRG_544	CARDIAC DEFIBRILLATOR IMPLANT OR CAROTID SINUS NEUROSTIMULATOR	1	-1.877466101	0.3601261207	-5.2133571923	<.0001
MDRG_806	REVISION OF HIP OR KNEE REPLACEMENT	1	-0.6297722922	0.3081553027	-2.0436847483	0.0410
MDRG_807	MAJOR JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY	1	-2.360047978	0.5728552067	-4.1197984242	<.0001
MDRG_809	AMPUTATION FOR MUSCULOSKELETAL SYS & CONN TISSUE DIS	1	-0.5333842609	0.3147913869	-1.6944055115	0.0902
MDRG_1107	TRANSURETHRAL PROCEDURES	1	-1.230304889	0.4973648832	-2.4736464734	0.0134
MDRG_1707	LYMPHOMA & LEUKEMIA W MAJOR O.R. PROC OR ACUTE LEUKEMIA W ANY O.R. PROC	1	0.8350679946	0.3094194606	2.6988218289	0.0070
MDRG_1801	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURE	1	0.1770914345	0.0572030356	3.0958398047	0.0020
MDRG_2104	OTHER O.R. PROCEDURES FOR INJURIES	1	-0.4125972911	0.1361335549	-3.0308272749	0.0024
MDRG_7701	HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM	1	0.3757552647	0.1925786242	1.9511784669	0.0510
COVIDDX	COVID-19 Diagnosis	1	0.6542555096	0.1076938971	6.0751400729	<.0001

Table 6. Risk Adjustment Coefficients for PSI 04 - Death Rate among Surgical Inpatients with Serious Treatable Complications Stratum: Gastrointestinal (GI)

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Q3	Quarter 3, 2020	1	0.1793256934	0.0648206074	2.7664920224	0.0057
Q4	Quarter 4, 2020	1	0.0663782312	0.0645933463	1.0276326434	0.3041
Q5	Quarter 1, 2021	1	0.1303036219	0.0602580573	2.1624265337	0.0306
Q6	Quarter 2, 2021	1	-0.0514845030	0.0666815382	-0.7720953118	0.4401
Q7	Quarter 3, 2021	1	0.1104823854	0.0634690921	1.7407273645	0.0817
Q8	Quarter 4, 2021	1	0.1015087473	0.0641460770	1.5824622805	0.1135
Q9	Quarter 1, 2022	1	0.0179610389	0.0641282566	0.2800799504	0.7794
Q10	Quarter 2, 2022	1	-0.0071820486	0.0634425241	-0.1132055941	0.9099
COVDDX_Q3	COVID, Quarter 3, 2020	1	0.0061347570	0.3184453925	0.0192647063	0.9846
COVDDX_Q4	COVID, Quarter 4, 2020	1	0.4835147874	0.2406131499	2.0095110666	0.0445
COVDDX_Q5	COVID, Quarter 1, 2021	1	0.2157952706	0.2104087016	1.0256005051	0.3051
COVDDX_Q7	COVID, Quarter 3, 2021	1	0.6224989808	0.2610477257	2.3846175223	0.0171
COVDDX_Q8	COVID, Quarter 4, 2021	1	0.5645228233	0.2513437778	2.2460186925	0.0247
COVDDX_Q10	COVID, Quarter 2, 2022	1	-0.6089814870	0.3925407509	-1.5513841189	0.1208
DNR	Do not resuscitate flag	1	0.7805293852	0.0577752006	13.5097650493	<.0001
ODC903	Ventilator Dependence flag	1	0.7969528913	0.1165468961	6.8380447506	<.0001
TRANSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.3358729666	0.0452324807	7.4254818946	<.0001
RegVarPS04_SHOCK_ANY	PSI04 SHOCK Regression variable: Any Triggering Complication POA	1	0.7714431007	0.0618242661	12.4779985234	<.0001
RegVarPS04_SHOCK_SEVERE	PSI04 SHOCK Regression variable: Triggering Complication Severe	1	2.5290894453	0.0650529303	38.8774100443	<.0001
RegVarPS04_DVT_PE_SEVERE	PSI04 DVT PE Regression variable: Triggering Complication Severe	1	0.3702706578	0.0914388548	4.0493798669	<.0001
RegVarPS04_SEPSIS_SEVERE	PSI04 SEPSIS Regression variable: Triggering Complication Severe	1	1.7057034566	0.0578110124	29.5048189968	<.0001
RegVarPS04_GIHEMORRHAGE_ANY	PSI04 GIHEMORRHAGE Regression variable: Any Triggering Complication POA	1	-0.4028696433	0.0358768223	-11.2292454378	<.0001
RegVarPS04_PNEUMONIA_SEVERE	PSI04 PNEUMONIA Regression variable: Triggering Complication Severe	1	0.4190754372	0.1426659292	2.9374598371	0.0033
RegVarPS04_GIHEMORRHAGE_SEVERE	PSI04 GIHEMORRHAGE Regression variable: Triggering Complication Severe	1	0.2889771638	0.0682255648	4.2356140946	<.0001

c-statistic=0.857

C-statistics for hospital level indicators are based on the test data (a random sample of 2020-2022 HCUP reference population, not used for the LASSO feature selection).

Table 7. Risk Adjustment Coefficients for PSI 06 - Iatrogenic Pneumothorax Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Intercept	Intercept	1	-8.840829761	0.0439103855	-201.3380129546	<.0001
Age_LT30	Age < 30	1	-0.4166942780	0.0608481202	-6.8481043701	<.0001
Age_30_34	30 <= Age <= 34	1	-0.6065004752	0.0798974046	-7.5909909480	<.0001
Age_35_39	35 <= Age <= 39	1	-0.5103604195	0.0709332550	-7.1949386682	<.0001
Age_40_44	40 <= Age <= 44	1	-0.3541281503	0.0611805877	-5.7882436851	<.0001
Age_45_49	45 <= Age <= 49	1	-0.3241466124	0.0538572242	-6.0186282721	<.0001
Age_50_54	50 <= Age <= 54	1	-0.1865728168	0.0604858035	-3.0845720156	0.0020
Age_55_59	55 <= Age <= 59	1	-0.1387711555	0.0433701137	-3.1996954524	0.0014
Age_60_64	60 <= Age <= 64	1	-0.0329893100	0.0396093748	-0.8328662125	0.4049
Age_70_74	70 <= Age <= 74	1	0.0793351707	0.0353709862	2.2429448347	0.0249
Age_75_79	75 <= Age <= 79	1	0.1122171149	0.0384574995	2.9179514092	0.0035
Age_80_84	80 <= Age <= 84	1	0.1307903531	0.0389719799	3.3560099729	0.0008
Age_85_89	85 <= Age <= 89	1	0.1165449543	0.0410902629	2.8363156124	0.0046
Age_90Plus	Age >= 90	1	-0.0884588752	0.0493330825	-1.7930944255	0.0730
MALE	Patient Sex Flag: 1=Male / 0=Female	1	-0.2412831705	0.0196733225	-12.2644851131	<.0001
Age_50_54_MALE	50 <= Age <= 54 MALE	1	0.1246760272	0.0788629545	1.5809200656	0.1139
CMR_DIAB_CX	Diabetes with chronic complications	1	-0.2989236168	0.0265726333	-11.2493034871	<.0001
CMR_DIAB_UNCX	Diabetes without chronic complications	1	-0.3528258155	0.0337971470	-10.4395147743	<.0001
CMR_HTN_CX	Hypertension, complicated	1	-0.0818269517	0.0279418964	-2.9284680804	0.0034
CMR_HTN_UNCX	Hypertension, uncomplicated	1	-0.3204799394	0.0250439435	-12.7967043077	<.0001
CMR_NEURO_OTH	Other neurological disorders	1	0.4052730927	0.0294110257	13.7796313948	<.0001
CMR_OBESE	Obesity	1	-0.3460769895	0.0264739270	-13.0723707808	<.0001
CMR_PARALYSIS	Paralysis	1	0.1231721014	0.0401047770	3.0712576032	0.0021
CMR_PSYCHOSES	Psychoses	1	-0.1618961596	0.0467442921	-3.4634423195	0.0005
CMR_PULMCIRC	Pulmonary circulation disease	1	0.0372966988	0.0421438114	0.8849863735	0.3762
CMR_RENLFL_MOD	Renal failure, moderate	1	-0.2229066300	0.0331129161	-6.7317124710	<.0001
CMR_RENLFL_SEV	Renal failure, severe	1	-0.1208335974	0.0399784810	-3.0224659505	0.0025
CMR_THYROID_OTH	Other thyroid disorders	1	0.1247766239	0.0658850777	1.8938525733	0.0582
CMR_WGHTLOSS	Weight loss	1	0.8241871132	0.0272257959	30.2722872393	<.0001
MDC_19	Mental diseases and disorders	1	-4.450325371	0.5021458395	-8.8626152429	<.0001
MDRG_101	INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE	1	1.9707037419	0.1603221385	12.2921497969	<.0001
MDRG_105	VENTRICULAR SHUNT PROCEDURES	1	1.3848629873	0.2314142311	5.9843466879	<.0001
MDRG_108	PERIPH/CRANIAL NERVE & OTHER NERV SYST PROC	1	1.6148722810	0.1237276777	13.0518272972	<.0001
MDRG_127	NON-BACTERIAL INFECT OF NERVOUS SYS EXC VIRAL MENINGITIS	1	0.4409454185	0.3115413354	1.4153672994	0.1570
MDRG_306	EAR, NOSE, MOUTH & THROAT MALIGNANCY	1	0.7807776068	0.3649646422	2.1393239686	0.0324

Table 7. Risk Adjustment Coefficients for PSI 06 - Iatrogenic Pneumothorax Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_404	RESPIRATORY INFECTIONS & INFLAMMATIONS	1	-2.196849072	0.0798479127	-27.5129179482	<.0001
MDRG_505	OTHER CARDIOTHORACIC PROCEDURES	1	1.2928472345	0.2310285056	5.5960507172	<.0001
MDRG_510	PERMANENT CARDIAC PACEMAKER IMPLANT AND PROCEDURES	1	4.1044197549	0.0335403672	122.3725347527	<.0001
MDRG_514	OTHER VASCULAR PROCEDURES	1	0.1917531104	0.1326952979	1.4450633397	0.1484
MDRG_516	CARDIAC PACEMAKER DEVICE REPLACEMENT	1	3.5935425580	0.1466690632	24.5010261835	<.0001
MDRG_519	OTHER CIRCULATORY SYSTEM O.R. PROCEDURES	1	0.8640867277	0.2462026846	3.5096559941	0.0004
MDRG_526	CARDIAC ARREST, UNEXPLAINED	1	0.8654613748	0.2998074077	2.8867244525	0.0039
MDRG_541	AORTIC AND HEART ASSIST PROCEDURES EXCEPT PULSATION BALLOON	1	0.6990705977	0.2523927887	2.7697724698	0.0056
MDRG_542	OTHER MAJOR CARDIOVASCULAR PROCEDURES	1	0.8113478111	0.1180519988	6.8728002845	<.0001
MDRG_544	CARDIAC DEFIBRILLATOR IMPLANT OR CAROTID SINUS NEUROSTIMULATOR	1	3.6787085637	0.0557134012	66.0291507243	<.0001
MDRG_601	STOMACH, ESOPHAGEAL & DUODENAL PROC	1	1.6489741929	0.1041869525	15.8270700323	<.0001
MDRG_610	HERNIA PROCEDURES EXCEPT INGUINAL & FEMORAL	1	0.4509288575	0.2321562960	1.9423503274	0.0521
MDRG_611	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES	1	1.4586772759	0.1216741476	11.9883911606	<.0001
MDRG_620	ESOPHAGITIS, GASTROENT & MISC DIGEST DISORDERS	1	-1.913786987	0.2104689583	-9.0929655472	<.0001
MDRG_801	COMBINED ANTERIOR/POSTERIOR SPINAL FUSION	1	1.3819014934	0.0936125501	14.7619255247	<.0001
MDRG_802	SPINAL FUS EXC CERV W SPINAL CURV/MALIG/INFEC OR EXT FUS	1	2.2838912716	0.1359825138	16.7954776465	<.0001
MDRG_803	SPINAL FUSION EXCEPT CERVICAL	1	0.6418183030	0.1509885585	4.2507744244	<.0001
MDRG_810	BIOPSIES OF MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE	1	0.9876753228	0.1842740532	5.3598176492	<.0001
MDRG_905	BREAST BIOPSY, LOCAL EXCISION & OTHER BREAST PROCEDURES	1	1.9534661835	0.2327721718	8.3921809398	<.0001
MDRG_1001	ADRENAL & PITUITARY PROCEDURES	1	1.6008705115	0.2223257796	7.2005617807	<.0001
MDRG_1008	MISC DISORDERS OF NUTRITION,METABOLISM,FLUIDS/ELECTROLYTES	1	-1.182370491	0.1423791893	-8.3043771875	<.0001
MDRG_1101	KIDNEY TRANSPLANT	1	0.4901386964	0.3255336013	1.5056470193	0.1322
MDRG_1103	KIDNEY & URETER PROCEDURES FOR NEOPLASM	1	2.8894198336	0.0746928803	38.6840060390	<.0001
MDRG_1107	TRANSURETHRAL PROCEDURES	1	-0.7542667289	0.5766020832	-1.3081234890	0.1908
MDRG_1110	RENAL FAILURE	1	-1.540493189	0.1537252868	-10.0210786443	<.0001
MDRG_1113	KIDNEY & URINARY TRACT INFECTIONS	1	-2.193309227	0.2480328189	-8.8428186098	<.0001
MDRG_1708	LYMPHOMA & NON-ACUTE LEUKEMIA W OTHER O.R. PROC	1	1.7909874552	0.1637158416	10.9396099867	<.0001

Table 7. Risk Adjustment Coefficients for PSI 06 - Iatrogenic Pneumothorax Rate

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	1.9959637137	0.2081543613	9.5888632906	<.0001
MDRG_1713	LYMPHOMA & NON-ACUTE LEUKEMIA	1	-0.1684341087	0.2506462034	-0.6719994416	0.5016
MDRG_1801	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURE	1	0.8614955542	0.0556090779	15.4919949543	<.0001
MDRG_1802	POSTOPERATIVE OR POST-TRAUMATIC INFECTIONS W O.R. PROC	1	0.0904825159	0.2225802802	0.4065163177	0.6844
MDRG_1807	SEPTICEMIA OR SEVERE SEPSIS W MV >96 HOURS	1	1.2792995542	0.0588307198	21.7454343354	<.0001
MDRG_7702	LIVER TRANSPLANT	1	2.9665174513	0.1575404130	18.8301997856	<.0001
COVIDDX	COVID-19 Diagnosis	1	1.4848351920	0.0393754770	37.7096432423	<.0001
Q2	Quarter 2, 2020	1	0.2504817201	0.0420395537	5.9582392853	<.0001
Q3	Quarter 3, 2020	1	0.2543186992	0.0381524015	6.6658634680	<.0001
Q4	Quarter 4, 2020	1	0.1765866213	0.0407004111	4.3386937991	<.0001
Q5	Quarter 1, 2021	1	0.2986023597	0.0356290705	8.3808630331	<.0001
Q6	Quarter 2, 2021	1	0.2245855434	0.0379044892	5.9250381128	<.0001
Q7	Quarter 3, 2021	1	0.0544548992	0.0429235804	1.2686476476	0.2046
Q8	Quarter 4, 2021	1	0.0863713458	0.0431912442	1.9997420173	0.0455
Q9	Quarter 1, 2022	1	0.1057283287	0.0366767812	2.8827046808	0.0039
Q10	Quarter 2, 2022	1	0.0386375044	0.0420252437	0.9193879917	0.3579
COVIDDX_Q2	COVID, Quarter 2, 2020	1	0.6235993217	0.0903613075	6.9011763873	<.0001
COVIDDX_Q3	COVID, Quarter 3, 2020	1	0.4089303622	0.0855862726	4.7779900857	<.0001
COVIDDX_Q4	COVID, Quarter 4, 2020	1	0.3605595775	0.0786080474	4.5868023604	<.0001
COVIDDX_Q7	COVID, Quarter 3, 2021	1	0.7727719344	0.0798012025	9.6837129015	<.0001
COVIDDX_Q8	COVID, Quarter 4, 2021	1	0.7553688695	0.0806249017	9.3689276314	<.0001
COVIDDX_Q10	COVID, Quarter 2, 2022	1	-0.9051590800	0.1859231267	-4.8684587883	<.0001
ODC903	Ventilator Dependence flag	1	1.7726713078	0.0626683106	28.2865660551	<.0001
TRANSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.2350323292	0.0329779825	7.1269468778	<.0001
PS06_NonWt_2	PS06 Comorbidity count using non-weighted method, category 2, count >= 3	1	0.0524041282	0.0268617434	1.9508833600	0.0511

c-statistic=0.823

C-statistics for hospital level indicators are based on the test data (a random sample of 2020-2022 HCUP reference population, not used for the LASSO feature selection).

Table 8. 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	-8.914797153	0.0604298164	-147.5231546611	<.0001
Age_LT30	Age < 30	1	-0.3077311631	0.0720718596	-4.2697824763	<.0001
Age_30_34	30 <= Age <= 34	1	-0.5314788039	0.0985066324	-5.3953606070	<.0001
Age_35_39	35 <= Age <= 39	1	0.0946716455	0.0681276052	1.3896223886	0.1646
Age_40_44	40 <= Age <= 44	1	0.2375581291	0.0624051119	3.8067094457	0.0001
Age_45_49	45 <= Age <= 49	1	0.3103667825	0.0585260460	5.3030539986	<.0001
Age_50_54	50 <= Age <= 54	1	0.2358774371	0.0551807873	4.2746297854	<.0001
Age_55_59	55 <= Age <= 59	1	0.2767446160	0.0714168577	3.8750601042	0.0001
Age_60_64	60 <= Age <= 64	1	0.0700674685	0.0486927234	1.4389720618	0.1502
Age_70_74	70 <= Age <= 74	1	-0.1496285020	0.0513609906	-2.9132713409	0.0036
Age_75_79	75 <= Age <= 79	1	-0.3842829720	0.0615392019	-6.2445231698	<.0001
Age_80_84	80 <= Age <= 84	1	-0.6992092684	0.0671517599	-10.4123744474	<.0001
Age_85_89	85 <= Age <= 89	1	-1.106436915	0.0992719845	-11.1455101950	<.0001
Age_90Plus	Age >= 90	1	-1.792167334	0.1583861346	-11.3151781796	<.0001
MALE	Patient Sex Flag: 1=Male / 0=Female	1	0.3481961637	0.0307924892	11.3078277548	<.0001
Age_30_34_MALE	30 <= Age <= 34 MALE	1	1.0406590270	0.1076464872	9.6673756278	<.0001
Age_55_59_MALE	55 <= Age <= 59 MALE	1	-0.1664976693	0.0781826341	-2.1295991279	0.0332
CMR_HF	Heart failure	1	0.4001223211	0.0363756463	10.9997309140	<.0001
CMR_HTN_UNCX	Hypertension, uncomplicated	1	-0.3440554913	0.0341550942	-10.0733287260	<.0001
CMR_LIVER_MLD	Liver disease, mild	1	0.3297084974	0.0469784209	7.0182967256	<.0001
CMR_OBESE	Obesity	1	0.2770278780	0.0272649996	10.1605678291	<.0001
CMR_PSYCHOSES	Psychoses	1	0.1220094551	0.0551286190	2.2131781509	0.0269
CMR_PULMCIRC	Pulmonary circulation disease	1	0.4783662992	0.0536396299	8.9181506350	<.0001
CMR_RENLFL_SEV	Renal failure, severe	1	0.3399205519	0.0664889104	5.1124398035	<.0001
CMR_WGHTLOSS	Weight loss	1	1.2095683469	0.0435821449	27.7537590071	<.0001
MDRG_404	RESPIRATORY INFECTIONS & INFLAMMATIONS	1	-1.977655064	0.1104887017	-17.8991610370	<.0001
MDRG_416	RESPIRATORY SYSTEM DIAGNOSIS W VENTILATOR SUPPORT	1	2.1285397774	0.0543100675	39.1923611270	<.0001
MDRG_503	CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC	1	-0.1813731571	0.1389722146	-1.3051037400	0.1919
MDRG_542	OTHER MAJOR CARDIOVASCULAR PROCEDURES	1	0.3443535179	0.1194106625	2.8837752904	0.0039
MDRG_601	STOMACH, ESOPHAGEAL & DUODENAL PROC	1	0.9110934659	0.1304580701	6.9838030337	<.0001
MDRG_602	MAJOR SMALL & LARGE BOWEL PROCEDURES	1	0.4931360931	0.0794790153	6.2046074851	<.0001
MDRG_1109	OTHER KIDNEY & URINARY TRACT PROCEDURES	1	1.8774041441	0.1240886890	15.1295348387	<.0001
MDRG_1801	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURE	1	0.4022803430	0.0623345916	6.4535650715	<.0001
MDRG_1807	SEPTICEMIA OR SEVERE SEPSIS W MV >96 HOURS	1	2.3505118856	0.0573487350	40.9862900094	<.0001
COVIDDX	COVID-19 Diagnosis	1	1.8794686495	0.0467635852	40.1908587645	<.0001

Table 8. 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
Q2	Quarter 2, 2020	1	0.0411136623	0.0585039514	0.7027501798	0.4822
Q3	Quarter 3, 2020	1	0.1268116873	0.0526877810	2.4068519281	0.0161
Q5	Quarter 1, 2021	1	0.0087513662	0.0567403507	0.1542353210	0.8774
Q8	Quarter 4, 2021	1	0.0306024796	0.0565017326	0.5416201988	0.5881
COVIDDX_Q2	COVID, Quarter 2, 2020	1	0.9194080155	0.0923864042	9.9517675130	<.0001
COVIDDX_Q3	COVID, Quarter 3, 2020	1	0.6501706455	0.0965730564	6.7324227875	<.0001
COVIDDX_Q5	COVID, Quarter 1, 2021	1	0.4504034575	0.0861415274	5.2286448939	<.0001
COVIDDX_Q8	COVID, Quarter 4, 2021	1	0.4368887344	0.0844203306	5.1751601934	<.0001
MEDICDR	Medical DRGs flag	1	-1.497594866	0.0399417618	-37.4944618916	<.0001
TRANSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.7463541292	0.0467863252	15.9523990468	<.0001

c-statistic=0.843

C-statistics for hospital level indicators are based on the test data (a random sample of 2020-2022 HCUP reference population, not used for the LASSO feature selection).

Table 9. Risk Adjustment Coefficients for PSI 08 - In Hospital Fall-Associated Fracture Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Intercept	Intercept	1	-6.760553283	0.0977557487	-69.1576032703	<.0001
Age_LT30	Age < 30	1	-1.479663440	0.1037362087	-14.2637123475	<.0001
Age_30_34	30 <= Age <= 34	1	-0.8076418347	0.0783760263	-10.3047050581	<.0001
Age_35_39	35 <= Age <= 39	1	-1.099217696	0.0949514538	-11.5766283945	<.0001
Age_40_44	40 <= Age <= 44	1	-1.062002267	0.1040992644	-10.2018229812	<.0001
Age_45_49	45 <= Age <= 49	1	-0.6114748600	0.0509760876	-11.9953273913	<.0001
Age_50_54	50 <= Age <= 54	1	-0.4196613285	0.0419104091	-10.0132959194	<.0001
Age_55_59	55 <= Age <= 59	1	-0.2543962949	0.0463148998	-5.4927527913	<.0001
Age_60_64	60 <= Age <= 64	1	-0.0802096479	0.0402349504	-1.9935316710	0.0462
Age_70_74	70 <= Age <= 74	1	0.0931473902	0.0389839899	2.3893754928	0.0169
Age_75_79	75 <= Age <= 79	1	0.2923429013	0.0384040420	7.6122951216	<.0001
Age_80_84	80 <= Age <= 84	1	0.3714965047	0.0314582872	11.8091777488	<.0001
Age_85_89	85 <= Age <= 89	1	0.4734450469	0.0384180157	12.3235164191	<.0001
Age_90Plus	Age >= 90	1	0.4624190580	0.0485885089	9.5170456694	<.0001
MALE	Patient Sex Flag: 1=Male / 0=Female	1	-0.2674086904	0.0269270075	-9.9308729631	<.0001
Age_LT30_MALE	Age < 30 MALE	1	1.0195424008	0.0955623934	10.6688663252	<.0001
Age_35_39_MALE	35 <= Age <= 39 MALE	1	0.5298960596	0.1149734510	4.6088558276	<.0001
Age_40_44_MALE	40 <= Age <= 44 MALE	1	0.6833191850	0.1286031232	5.3133949483	<.0001
Age_55_59_MALE	55 <= Age <= 59 MALE	1	-0.0879675862	0.0631747293	-1.3924489610	0.1638
Age_60_64_MALE	60 <= Age <= 64 MALE	1	-0.1723809457	0.0548730399	-3.1414506294	0.0017
Age_70_74_MALE	70 <= Age <= 74 MALE	1	-0.0803652521	0.0513088052	-1.5663052713	0.1173
Age_75_79_MALE	75 <= Age <= 79 MALE	1	-0.1448824724	0.0549903760	-2.6346877936	0.0084
Age_90Plus_MALE	Age >= 90 MALE	1	0.1295003823	0.0637498975	2.0313818135	0.0422
CMR_ALCOHOL	Alcohol abuse	1	0.4519680677	0.0551129333	8.2007623303	<.0001
CMR_ANEMDEF	Anemias due to other nutritional deficiencies	1	0.0493452598	0.0505362024	0.9764338714	0.3288
CMR_AUTOIMMUNE	Autoimmune conditions	1	0.0794783544	0.0415271737	1.9138878788	0.0556
CMR_BLDLOSS	Chronic blood loss anemia (iron deficiency)	1	-0.1401125996	0.1040143610	-1.3470505249	0.1780
CMR_CANCER_LEUK	Leukemia	1	0.2805522377	0.0802437673	3.4962495806	0.0005
CMR_CANCER_LYMPH	Lymphoma	1	0.1807368713	0.0666038614	2.7136095049	0.0067
CMR_COAG	Coagulopathy	1	0.0469482274	0.0487978575	0.9620960791	0.3360
CMR_DEMENTIA	Dementia	1	0.6264755197	0.0273568586	22.9001263771	<.0001
CMR_DEPRESS	Depression	1	0.2104026291	0.0227166350	9.2620508778	<.0001
CMR_DIAB_CX	Diabetes with chronic complications	1	0.1308781301	0.0320144596	4.0880943157	<.0001
CMR_DIAB_UNCX	Diabetes without chronic complications	1	-0.0901276318	0.0294602560	-3.0592956098	0.0022
CMR_DRUG_ABUSE	Drug abuse	1	0.0682275507	0.0406989649	1.6763952326	0.0937

Table 9. Risk Adjustment Coefficients for PSI 08 - In Hospital Fall-Associated Fracture Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_HF	Heart failure	1	0.0810718138	0.1211764382	0.6690394186	0.5035
CMR_HTN_CX	Hypertension, complicated	1	-0.0082668885	0.1173419208	-0.0704512800	0.9438
CMR_HTN_UNCX	Hypertension, uncomplicated	1	-0.1787889241	0.0257764219	-6.9361420562	<.0001
CMR_LIVER_MLD	Liver disease, mild	1	0.0809103500	0.0621013078	1.3028767481	0.1926
CMR_LIVER_SEV	Liver disease, moderate to severe	1	0.4231415756	0.0648264874	6.5272945177	<.0001
CMR_LUNG_CHRONIC	Chronic pulmonary disease	1	0.2763433412	0.0195504297	14.1348986180	<.0001
CMR_NEURO_MOVT	Neurological disorders affecting movement	1	-0.0788569325	0.0630414662	-1.2508740235	0.2110
CMR_NEURO_OTH	Other neurological disorders	1	0.2566855442	0.0648095614	3.9606122697	<.0001
CMR_NEURO_SEIZ	Seizures and epilepsy	1	0.1484416544	0.0597499713	2.4843803448	0.0130
CMR_OBESE	Obesity	1	-0.2394647295	0.0276164025	-8.6711051243	<.0001
CMR_PARALYSIS	Paralysis	1	-0.0764304962	0.0547404894	-1.3962333367	0.1626
CMR_PERIVASC	Peripheral vascular disease	1	0.0822751390	0.0378385159	2.1743754226	0.0297
CMR_PSYCHOSES	Psychoses	1	0.1969387540	0.0575032287	3.4248294974	0.0006
CMR_PULMCIRC	Pulmonary circulation disease	1	0.1517542044	0.0410219402	3.6993424444	0.0002
CMR_RENLFL_MOD	Renal failure, moderate	1	-0.2108418164	0.1172861778	-1.7976697714	0.0722
CMR_RENLFL_SEV	Renal failure, severe	1	0.0871924562	0.0791778489	1.1012228473	0.2708
CMR_THYROID_HYPO	Hypothyroidism	1	0.0694130628	0.0310558216	2.2351063083	0.0254
CMR_VALVE	Valvular disease	1	-0.0180166666	0.0353500708	-0.5096642297	0.6103
CMR_WGHTLOSS	Weight loss	1	0.4610468424	0.0463153797	9.9545085227	<.0001
MDC_20	Alcohol or drug use or induced organic mental disorders	1	2.0940126553	0.1506473469	13.9000964751	<.0001
MDC_22	Burns	1	-0.8901891435	0.2693666249	-3.3047492203	0.0010
MDRG_101	INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE	1	-1.581432737	0.3122933967	-5.0639326795	<.0001
MDRG_102	CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX	1	-1.421932149	0.1779660096	-7.9899085905	<.0001
MDRG_103	CRANIOTOMY & ENDOVASCULAR INTRACRANIAL PROCEDURES	1	-1.695780515	0.1366826486	-12.4066992569	<.0001
MDRG_104	SPINAL PROCEDURES	1	-0.2720700397	0.4032743259	-0.6746525187	0.4999
MDRG_105	VENTRICULAR SHUNT PROCEDURES	1	-2.318924272	0.4468541426	-5.1894433795	<.0001
MDRG_106	CAROTID ARTERY STENT PROCEDURES	1	-2.206240390	0.3136729142	-7.0335699715	<.0001
MDRG_107	EXTRACRANIAL PROCEDURES	1	-2.189353010	0.2026232531	-10.8050432322	<.0001
MDRG_108	PERIPH/CRANIAL NERVE & OTHER NERV SYST PROC	1	-0.8894451942	0.1705949481	-5.2137839024	<.0001
MDRG_109	SPINAL DISORDERS & INJURIES	1	-0.1555395358	0.3300926004	-0.4711997046	0.6375
MDRG_110	NERVOUS SYSTEM NEOPLASMS	1	-2.163245848	0.2220789995	-9.7408843396	<.0001
MDRG_111	DEGENERATIVE NERVOUS SYSTEM DISORDERS	1	-0.8408858895	0.0679440841	-12.3761457743	<.0001
MDRG_112	MULTIPLE SCLEROSIS & CEREBELLAR ATAXIA	1	-2.835249485	0.5796033420	-4.8917065853	<.0001

Table 9. Risk Adjustment Coefficients for PSI 08 - In Hospital Fall-Associated Fracture Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_113	ACUTE ISCHEMIC STROKE W USE OF THROMBOLYTIC AGENT	1	-2.620048833	0.2963866699	-8.8399685250	<.0001
MDRG_114	INTRACRANIAL HEMORRHAGE OR CEREBRAL INFARCTION	1	-2.033071666	0.0913611636	-22.2531279745	<.0001
MDRG_115	NONSPECIFIC CVA & PRECEREBRAL OCCLUSION W/O INFARCT	1	-2.619824579	0.5001887545	-5.2376718893	<.0001
MDRG_116	TRANSIENT ISCHEMIA	1	-2.704362392	0.2263867943	-11.9457603573	<.0001
MDRG_117	NONSPECIFIC CEREBROVASCULAR DISORDERS	1	-1.686745288	0.1107208396	-15.2342169197	<.0001
MDRG_118	CRANIAL & PERIPHERAL NERVE DISORDERS	1	-1.775097671	0.1767422715	-10.0434245625	<.0001
MDRG_120	HYPERTENSIVE ENCEPHALOPATHY	1	-2.216411208	0.4710595493	-4.7051613995	<.0001
MDRG_121	NONTRAUMATIC STUPOR & COMA	1	-1.939004079	0.5792674326	-3.3473383271	0.0008
MDRG_122	TRAUMATIC STUPOR & COMA, COMA >1 HR	1	-0.3712563295	0.4315499357	-0.8602859107	0.3896
MDRG_123	TRAUMATIC STUPOR & COMA, COMA <1 HR	1	-0.9038458306	0.4082591345	-2.2139022848	0.0268
MDRG_125	OTHER DISORDERS OF NERVOUS SYSTEM	1	-1.587794069	0.1304007205	-12.1762676029	<.0001
MDRG_126	BACTERIAL & TUBERCULOUS INFECTIONS OF NERVOUS SYSTEM	1	-1.332856919	0.2826260922	-4.7159726429	<.0001
MDRG_127	NON-BACTERIAL INFECT OF NERVOUS SYS EXC VIRAL MENINGITIS	1	-1.476928587	0.2901423616	-5.0903583289	<.0001
MDRG_128	SEIZURES	1	-1.553874701	0.0958783854	-16.2067257925	<.0001
MDRG_129	HEADACHES	1	-2.196910967	0.3076387282	-7.1412041652	<.0001
MDRG_205	NEUROLOGICAL EYE DISORDERS	1	-2.132470849	0.5018331749	-4.2493620499	<.0001
MDRG_206	OTHER DISORDERS OF THE EYE	1	-1.766803444	0.3798176572	-4.6517148711	<.0001
MDRG_301	MAJOR HEAD & NECK PROCEDURES	1	-0.7854988388	0.2589378778	-3.0335416573	0.0024
MDRG_302	OTHER EAR, NOSE, MOUTH & THROAT O.R. PROCEDURES	1	-1.672626435	0.3780798912	-4.4240026361	<.0001
MDRG_304	MOUTH PROCEDURES	1	-1.091263691	0.4481188064	-2.4352106525	0.0149
MDRG_306	EAR, NOSE, MOUTH & THROAT MALIGNANCY	1	-1.874700255	0.4471236672	-4.1928003192	<.0001
MDRG_307	DYSEQUILIBRIUM	1	-2.543003089	0.3171840789	-8.0174361145	<.0001
MDRG_308	EPISTAXIS	1	-1.902099915	0.4999676973	-3.8044456183	0.0001
MDRG_309	OTITIS MEDIA & URI	1	-2.860694604	0.6106170457	-4.6849242481	<.0001
MDRG_310	OTHER EAR, NOSE, MOUTH & THROAT DIAGNOSES	1	-2.982265577	0.5775736858	-5.1634374118	<.0001
MDRG_311	DENTAL & ORAL DISEASES	1	-2.209090712	0.3967677319	-5.5677176715	<.0001
MDRG_401	MAJOR CHEST PROCEDURES	1	-2.584265735	0.1948110060	-13.2655017221	<.0001
MDRG_402	OTHER RESP SYSTEM O.R. PROCEDURES	1	-1.400019853	0.1386876457	-10.0947697731	<.0001
MDRG_403	PULMONARY EMBOLISM	1	-2.659604194	0.1850938004	-14.3689534086	<.0001
MDRG_404	RESPIRATORY INFECTIONS & INFLAMMATIONS	1	-2.508811466	0.0992289555	-25.2830582904	<.0001
MDRG_405	RESPIRATORY NEOPLASMS	1	-2.102032735	0.1713649884	-12.2664072473	<.0001
MDRG_406	MAJOR CHEST TRAUMA	1	-0.1891207385	0.3861056825	-0.4898159935	0.6243

Table 9. Risk Adjustment Coefficients for PSI 08 - In Hospital Fall-Associated Fracture Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_407	PLEURAL EFFUSION	1	-2.894303563	0.3728003445	-7.7636826420	<.0001
MDRG_408	PULMONARY EDEMA & RESPIRATORY FAILURE	1	-2.312631845	0.1674295278	-13.8125686364	<.0001
MDRG_409	CHRONIC OBSTRUCTIVE PULMONARY DISEASE	1	-2.208083074	0.0893246832	-24.7197414602	<.0001
MDRG_410	SIMPLE PNEUMONIA & PLEURISY	1	-2.334044167	0.0883690700	-26.4124559394	<.0001
MDRG_411	INTERSTITIAL LUNG DISEASE	1	-2.486401676	0.2998578981	-8.2919332492	<.0001
MDRG_412	PNEUMOTHORAX	1	-1.069806835	0.4654303361	-2.2985326751	0.0215
MDRG_413	BRONCHITIS & ASTHMA	1	-2.917050429	0.2626130112	-11.1077909468	<.0001
MDRG_414	RESPIRATORY SIGNS & SYMPTOMS	1	-2.681986962	0.4434633233	-6.0478213668	<.0001
MDRG_415	OTHER RESPIRATORY SYSTEM DIAGNOSES	1	-1.705671361	0.3004235646	-5.6775551633	<.0001
MDRG_416	RESPIRATORY SYSTEM DIAGNOSIS W VENTILATOR SUPPORT	1	-1.782888416	0.1502233045	-11.8682545369	<.0001
MDRG_501	OTHER HEART ASSIST SYSTEM IMPLANT	1	-1.595484460	0.2932244123	-5.4411719926	<.0001
MDRG_503	CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC	1	-2.377536474	0.1786830942	-13.3058837156	<.0001
MDRG_505	OTHER CARDIOTHORACIC PROCEDURES	1	-1.530914284	0.2312870896	-6.6191082526	<.0001
MDRG_507	CORONARY BYPASS WITH CARDIAC CATHETERIZATION OR OPEN ABLATION	1	-2.022190947	0.2109702769	-9.5851935994	<.0001
MDRG_508	CORONARY BYPASS W/O CARDIAC CATH	1	-2.414800700	0.2383531271	-10.1311895061	<.0001
MDRG_509	AMPUTATION FOR CIRC SYS DISORDERS EXC UPPER LIMB & TOE	1	-1.778916351	0.1890211987	-9.4112002412	<.0001
MDRG_510	PERMANENT CARDIAC PACEMAKER IMPLANT AND PROCEDURES	1	-1.953175255	0.1974959874	-9.8896958909	<.0001
MDRG_511	PERC CARDIOVASC PROC W INTRALUMINAL DEVICE	1	-2.399270862	0.1133265216	-21.1713094900	<.0001
MDRG_512	AICD PROCEDURES	1	-1.395491287	0.4518003932	-3.0887341129	0.0020
MDRG_513	PERC CARDIOVASC PROC W/O INTRALUMINAL DEVICE	1	-2.942661357	0.5008412371	-5.8754374421	<.0001
MDRG_514	OTHER VASCULAR PROCEDURES	1	-2.099493018	0.1202894475	-17.4536757834	<.0001
MDRG_515	UPPER LIMB & TOE AMPUTATION FOR CIRC SYSTEM DISORDERS	1	-1.639005207	0.3755260771	-4.3645576340	<.0001
MDRG_517	CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEMENT	1	-1.777125516	0.3814211833	-4.6592208127	<.0001
MDRG_519	OTHER CIRCULATORY SYSTEM O.R. PROCEDURES	1	-1.218525022	0.1959320480	-6.2191205311	<.0001
MDRG_520	ACUTE MYOCARDIAL INFARCTION	1	-2.546646292	0.1271100152	-20.0349774842	<.0001
MDRG_522	CIRCULATORY DISORDERS EXCEPT AMI, W CARD CATH	1	-2.438158477	0.1249687747	-19.5101414951	<.0001
MDRG_523	ACUTE & SUBACUTE ENDOCARDITIS	1	-2.195672725	0.5778018360	-3.8000445617	0.0001
MDRG_524	HEART FAILURE & SHOCK	1	-2.365530786	0.1709902392	-13.8343030360	<.0001

Table 9. Risk Adjustment Coefficients for PSI 08 - In Hospital Fall-Associated Fracture Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_526	CARDIAC ARREST, UNEXPLAINED	1	-2.237535946	0.4496782646	-4.9758596800	<.0001
MDRG_527	PERIPHERAL VASCULAR DISORDERS	1	-2.708512148	0.1716795443	-15.7765571838	<.0001
MDRG_528	ATHEROSCLEROSIS	1	-2.096513505	0.2571448823	-8.1530438671	<.0001
MDRG_529	HYPERTENSION	1	-2.684408161	0.1812255654	-14.8125246843	<.0001
MDRG_530	CARDIAC CONGENITAL & VALVULAR DISORDERS	1	-2.511756125	0.4101571217	-6.1238876323	<.0001
MDRG_531	CARDIAC ARRHYTHMIA & CONDUCTION DISORDERS	1	-2.727019481	0.1082521770	-25.1913592416	<.0001
MDRG_533	SYNCOPE & COLLAPSE	1	-2.108660993	0.1508714810	-13.9765380400	<.0001
MDRG_534	CHEST PAIN	1	-2.701005932	0.2123161929	-12.7216200287	<.0001
MDRG_535	OTHER CIRCULATORY SYSTEM DIAGNOSES	1	-2.467400702	0.1415555488	-17.4306180378	<.0001
MDRG_540	ENDOVASCULAR CARDIAC VALVE REPLACEMENT	1	-2.584709577	0.1706275257	-15.1482568046	<.0001
MDRG_541	AORTIC AND HEART ASSIST PROCEDURES EXCEPT PULSATION BALLOON	1	-2.522346309	0.3172174542	-7.9514739037	<.0001
MDRG_542	OTHER MAJOR CARDIOVASCULAR PROCEDURES	1	-2.099745970	0.1460151596	-14.3803285607	<.0001
MDRG_543	PERCUTANEOUS AND OTHER INTRACARDIAC PROCEDURES	1	-2.742639799	0.2246816876	-12.2067794104	<.0001
MDRG_544	CARDIAC DEFIBRILLATOR IMPLANT OR CAROTID SINUS NEUROSTIMULATOR	1	-1.434258354	0.2097070436	-6.8393427793	<.0001
MDRG_601	STOMACH, ESOPHAGEAL & DUODENAL PROC	1	-2.293298783	0.1918513686	-11.9535179738	<.0001
MDRG_602	MAJOR SMALL & LARGE BOWEL PROCEDURES	1	-2.094446541	0.0917055739	-22.8388139614	<.0001
MDRG_604	PERITONEAL ADHESIOLYSIS	1	-1.619733232	0.1750177891	-9.2546777147	<.0001
MDRG_607	MINOR SMALL & LARGE BOWEL PROCEDURES	1	-1.369544838	0.2993892123	-4.5744628790	<.0001
MDRG_609	INGUINAL & FEMORAL HERNIA PROCEDURES	1	-2.062765968	0.3485066129	-5.9188718142	<.0001
MDRG_610	HERNIA PROCEDURES EXCEPT INGUINAL & FEMORAL	1	-2.507913199	0.3189082835	-7.8640578777	<.0001
MDRG_611	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES	1	-1.887475565	0.2034307338	-9.2782222714	<.0001
MDRG_612	MAJOR ESOPHAGEAL DISORDERS	1	-2.645068319	0.3023519937	-8.7483078479	<.0001
MDRG_613	MAJOR GASTROINTESTINAL DISORDERS & PERITONEAL INFECTIONS	1	-2.015013008	0.1498856187	-13.4436714173	<.0001
MDRG_614	DIGESTIVE MALIGNANCY	1	-2.175574675	0.1722363306	-12.6313343227	<.0001
MDRG_615	G.I. HEMORRHAGE	1	-2.413310084	0.0957090282	-25.2150724914	<.0001
MDRG_616	COMPLICATED PEPTIC ULCER	1	-2.597971490	0.2882871025	-9.0117506710	<.0001
MDRG_617	UNCOMPLICATED PEPTIC ULCER	1	-2.169498842	0.5245534884	-4.1358963185	<.0001
MDRG_618	INFLAMMATORY BOWEL DISEASE	1	-2.569111604	0.2806131542	-9.1553498690	<.0001
MDRG_619	G.I. OBSTRUCTION	1	-2.620767365	0.1370858784	-19.1177048703	<.0001
MDRG_620	ESOPHAGITIS, GASTROENT & MISC DIGEST DISORDERS	1	-2.555704087	0.0977097752	-26.1560737595	<.0001
MDRG_621	OTHER DIGESTIVE SYSTEM DIAGNOSES	1	-2.524090948	0.1305959558	-19.3274817146	<.0001

Table 9. Risk Adjustment Coefficients for PSI 08 - In Hospital Fall-Associated Fracture Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_622	APPENDIX PROCEDURES	1	-3.708942157	0.5084611171	-7.2944459920	<.0001
MDRG_701	PANCREAS, LIVER & SHUNT PROCEDURES	1	-2.096447738	0.2597377807	-8.0714008260	<.0001
MDRG_702	BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E.	1	-1.168489219	0.4056095772	-2.8808225568	0.0040
MDRG_704	CHOLECYSTECTOMY EXCEPT BY LAPAROSCOPE W/O C.D.E.	1	-1.739534303	0.3730969071	-4.6624195207	<.0001
MDRG_705	LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E.	1	-2.402663795	0.1552380941	-15.4772822328	<.0001
MDRG_707	OTHER HEPATOBILIARY OR PANCREAS O.R. PROCEDURES	1	-1.546452402	0.4091121701	-3.7800205293	0.0002
MDRG_708	CIRRHOSIS & ALCOHOLIC HEPATITIS	1	-2.143476670	0.1180854321	-18.1519145138	<.0001
MDRG_709	MALIGNANCY OF HEPATOBILIARY SYSTEM OR PANCREAS	1	-2.068905382	0.1650896745	-12.5320095786	<.0001
MDRG_710	DISORDERS OF PANCREAS EXCEPT MALIGNANCY	1	-2.635965562	0.1394994808	-18.8958808008	<.0001
MDRG_711	DISORDERS OF LIVER EXCEPT MALIG,CIRR,ALC HEPA	1	-2.149960539	0.1664385470	-12.9174435651	<.0001
MDRG_712	DISORDERS OF THE BILIARY TRACT	1	-2.861449065	0.2021071838	-14.1580769739	<.0001
MDRG_801	COMBINED ANTERIOR/POSTERIOR SPINAL FUSION	1	-1.150368650	0.1178148511	-9.7642074700	<.0001
MDRG_802	SPINAL FUS EXC CERV W SPINAL CURV/MALIG/INFECTION OR EXT FUS	1	-0.7501580811	0.2045343612	-3.6676384190	0.0002
MDRG_803	SPINAL FUSION EXCEPT CERVICAL	1	-1.372911990	0.1083243031	-12.6740902217	<.0001
MDRG_804	BILATERAL OR MULTIPLE MAJOR JOINT PROCS OF LOWER EXTREMITY	1	-0.2628944771	0.2242211157	-1.1724786772	0.2410
MDRG_805	WND DEBRID & SKN GRFT EXC HAND, FOR MUSCULO-CONN TISS DIS	1	-0.2958612081	0.1096089939	-2.6992420739	0.0069
MDRG_808	CERVICAL SPINAL FUSION	1	-1.826748572	0.1738247554	-10.5091393230	<.0001
MDRG_809	AMPUTATION FOR MUSCULOSKELETAL SYS & CONN TISSUE DIS	1	-1.473293161	0.2879937657	-5.1157119930	<.0001
MDRG_810	BIOPSIES OF MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE	1	-1.313855727	0.2124528276	-6.1842233006	<.0001
MDRG_812	MAJOR JOINT/LIMB REATTACHMENT PROCEDURE OF UPPER EXTREMITIES	1	-0.8700940658	0.1258997131	-6.9110091243	<.0001
MDRG_813	KNEE PROCEDURES W PDX OF INFECTION	1	-2.450943567	0.5005175313	-4.8968186195	<.0001
MDRG_814	KNEE PROCEDURES W/O PDX OF INFECTION	1	-1.077674299	0.3361576326	-3.2058599742	0.0013
MDRG_815	BACK & NECK PROC EXC SPINAL FUSION OR DISC DEVICE/NEUROSTIM	1	-2.126483702	0.2466222166	-8.6224336610	<.0001
MDRG_816	LOWER EXTREM & HUMER PROC EXCEPT HIP,FOOT,FEMUR	1	0.0472772228	0.1668641250	0.2833276640	0.7769

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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	-0.6778852997	0.2697863099	-2.5126749392	0.0120
MDRG_818	LOCAL EXCISION & REMOVAL INT FIX DEVICES OF HIP & FEMUR	1	-0.1154251180	0.3488636881	-0.3308602239	0.7408
MDRG_819	SOFT TISSUE PROCEDURES	1	-1.515708039	0.2315074383	-6.5471245757	<.0001
MDRG_820	FOOT PROCEDURES	1	-1.318941016	0.3454511018	-3.8180252107	0.0001
MDRG_824	SHOULDER,ELBOW OR FOREARM PROC,EXC MAJOR JOINT PROC	1	0.4510172870	0.2864178093	1.5746831112	0.1153
MDRG_825	HAND OR WRIST PROC, EXCEPT MAJOR THUMB OR JOINT PROC	1	-1.684308218	0.4756985279	-3.5407051304	0.0004
MDRG_826	OTHER MUSCULOSKELET SYS & CONN TISS O.R. PROC	1	-1.697624870	0.1808805103	-9.3853387932	<.0001
MDRG_830	OSTEOMYELITIS	1	-1.871205853	0.3098185985	-6.0396821284	<.0001
MDRG_831	PATHOLOGICAL FRACTURES & MUSCULOSKELET & CONN TISS MALIG	1	-1.580797041	0.1833489427	-8.6217952410	<.0001
MDRG_832	CONNECTIVE TISSUE DISORDERS	1	-2.570434224	0.3737731081	-6.8769907950	<.0001
MDRG_834	MEDICAL BACK PROBLEMS	1	-1.792403178	0.1512128785	-11.8535087444	<.0001
MDRG_835	BONE DISEASES & ARTHROPATHIES	1	-1.793283771	0.2350322102	-7.6299489732	<.0001
MDRG_836	SIGNS & SYMPTOMS OF MUSCULOSKELETAL SYSTEM & CONN TISSUE	1	-1.442552472	0.2092032762	-6.8954583236	<.0001
MDRG_837	TENDONITIS, MYOSITIS & BURSITIS	1	-2.208915862	0.2524713124	-8.7491756626	<.0001
MDRG_839	FX, SPRN, STRN & DISL EXCEPT FEMUR, HIP, PELVIS & THIGH	1	-0.9117698768	0.2870060612	-3.1768314332	0.0015
MDRG_840	OTHER MUSCULOSKELETAL SYS & CONNECTIVE TISSUE DIAGNOSES	1	-1.632970638	0.3297974488	-4.9514350210	<.0001
MDRG_841	HIP REPLACEMENT WITH PRINCIPAL DIAGNOSIS OF HIP FRACTURE	1	0.1018345699	0.2314796893	0.4399287479	0.6600
MDRG_902	SKIN GRAFT EXC FOR SKIN ULCER OR CELLULITIS	1	-1.666765368	0.4375256019	-3.8095264836	0.0001
MDRG_903	OTHER SKIN, SUBCUT TISS & BREAST PROC	1	-1.771812382	0.2279008779	-7.7744868627	<.0001
MDRG_906	SKIN ULCERS	1	-2.182384378	0.3127447830	-6.9781639756	<.0001
MDRG_907	MAJOR SKIN DISORDERS	1	-2.408834642	0.5770912448	-4.1740966676	<.0001
MDRG_908	MALIGNANT BREAST DISORDERS	1	-1.956790294	0.4472828541	-4.3748385966	<.0001
MDRG_910	CELLULITIS	1	-2.183254468	0.1021523854	-21.3725255538	<.0001
MDRG_911	TRAUMA TO THE SKIN, SUBCUT TISS & BREAST	1	-1.792039950	0.2562342698	-6.9937559538	<.0001
MDRG_913	SKIN DEBRIDEMENT FOR SKIN ULCER OR CELLULITIS	1	-1.808531887	0.2380436781	-7.5974791764	<.0001
MDRG_1002	AMPUTAT OF LOWER LIMB FOR ENDOCRINE,NUTRIT,& METABOL DIS	1	-1.599320915	0.1668661835	-9.5844519361	<.0001

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Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1003	O.R. PROCEDURES FOR OBESITY	1	-3.506861350	0.3584069165	-9.7845805688	<.0001
MDRG_1004	SKIN GRAFTS & WOUND DEBRID FOR ENDOC, NUTRIT & METAB DIS	1	-1.420988532	0.2248037840	-6.3210169655	<.0001
MDRG_1005	THYROID, PARATHYROID & THYROGLOSSAL PROCEDURES	1	-1.882928121	0.4504797756	-4.1798283126	<.0001
MDRG_1006	OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC	1	0.4729841709	0.0941649271	5.0229335447	<.0001
MDRG_1007	DIABETES	1	-2.350135810	0.1132328301	-20.7548977468	<.0001
MDRG_1008	MISC DISORDERS OF NUTRITION,METABOLISM,FLUIDS/ELECTROLYTES	1	-2.141469745	0.1083583403	-19.7628511043	<.0001
MDRG_1010	ENDOCRINE DISORDERS	1	-1.865527076	0.1661074242	-11.2308470558	<.0001
MDRG_1101	KIDNEY TRANSPLANT	1	-2.678907202	0.4982105198	-5.3770586845	<.0001
MDRG_1102	MAJOR BLADDER PROCEDURES	1	-1.802291522	0.3303785345	-5.4552319059	<.0001
MDRG_1103	KIDNEY & URETER PROCEDURES FOR NEOPLASM	1	-2.769627489	0.3483049697	-7.9517311828	<.0001
MDRG_1104	KIDNEY & URETER PROCEDURES FOR NON-NEOPLASM	1	-2.304341175	0.1551791617	-14.8495529313	<.0001
MDRG_1105	MINOR BLADDER PROCEDURES	1	-1.196259566	0.3770252990	-3.1728893765	0.0015
MDRG_1106	PROSTATECTOMY	1	-1.335144980	0.4476885741	-2.9823074724	0.0029
MDRG_1107	TRANSURETHRAL PROCEDURES	1	-2.337931182	0.3772204643	-6.1977845939	<.0001
MDRG_1109	OTHER KIDNEY & URINARY TRACT PROCEDURES	1	-1.561197677	0.1452303554	-10.7498027709	<.0001
MDRG_1110	RENAL FAILURE	1	-2.487227051	0.1524703956	-16.3128523481	<.0001
MDRG_1112	KIDNEY & URINARY TRACT NEOPLASMS	1	-2.276008188	0.4477487553	-5.0832261652	<.0001
MDRG_1113	KIDNEY & URINARY TRACT INFECTIONS	1	-2.251023779	0.1070601986	-21.0257762286	<.0001
MDRG_1115	URINARY STONES	1	-3.287015182	0.5789789321	-5.6772621582	<.0001
MDRG_1118	OTHER KIDNEY & URINARY TRACT DIAGNOSES	1	-2.919188438	0.1523000900	-19.1673454596	<.0001
MDRG_1204	TRANSURETHRAL PROSTATECTOMY	1	-2.249568716	0.5017383193	-4.4835497505	<.0001
MDRG_1206	OTHER MALE REPRODUCTIVE SYSTEM O.R. PROC EXC MALIGNANCY	1	-1.791778349	0.5820100613	-3.0786037355	0.0021
MDRG_1207	MALIGNANCY, MALE REPRODUCTIVE SYSTEM	1	-1.999755288	0.5772817684	-3.4640887640	0.0005
MDRG_1208	BENIGN PROSTATIC HYPERTROPHY	1	-1.781313864	0.4429442622	-4.0215305099	<.0001
MDRG_1302	UTERINE & ADNEXA PROC FOR OVARIAN OR ADNEXAL MALIGNANCY	1	-2.678866443	0.5736695742	-4.6697028452	<.0001
MDRG_1303	UTERINE,ADNEXA PROC FOR NON-OVARIAN/ADNEXAL MALIG	1	-2.162569462	0.4477415298	-4.8299505817	<.0001
MDRG_1304	UTERINE & ADNEXA PROC FOR NON-MALIGNANCY	1	-3.451344984	0.4158973418	-8.2985502354	<.0001
MDRG_1309	MALIGNANCY, FEMALE REPRODUCTIVE SYSTEM	1	-2.695543932	0.4986367083	-5.4058273024	<.0001
MDRG_1310	INFECTIONS, FEMALE REPRODUCTIVE SYSTEM	1	-2.638495681	0.5793089323	-4.5545572214	<.0001
MDRG_1311	MENSTRUAL & OTHER FEMALE REPRODUCTIVE SYSTEM DISORDERS	1	-2.142178751	0.4848889334	-4.4178751124	<.0001

Table 9. Risk Adjustment Coefficients for PSI 08 - In Hospital Fall-Associated Fracture Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1602	OTHER O.R. PROC OF THE BLOOD & BLOOD FORMING ORGANS	1	-1.548557215	0.4990443891	-3.1030450369	0.0019
MDRG_1603	MAJOR HEMATOL/IMMUN DIAG EXC SICKLE CELL CRISIS & COAGUL	1	-2.263248199	0.2087198514	-10.8434736019	<.0001
MDRG_1604	RED BLOOD CELL DISORDERS	1	-2.569578480	0.1300409849	-19.7597586779	<.0001
MDRG_1605	COAGULATION DISORDERS	1	-2.280526546	0.2581218635	-8.8350770263	<.0001
MDRG_1606	RETICULOENDOTHELIAL & IMMUNITY DISORDERS	1	-2.089805699	0.4223239299	-4.9483478238	<.0001
MDRG_1707	LYMPHOMA & LEUKEMIA W MAJOR O.R. PROC OR ACUTE LEUKEMIA W ANY O.R. PROC	1	-1.068040747	0.3258707470	-3.2774980779	0.0010
MDRG_1708	LYMPHOMA & NON-ACUTE LEUKEMIA W OTHER O.R. PROC	1	-1.165740005	0.2193457584	-5.3146229680	<.0001
MDRG_1709	MYELOPROLIF DISORD OR POORLY DIFF NEOPL W MAJ O.R. PROC	1	-1.793301952	0.3988118514	-4.4966114873	<.0001
MDRG_1711	ACUTE LEUKEMIA	1	-1.221788107	0.2059623647	-5.9320939953	<.0001
MDRG_1712	CHEMO W ACUTE LEUKEMIA	1	-1.672289473	0.2729315697	-6.1271382946	<.0001
MDRG_1713	LYMPHOMA & NON-ACUTE LEUKEMIA	1	-1.768179393	0.1700960400	-10.3951825859	<.0001
MDRG_1714	OTHER MYELOPROLIF DIS OR POORLY DIFF NEOPL DIAG	1	-2.078818655	0.3800771946	-5.4694643203	<.0001
MDRG_1715	CHEMOTHERAPY W/O ACUTE LEUKEMIA AS SECONDARY DIAGNOSIS	1	-2.191141399	0.2120269236	-10.3342602036	<.0001
MDRG_1801	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURE	1	-0.8338480912	0.0770149718	-10.8270907852	<.0001
MDRG_1802	POSTOPERATIVE OR POST-TRAUMATIC INFECTIONS W O.R. PROC	1	-1.327669234	0.1421831864	-9.3377372337	<.0001
MDRG_1803	POSTOPERATIVE & POST-TRAUMATIC INFECTIONS	1	-3.076540701	0.3169926676	-9.7054002017	<.0001
MDRG_1805	VIRAL ILLNESS	1	-2.566375737	0.4448614850	-5.7689321819	<.0001
MDRG_1806	OTHER INFECTIOUS & PARASITIC DISEASES DIAGNOSES	1	-1.749555532	0.3328974993	-5.2555382220	<.0001
MDRG_1807	SEPTICEMIA OR SEVERE SEPSIS W MV >96 HOURS	1	-2.114092417	0.1545652557	-13.6776690674	<.0001
MDRG_1808	SEPTICEMIA OR SEVERE SEPSIS W/O MV >96 HOURS	1	-2.640509942	0.1273152295	-20.7399378143	<.0001
MDRG_1909	O.R. PROCEDURE W PRINCIPAL DIAGNOSES OF MENTAL ILLNESS	1	2.5740150913	0.1132961806	22.7193456831	<.0001
MDRG_1910	ACUTE ADJUSTMENT REACTION & PSYCHOSOCIAL DYSFUNCTION	1	-1.528758164	0.2005243825	-7.6238018768	<.0001
MDRG_1911	DEPRESSIVE NEUROSES	1	-1.622991491	0.1921907035	-8.4446930125	<.0001
MDRG_1912	NEUROSES EXCEPT DEPRESSIVE	1	-2.226259642	0.3851694629	-5.7799484553	<.0001
MDRG_1914	ORGANIC DISTURBANCES & MENTAL RETARDATION	1	-0.2559664465	0.0770649426	-3.3214382295	0.0009

Table 9. Risk Adjustment Coefficients for PSI 08 - In Hospital Fall-Associated Fracture Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1915	PSYCHOSES	1	-0.6731605111	0.0908653041	-7.4083338843	<.0001
MDRG_2018	ALCOHOL/DRUG ABUSE OR DEPENDENCE	1	-3.750122886	0.1659941934	-22.5918919726	<.0001
MDRG_2101	WOUND DEBRIDEMENTS FOR INJURIES	1	-1.286065157	0.3662013700	-3.5119070069	0.0004
MDRG_2104	OTHER O.R. PROCEDURES FOR INJURIES	1	-0.8829657056	0.1171214860	-7.5388874885	<.0001
MDRG_2105	TRAUMATIC INJURY	1	-0.8948171698	0.2953493259	-3.0296909165	0.0024
MDRG_2107	POISONING & TOXIC EFFECTS OF DRUGS	1	-1.891650396	0.1250526498	-15.1268317700	<.0001
MDRG_2108	COMPLICATIONS OF TREATMENT	1	-2.599788665	0.2247824857	-11.5657972969	<.0001
MDRG_2109	OTHER INJURY, POISONING & TOXIC EFFECT DIAG	1	-2.368666024	0.4464482417	-5.3055781228	<.0001
MDRG_2214	NON-EXTENSIVE BURNS	1	-1.266384280	0.6557228364	-1.9312798174	0.0534
MDRG_2301	O.R. PROC W DIAGNOSES OF OTHER CONTACT W HEALTH SERVICES	1	0.3770294427	0.1633946453	2.3074773473	0.0210
MDRG_2302	REHABILITATION	1	-0.9208057872	0.1401719053	-6.5691180072	<.0001
MDRG_2303	SIGNS & SYMPTOMS	1	-1.357067712	0.0971366862	-13.9707021574	<.0001
MDRG_2304	AFTERCARE	1	-0.8025177727	0.1269307353	-6.3224858100	<.0001
MDRG_2305	OTHER FACTORS INFLUENCING HEALTH STATUS	1	-3.078158529	0.3655485629	-8.4206555325	<.0001
MDRG_2406	CRANIOTOMY FOR MULTIPLE SIGNIFICANT TRAUMA	1	2.4855968438	0.5251357633	4.7332461762	<.0001
MDRG_2408	OTHER O.R. PROCEDURES FOR MULTIPLE SIGNIFICANT TRAUMA	1	1.3206104947	0.4530967593	2.9146323992	0.0036
MDRG_2409	OTHER MULTIPLE SIGNIFICANT TRAUMA	1	1.2204164625	0.4087200840	2.9859468870	0.0028
MDRG_2501	HIV W EXTENSIVE O.R. PROCEDURE	1	-0.0417892875	0.4065702435	-0.1027849141	0.9181
MDRG_2502	HIV W MAJOR RELATED CONDITION	1	-2.022818440	0.2784814151	-7.2637466293	<.0001
MDRG_7701	HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM	1	-0.7378520343	0.3163285727	-2.3325494370	0.0197
MDRG_7705	ALLOGENEIC OR AUTOLOGOUS BONE MARROW TRANSPLANT	1	-0.2768269185	0.1496410936	-1.8499391569	0.0643
COVIDDX	COVID-19 Diagnosis	1	0.2826941844	0.0871968656	3.2420223182	0.0012
Q1	Quarter 1, 2020	1	-0.0926380566	0.0455794890	-2.0324505322	0.0421
Q2	Quarter 2, 2020	1	0.0694328950	0.0423858288	1.6381157777	0.1014
Q3	Quarter 3, 2020	1	0.0392508618	0.0365703444	1.0732975700	0.2831
Q4	Quarter 4, 2020	1	0.0298866445	0.0396453899	0.7538491761	0.4509
Q5	Quarter 1, 2021	1	-0.0284975631	0.0408901421	-0.6969299119	0.4858
Q6	Quarter 2, 2021	1	-0.0445763369	0.0380617244	-1.1711591534	0.2415
Q7	Quarter 3, 2021	1	0.0461924654	0.0379837445	1.2161114205	0.2239
Q8	Quarter 4, 2021	1	0.0093380504	0.0364102313	0.2564677581	0.7976
Q9	Quarter 1, 2022	1	0.0682890693	0.0383281936	1.7816928721	0.0748
Q10	Quarter 2, 2022	1	-0.0268497556	0.0427714574	-0.6277493745	0.5302
Q11	Quarter 3, 2022	1	0.0495367006	0.0366408907	1.3519513212	0.1764

Table 9. Risk Adjustment Coefficients for PSI 08 - In Hospital Fall-Associated Fracture Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
COVIDDX_Q5	COVID, Quarter 1, 2021	1	0.1580153170	0.0950337207	1.6627289331	0.0964
COVIDDX_Q7	COVID, Quarter 3, 2021	1	-0.2801621127	0.1276365075	-2.1949998338	0.0282
COVIDDX_Q9	COVID, Quarter 1, 2022	1	0.1122240336	0.0845661783	1.3270557551	0.1845
COVIDDX_Q10	COVID, Quarter 2, 2022	1	0.4976044202	0.1281266978	3.8836903535	0.0001
COVIDDX_Q11	COVID, Quarter 3, 2022	1	0.1140916010	0.1129505040	1.0101026286	0.3124
TRANSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.0307716763	0.0380303267	0.8091352068	0.4184
PS08_NonWt_1	PS08 Comorbidity count using non-weighted method, category 1, count > 3 and count <= 5	1	0.1305769717	0.0549562345	2.3760174425	0.0175
PS08_NonWt_2	PS08 Comorbidity count using non-weighted method, category 2, count >= 6	1	0.0217504165	0.0530443730	0.4100419182	0.6818

c-statistic=0.766

C-statistics for hospital level indicators are based on the test data (a random sample of 2020-2022 HCUP reference population, not used for the LASSO feature selection).

Table 10. 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	-6.101806881	0.0280682717	-217.3916135372	<.0001
Age_LT30	Age < 30	1	-0.2447678644	0.0367024257	-6.6689833169	<.0001
Age_30_34	30 <= Age <= 34	1	-0.1673194881	0.0383851303	-4.3589662671	<.0001
Age_35_39	35 <= Age <= 39	1	-0.1211462034	0.0356883788	-3.3945560885	0.0007
Age_40_44	40 <= Age <= 44	1	-0.0851320264	0.0390274972	-2.1813345056	0.0292
Age_45_49	45 <= Age <= 49	1	-0.0270738184	0.0282539441	-0.9582314718	0.3379
Age_50_54	50 <= Age <= 54	1	-0.0086765841	0.0270159866	-0.3211648063	0.7481
Age_55_59	55 <= Age <= 59	1	-0.0045418421	0.0246787389	-0.1840386632	0.8540
Age_60_64	60 <= Age <= 64	1	0.0276204956	0.0231456123	1.1933361361	0.2327
Age_70_74	70 <= Age <= 74	1	0.0207296499	0.0236090761	0.8780373173	0.3799
Age_75_79	75 <= Age <= 79	1	0.0947475372	0.0330985993	2.8625844947	0.0042
Age_80_84	80 <= Age <= 84	1	0.0202288509	0.0302579593	0.6685464365	0.5038
Age_85_89	85 <= Age <= 89	1	-0.0982500608	0.0422686672	-2.3244182334	0.0201
Age_90Plus	Age >= 90	1	-0.2501425842	0.0776047792	-3.2232883962	0.0013
MALE	Patient Sex Flag: 1=Male / 0=Female	1	0.1268047193	0.0152536013	8.3131004194	<.0001
Age_40_44_MALE	40 <= Age <= 44 MALE	1	0.0234720936	0.0548390816	0.4280176271	0.6686
Age_75_79_MALE	75 <= Age <= 79 MALE	1	-0.0304719240	0.0383286019	-0.7950178858	0.4266
Age_90Plus_MALE	Age >= 90 MALE	1	-0.2064423854	0.1233775852	-1.6732568159	0.0943
CMR_AIDS	Acquired immune deficiency syndrome	1	-0.0316981472	0.0857098307	-0.3698309395	0.7115
CMR_ALCOHOL	Alcohol abuse	1	0.0727891759	0.0328601956	2.2151169364	0.0268
CMR_ANEMDEF	Anemias due to other nutritional deficiencies	1	-0.3497345667	0.0214339269	-16.3168685236	<.0001
CMR_CANCER_LEUK	Leukemia	1	0.2203299988	0.0986383223	2.2337160002	0.0255
CMR_CANCER_METS	Metastatic cancer	1	0.2136064992	0.0323136938	6.6104017756	<.0001
CMR_CANCER_NSITU	Solid tumor without metastasis, in situ	1	0.9176965245	0.1180932756	7.7709464811	<.0001
CMR_CANCER_SOLID	Solid tumor without metastasis, malignant	1	0.1046913434	0.0360060655	2.9076029837	0.0036
CMR_CBVD	Cerebrovascular disease	1	0.1415991848	0.0302684860	4.6781059587	<.0001
CMR_COAG	Coagulopathy	1	0.2666915272	0.3000111182	0.8889388127	0.3740
CMR_DEMENTIA	Dementia	1	-0.2768270632	0.0438237000	-6.3168345736	<.0001
CMR_DEPRESS	Depression	1	0.0574434823	0.0190304259	3.0185074409	0.0025
CMR_DIAB_CX	Diabetes with chronic complications	1	-0.0596776308	0.0187663334	-3.1800368022	0.0015
CMR_DIAB_UNCX	Diabetes without chronic complications	1	-0.1749868030	0.0246325418	-7.1038873926	<.0001
CMR_HF	Heart failure	1	0.3315268806	0.0204433879	16.2168267819	<.0001
CMR_LIVER_SEV	Liver disease, moderate to severe	1	0.2370839236	0.0709337778	3.3423276041	0.0008
CMR_NEURO_OTH	Other neurological disorders	1	0.0467523217	0.0321900547	1.4523840383	0.1464
CMR_NEURO_SEIZ	Seizures and epilepsy	1	0.0315238406	0.0363303223	0.8677005485	0.3856
CMR_PERIVASC	Peripheral vascular disease	1	0.4948924799	0.0207578483	23.8412224492	<.0001
CMR_PULMCIRC	Pulmonary circulation disease	1	0.1528094724	0.0366214499	4.1726767456	<.0001
CMR_RENLFL_SEV	Renal failure, severe	1	0.2635875641	0.0284502203	9.2648690082	<.0001

Table 10. Risk Adjustment Coefficients for PSI 09 - Postoperative Hemorrhage or Hematoma Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_THYROID_HYPO	Hypothyroidism	1	0.0545813965	0.0195335542	2.7942378442	0.0052
CMR_ULCER_PEPTIC	Peptic ulcer disease x bleeding	1	0.2873639407	0.0604753337	4.7517545310	<.0001
CMR_VALVE	Valvular disease	1	0.1768909615	0.0260857795	6.7811261544	<.0001
CMR_WGHTLOSS	Weight loss	1	0.4678915062	0.0254323103	18.3975227187	<.0001
MDRG_101	INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE	1	0.8972062553	0.1072359368	8.3666565706	<.0001
MDRG_102	CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX	1	-0.5826432463	0.0778315168	-7.4859551749	<.0001
MDRG_103	CRANIOTOMY & ENDOVASCULAR INTRACRANIAL PROCEDURES	1	0.2455756320	0.0468755360	5.2388869142	<.0001
MDRG_105	VENTRICULAR SHUNT PROCEDURES	1	-2.719928462	0.4024280020	-6.7587952335	<.0001
MDRG_107	EXTRACRANIAL PROCEDURES	1	0.8954554997	0.0421498255	21.2445838102	<.0001
MDRG_301	MAJOR HEAD & NECK PROCEDURES	1	0.9172478456	0.0604755969	15.1672392358	<.0001
MDRG_302	OTHER EAR, NOSE, MOUTH & THROAT O.R. PROCEDURES	1	0.9085150519	0.0751225716	12.0937693260	<.0001
MDRG_402	OTHER RESP SYSTEM O.R. PROCEDURES	1	-1.236657970	0.1357799192	-9.1078119429	<.0001
MDRG_501	OTHER HEART ASSIST SYSTEM IMPLANT	1	0.9248626977	0.0800805674	11.5491526551	<.0001
MDRG_503	CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC	1	0.8636309753	0.0510952148	16.9023846759	<.0001
MDRG_505	OTHER CARDIOTHORACIC PROCEDURES	1	0.4481281176	0.0832842934	5.3807038457	<.0001
MDRG_506	CORONARY BYPASS W PTCA	1	0.7721255273	0.1492212749	5.1743662403	<.0001
MDRG_507	CORONARY BYPASS WITH CARDIAC CATHETERIZATION OR OPEN ABLATION	1	0.4403541275	0.0545168848	8.0773897666	<.0001
MDRG_508	CORONARY BYPASS W/O CARDIAC CATH	1	0.3268167717	0.0552443176	5.9158441298	<.0001
MDRG_510	PERMANENT CARDIAC PACEMAKER IMPLANT AND PROCEDURES	1	-0.1066896577	0.1275550971	-0.8364201830	0.4029
MDRG_511	PERC CARDIOVASC PROC W INTRALUMINAL DEVICE	1	-1.663385047	0.0559925441	-29.7072596814	<.0001
MDRG_512	AICD PROCEDURES	1	-0.9647094418	0.2992542442	-3.2237118119	0.0013
MDRG_513	PERC CARDIOVASC PROC W/O INTRALUMINAL DEVICE	1	-1.264380487	0.1801342530	-7.0191008445	<.0001
MDRG_514	OTHER VASCULAR PROCEDURES	1	0.3835456244	0.0384125677	9.9848993946	<.0001
MDRG_515	UPPER LIMB & TOE AMPUTATION FOR CIRC SYSTEM DISORDERS	1	-1.597808418	0.2880870970	-5.5462685921	<.0001
MDRG_517	CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEMENT	1	0.2558409355	0.1693156995	1.5110290203	0.1308
MDRG_518	VEIN LIGATION & STRIPPING	1	0.5651379652	0.4514398720	1.2518565602	0.2106
MDRG_519	OTHER CIRCULATORY SYSTEM O.R. PROCEDURES	1	-0.1742903609	0.1051107093	-1.6581598783	0.0973

Table 10. Risk Adjustment Coefficients for PSI 09 - Postoperative Hemorrhage or Hematoma Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_536	OTHER ENDOVASCULAR CARDIAC VALVE PROCEDURES	1	-0.7240889901	0.3137744045	-2.3076738566	0.0210
MDRG_540	ENDOVASCULAR CARDIAC VALVE REPLACEMENT	1	-0.6140734569	0.0739544568	-8.3034002793	<.0001
MDRG_542	OTHER MAJOR CARDIOVASCULAR PROCEDURES	1	0.0694259429	0.0469429811	1.4789419279	0.1392
MDRG_543	PERCUTANEOUS AND OTHER INTRACARDIAC PROCEDURES	1	-1.199159728	0.1458046256	-8.2244285659	<.0001
MDRG_544	CARDIAC DEFIBRILLATOR IMPLANT OR CAROTID SINUS NEUROSTIMULATOR	1	-0.8471236371	0.1030022079	-8.2243250342	<.0001
MDRG_601	STOMACH, ESOPHAGEAL & DUODENAL PROC	1	0.0484508808	0.0507035926	0.9555709638	0.3393
MDRG_609	INGUINAL & FEMORAL HERNIA PROCEDURES	1	0.1030200670	0.0969180861	1.0629601877	0.2878
MDRG_610	HERNIA PROCEDURES EXCEPT INGUINAL & FEMORAL	1	0.2540408815	0.0582976234	4.3576541650	<.0001
MDRG_622	APPENDIX PROCEDURES	1	-1.064660008	0.0847445922	-12.5631616250	<.0001
MDRG_705	LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E.	1	-0.7913122036	0.0498858043	-15.8624726097	<.0001
MDRG_803	SPINAL FUSION EXCEPT CERVICAL	1	-0.5043650258	0.0584244836	-8.6327682263	<.0001
MDRG_804	BILATERAL OR MULTIPLE MAJOR JOINT PROCS OF LOWER EXTREMITY	1	-2.129250737	0.3961966343	-5.3742272212	<.0001
MDRG_806	REVISION OF HIP OR KNEE REPLACEMENT	1	-1.151627028	0.0898555637	-12.8164242816	<.0001
MDRG_807	MAJOR JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY	1	-2.927687338	0.1041072749	-28.1218324049	<.0001
MDRG_808	CERVICAL SPINAL FUSION	1	0.2019881197	0.0420525887	4.8032267740	<.0001
MDRG_810	BIOPSIES OF MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE	1	-0.8666806819	0.1512936996	-5.7284651266	<.0001
MDRG_811	HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT	1	-2.052662299	0.0830946648	-24.7026966647	<.0001
MDRG_812	MAJOR JOINT/LIMB REATTACHMENT PROCEDURE OF UPPER EXTREMITIES	1	-2.408851664	0.1547849604	-15.5625692452	<.0001
MDRG_813	KNEE PROCEDURES W PDX OF INFECTION	1	-1.786290775	0.2881878774	-6.1983550146	<.0001
MDRG_814	KNEE PROCEDURES W/O PDX OF INFECTION	1	-1.991436666	0.3012287164	-6.6110452204	<.0001
MDRG_815	BACK & NECK PROC EXC SPINAL FUSION OR DISC DEVICE/NEUROSTIM	1	0.3485229817	0.0549335422	6.3444476357	<.0001
MDRG_816	LOWER EXTREM & HUMER PROC EXCEPT HIP,FOOT,FEMUR	1	-2.543004724	0.1372815746	-18.5240060899	<.0001
MDRG_819	SOFT TISSUE PROCEDURES	1	-0.5188323662	0.0965488763	-5.3737794370	<.0001
MDRG_820	FOOT PROCEDURES	1	-2.392392275	0.3344063507	-7.1541472515	<.0001
MDRG_824	SHOULDER,ELBOW OR FOREARM PROC,EXC MAJOR JOINT PROC	1	-2.886615951	0.3782805930	-7.6308856543	<.0001
MDRG_825	HAND OR WRIST PROC, EXCEPT MAJOR THUMB OR JOINT PROC	1	-2.434392923	0.3766054731	-6.4640402143	<.0001

Table 10. Risk Adjustment Coefficients for PSI 09 - Postoperative Hemorrhage or Hematoma Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_826	OTHER MUSCULOSKELET SYS & CONN TISS O.R. PROC	1	-0.6545522300	0.0736994524	-8.8813716920	<.0001
MDRG_841	HIP REPLACEMENT WITH PRINCIPAL DIAGNOSIS OF HIP FRACTURE	1	-2.372022721	0.1623544181	-14.6101519705	<.0001
MDRG_901	SKIN GRAFT FOR SKIN ULCER OR CELLULITIS	1	0.6166191240	0.1318812445	4.6755634293	<.0001
MDRG_902	SKIN GRAFT EXC FOR SKIN ULCER OR CELLULITIS	1	1.4241207845	0.0792143039	17.9780761078	<.0001
MDRG_903	OTHER SKIN, SUBCUT TISS & BREAST PROC	1	1.6682247264	0.0387820826	43.0153466773	<.0001
MDRG_904	MASTECTOMY FOR MALIGNANCY	1	1.6791209370	0.0788213614	21.3028664732	<.0001
MDRG_905	BREAST BIOPSY, LOCAL EXCISION & OTHER BREAST PROCEDURES	1	1.6774370872	0.0696272355	24.0916801338	<.0001
MDRG_913	SKIN DEBRIDEMENT FOR SKIN ULCER OR CELLULITIS	1	0.3514938800	0.0746455666	4.7088379956	<.0001
MDRG_1002	AMPUTAT OF LOWER LIMB FOR ENDOCRINE,NUTRIT,& METABOL DIS	1	-0.9008421025	0.0870157567	-10.3526319465	<.0001
MDRG_1003	O.R. PROCEDURES FOR OBESITY	1	-0.6117485255	0.0584390591	-10.4681446768	<.0001
MDRG_1004	SKIN GRAFTS & WOUND DEBRID FOR ENDOC, NUTRIT & METAB DIS	1	-0.3250740212	0.0997570497	-3.2586571286	0.0011
MDRG_1005	THYROID, PARATHYROID & THYROGLOSSAL PROCEDURES	1	1.6073924161	0.0605681560	26.5385727731	<.0001
MDRG_1006	OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC	1	-0.7273783264	0.1287021436	-5.6516411146	<.0001
MDRG_1101	KIDNEY TRANSPLANT	1	1.0594011589	0.0929881980	11.3928560971	<.0001
MDRG_1103	KIDNEY & URETER PROCEDURES FOR NEOPLASM	1	-0.4589001494	0.0810161796	-5.6643025101	<.0001
MDRG_1105	MINOR BLADDER PROCEDURES	1	1.4702438849	0.1260574142	11.6632876716	<.0001
MDRG_1107	TRANSURETHRAL PROCEDURES	1	-2.226665820	0.3324725327	-6.6972925619	<.0001
MDRG_1201	MAJOR MALE PELVIC PROCEDURES	1	-0.6494535849	0.0988335536	-6.5711852049	<.0001
MDRG_1206	OTHER MALE REPRODUCTIVE SYSTEM O.R. PROC EXC MALIGNANCY	1	-0.3127552391	0.1881912075	-1.6619014422	0.0965
MDRG_1302	UTERINE & ADNEXA PROC FOR OVARIAN OR ADNEXAL MALIGNANCY	1	-0.7505000553	0.1587282050	-4.7282085466	<.0001
MDRG_1304	UTERINE & ADNEXA PROC FOR NON-MALIGNANCY	1	0.2062972352	0.0461969669	4.4656012915	<.0001
MDRG_1601	SPLenic PROCEDURES	1	0.8701192967	0.1691510014	5.1440386970	<.0001
MDRG_1707	LYMPHOMA & LEUKEMIA W MAJOR O.R. PROC OR ACUTE LEUKEMIA W ANY O.R. PROC	1	0.7191543056	0.0954933917	7.5309326969	<.0001
MDRG_1710	MYELOPROLIF DISORD OR POORLY DIFF NEOPL W OTHER O.R. PROC	1	-0.8662410095	0.2708310990	-3.1984547297	0.0014

Table 10. Risk Adjustment Coefficients for PSI 09 - Postoperative Hemorrhage or Hematoma Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1801	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURE	1	-0.2555441899	0.0328840813	-7.7710606385	<.0001
MDRG_2102	SKIN GRAFTS FOR INJURIES	1	0.8046019431	0.1318195844	6.1038118633	<.0001
MDRG_2103	HAND PROCEDURES FOR INJURIES	1	-0.5644058346	0.2424621268	-2.3278102937	0.0199
MDRG_2408	OTHER O.R. PROCEDURES FOR MULTIPLE SIGNIFICANT TRAUMA	1	-0.2913002683	0.0867691684	-3.3571863569	0.0008
MDRG_7701	HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM	1	2.0877198374	0.0884603387	23.6006312985	<.0001
MDRG_7702	LIVER TRANSPLANT	1	1.9132231546	0.1445953630	13.2315664539	<.0001
MDRG_7703	LUNG TRANSPLANT	1	1.4480965532	0.1823470322	7.9414319810	<.0001
MDRG_7704	SIMULTANEOUS PANCREAS/KIDNEY TRANSPLANT	1	2.1316055202	0.1674455332	12.7301426292	<.0001
MDRG_7706	PANCREAS TRANSPLANT	1	2.2857235926	0.4544740787	5.0293816513	<.0001
COVIDDX	COVID-19 Diagnosis	1	0.0481215734	0.0646716573	0.7440906173	0.4568
Q1	Quarter 1, 2020	1	0.0866393760	0.0233605749	3.7087861215	0.0002
Q6	Quarter 2, 2021	1	0.0205843958	0.0223301701	0.9218199279	0.3566
Q7	Quarter 3, 2021	1	-0.0368090574	0.0236676871	-1.5552452280	0.1199
Q8	Quarter 4, 2021	1	-0.0473335650	0.0227786476	-2.0779796018	0.0377
Q9	Quarter 1, 2022	1	-0.0931969746	0.0257649906	-3.6171942069	0.0003
Q10	Quarter 2, 2022	1	-0.1168334025	0.0244090751	-4.7864739725	<.0001
Q11	Quarter 3, 2022	1	-0.0776931892	0.0258004609	-3.0113101263	0.0026
COVIDDX_Q6	COVID, Quarter 2, 2021	1	0.4312770850	0.1895063174	2.2757926531	0.0229
COVIDDX_Q7	COVID, Quarter 3, 2021	1	-0.0451957565	0.1971586832	-0.2292354348	0.8187
COVIDDX_Q8	COVID, Quarter 4, 2021	1	0.1332453554	0.1779114811	0.7489418590	0.4539
COVIDDX_Q10	COVID, Quarter 2, 2022	1	0.1617461305	0.2041740779	0.7921971884	0.4282
COVIDDX_Q11	COVID, Quarter 3, 2022	1	0.3457245963	0.1393497071	2.4809854546	0.0131
TRANSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.1465979808	0.0271532201	5.3989169746	<.0001
PS09_NonWt_1	PS09 Comorbidity count using non-weighted method, category 1, count > 1 and count <= 3	1	0.0725783946	0.0135384833	5.3608955236	<.0001

c-statistic=0.748

C-statistics for hospital level indicators are based on the test data (a random sample of 2020-2022 HCUP reference population, not used for the LASSO feature selection).

Table 11. 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	-7.653003262	0.0892373652	-85.7600764468	<.0001
Age_LT30	Age < 30	1	-0.8038660862	0.1681429157	-4.7808501631	<.0001
Age_30_34	30 <= Age <= 34	1	-0.7028969457	0.1507379616	-4.6630386823	<.0001
Age_35_39	35 <= Age <= 39	1	-0.7474400133	0.1184314638	-6.3111608132	<.0001
Age_40_44	40 <= Age <= 44	1	-0.5745632709	0.0964622825	-5.9563516044	<.0001
Age_45_49	45 <= Age <= 49	1	-0.5682236392	0.0819746818	-6.9316967957	<.0001
Age_50_54	50 <= Age <= 54	1	-0.2970036371	0.0624919528	-4.7526701279	<.0001
Age_55_59	55 <= Age <= 59	1	-0.1868817971	0.0553584452	-3.3758498144	0.0007
Age_60_64	60 <= Age <= 64	1	-0.1044802647	0.0435891445	-2.3969331341	0.0165
Age_70_74	70 <= Age <= 74	1	0.1854786905	0.0554310259	3.3461168643	0.0008
Age_75_79	75 <= Age <= 79	1	0.1714740966	0.0431746160	3.9716414959	<.0001
Age_80_84	80 <= Age <= 84	1	0.0969766824	0.0531310166	1.8252367170	0.0680
Age_85_89	85 <= Age <= 89	1	-0.2321656739	0.1164537987	-1.9936290309	0.0462
Age_90Plus	Age >= 90	1	-0.7290320523	0.1685051179	-4.3264683072	<.0001
MALE	Patient Sex Flag: 1=Male / 0=Female	1	0.0892790032	0.0318299122	2.8048774534	0.0050
Age_LT30_MALE	Age < 30 MALE	1	-0.1444688053	0.2714314730	-0.5322478035	0.5946
Age_70_74_MALE	70 <= Age <= 74 MALE	1	-0.0431302450	0.0640925740	-0.6729366968	0.5010
Age_85_89_MALE	85 <= Age <= 89 MALE	1	-0.0851829448	0.1557176544	-0.5470346002	0.5844
CMR_ANEMDEF	Anemias due to other nutritional deficiencies	1	0.2552065292	0.0453372453	5.6290700444	<.0001
CMR_BLDLOSS	Chronic blood loss anemia (iron deficiency)	1	-0.4708906369	0.2022584338	-2.3281631731	0.0199
CMR_CANCER_LEUK	Leukemia	1	0.5469337727	0.1231074181	4.4427361158	<.0001
CMR_CANCER_LYMPH	Lymphoma	1	0.0055030357	0.1648340054	0.0333853181	0.9734
CMR_CANCER_METS	Metastatic cancer	1	0.2430591649	0.0720427929	3.3738165188	0.0007
CMR_CANCER_SOLID	Solid tumor without metastasis, malignant	1	0.0177199842	0.0701809075	0.2524900978	0.8007
CMR_CBVD	Cerebrovascular disease	1	0.0073741239	0.0582817287	0.1265254834	0.8993
CMR_COAG	Coagulopathy	1	0.4977902894	0.0471641864	10.5544127315	<.0001
CMR_DEPRESS	Depression	1	-0.2122532510	0.0453720698	-4.6780596909	<.0001
CMR_DIAB_CX	Diabetes with chronic complications	1	0.2383788735	0.0346544917	6.8787294697	<.0001
CMR_DIAB_UNCX	Diabetes without chronic complications	1	-0.8053606508	0.0701028736	-11.4882687235	<.0001
CMR_DRUG_ABUSE	Drug abuse	1	0.1091576404	0.1032364101	1.0573560269	0.2903
CMR_HF	Heart failure	1	0.3593951175	0.0428362658	8.3899730845	<.0001
CMR_HTN_CX	Hypertension, complicated	1	0.2952580957	0.0489109019	6.0366520336	<.0001
CMR_HTN_UNCX	Hypertension, uncomplicated	1	-0.6672877238	0.0488177054	-13.6689694400	<.0001
CMR_LIVER_MLD	Liver disease, mild	1	0.3126622787	0.0577160789	5.4172474061	<.0001
CMR_LIVER_SEV	Liver disease, moderate to severe	1	0.8689207927	0.0913549451	9.5114806476	<.0001
CMR_NEURO_MOVT	Neurological disorders affecting movement	1	-0.4788667065	0.1082558658	-4.4234712195	<.0001
CMR_NEURO_OTH	Other neurological disorders	1	0.3021157623	0.0955227629	3.1627619765	0.0016
CMR_OBESE	Obesity	1	0.3854327595	0.0328410958	11.7362941133	<.0001

Table 11. Risk Adjustment Coefficients for PSI 10 - Postoperative Acute Kidney Injury Requiring Dialysis Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_PERIVASC	Peripheral vascular disease	1	0.4097170680	0.0400774385	10.2231351009	<.0001
CMR_PULMCIRC	Pulmonary circulation disease	1	0.5113732488	0.0488376054	10.4708911194	<.0001
CMR_RENLFL_MOD	Renal failure, moderate	1	0.4231661019	0.0449989892	9.4039023961	<.0001
CMR_RENLFL_SEV	Renal failure, severe	1	1.8719711464	0.0585381499	31.9786523670	<.0001
CMR_ULCER_PEPTIC	Peptic ulcer disease x bleeding	1	0.4938828837	0.1225317522	4.0306522576	<.0001
CMR_VALVE	Valvular disease	1	0.0180719310	0.0427858753	0.4223807707	0.6727
CMR_WGHTLOSS	Weight loss	1	1.0670445527	0.0534563559	19.9610417550	<.0001
MDC_1	Diseases and disorders of the nervous system	1	-0.9613557788	0.1401359163	-6.8601669321	<.0001
MDC_3	Diseases and disorders of the ear, nose, mouth and throat	1	-0.6201191507	0.2057804876	-3.0134983053	0.0026
MDC_4	Diseases and disorders of the respiratory system	1	2.3126457943	0.1437909889	16.0833847212	<.0001
MDC_5	Diseases and disorders of the circulatory system	1	3.7385476436	0.1044715186	35.7853288123	<.0001
MDC_6	Diseases and disorders of the digestive system	1	0.6170562922	0.0809457554	7.6230839945	<.0001
MDC_7	Diseases and disorders of the hepatobiliary system and pancreas	1	2.0867861118	0.1514684120	13.7770382896	<.0001
MDC_8	Diseases and disorders of the musculoskeletal system and connective tissue	1	-0.7584794106	0.0920854301	-8.2366929252	<.0001
MDC_9	Diseases and disorders of the skin, subcutaneous tissue and breast	1	-1.749693086	0.3321996130	-5.2669931508	<.0001
MDC_11	Diseases and disorders of the kidney and urinary tract	1	0.4917008338	0.1389568326	3.5385149798	0.0004
MDC_17	Myeloproliferative diseases and disorders, poorly differentiated neoplasms	1	1.0104390006	0.1547799381	6.5282297746	<.0001
MDC_18	Infectious and parasitic diseases, systemic or unspecified sites	1	0.3649261847	0.2385714379	1.5296306545	0.1261
MDRG_107	EXTRACRANIAL PROCEDURES	1	-0.5349436274	0.2673518688	-2.0008972807	0.0454
MDRG_401	MAJOR CHEST PROCEDURES	1	-2.004384085	0.1681517319	-11.9200918269	<.0001
MDRG_402	OTHER RESP SYSTEM O.R. PROCEDURES	1	-2.606575471	0.2747138949	-9.4883277461	<.0001
MDRG_501	OTHER HEART ASSIST SYSTEM IMPLANT	1	-0.8043984205	0.1273935304	-6.3142799945	<.0001
MDRG_503	CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC	1	-1.813826373	0.0768896372	-23.5899978118	<.0001
MDRG_505	OTHER CARDIOTHORACIC PROCEDURES	1	-2.474859000	0.1375635602	-17.9906582632	<.0001
MDRG_507	CORONARY BYPASS WITH CARDIAC CATHETERIZATION OR OPEN ABLATION	1	-2.309788614	0.1150490555	-20.0765543397	<.0001
MDRG_508	CORONARY BYPASS W/O CARDIAC CATH	1	-2.540757319	0.0900978613	-28.1999736961	<.0001
MDRG_509	AMPUTATION FOR CIRC SYS DISORDERS EXC UPPER LIMB & TOE	1	-3.872190222	0.2107755619	-18.3711535966	<.0001
MDRG_510	PERMANENT CARDIAC PACEMAKER IMPLANT AND PROCEDURES	1	-3.797834656	0.4580557097	-8.2912068897	<.0001

Table 11. Risk Adjustment Coefficients for PSI 10 - Postoperative Acute Kidney Injury Requiring Dialysis Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_511	PERC CARDIOVASC PROC W INTRALUMINAL DEVICE	1	-3.990567883	0.1727770338	-23.0966338221	<.0001
MDRG_513	PERC CARDIOVASC PROC W/O INTRALUMINAL DEVICE	1	-3.976275015	0.5905643013	-6.7330094387	<.0001
MDRG_514	OTHER VASCULAR PROCEDURES	1	-4.165776055	0.1444154929	-28.8457697437	<.0001
MDRG_519	OTHER CIRCULATORY SYSTEM O.R. PROCEDURES	1	-4.103720044	0.4957788776	-8.2773192433	<.0001
MDRG_536	OTHER ENDOVASCULAR CARDIAC VALVE PROCEDURES	1	-3.856445057	0.5064257443	-7.6150256981	<.0001
MDRG_540	ENDOVASCULAR CARDIAC VALVE REPLACEMENT	1	-4.284298500	0.1028627399	-41.6506356185	<.0001
MDRG_541	AORTIC AND HEART ASSIST PROCEDURES EXCEPT PULSATION BALLOON	1	-2.404938340	0.0967160722	-24.8659637095	<.0001
MDRG_542	OTHER MAJOR CARDIOVASCULAR PROCEDURES	1	-2.370907389	0.1048277154	-22.6171807664	<.0001
MDRG_543	PERCUTANEOUS AND OTHER INTRACARDIAC PROCEDURES	1	-4.511841206	0.2830836228	-15.9381922593	<.0001
MDRG_544	CARDIAC DEFIBRILLATOR IMPLANT OR CAROTID SINUS NEUROSTIMULATOR	1	-4.011425080	0.3343100510	-11.9991159950	<.0001
MDRG_609	INGUINAL & FEMORAL HERNIA PROCEDURES	1	-0.5603609533	0.4061728275	-1.3796121143	0.1677
MDRG_701	PANCREAS, LIVER & SHUNT PROCEDURES	1	-0.6370662033	0.1442546995	-4.4162596115	<.0001
MDRG_702	BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E.	1	-1.209846689	0.3599917505	-3.3607622611	0.0008
MDRG_705	LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E.	1	-2.038389812	0.2842006372	-7.1723618658	<.0001
MDRG_706	HEPATOBIILIARY DIAGNOSTIC PROCEDURES	1	-1.775525149	0.4574993675	-3.8809346520	0.0001
MDRG_707	OTHER HEPATOBIILIARY OR PANCREAS O.R. PROCEDURES	1	-1.221988583	0.3996402237	-3.0577216976	0.0022
MDRG_805	WND DEBRID & SKN GRFT EXC HAND, FOR MUSCULO-CONN TISS DIS	1	0.5357657795	0.2262520521	2.3680040669	0.0179
MDRG_807	MAJOR JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY	1	-1.059706381	0.1296438422	-8.1739816024	<.0001
MDRG_812	MAJOR JOINT/LIMB REATTACHMENT PROCEDURE OF UPPER EXTREMITIES	1	-2.053393173	0.4090935857	-5.0193726937	<.0001
MDRG_1003	O.R. PROCEDURES FOR OBESITY	1	-1.272437489	0.1665495556	-7.6399933023	<.0001
MDRG_1006	OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC	1	-0.0012507109	0.3883155821	-0.0032208620	0.9974
MDRG_1101	KIDNEY TRANSPLANT	1	1.0252245912	0.5009910452	2.0463930465	0.0407
MDRG_1102	MAJOR BLADDER PROCEDURES	1	0.9284925867	0.1555918107	5.9674900787	<.0001
MDRG_1103	KIDNEY & URETER PROCEDURES FOR NEOPLASM	1	0.6066616443	0.1273306226	4.7644598902	<.0001
MDRG_1109	OTHER KIDNEY & URINARY TRACT PROCEDURES	1	0.3726680854	0.3584614875	1.0396321457	0.2985
MDRG_1304	UTERINE & ADNEXA PROC FOR NON-MALIGNANCY	1	-1.080053804	0.2277827272	-4.7415965962	<.0001

Table 11. Risk Adjustment Coefficients for PSI 10 - Postoperative Acute Kidney Injury Requiring Dialysis Rate

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	0.1422362040	0.2121553714	0.6704341400	0.5026
MDRG_1801	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURE	1	0.7155770062	0.2986948270	2.3956792735	0.0166
MDRG_7701	HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM	1	0.0482613456	0.1410325708	0.3421999991	0.7322
MDRG_7702	LIVER TRANSPLANT	1	0.7713451204	0.2667741160	2.8913791642	0.0038
MDRG_7703	LUNG TRANSPLANT	1	0.2150647241	0.4887947096	0.4399898769	0.6599
COVIDDX	COVID-19 Diagnosis	1	0.2391891254	0.2277736078	1.0501178244	0.2937
Q3	Quarter 3, 2020	1	-0.0488388673	0.0510930004	-0.9558817616	0.3391
Q4	Quarter 4, 2020	1	-0.0129297069	0.0468987967	-0.2756937864	0.7828
Q5	Quarter 1, 2021	1	0.0234519881	0.0524893052	0.4467955517	0.6550
Q6	Quarter 2, 2021	1	-0.0474609731	0.0490737460	-0.9671357282	0.3335
Q7	Quarter 3, 2021	1	-0.0512055597	0.0491246716	-1.0423593278	0.2972
Q8	Quarter 4, 2021	1	-0.1217826805	0.0500417584	-2.4336211304	0.0149
Q9	Quarter 1, 2022	1	0.0001935786	0.0520640462	0.0037180868	0.9970
Q10	Quarter 2, 2022	1	-0.1071243189	0.0491267688	-2.1805692002	0.0292
Q11	Quarter 3, 2022	1	-0.1830762463	0.0534251926	-3.4267774666	0.0006
COVIDDX_Q3	COVID, Quarter 3, 2020	1	0.7173252609	0.6215515837	1.1540880592	0.2485
COVIDDX_Q5	COVID, Quarter 1, 2021	1	0.8022733957	0.4172647568	1.9226962799	0.0545
COVIDDX_Q8	COVID, Quarter 4, 2021	1	0.9775493470	0.5214522244	1.8746671341	0.0608
SOLKIDD	Solitary kidney diagnosis codes	1	0.1552888949	0.0980330024	1.5840471173	0.1132
PS10_NonWt_1	PS10 Comorbidity count using non-weighted method, category 1, count > 3 and count <= 5	1	0.1650971648	0.0294071218	5.6141898587	<.0001

c-statistic=0.917

C-statistics for hospital level indicators are based on the test data (a random sample of 2020-2022 HCUP reference population, not used for the LASSO feature selection).

Table 12. Risk Adjustment Coefficients for PSI 11 - Postoperative Respiratory Failure Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Intercept	Intercept	1	-3.889287482	0.0433900930	-89.6353802473	<.0001
Age_LT30	Age < 30	1	-0.4891816574	0.0757827062	-6.4550565942	<.0001
Age_30_34	30 <= Age <= 34	1	-0.6014758366	0.0615616983	-9.7702931115	<.0001
Age_35_39	35 <= Age <= 39	1	-0.5384939006	0.0448760998	-11.9995699845	<.0001
Age_40_44	40 <= Age <= 44	1	-0.5215230748	0.0428391451	-12.1739841788	<.0001
Age_45_49	45 <= Age <= 49	1	-0.4803797957	0.0418084450	-11.4900182476	<.0001
Age_50_54	50 <= Age <= 54	1	-0.3623517480	0.0343937508	-10.5353949268	<.0001
Age_55_59	55 <= Age <= 59	1	-0.1075794470	0.0276740408	-3.8873776195	0.0001
Age_60_64	60 <= Age <= 64	1	-0.0834715010	0.0186040121	-4.4867473012	<.0001
Age_70_74	70 <= Age <= 74	1	0.0827430177	0.0154572585	5.3530202532	<.0001
Age_75_79	75 <= Age <= 79	1	0.1837561068	0.0177383125	10.3592777898	<.0001
Age_80_84	80 <= Age <= 84	1	0.2364768271	0.0209283022	11.2993794089	<.0001
Age_85_89	85 <= Age <= 89	1	0.2236853607	0.0430527787	5.1956079773	<.0001
Age_90Plus	Age >= 90	1	-0.0432597163	0.0539985784	-0.8011269486	0.4231
MALE	Patient Sex Flag: 1=Male / 0=Female	1	-0.0283393614	0.0136606598	-2.0745236147	0.0380
Age_45_49_MALE	45 <= Age <= 49 MALE	1	0.3267803670	0.0504846213	6.4728695320	<.0001
Age_50_54_MALE	50 <= Age <= 54 MALE	1	0.1733152946	0.0423843528	4.0891339222	<.0001
Age_55_59_MALE	55 <= Age <= 59 MALE	1	-0.0587114090	0.0331828301	-1.7693309712	0.0768
Age_85_89_MALE	85 <= Age <= 89 MALE	1	0.0345525880	0.0560075688	0.6169271181	0.5373
CMR_ALCOHOL	Alcohol abuse	1	0.6172878657	0.0326682924	18.8956269318	<.0001
CMR_ANEMDEF	Anemias due to other nutritional deficiencies	1	0.0479689599	0.0211807519	2.2647430152	0.0235
CMR_AUTOIMMUNE	Autoimmune conditions	1	0.0108430299	0.0280338313	0.3867837330	0.6989
CMR_CANCER_LEUK	Leukemia	1	0.4002197190	0.0546988126	7.3167898873	<.0001
CMR_CANCER_LYMPH	Lymphoma	1	0.2639231053	0.0570473880	4.6263836879	<.0001
CMR_CANCER_METS	Metastatic cancer	1	0.2517616547	0.0329123615	7.6494558160	<.0001
CMR_CANCER_SOLID	Solid tumor without metastasis, malignant	1	0.1565287883	0.0278390682	5.6226302927	<.0001
CMR_CBVD	Cerebrovascular disease	1	0.0220578015	0.0257797126	0.8556263532	0.3922
CMR_COAG	Coagulopathy	1	0.5154583134	0.0245543774	20.9925222512	<.0001
CMR_DEMENTIA	Dementia	1	0.3108388160	0.0377511681	8.2338860405	<.0001
CMR_DIAB_CX	Diabetes with chronic complications	1	0.2434308939	0.0165127382	14.7420064879	<.0001
CMR_DIAB_UNCX	Diabetes without chronic complications	1	-0.2483212115	0.0223548621	-11.1081522497	<.0001
CMR_DRUG_ABUSE	Drug abuse	1	0.3817368770	0.0395811214	9.6444179352	<.0001
CMR_HF	Heart failure	1	0.5481233295	0.0220207199	24.8912538215	<.0001
CMR_HTN_CX	Hypertension, complicated	1	0.2399729930	0.0241747747	9.9265865430	<.0001
CMR_HTN_UNCX	Hypertension, uncomplicated	1	-0.1395851317	0.0214000080	-6.5226672782	<.0001
CMR_LIVER_MLD	Liver disease, mild	1	0.1452104791	0.0255599741	5.6811669174	<.0001
CMR_LIVER_SEV	Liver disease, moderate to severe	1	0.4582338771	0.0488842707	9.3738511535	<.0001
CMR_LUNG_CHRONIC	Chronic pulmonary disease	1	0.4332928757	0.0146547460	29.5667271398	<.0001

Table 12. Risk Adjustment Coefficients for PSI 11 - Postoperative Respiratory Failure Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_NEURO_OTH	Other neurological disorders	1	1.0296367034	0.0321284239	32.0475323261	<.0001
CMR_NEURO_SEIZ	Seizures and epilepsy	1	0.3600401682	0.0302600055	11.8982188688	<.0001
CMR_OBESE	Obesity	1	0.3322760219	0.0165189481	20.1148414906	<.0001
CMR_PARALYSIS	Paralysis	1	0.5997571369	0.0319237519	18.7871757230	<.0001
CMR_PERIVASC	Peripheral vascular disease	1	0.3407636017	0.0175191247	19.4509490318	<.0001
CMR_PSYCHOSES	Psychoses	1	0.2520160172	0.0318797370	7.9052100483	<.0001
CMR_PULMCIRC	Pulmonary circulation disease	1	0.4506851913	0.0253980499	17.7448738130	<.0001
CMR_RENLFL_MOD	Renal failure, moderate	1	0.0172713888	0.0202673272	0.8521789137	0.3941
CMR_RENLFL_SEV	Renal failure, severe	1	0.5556352094	0.0288659617	19.2488029701	<.0001
CMR_THYROID_HYPO	Hypothyroidism	1	-0.0116179607	0.0163049503	-0.7125419257	0.4761
CMR_ULCER_PEPTIC	Peptic ulcer disease x bleeding	1	0.7086981353	0.0490413189	14.4510415044	<.0001
CMR_VALVE	Valvular disease	1	0.1412385353	0.0232457683	6.0758815856	<.0001
CMR_WGHTLOSS	Weight loss	1	1.2619165718	0.0264034260	47.7936677749	<.0001
MDC_2	Diseases and disorders of the eye	1	-2.539926285	0.4163909871	-6.0998589394	<.0001
MDC_22	Burns	1	-1.715375538	0.1812297530	-9.4651982312	<.0001
MDRG_101	INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE	1	-1.161107887	0.1556811121	-7.4582450714	<.0001
MDRG_102	CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX	1	-1.108907401	0.1041888898	-10.6432404017	<.0001
MDRG_103	CRANIOTOMY & ENDOVASCULAR INTRACRANIAL PROCEDURES	1	-1.765835438	0.0559690885	-31.5501910910	<.0001
MDRG_104	SPINAL PROCEDURES	1	-1.979952810	0.1047392163	-18.9036435358	<.0001
MDRG_105	VENTRICULAR SHUNT PROCEDURES	1	-3.302659029	0.1705674754	-19.3627713647	<.0001
MDRG_106	CAROTID ARTERY STENT PROCEDURES	1	-2.921249088	0.0987328683	-29.5874022369	<.0001
MDRG_107	EXTRACRANIAL PROCEDURES	1	-2.481224981	0.0559651648	-44.3351679429	<.0001
MDRG_108	PERIPH/CRANIAL NERVE & OTHER NERV SYST PROC	1	-2.633430326	0.1641686762	-16.0410035990	<.0001
MDRG_203	INTRAOCULAR PROCEDURES	1	0.0247028403	0.7205832436	0.0342817301	0.9727
MDRG_301	MAJOR HEAD & NECK PROCEDURES	1	-1.997938497	0.1747947471	-11.4301975872	<.0001
MDRG_302	OTHER EAR, NOSE, MOUTH & THROAT O.R. PROCEDURES	1	-1.791742155	0.1468864072	-12.1981481393	<.0001
MDRG_304	MOUTH PROCEDURES	1	-2.438212111	0.6117723862	-3.9854889917	<.0001
MDRG_501	OTHER HEART ASSIST SYSTEM IMPLANT	1	-1.668291501	0.1638508714	-10.1817676408	<.0001
MDRG_503	CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC	1	-0.2746481272	0.0451537914	-6.0825042244	<.0001
MDRG_505	OTHER CARDIOTHORACIC PROCEDURES	1	-0.5317879173	0.0644922171	-8.2457688946	<.0001
MDRG_506	CORONARY BYPASS W PTCA	1	0.4699228827	0.1086765970	4.3240485581	<.0001

Table 12. Risk Adjustment Coefficients for PSI 11 - Postoperative Respiratory Failure Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_507	CORONARY BYPASS WITH CARDIAC CATHETERIZATION OR OPEN ABLATION	1	-0.3622165616	0.0456962680	-7.9266114677	<.0001
MDRG_509	AMPUTATION FOR CIRC SYS DISORDERS EXC UPPER LIMB & TOE	1	-2.170763520	0.0709837907	-30.5811157553	<.0001
MDRG_510	PERMANENT CARDIAC PACEMAKER IMPLANT AND PROCEDURES	1	-2.460528648	0.1620315076	-15.1854949972	<.0001
MDRG_511	PERC CARDIOVASC PROC W INTRALUMINAL DEVICE	1	-2.666665631	0.0824409578	-32.3463688835	<.0001
MDRG_512	AICD PROCEDURES	1	-2.045649326	0.1944918021	-10.5179205735	<.0001
MDRG_513	PERC CARDIOVASC PROC W/O INTRALUMINAL DEVICE	1	-2.092544687	0.1903683483	-10.9920830126	<.0001
MDRG_514	OTHER VASCULAR PROCEDURES	1	-2.333145681	0.0467986556	-49.8549723191	<.0001
MDRG_515	UPPER LIMB & TOE AMPUTATION FOR CIRC SYSTEM DISORDERS	1	-2.739260783	0.2548263333	-10.7495200673	<.0001
MDRG_517	CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEMENT	1	-1.855405793	0.1807325891	-10.2660278508	<.0001
MDRG_518	VEIN LIGATION & STRIPPING	1	-1.552651470	0.3526687119	-4.4025778808	<.0001
MDRG_519	OTHER CIRCULATORY SYSTEM O.R. PROCEDURES	1	-1.974359935	0.1124368425	-17.5597241176	<.0001
MDRG_536	OTHER ENDOVASCULAR CARDIAC VALVE PROCEDURES	1	-2.382889275	0.2074580482	-11.4861259681	<.0001
MDRG_540	ENDOVASCULAR CARDIAC VALVE REPLACEMENT	1	-2.840201919	0.0450414939	-63.0574537222	<.0001
MDRG_541	AORTIC AND HEART ASSIST PROCEDURES EXCEPT PULSATION BALLOON	1	-1.564425765	0.0476886533	-32.8049893654	<.0001
MDRG_542	OTHER MAJOR CARDIOVASCULAR PROCEDURES	1	-1.049767323	0.0441700816	-23.7664791264	<.0001
MDRG_543	PERCUTANEOUS AND OTHER INTRACARDIAC PROCEDURES	1	-2.020640385	0.0773126911	-26.1359468521	<.0001
MDRG_544	CARDIAC DEFIBRILLATOR IMPLANT OR CAROTID SINUS NEUROSTIMULATOR	1	-1.971169326	0.0967426499	-20.3753910764	<.0001
MDRG_601	STOMACH, ESOPHAGEAL & DUODENAL PROC	1	-1.289966179	0.0520747373	-24.7714390029	<.0001
MDRG_602	MAJOR SMALL & LARGE BOWEL PROCEDURES	1	-1.581655392	0.0404741363	-39.0781752404	<.0001
MDRG_603	RECTAL RESECTION	1	-2.225882078	0.1547398824	-14.3846695664	<.0001
MDRG_604	PERITONEAL ADHESIOLYSIS	1	-1.462477647	0.0710106897	-20.5951759324	<.0001
MDRG_607	MINOR SMALL & LARGE BOWEL PROCEDURES	1	-2.184085915	0.1700306962	-12.8452447967	<.0001
MDRG_608	ANAL & STOMAL PROCEDURES	1	-2.508438145	0.1868301057	-13.4263058719	<.0001
MDRG_609	INGUINAL & FEMORAL HERNIA PROCEDURES	1	-1.296179909	0.1114685379	-11.6282130663	<.0001
MDRG_610	HERNIA PROCEDURES EXCEPT INGUINAL & FEMORAL	1	-1.479632769	0.0627162671	-23.5924878479	<.0001
MDRG_611	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES	1	-1.988036147	0.0992455965	-20.0314796501	<.0001

Table 12. Risk Adjustment Coefficients for PSI 11 - Postoperative Respiratory Failure Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_622	APPENDIX PROCEDURES	1	-2.479444295	0.2259636684	-10.9727564271	<.0001
MDRG_701	PANCREAS, LIVER & SHUNT PROCEDURES	1	-1.105246709	0.0570525878	-19.3724202895	<.0001
MDRG_702	BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E.	1	-1.386125165	0.1387064151	-9.9932304099	<.0001
MDRG_703	CHOLECYSTECTOMY W C.D.E.	1	-1.633784751	0.4521980911	-3.6129846254	0.0003
MDRG_704	CHOLECYSTECTOMY EXCEPT BY LAPAROSCOPE W/O C.D.E.	1	-1.650992940	0.1127589376	-14.6417922627	<.0001
MDRG_705	LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E.	1	-1.974662157	0.0943564423	-20.9276876987	<.0001
MDRG_706	HEPATOBIILIARY DIAGNOSTIC PROCEDURES	1	-2.019829957	0.1744812713	-11.5761992247	<.0001
MDRG_707	OTHER HEPATOBIILIARY OR PANCREAS O.R. PROCEDURES	1	-2.263579967	0.2638315233	-8.5796418071	<.0001
MDRG_801	COMBINED ANTERIOR/POSTERIOR SPINAL FUSION	1	-2.045336959	0.0515143915	-39.7041855589	<.0001
MDRG_802	SPINAL FUS EXC CERV W SPINAL CURV/MALIG/INFECTION OR EXT FUS	1	-1.323808754	0.0749633410	-17.6594150809	<.0001
MDRG_803	SPINAL FUSION EXCEPT CERVICAL	1	-2.678427497	0.0551600171	-48.5574087678	<.0001
MDRG_804	BILATERAL OR MULTIPLE MAJOR JOINT PROCS OF LOWER EXTREMITY	1	-3.426694495	0.2202716771	-15.5566731964	<.0001
MDRG_805	WND DEBRID & SKN GRFT EXC HAND, FOR MUSCULO-CONN TISS DIS	1	-2.546675133	0.0987755212	-25.7824519930	<.0001
MDRG_806	REVISION OF HIP OR KNEE REPLACEMENT	1	-3.216142863	0.0725743549	-44.3151422888	<.0001
MDRG_807	MAJOR JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY	1	-3.551733356	0.0532100448	-66.7493020604	<.0001
MDRG_808	CERVICAL SPINAL FUSION	1	-2.184664711	0.0545860346	-40.0224110070	<.0001
MDRG_809	AMPUTATION FOR MUSCULOSKELETAL SYS & CONN TISSUE DIS	1	-2.701879533	0.1247608373	-21.6564716321	<.0001
MDRG_810	BIOPSIES OF MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE	1	-2.729338589	0.1963798509	-13.8982618441	<.0001
MDRG_811	HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT	1	-2.713754053	0.1063106082	-25.5266534518	<.0001
MDRG_812	MAJOR JOINT/LIMB REATTACHMENT PROCEDURE OF UPPER EXTREMITIES	1	-3.479853854	0.0806120439	-43.1679149164	<.0001
MDRG_813	KNEE PROCEDURES W PDX OF INFECTION	1	-3.229840560	0.2394941799	-13.4860920663	<.0001
MDRG_814	KNEE PROCEDURES W/O PDX OF INFECTION	1	-3.539846554	0.2370002057	-14.9360484453	<.0001
MDRG_815	BACK & NECK PROC EXC SPINAL FUSION OR DISC DEVICE/NEUROSTIM	1	-2.751140003	0.0864517391	-31.8228416302	<.0001
MDRG_816	LOWER EXTREM & HUMER PROC EXCEPT HIP,FOOT,FEMUR	1	-2.799596856	0.0978002309	-28.6256671451	<.0001
MDRG_817	LOCAL EXCISION & REMOVAL INT FIX DEVICES EXC HIP & FEMUR	1	-2.822733173	0.1851082503	-15.2490943404	<.0001

Table 12. Risk Adjustment Coefficients for PSI 11 - Postoperative Respiratory Failure Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_818	LOCAL EXCISION & REMOVAL INT FIX DEVICES OF HIP & FEMUR	1	-2.526823485	0.2898549912	-8.7175434680	<.0001
MDRG_819	SOFT TISSUE PROCEDURES	1	-2.115506750	0.1214787831	-17.4146192029	<.0001
MDRG_820	FOOT PROCEDURES	1	-3.065298035	0.2436574571	-12.5803579781	<.0001
MDRG_825	HAND OR WRIST PROC, EXCEPT MAJOR THUMB OR JOINT PROC	1	-3.044217728	0.4980231398	-6.1126029795	<.0001
MDRG_826	OTHER MUSCULOSKELET SYS & CONN TISS O.R. PROC	1	-2.783011143	0.0864586663	-32.1889205843	<.0001
MDRG_841	HIP REPLACEMENT WITH PRINCIPAL DIAGNOSIS OF HIP FRACTURE	1	-2.718834659	0.1828714858	-14.8674608701	<.0001
MDRG_901	SKIN GRAFT FOR SKIN ULCER OR CELLULITIS	1	-2.584029437	0.2220411509	-11.6376150398	<.0001
MDRG_902	SKIN GRAFT EXC FOR SKIN ULCER OR CELLULITIS	1	-2.298580012	0.1418143482	-16.2083741237	<.0001
MDRG_903	OTHER SKIN, SUBCUT TISS & BREAST PROC	1	-2.846086281	0.1118857942	-25.4374230665	<.0001
MDRG_904	MASTECTOMY FOR MALIGNANCY	1	-3.543088590	0.3067683882	-11.5497186982	<.0001
MDRG_905	BREAST BIOPSY, LOCAL EXCISION & OTHER BREAST PROCEDURES	1	-3.067347887	0.2143237462	-14.3117500596	<.0001
MDRG_913	SKIN DEBRIDEMENT FOR SKIN ULCER OR CELLULITIS	1	-2.561817564	0.1652964113	-15.4983253714	<.0001
MDRG_1001	ADRENAL & PITUITARY PROCEDURES	1	-1.655588921	0.0883422272	-18.7406291838	<.0001
MDRG_1002	AMPUTAT OF LOWER LIMB FOR ENDOCRINE,NUTRIT,& METABOL DIS	1	-3.183330136	0.1535853200	-20.7267864912	<.0001
MDRG_1003	O.R. PROCEDURES FOR OBESITY	1	-3.364854075	0.0714804709	-47.0737536028	<.0001
MDRG_1004	SKIN GRAFTS & WOUND DEBRID FOR ENDOC, NUTRIT & METAB DIS	1	-2.714875889	0.2074700043	-13.0856308522	<.0001
MDRG_1005	THYROID, PARATHYROID & THYROGLOSSAL PROCEDURES	1	-1.591230000	0.1035945565	-15.3601700127	<.0001
MDRG_1006	OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC	1	-2.308749683	0.1448609985	-15.9376899705	<.0001
MDRG_1101	KIDNEY TRANSPLANT	1	-2.523092515	0.1480052708	-17.0473152815	<.0001
MDRG_1102	MAJOR BLADDER PROCEDURES	1	-1.330875650	0.0675344182	-19.7066278947	<.0001
MDRG_1103	KIDNEY & URETER PROCEDURES FOR NEOPLASM	1	-1.849594094	0.0541712341	-34.1434734387	<.0001
MDRG_1104	KIDNEY & URETER PROCEDURES FOR NON-NEOPLASM	1	-2.255739946	0.0737852937	-30.5716740201	<.0001
MDRG_1105	MINOR BLADDER PROCEDURES	1	-2.483969606	0.2774940921	-8.9514323962	<.0001
MDRG_1106	PROSTATECTOMY	1	-2.383538526	0.3067754030	-7.7696533120	<.0001
MDRG_1107	TRANSURETHRAL PROCEDURES	1	-2.178278546	0.1496804812	-14.5528563835	<.0001
MDRG_1109	OTHER KIDNEY & URINARY TRACT PROCEDURES	1	-2.165546464	0.1132419634	-19.1231801376	<.0001
MDRG_1201	MAJOR MALE PELVIC PROCEDURES	1	-2.844579487	0.1016700009	-27.9785527800	<.0001
MDRG_1202	PENIS PROCEDURES	1	-2.570267966	0.3497137215	-7.3496343089	<.0001

Table 12. Risk Adjustment Coefficients for PSI 11 - Postoperative Respiratory Failure Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1203	TESTES PROCEDURES	1	-1.211816173	0.3105579637	-3.9020611746	<.0001
MDRG_1204	TRANSURETHRAL PROSTATECTOMY	1	-2.921402748	0.1630854485	-17.9133256571	<.0001
MDRG_1205	OTHER MALE REPRODUCTIVE SYSTEM O.R. PROC FOR MALIGNANCY	1	-2.402158660	0.5011429079	-4.7933605794	<.0001
MDRG_1206	OTHER MALE REPRODUCTIVE SYSTEM O.R. PROC EXC MALIGNANCY	1	-2.547308824	0.2383319619	-10.6880705512	<.0001
MDRG_1301	PELVIC EVISCERATION, RAD HYSTERECTOMY & RAD VULVECTOMY	1	-2.543271866	0.2190219858	-11.6119477992	<.0001
MDRG_1302	UTERINE & ADNEXA PROC FOR OVARIAN OR ADNEXAL MALIGNANCY	1	-2.196193557	0.1030584575	-21.3101729738	<.0001
MDRG_1303	UTERINE,ADNEXA PROC FOR NON-OVARIAN/ADNEXAL MALIG	1	-1.917339606	0.0897586964	-21.3610455946	<.0001
MDRG_1304	UTERINE & ADNEXA PROC FOR NON-MALIGNANCY	1	-2.921569090	0.0785745940	-37.1821086231	<.0001
MDRG_1305	D&C, CONIZATION, LAPAROSCOPY & TUBAL INTERRUPTION	1	-1.843383447	0.2625523863	-7.0210119700	<.0001
MDRG_1306	VAGINA, CERVIX & VULVA PROCEDURES	1	-2.841248546	0.2059079815	-13.7986324033	<.0001
MDRG_1307	FEMALE REPRODUCTIVE SYSTEM RECONSTRUCTIVE PROCEDURES	1	-2.359111511	0.2333379469	-10.1102779972	<.0001
MDRG_1308	OTHER FEMALE REPRODUCTIVE SYSTEM O.R. PROCEDURES	1	-1.897802130	0.1927628342	-9.8452699001	<.0001
MDRG_1601	SPLenic PROCEDURES	1	-1.622709983	0.2215005350	-7.3259867428	<.0001
MDRG_1602	OTHER O.R. PROC OF THE BLOOD & BLOOD FORMING ORGANS	1	-1.798467219	0.2204673811	-8.1575206723	<.0001
MDRG_1707	LYMPHOMA & LEUKEMIA W MAJOR O.R. PROC OR ACUTE LEUKEMIA W ANY O.R. PROC	1	-1.516466303	0.1250663512	-12.1252942014	<.0001
MDRG_1708	LYMPHOMA & NON-ACUTE LEUKEMIA W OTHER O.R. PROC	1	-1.851299554	0.1530969295	-12.0923362746	<.0001
MDRG_1709	MYELOPROLIF DISORD OR POORLY DIFF NEOPL W MAJ O.R. PROC	1	-1.144230786	0.0856778110	-13.3550422610	<.0001
MDRG_1710	MYELOPROLIF DISORD OR POORLY DIFF NEOPL W OTHER O.R. PROC	1	-1.925209782	0.1333071240	-14.4419122180	<.0001
MDRG_1801	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURE	1	-0.8321667199	0.0634685021	-13.1114914133	<.0001
MDRG_1802	POSTOPERATIVE OR POST-TRAUMATIC INFECTIONS W O.R. PROC	1	-2.191449471	0.0934750027	-23.4442300886	<.0001
MDRG_2101	WOUND DEBRIDEMENTS FOR INJURIES	1	-2.576621813	0.1863209690	-13.8289416721	<.0001
MDRG_2102	SKIN GRAFTS FOR INJURIES	1	-2.223845806	0.2515770056	-8.8396226865	<.0001
MDRG_2104	OTHER O.R. PROCEDURES FOR INJURIES	1	-1.637781377	0.0677488977	-24.1742881711	<.0001

Table 12. Risk Adjustment Coefficients for PSI 11 - Postoperative Respiratory Failure Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_2301	O.R. PROC W DIAGNOSES OF OTHER CONTACT W HEALTH SERVICES	1	-2.978391770	0.1852394334	-16.0786054870	<.0001
MDRG_2407	LIMB REATTACHMENT, HIP & FEMUR PROC FOR MULTIPLE SIGNIFICANT TRAUMA	1	-2.009444903	0.5272434510	-3.8112278094	0.0001
MDRG_2408	OTHER O.R. PROCEDURES FOR MULTIPLE SIGNIFICANT TRAUMA	1	-0.9273799387	0.4082224975	-2.2717511757	0.0231
MDRG_2501	HIV W EXTENSIVE O.R. PROCEDURE	1	-0.3067436700	0.3493251259	-0.8781036554	0.3799
MDRG_7702	LIVER TRANSPLANT	1	-0.8539455863	0.1474854224	-5.7900338387	<.0001
MDRG_7705	ALLOGENEIC OR AUTOLOGOUS BONE MARROW TRANSPLANT	1	-0.2040476245	0.3496047619	-0.5836523034	0.5595
COVIDDX	COVID-19 Diagnosis	1	0.6754075747	0.0951902987	7.0953404318	<.0001
Q1	Quarter 1, 2020	1	0.3129842991	0.0303050841	10.3277819096	<.0001
Q2	Quarter 2, 2020	1	0.2550155987	0.0311876801	8.1768056471	<.0001
Q3	Quarter 3, 2020	1	0.2472988341	0.0295455157	8.3700970571	<.0001
Q4	Quarter 4, 2020	1	0.2688140073	0.0310511492	8.6571355418	<.0001
Q5	Quarter 1, 2021	1	0.2184099010	0.0318245316	6.8629415807	<.0001
Q6	Quarter 2, 2021	1	0.2089749383	0.0299517403	6.9770549709	<.0001
Q7	Quarter 3, 2021	1	0.1829146852	0.0310081492	5.8989230178	<.0001
Q8	Quarter 4, 2021	1	0.1004453429	0.0311938133	3.2200405185	0.0013
Q9	Quarter 1, 2022	1	0.0515337827	0.0308034051	1.6729898088	0.0943
Q10	Quarter 2, 2022	1	0.0344726974	0.0258326174	1.3344639757	0.1821
Q11	Quarter 3, 2022	1	-0.0112215270	0.0259634190	-0.4322052904	0.6656
COVIDDX_Q2	COVID, Quarter 2, 2020	1	-0.0130180734	0.4248770036	-0.0306396281	0.9756
COVIDDX_Q3	COVID, Quarter 3, 2020	1	-0.0265419309	0.3394341680	-0.0781946351	0.9377
COVIDDX_Q4	COVID, Quarter 4, 2020	1	0.2722264574	0.2070763223	1.3146189497	0.1886
COVIDDX_Q8	COVID, Quarter 4, 2021	1	0.2555232881	0.2833247373	0.9018742611	0.3671
COVIDDX_Q10	COVID, Quarter 2, 2022	1	-0.4494747054	0.3043832387	-1.4766736412	0.1398
COVIDDX_Q11	COVID, Quarter 3, 2022	1	-0.4485916142	0.2194728932	-2.0439499737	0.0410
TRANSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.1581964823	0.0510032778	3.1016924605	0.0019
PS11_NonWt_1	PS11 Comorbidity count using non-weighted method, category 1, count > 3 and count <= 5	1	0.0667407867	0.0199337490	3.3481301771	0.0008
PS11_NonWt_2	PS11 Comorbidity count using non-weighted method, category 2, count >= 6	1	-0.3227590353	0.0345437073	-9.3434972856	<.0001

c-statistic=0.856

C-statistics for hospital level indicators are based on the test data (a random sample of 2020-2022 HCUP reference population, not used for the LASSO feature selection).

Table 13. 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	-5.873343547	0.0309224565	-189.9378059922	<.0001
Age_LT30	Age < 30	1	-0.4182896796	0.0326672771	-12.8045468292	<.0001
Age_30_34	30 <= Age <= 34	1	-0.2945907893	0.0327421535	-8.9972942419	<.0001
Age_35_39	35 <= Age <= 39	1	-0.4157296677	0.0481985792	-8.6253510830	<.0001
Age_40_44	40 <= Age <= 44	1	-0.2726889521	0.0302369897	-9.0183895690	<.0001
Age_45_49	45 <= Age <= 49	1	-0.1932276343	0.0261687255	-7.3839145986	<.0001
Age_50_54	50 <= Age <= 54	1	-0.1528666460	0.0224873928	-6.7978821417	<.0001
Age_55_59	55 <= Age <= 59	1	-0.1022816753	0.0195795816	-5.2238948343	<.0001
Age_60_64	60 <= Age <= 64	1	-0.0365455628	0.0171614165	-2.1295190141	0.0332
Age_70_74	70 <= Age <= 74	1	0.0801020613	0.0174010870	4.6032791745	<.0001
Age_75_79	75 <= Age <= 79	1	0.1015959553	0.0180291637	5.6350897503	<.0001
Age_80_84	80 <= Age <= 84	1	0.1259337734	0.0209108393	6.0224160030	<.0001
Age_85_89	85 <= Age <= 89	1	0.2065015433	0.0293567321	7.0342142557	<.0001
Age_90Plus	Age >= 90	1	-0.0656976132	0.0323465853	-2.0310525047	0.0422
MALE	Patient Sex Flag: 1=Male / 0=Female	1	0.1223311296	0.0106455213	11.4913235858	<.0001
Age_35_39_MALE	35 <= Age <= 39 MALE	1	0.2984139009	0.0562888528	5.3014742006	<.0001
Age_85_89_MALE	85 <= Age <= 89 MALE	1	-0.2317700318	0.0412980111	-5.6121354380	<.0001
CMR_ALCOHOL	Alcohol abuse	1	-0.0500436739	0.0241825016	-2.0694167496	0.0385
CMR_ANEMDEF	Anemias due to other nutritional deficiencies	1	-0.0945870030	0.0158570093	-5.9649963595	<.0001
CMR_CANCER_LYMPH	Lymphoma	1	0.1822714391	0.0437158435	4.1694595027	<.0001
CMR_CANCER_METS	Metastatic cancer	1	0.6143981053	0.0207353485	29.6304692783	<.0001
CMR_CANCER_SOLID	Solid tumor without metastasis, malignant	1	0.2213650424	0.0225521875	9.8156794126	<.0001
CMR_COAG	Coagulopathy	1	0.2779009688	0.0176840235	15.7148043023	<.0001
CMR_DEMENTIA	Dementia	1	-0.1621742337	0.0224140184	-7.2353930809	<.0001
CMR_DIAB_CX	Diabetes with chronic complications	1	-0.1319606901	0.0143705054	-9.1827452244	<.0001
CMR_DIAB_UNCX	Diabetes without chronic complications	1	-0.3201319163	0.0187598113	-17.0647726932	<.0001
CMR_HF	Heart failure	1	0.0684470269	0.0160812692	4.2563199471	<.0001
CMR_HTN_UNCX	Hypertension, uncomplicated	1	-0.3773713091	0.0139633506	-27.0258421838	<.0001
CMR_LIVER_MLD	Liver disease, mild	1	-0.1152007378	0.0226532053	-5.0854056385	<.0001
CMR_LUNG_CHRONIC	Chronic pulmonary disease	1	-0.0914568045	0.0129128965	-7.0825940791	<.0001
CMR_NEURO_MOVT	Neurological disorders affecting movement	1	-0.1848935187	0.0297889764	-6.2067764974	<.0001
CMR_NEURO_OTH	Other neurological disorders	1	0.4012828743	0.0180088736	22.2825082271	<.0001
CMR_OBESE	Obesity	1	0.3212486341	0.0130275974	24.6590852032	<.0001
CMR_PARALYSIS	Paralysis	1	0.3520287873	0.0221245323	15.9112419905	<.0001
CMR_PERIVASC	Peripheral vascular disease	1	0.2091656900	0.0161368747	12.9619702982	<.0001
CMR_PSYCHOSES	Psychoses	1	-0.0395086985	0.0246551122	-1.6024546223	0.1091
CMR_PULMCIRC	Pulmonary circulation disease	1	0.4037478240	0.0239063761	16.8887087515	<.0001
CMR_RENLFL_MOD	Renal failure, moderate	1	-0.3782753200	0.0189889535	-19.9208092739	<.0001

Table 13. 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
CMR_RENLFLE_SEV	Renal failure, severe	1	-0.2959091760	0.0235370245	-12.5720723692	<.0001
CMR_THYROID_HYPO	Hypothyroidism	1	-0.1985810263	0.0150265820	-13.2153157700	<.0001
CMR_THYROID_OTH	Other thyroid disorders	1	0.2147917343	0.0352397890	6.0951481369	<.0001
CMR_ULCER_PEPTIC	Peptic ulcer disease x bleeding	1	0.5578841248	0.0324983451	17.1665394941	<.0001
CMR_VALVE	Valvular disease	1	-0.1272624825	0.0197545495	-6.4421860282	<.0001
CMR_WGHTLOSS	Weight loss	1	0.5819330688	0.0171510843	33.9298121037	<.0001
MDC_2	Diseases and disorders of the eye	1	-1.529442263	0.2477919727	-6.1722833339	<.0001
MDC_22	Burns	1	2.1330521751	0.1055964894	20.2000292478	<.0001
MDRG_101	INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE	1	1.2156483247	0.2937479066	4.1384067683	<.0001
MDRG_102	CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX	1	0.2538714416	0.0436742975	5.8128340000	<.0001
MDRG_104	SPINAL PROCEDURES	1	0.4225439599	0.0560807689	7.5345607465	<.0001
MDRG_106	CAROTID ARTERY STENT PROCEDURES	1	-2.102258181	0.1798315485	-11.6901522499	<.0001
MDRG_107	EXTRACRANIAL PROCEDURES	1	-2.447862027	0.1345223939	-18.1966879730	<.0001
MDRG_108	PERIPH/CRANIAL NERVE & OTHER NERV SYST PROC	1	-0.5297038583	0.1044517251	-5.0712791752	<.0001
MDRG_301	MAJOR HEAD & NECK PROCEDURES	1	-1.456382526	0.1410714169	-10.3237250918	<.0001
MDRG_302	OTHER EAR, NOSE, MOUTH & THROAT O.R. PROCEDURES	1	-1.774225702	0.2179958722	-8.1388041123	<.0001
MDRG_401	MAJOR CHEST PROCEDURES	1	-0.3604550821	0.0447437332	-8.0559903378	<.0001
MDRG_402	OTHER RESP SYSTEM O.R. PROCEDURES	1	-0.4982210643	0.0633018319	-7.8705631353	<.0001
MDRG_501	OTHER HEART ASSIST SYSTEM IMPLANT	1	0.1867268348	0.0640958818	2.9132423091	0.0036
MDRG_505	OTHER CARDIOTHORACIC PROCEDURES	1	-0.4855056641	0.0800413297	-6.0656871385	<.0001
MDRG_508	CORONARY BYPASS W/O CARDIAC CATH	1	-0.6485549279	0.0499212710	-12.9915547915	<.0001
MDRG_510	PERMANENT CARDIAC PACEMAKER IMPLANT AND PROCEDURES	1	-1.035836002	0.1305320839	-7.9354896579	<.0001
MDRG_511	PERC CARDIOVASC PROC W INTRALUMINAL DEVICE	1	-1.866410323	0.0432910567	-43.1130691888	<.0001
MDRG_512	AICD PROCEDURES	1	-1.397208674	0.2424790762	-5.7621824377	<.0001
MDRG_513	PERC CARDIOVASC PROC W/O INTRALUMINAL DEVICE	1	-1.599952729	0.1418538609	-11.2788803805	<.0001
MDRG_514	OTHER VASCULAR PROCEDURES	1	-0.9543025609	0.0470875840	-20.2665433174	<.0001
MDRG_515	UPPER LIMB & TOE AMPUTATION FOR CIRC SYSTEM DISORDERS	1	-1.722111910	0.2288450024	-7.5252327642	<.0001
MDRG_540	ENDOVASCULAR CARDIAC VALVE REPLACEMENT	1	-1.698823977	0.0761473764	-22.3096849504	<.0001
MDRG_541	AORTIC AND HEART ASSIST PROCEDURES EXCEPT PULSATION BALLOON	1	-0.5908241495	0.0687424468	-8.5947500759	<.0001

Table 13. 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
MDRG_543	PERCUTANEOUS AND OTHER INTRACARDIAC PROCEDURES	1	-1.216273785	0.0895684623	-13.5792638762	<.0001
MDRG_544	CARDIAC DEFIBRILLATOR IMPLANT OR CAROTID SINUS NEUROSTIMULATOR	1	-1.015357797	0.0741148335	-13.6997919100	<.0001
MDRG_601	STOMACH, ESOPHAGEAL & DUODENAL PROC	1	0.2851170729	0.0333127418	8.5587993451	<.0001
MDRG_602	MAJOR SMALL & LARGE BOWEL PROCEDURES	1	0.0860482147	0.0224123382	3.8393234040	0.0001
MDRG_604	PERITONEAL ADHESIOLYSIS	1	0.1100816263	0.0453212061	2.4289209355	0.0151
MDRG_608	ANAL & STOMAL PROCEDURES	1	-1.464790535	0.1848209428	-7.9254575428	<.0001
MDRG_622	APPENDIX PROCEDURES	1	-1.683761886	0.0951895712	-17.6885121472	<.0001
MDRG_701	PANCREAS, LIVER & SHUNT PROCEDURES	1	0.1687178777	0.0467718467	3.6072528577	0.0003
MDRG_704	CHOLECYSTECTOMY EXCEPT BY LAPAROSCOPE W/O C.D.E.	1	-0.6431681337	0.1222305439	-5.2619264648	<.0001
MDRG_705	LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E.	1	-1.595589495	0.0569392387	-28.0226699481	<.0001
MDRG_706	HEPATOBIILIARY DIAGNOSTIC PROCEDURES	1	-0.3247012409	0.1371817952	-2.3669411852	0.0179
MDRG_801	COMBINED ANTERIOR/POSTERIOR SPINAL FUSION	1	0.2344418212	0.0403538548	5.8096512038	<.0001
MDRG_802	SPINAL FUS EXC CERV W SPINAL CURV/MALIG/INFECTION OR EXT FUS	1	0.8932083382	0.0548125866	16.2956794001	<.0001
MDRG_806	REVISION OF HIP OR KNEE REPLACEMENT	1	-0.0746047298	0.0386274472	-1.9313916704	0.0534
MDRG_807	MAJOR JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY	1	-0.5388160318	0.0329719936	-16.3416273166	<.0001
MDRG_808	CERVICAL SPINAL FUSION	1	-0.6309553333	0.0496079549	-12.7188337834	<.0001
MDRG_809	AMPUTATION FOR MUSCULOSKELETAL SYS & CONN TISSUE DIS	1	-0.4079972914	0.0850351890	-4.7979818264	<.0001
MDRG_811	HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT	1	0.2807625581	0.0229755882	12.2200378798	<.0001
MDRG_812	MAJOR JOINT/LIMB REATTACHMENT PROCEDURE OF UPPER EXTREMITIES	1	-1.487205259	0.0848361435	-17.5303260826	<.0001
MDRG_814	KNEE PROCEDURES W/O PDX OF INFECTION	1	-0.1170961222	0.0991074965	-1.1815062071	0.2374
MDRG_815	BACK & NECK PROC EXC SPINAL FUSION OR DISC DEVICE/NEUROSTIM	1	-0.2821731934	0.0549727194	-5.1329677075	<.0001
MDRG_816	LOWER EXTREM & HUMER PROC EXCEPT HIP,FOOT,FEMUR	1	-0.4495490199	0.0398074795	-11.2930792217	<.0001
MDRG_818	LOCAL EXCISION & REMOVAL INT FIX DEVICES OF HIP & FEMUR	1	-0.4079551315	0.2205976774	-1.8493174373	0.0644
MDRG_819	SOFT TISSUE PROCEDURES	1	-0.7686164675	0.0812875688	-9.4555228918	<.0001
MDRG_820	FOOT PROCEDURES	1	-1.286557478	0.1466766532	-8.7713855606	<.0001
MDRG_824	SHOULDER,ELBOW OR FOREARM PROC,EXC MAJOR JOINT PROC	1	-1.258395725	0.1327945128	-9.4762629777	<.0001

Table 13. 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
MDRG_825	HAND OR WRIST PROC, EXCEPT MAJOR THUMB OR JOINT PROC	1	-2.180595839	0.2748226824	-7.9345555482	<.0001
MDRG_826	OTHER MUSCULOSKELET SYS & CONN TISS O.R. PROC	1	-0.4241476263	0.0529677870	-8.0076523978	<.0001
MDRG_841	HIP REPLACEMENT WITH PRINCIPAL DIAGNOSIS OF HIP FRACTURE	1	0.2947276259	0.0326006696	9.0405390244	<.0001
MDRG_902	SKIN GRAFT EXC FOR SKIN ULCER OR CELLULITIS	1	-0.4681354685	0.1303750892	-3.5906818663	0.0003
MDRG_903	OTHER SKIN, SUBCUT TISS & BREAST PROC	1	-1.314142542	0.0860853101	-15.2655841204	<.0001
MDRG_904	MASTECTOMY FOR MALIGNANCY	1	-1.647746041	0.3163095331	-5.2092835314	<.0001
MDRG_905	BREAST BIOPSY, LOCAL EXCISION & OTHER BREAST PROCEDURES	1	-1.239206637	0.1957696053	-6.3299235576	<.0001
MDRG_913	SKIN DEBRIDEMENT FOR SKIN ULCER OR CELLULITIS	1	-1.148457652	0.0975923144	-11.7679108210	<.0001
MDRG_1002	AMPUTAT OF LOWER LIMB FOR ENDOCRINE,NUTRIT,& METABOL DIS	1	-1.596969998	0.0883786600	-18.0696335422	<.0001
MDRG_1003	O.R. PROCEDURES FOR OBESITY	1	-2.929448353	0.1079012615	-27.1493429452	<.0001
MDRG_1004	SKIN GRAFTS & WOUND DEBRID FOR ENDOC, NUTRIT & METAB DIS	1	-1.637196724	0.1449537969	-11.2946108327	<.0001
MDRG_1005	THYROID, PARATHYROID & THYROGLOSSAL PROCEDURES	1	-1.357464082	0.1749502656	-7.7591427364	<.0001
MDRG_1006	OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC	1	-1.198865942	0.1188999402	-10.0829818686	<.0001
MDRG_1101	KIDNEY TRANSPLANT	1	-0.5381248927	0.1060792845	-5.0728556025	<.0001
MDRG_1102	MAJOR BLADDER PROCEDURES	1	0.4678416233	0.0559415436	8.3630445830	<.0001
MDRG_1104	KIDNEY & URETER PROCEDURES FOR NON-NEOPLASM	1	-0.4477329647	0.0717034874	-6.2442285732	<.0001
MDRG_1105	MINOR BLADDER PROCEDURES	1	-0.6024024565	0.1570889077	-3.8347867159	0.0001
MDRG_1106	PROSTATECTOMY	1	-0.8224121094	0.1979307126	-4.1550505147	<.0001
MDRG_1107	TRANSURETHRAL PROCEDURES	1	-0.3955184921	0.0895000005	-4.4192010053	<.0001
MDRG_1109	OTHER KIDNEY & URINARY TRACT PROCEDURES	1	-0.5160250801	0.0836585086	-6.1682318836	<.0001
MDRG_1201	MAJOR MALE PELVIC PROCEDURES	1	-0.7155406372	0.0962253224	-7.4360949803	<.0001
MDRG_1204	TRANSURETHRAL PROSTATECTOMY	1	-0.6091655947	0.1288134526	-4.7290526141	<.0001
MDRG_1205	OTHER MALE REPRODUCTIVE SYSTEM O.R. PROC FOR MALIGNANCY	1	-0.5298319775	0.3485735906	-1.5200003437	0.1285
MDRG_1301	PELVIC EVISCERATION, RAD HYSTERECTOMY & RAD VULVECTOMY	1	0.0912139234	0.1720249077	0.5302367232	0.5959
MDRG_1302	UTERINE & ADNEXA PROC FOR OVARIAN OR ADNEXAL MALIGNANCY	1	0.1132264676	0.0762504114	1.4849292684	0.1376

Table 13. 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
MDRG_1303	UTERINE,ADNEXA PROC FOR NON-OVARIAN/ADNEXAL MALIG	1	0.2076925719	0.0763622676	2.7198324308	0.0065
MDRG_1304	UTERINE & ADNEXA PROC FOR NON-MALIGNANCY	1	-1.020304286	0.0664107942	-15.3635308524	<.0001
MDRG_1306	VAGINA, CERVIX & VULVA PROCEDURES	1	-0.6319544420	0.1646424435	-3.8383446482	0.0001
MDRG_1707	LYMPHOMA & LEUKEMIA W MAJOR O.R. PROC OR ACUTE LEUKEMIA W ANY O.R. PROC	1	0.2762786384	0.0829704964	3.3298419370	0.0009
MDRG_1801	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURE	1	0.2070641176	0.0200893746	10.3071460071	<.0001
MDRG_1802	POSTOPERATIVE OR POST-TRAUMATIC INFECTIONS W O.R. PROC	1	0.0370976932	0.0415595248	0.8926399746	0.3721
MDRG_2101	WOUND DEBRIDEMENTS FOR INJURIES	1	-0.2587737970	0.1080496879	-2.3949518232	0.0166
MDRG_2201	FULL THICKNESS BURN W SKIN GRAFT OR INHAL INJ	1	-2.350943734	0.1604887470	-14.6486515588	<.0001
MDRG_2407	LIMB REATTACHMENT, HIP & FEMUR PROC FOR MULTIPLE SIGNIFICANT TRAUMA	1	1.7030570006	0.0406467964	41.8989232338	<.0001
MDRG_2408	OTHER O.R. PROCEDURES FOR MULTIPLE SIGNIFICANT TRAUMA	1	1.7121898336	0.0391764025	43.7046212287	<.0001
MDRG_2501	HIV W EXTENSIVE O.R. PROCEDURE	1	0.5423934899	0.1529351550	3.5465586043	0.0004
MDRG_7701	HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM	1	0.7981872037	0.0923032379	8.6474453355	<.0001
MDRG_7703	LUNG TRANSPLANT	1	1.4691152073	0.1715276307	8.5648895231	<.0001
COVIDDX	COVID-19 Diagnosis	1	0.6822112349	0.0343628417	19.8531669906	<.0001
Q1	Quarter 1, 2020	1	-0.0431043706	0.0215290869	-2.0021457875	0.0453
Q2	Quarter 2, 2020	1	-0.0741831616	0.0234156873	-3.1680967002	0.0015
Q3	Quarter 3, 2020	1	-0.0181008763	0.0197447193	-0.9167451827	0.3593
Q4	Quarter 4, 2020	1	0.0137952748	0.0188773398	0.7307848963	0.4649
Q5	Quarter 1, 2021	1	-0.0625278517	0.0208118623	-3.0044332846	0.0027
Q6	Quarter 2, 2021	1	-0.0335268163	0.0200312474	-1.6737258351	0.0942
Q7	Quarter 3, 2021	1	0.0103466831	0.0199449045	0.5187632318	0.6039
Q8	Quarter 4, 2021	1	0.0268018047	0.0199995833	1.3401181575	0.1802
Q10	Quarter 2, 2022	1	-0.0892150269	0.0200700129	-4.4451903080	<.0001
Q11	Quarter 3, 2022	1	-0.0397812318	0.0189031198	-2.1044796965	0.0353
COVIDDX_Q2	COVID, Quarter 2, 2020	1	0.4225120636	0.1103623821	3.8284065218	0.0001
COVIDDX_Q5	COVID, Quarter 1, 2021	1	0.3135881301	0.0743740133	4.2163669286	<.0001
COVIDDX_Q8	COVID, Quarter 4, 2021	1	0.6340647463	0.0786051032	8.0664577815	<.0001
COVIDDX_Q10	COVID, Quarter 2, 2022	1	-0.0979320079	0.1156286055	-0.8469531173	0.3970
COVIDDX_Q11	COVID, Quarter 3, 2022	1	-0.2587496787	0.0914491086	-2.8294390469	0.0047

Table 13. 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
TRANSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.4737628802	0.0203960543	23.2281632954	<.0001
CHVTEOHD	Chronic VTE unrelated site diagnosis codes	1	0.9180384316	0.0846358059	10.8469272783	<.0001
CHVTEPEDVTD	Chronic VTE PSI 12 trigger diagnosis codes	1	1.4855767564	0.0414875215	35.8077971632	<.0001
PS12_NonWt_1	PS12 Comorbidity count using non-weighted method, category 1, count > 1 and count <= 3	1	0.4593618911	0.0196685395	23.3551602559	<.0001
PS12_NonWt_2	PS12 Comorbidity count using non-weighted method, category 2, count >= 4	1	0.5072829464	0.0293530730	17.2821069387	<.0001

c-statistic=0.755

C-statistics for hospital level indicators are based on the test data (a random sample of 2020-2022 HCUP reference population, not used for the LASSO feature selection).

Table 14. Risk Adjustment Coefficients for PSI 13 - Postoperative Sepsis Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Intercept	Intercept	1	-4.189882249	0.0444157355	-94.3332853179	<.0001
Age_LT30	Age < 30	1	-0.7754822053	0.0536403388	-14.4570713367	<.0001
Age_30_34	30 <= Age <= 34	1	-0.7475579969	0.0574980215	-13.0014559957	<.0001
Age_35_39	35 <= Age <= 39	1	-0.6660313268	0.0487272324	-13.6685646594	<.0001
Age_40_44	40 <= Age <= 44	1	-0.5782642579	0.0393605281	-14.6914760919	<.0001
Age_45_49	45 <= Age <= 49	1	-0.4796671292	0.0353362705	-13.5743563795	<.0001
Age_50_54	50 <= Age <= 54	1	-0.3670551629	0.0299136567	-12.2704879053	<.0001
Age_55_59	55 <= Age <= 59	1	-0.1970138387	0.0352320228	-5.5918968943	<.0001
Age_60_64	60 <= Age <= 64	1	-0.0937497339	0.0314170631	-2.9840387554	0.0028
Age_70_74	70 <= Age <= 74	1	0.1273432374	0.0291510552	4.3683920376	<.0001
Age_75_79	75 <= Age <= 79	1	0.2392031796	0.0231869070	10.3163039178	<.0001
Age_80_84	80 <= Age <= 84	1	0.2974090148	0.0266737858	11.1498614115	<.0001
Age_85_89	85 <= Age <= 89	1	0.2454638846	0.0553552244	4.4343399790	<.0001
Age_90Plus	Age >= 90	1	0.2308588583	0.0645770640	3.5749358052	0.0004
MALE	Patient Sex Flag: 1=Male / 0=Female	1	0.2225335523	0.0175662431	12.6682496110	<.0001
Age_55_59_MALE	55 <= Age <= 59 MALE	1	-0.0630416422	0.0417671795	-1.5093583779	0.1312
Age_60_64_MALE	60 <= Age <= 64 MALE	1	-0.0645971764	0.0367077888	-1.7597675739	0.0784
Age_70_74_MALE	70 <= Age <= 74 MALE	1	-0.0061732546	0.0318450285	-0.1938530076	0.8463
Age_85_89_MALE	85 <= Age <= 89 MALE	1	-0.0432644492	0.0677681326	-0.6384187902	0.5232
CMR_ALCOHOL	Alcohol abuse	1	0.4179833706	0.0370337072	11.2865657365	<.0001
CMR_ANEMDEF	Anemias due to other nutritional deficiencies	1	0.0302361300	0.0239463233	1.2626627328	0.2067
CMR_BLDLOSS	Chronic blood loss anemia (iron deficiency)	1	-0.2740443347	0.0711598503	-3.8511089261	0.0001
CMR_CANCER_LYMPH	Lymphoma	1	-0.0270797734	0.0666413890	-0.4063506754	0.6845
CMR_CANCER_METS	Metastatic cancer	1	0.1422302033	0.0335209278	4.2430270486	<.0001
CMR_CANCER_NSITU	Solid tumor without metastasis, in situ	1	-0.3660660906	0.2309736592	-1.5848824140	0.1130
CMR_CANCER_SOLID	Solid tumor without metastasis, malignant	1	0.0428374821	0.0302355112	1.4167937087	0.1565
CMR_CBVD	Cerebrovascular disease	1	-0.2801497276	0.0404059240	-6.9333825315	<.0001
CMR_COAG	Coagulopathy	1	0.5120846365	0.0303515587	16.8717739126	<.0001
CMR_DEMENTIA	Dementia	1	0.2310698293	0.0433163773	5.3344680220	<.0001
CMR_DEPRESS	Depression	1	-0.0913284597	0.0209841631	-4.3522564683	<.0001
CMR_DIAB_CX	Diabetes with chronic complications	1	0.2307833767	0.0201471180	11.4549076806	<.0001
CMR_DIAB_UNCX	Diabetes without chronic complications	1	-0.5364366042	0.0297757216	-18.0159061191	<.0001
CMR_DRUG_ABUSE	Drug abuse	1	0.3696023419	0.0474968720	7.7816143774	<.0001
CMR_HF	Heart failure	1	0.6181822873	0.0283055293	21.8396300486	<.0001
CMR_HTN_CX	Hypertension, complicated	1	0.0656889713	0.0298220556	2.2026976306	0.0276
CMR_HTN_UNCX	Hypertension, uncomplicated	1	-0.4945320973	0.0238797541	-20.7092625750	<.0001
CMR_LIVER_MLD	Liver disease, mild	1	-0.0381318554	0.0313463595	-1.2164683883	0.2238
CMR_LUNG_CHRONIC	Chronic pulmonary disease	1	0.0944141148	0.0180797066	5.2221043536	<.0001

Table 14. Risk Adjustment Coefficients for PSI 13 - Postoperative Sepsis Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
CMR_NEURO_MOVT	Neurological disorders affecting movement	1	-0.0857254454	0.0410405384	-2.0887992404	0.0367
CMR_NEURO_OTH	Other neurological disorders	1	0.8301576001	0.0403777038	20.5598021280	<.0001
CMR_NEURO_SEIZ	Seizures and epilepsy	1	0.1755123911	0.0390226782	4.4977023375	<.0001
CMR_OBESE	Obesity	1	0.1404607728	0.0190704580	7.3653591577	<.0001
CMR_PARALYSIS	Paralysis	1	0.8231106843	0.0402676654	20.4409835148	<.0001
CMR_PERIVASC	Peripheral vascular disease	1	0.2179666355	0.0250337137	8.7069237149	<.0001
CMR_PSYCHOSES	Psychoses	1	0.1985291461	0.0363582976	5.4603531911	<.0001
CMR_PULMCIRC	Pulmonary circulation disease	1	0.2645572671	0.0329560757	8.0275719019	<.0001
CMR_RENLFL_MOD	Renal failure, moderate	1	-0.2415841551	0.0260701538	-9.2666946538	<.0001
CMR_RENLFL_SEV	Renal failure, severe	1	0.2169737819	0.0392188449	5.5323858393	<.0001
CMR_THYROID_HYPO	Hypothyroidism	1	-0.2027173414	0.0211295646	-9.5940141321	<.0001
CMR_ULCER_PEPTIC	Peptic ulcer disease x bleeding	1	0.5079303138	0.0553133445	9.1827807298	<.0001
CMR_VALVE	Valvular disease	1	-0.1519015871	0.0295816238	-5.1349982636	<.0001
CMR_WGHTLOSS	Weight loss	1	1.1164947649	0.0289240327	38.6009369768	<.0001
MDC_2	Diseases and disorders of the eye	1	-2.276800792	0.3821096135	-5.9585017280	<.0001
MDC_18	Infectious and parasitic diseases, systemic or unspecified sites	1	-0.2928296015	0.2203055614	-1.3291975000	0.1838
MDC_19	Mental diseases and disorders	1	-2.170090522	0.3680942358	-5.8954754270	<.0001
MDC_20	Alcohol or drug use or induced organic mental disorders	1	-0.7021497479	0.5800604524	-1.2104768477	0.2261
MDC_22	Burns	1	3.9060555937	0.8630453133	4.5258986214	<.0001
MDRG_102	CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX	1	-1.404142143	0.1202668225	-11.6752244245	<.0001
MDRG_103	CRANIOTOMY & ENDOVASCULAR INTRACRANIAL PROCEDURES	1	-2.464424351	0.0673791219	-36.5754892630	<.0001
MDRG_104	SPINAL PROCEDURES	1	-2.236076468	0.1484707420	-15.0607213098	<.0001
MDRG_105	VENTRICULAR SHUNT PROCEDURES	1	-3.076294979	0.1930208388	-15.9376313892	<.0001
MDRG_106	CAROTID ARTERY STENT PROCEDURES	1	-3.639138176	0.1760627988	-20.6695463274	<.0001
MDRG_107	EXTRACRANIAL PROCEDURES	1	-3.235975907	0.1028033781	-31.4773305004	<.0001
MDRG_108	PERIPH/CRANIAL NERVE & OTHER NERV SYST PROC	1	-2.299379031	0.1836644348	-12.5194572034	<.0001
MDRG_301	MAJOR HEAD & NECK PROCEDURES	1	-1.953373206	0.1003157485	-19.4722487196	<.0001
MDRG_302	OTHER EAR, NOSE, MOUTH & THROAT O.R. PROCEDURES	1	-2.486757302	0.2072373239	-11.9995628932	<.0001
MDRG_304	MOUTH PROCEDURES	1	-2.565889788	0.4989813925	-5.1422554563	<.0001
MDRG_401	MAJOR CHEST PROCEDURES	1	-1.591263704	0.0526573195	-30.2192310553	<.0001
MDRG_402	OTHER RESP SYSTEM O.R. PROCEDURES	1	-2.141936804	0.1039875734	-20.5980073803	<.0001
MDRG_501	OTHER HEART ASSIST SYSTEM IMPLANT	1	-0.7601808320	0.0909021018	-8.3626320735	<.0001

Table 14. Risk Adjustment Coefficients for PSI 13 - Postoperative Sepsis Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_503	CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC	1	-1.433151452	0.0561381362	-25.5290173065	<.0001
MDRG_505	OTHER CARDIOTHORACIC PROCEDURES	1	-1.774761828	0.0982651931	-18.0609407232	<.0001
MDRG_507	CORONARY BYPASS WITH CARDIAC CATHETERIZATION OR OPEN ABLATION	1	-1.715493706	0.0748947645	-22.9053888895	<.0001
MDRG_508	CORONARY BYPASS W/O CARDIAC CATH	1	-1.849118100	0.0554174264	-33.3670872194	<.0001
MDRG_509	AMPUTATION FOR CIRC SYS DISORDERS EXC UPPER LIMB & TOE	1	-1.256548318	0.1416928974	-8.8681108248	<.0001
MDRG_510	PERMANENT CARDIAC PACEMAKER IMPLANT AND PROCEDURES	1	-2.490662085	0.2269724201	-10.9734129133	<.0001
MDRG_511	PERC CARDIOVASC PROC W INTRALUMINAL DEVICE	1	-2.803094971	0.0981075597	-28.5716511431	<.0001
MDRG_512	AICD PROCEDURES	1	-2.204255410	0.2415968040	-9.1236944082	<.0001
MDRG_513	PERC CARDIOVASC PROC W/O INTRALUMINAL DEVICE	1	-2.599895186	0.3072554195	-8.4616739722	<.0001
MDRG_514	OTHER VASCULAR PROCEDURES	1	-2.360223021	0.0598835427	-39.4135502730	<.0001
MDRG_519	OTHER CIRCULATORY SYSTEM O.R. PROCEDURES	1	-1.861097212	0.1361223331	-13.6722400382	<.0001
MDRG_536	OTHER ENDOVASCULAR CARDIAC VALVE PROCEDURES	1	-2.294150819	0.2357729936	-9.7303375732	<.0001
MDRG_540	ENDOVASCULAR CARDIAC VALVE REPLACEMENT	1	-3.440021542	0.0627786550	-54.7960376328	<.0001
MDRG_541	AORTIC AND HEART ASSIST PROCEDURES EXCEPT PULSATION BALLOON	1	-1.794973810	0.0609668691	-29.4417908615	<.0001
MDRG_542	OTHER MAJOR CARDIOVASCULAR PROCEDURES	1	-1.402628487	0.0574025721	-24.4349414495	<.0001
MDRG_543	PERCUTANEOUS AND OTHER INTRACARDIAC PROCEDURES	1	-2.571612850	0.1149049428	-22.3803501204	<.0001
MDRG_544	CARDIAC DEFIBRILLATOR IMPLANT OR CAROTID SINUS NEUROSTIMULATOR	1	-2.808045767	0.1559908419	-18.0013501690	<.0001
MDRG_601	STOMACH, ESOPHAGEAL & DUODENAL PROC	1	-0.3243919257	0.0383195606	-8.4654396101	<.0001
MDRG_602	MAJOR SMALL & LARGE BOWEL PROCEDURES	1	-0.5544674106	0.0308720014	-17.9602029226	<.0001
MDRG_603	RECTAL RESECTION	1	-1.519875750	0.1577291603	-9.6359845362	<.0001
MDRG_607	MINOR SMALL & LARGE BOWEL PROCEDURES	1	-1.349020769	0.1622416353	-8.3148864114	<.0001
MDRG_608	ANAL & STOMAL PROCEDURES	1	-2.043530055	0.2121309124	-9.6333440111	<.0001
MDRG_609	INGUINAL & FEMORAL HERNIA PROCEDURES	1	-1.824707382	0.1614707745	-11.3005427027	<.0001
MDRG_610	HERNIA PROCEDURES EXCEPT INGUINAL & FEMORAL	1	-1.371068510	0.0750911856	-18.2587143646	<.0001
MDRG_611	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES	1	-1.539416262	0.0987117256	-15.5950699158	<.0001
MDRG_701	PANCREAS, LIVER & SHUNT PROCEDURES	1	-0.4015810078	0.0484033223	-8.2965587723	<.0001

Table 14. Risk Adjustment Coefficients for PSI 13 - Postoperative Sepsis Rate

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	-0.1220025451	0.1224963737	-0.9959686269	0.3193
MDRG_705	LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E.	1	-1.358477320	0.1158760040	-11.7235430400	<.0001
MDRG_706	HEPATOBIILIARY DIAGNOSTIC PROCEDURES	1	-1.199840901	0.1652325823	-7.2615272631	<.0001
MDRG_707	OTHER HEPATOBIILIARY OR PANCREAS O.R. PROCEDURES	1	-1.074229694	0.1808242693	-5.9407384749	<.0001
MDRG_801	COMBINED ANTERIOR/POSTERIOR SPINAL FUSION	1	-1.828979329	0.0520655180	-35.1284189830	<.0001
MDRG_802	SPINAL FUS EXC CERV W SPINAL CURV/MALIG/INFEC OR EXT FUS	1	-1.148060041	0.0787952949	-14.5701598397	<.0001
MDRG_803	SPINAL FUSION EXCEPT CERVICAL	1	-2.085611461	0.0528959026	-39.4286014281	<.0001
MDRG_804	BILATERAL OR MULTIPLE MAJOR JOINT PROCS OF LOWER EXTREMITY	1	-2.798250879	0.1940040234	-14.4236744689	<.0001
MDRG_805	WND DEBRID & SKN GRFT EXC HAND, FOR MUSCULO-CONN TISS DIS	1	-1.469417948	0.1072191194	-13.7048126891	<.0001
MDRG_806	REVISION OF HIP OR KNEE REPLACEMENT	1	-2.867722582	0.0875085101	-32.7707851188	<.0001
MDRG_807	MAJOR JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY	1	-3.173202095	0.0534682932	-59.3473609374	<.0001
MDRG_808	CERVICAL SPINAL FUSION	1	-2.519450126	0.0647679260	-38.8996572942	<.0001
MDRG_809	AMPUTATION FOR MUSCULOSKELETAL SYS & CONN TISSUE DIS	1	-2.090076167	0.2075135905	-10.0719965477	<.0001
MDRG_810	BIOPSIES OF MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE	1	-1.843268196	0.2165140564	-8.5133881182	<.0001
MDRG_811	HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT	1	-2.109414308	0.1081995200	-19.4955976560	<.0001
MDRG_812	MAJOR JOINT/LIMB REATTACHMENT PROCEDURE OF UPPER EXTREMITIES	1	-3.651274354	0.1090766364	-33.4743944753	<.0001
MDRG_814	KNEE PROCEDURES W/O PDX OF INFECTION	1	-3.465354525	0.3168647488	-10.9363838609	<.0001
MDRG_815	BACK & NECK PROC EXC SPINAL FUSION OR DISC DEVICE/NEUROSIM	1	-2.451810679	0.0965091491	-25.4049559171	<.0001
MDRG_816	LOWER EXTREM & HUMER PROC EXCEPT HIP,FOOT,FEMUR	1	-2.655580845	0.1240252467	-21.4116150977	<.0001
MDRG_817	LOCAL EXCISION & REMOVAL INT FIX DEVICES EXC HIP & FEMUR	1	-2.680436439	0.2866751392	-9.3500833275	<.0001
MDRG_818	LOCAL EXCISION & REMOVAL INT FIX DEVICES OF HIP & FEMUR	1	-1.608651265	0.3140316444	-5.1225769547	<.0001
MDRG_819	SOFT TISSUE PROCEDURES	1	-2.152185601	0.1550995183	-13.8761591543	<.0001
MDRG_820	FOOT PROCEDURES	1	-2.313393094	0.3000599627	-7.7097693177	<.0001
MDRG_826	OTHER MUSCULOSKELET SYS & CONN TISS O.R. PROC	1	-2.456904646	0.0933588869	-26.3167731392	<.0001

Table 14. Risk Adjustment Coefficients for PSI 13 - Postoperative Sepsis Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_841	HIP REPLACEMENT WITH PRINCIPAL DIAGNOSIS OF HIP FRACTURE	1	-2.296947995	0.1861677052	-12.3380582674	<.0001
MDRG_902	SKIN GRAFT EXC FOR SKIN ULCER OR CELLULITIS	1	-1.717923953	0.1363755156	-12.5970116088	<.0001
MDRG_903	OTHER SKIN, SUBCUT TISS & BREAST PROC	1	-2.520390325	0.1359519648	-18.5388297066	<.0001
MDRG_904	MASTECTOMY FOR MALIGNANCY	1	-2.786094062	0.2841322038	-9.8056257767	<.0001
MDRG_905	BREAST BIOPSY, LOCAL EXCISION & OTHER BREAST PROCEDURES	1	-2.478020874	0.2752945915	-9.0013423827	<.0001
MDRG_913	SKIN DEBRIDEMENT FOR SKIN ULCER OR CELLULITIS	1	-1.812531333	0.2117332124	-8.5604488436	<.0001
MDRG_1001	ADRENAL & PITUITARY PROCEDURES	1	-1.718346145	0.1023125191	-16.7950722011	<.0001
MDRG_1002	AMPUTAT OF LOWER LIMB FOR ENDOCRINE,NUTRIT,& METABOL DIS	1	-1.748144067	0.4137543360	-4.2250773339	<.0001
MDRG_1003	O.R. PROCEDURES FOR OBESITY	1	-2.714988873	0.0668120856	-40.6361940337	<.0001
MDRG_1004	SKIN GRAFTS & WOUND DEBRID FOR ENDOC, NUTRIT & METAB DIS	1	-1.764510770	0.3069058573	-5.7493551460	<.0001
MDRG_1005	THYROID, PARATHYROID & THYROGLOSSAL PROCEDURES	1	-2.544846190	0.1597714790	-15.9280380080	<.0001
MDRG_1006	OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC	1	-1.398955293	0.1875716593	-7.4582444799	<.0001
MDRG_1101	KIDNEY TRANSPLANT	1	-2.761422202	0.1374767180	-20.0864716767	<.0001
MDRG_1102	MAJOR BLADDER PROCEDURES	1	-0.1400294335	0.0507435664	-2.7595504891	0.0058
MDRG_1103	KIDNEY & URETER PROCEDURES FOR NEOPLASM	1	-1.550655333	0.0532135870	-29.1402143571	<.0001
MDRG_1104	KIDNEY & URETER PROCEDURES FOR NON-NEOPLASM	1	-0.8451339146	0.0600262838	-14.0793975785	<.0001
MDRG_1106	PROSTATECTOMY	1	-1.560484638	0.2734452394	-5.7067537212	<.0001
MDRG_1107	TRANSURETHRAL PROCEDURES	1	-1.610724030	0.1544063445	-10.4317218047	<.0001
MDRG_1109	OTHER KIDNEY & URINARY TRACT PROCEDURES	1	-2.191651753	0.1418359455	-15.4520192030	<.0001
MDRG_1201	MAJOR MALE PELVIC PROCEDURES	1	-2.066519326	0.0890069215	-23.2175126618	<.0001
MDRG_1203	TESTES PROCEDURES	1	-1.121750461	0.4058467596	-2.7639754023	0.0057
MDRG_1204	TRANSURETHRAL PROSTATECTOMY	1	-1.444656212	0.1061829635	-13.6053483982	<.0001
MDRG_1206	OTHER MALE REPRODUCTIVE SYSTEM O.R. PROC EXC MALIGNANCY	1	-1.837479503	0.2333823363	-7.8732586725	<.0001
MDRG_1301	PELVIC EVISCERATION, RAD HYSTERECTOMY & RAD VULVECTOMY	1	-1.134648272	0.1406542011	-8.0669348190	<.0001
MDRG_1302	UTERINE & ADNEXA PROC FOR OVARIAN OR ADNEXAL MALIGNANCY	1	-0.9688165980	0.0698934495	-13.8613361380	<.0001
MDRG_1303	UTERINE,ADNEXA PROC FOR NON-OVARIAN/ADNEXAL MALIG	1	-1.242204750	0.0842272521	-14.7482521316	<.0001
MDRG_1304	UTERINE & ADNEXA PROC FOR NON-MALIGNANCY	1	-1.853609591	0.0621320273	-29.8333994983	<.0001

Table 14. Risk Adjustment Coefficients for PSI 13 - Postoperative Sepsis Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDRG_1305	D&C, CONIZATION, LAPAROSCOPY & TUBAL INTERRUPTION	1	-0.9477217654	0.2472542843	-3.8329842020	0.0001
MDRG_1306	VAGINA, CERVIX & VULVA PROCEDURES	1	-2.180648558	0.2230580860	-9.7761466412	<.0001
MDRG_1307	FEMALE REPRODUCTIVE SYSTEM RECONSTRUCTIVE PROCEDURES	1	-1.655079531	0.2358016637	-7.0189476427	<.0001
MDRG_1601	SPLenic PROCEDURES	1	-1.019554762	0.2113575663	-4.8238384846	<.0001
MDRG_1602	OTHER O.R. PROC OF THE BLOOD & BLOOD FORMING ORGANS	1	-2.337383107	0.3251972609	-7.1875854702	<.0001
MDRG_1707	LYMPHOMA & LEUKEMIA W MAJOR O.R. PROC OR ACUTE LEUKEMIA W ANY O.R. PROC	1	-1.587772291	0.1147179088	-13.8406662641	<.0001
MDRG_1708	LYMPHOMA & NON-ACUTE LEUKEMIA W OTHER O.R. PROC	1	-1.828938553	0.2022562721	-9.0426790421	<.0001
MDRG_1710	MYELOPROLIF DISORD OR POORLY DIFF NEOPL W OTHER O.R. PROC	1	-1.408230384	0.1321542068	-10.6559633486	<.0001
MDRG_2102	SKIN GRAFTS FOR INJURIES	1	-1.960390936	0.3288042651	-5.9621821988	<.0001
MDRG_2104	OTHER O.R. PROCEDURES FOR INJURIES	1	-0.9887394734	0.0697368567	-14.1781479795	<.0001
MDRG_2201	FULL THICKNESS BURN W SKIN GRAFT OR INHAL INJ	1	-5.796322492	0.8965282849	-6.4652979605	<.0001
MDRG_2210	EXTENSIVE BURNS OR FULL THICKNESS BURNS W MV >96 HRS W SKIN GRAFT	1	-2.327691031	0.8196677049	-2.8397983921	0.0045
MDRG_2301	O.R. PROC W DIAGNOSES OF OTHER CONTACT W HEALTH SERVICES	1	-1.911468236	0.1599900584	-11.9474188248	<.0001
MDRG_2407	LIMB REATTACHMENT, HIP & FEMUR PROC FOR MULTIPLE SIGNIFICANT TRAUMA	1	-1.397343908	0.5163735947	-2.7060715777	0.0068
MDRG_2408	OTHER O.R. PROCEDURES FOR MULTIPLE SIGNIFICANT TRAUMA	1	-0.4548336217	0.5202166504	-0.8743157710	0.3819
MDRG_2501	HIV W EXTENSIVE O.R. PROCEDURE	1	0.4282876797	0.3736542512	1.1462138548	0.2517
MDRG_7701	HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM	1	0.3282989327	0.0918954246	3.5725275143	0.0004
MDRG_7702	LIVER TRANSPLANT	1	-1.401784654	0.1590935741	-8.8110702247	<.0001
MDRG_7703	LUNG TRANSPLANT	1	-1.522080684	0.3245059072	-4.6904560143	<.0001
MDRG_7704	SIMULTANEOUS PANCREAS/KIDNEY TRANSPLANT	1	-1.480791283	0.5371519032	-2.7567458561	0.0058
MDRG_7705	ALLOGENEIC OR AUTOLOGOUS BONE MARROW TRANSPLANT	1	0.6027895597	0.4623433587	1.3037703437	0.1923
COVIDDX	COVID-19 Diagnosis	1	0.7199405315	0.1204202954	5.9785647374	<.0001
Q3	Quarter 3, 2020	1	0.0559837131	0.0244152093	2.2929851849	0.0218
Q4	Quarter 4, 2020	1	0.1135721431	0.0223717030	5.0765980136	<.0001
Q5	Quarter 1, 2021	1	0.0029998910	0.0252835785	0.1186497806	0.9056

Table 14. Risk Adjustment Coefficients for PSI 13 - Postoperative Sepsis Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Q6	Quarter 2, 2021	1	0.0091946986	0.0236710015	0.3884372449	0.6977
Q7	Quarter 3, 2021	1	0.0263898817	0.0244047611	1.0813415262	0.2795
Q8	Quarter 4, 2021	1	-0.0162895335	0.0246535992	-0.6607365252	0.5088
Q9	Quarter 1, 2022	1	-0.0597071591	0.0258223915	-2.3122242218	0.0208
Q10	Quarter 2, 2022	1	-0.0282383059	0.0239675863	-1.1781873055	0.2387
COVDDX_Q3	COVID, Quarter 3, 2020	1	0.4174919645	0.3830182989	1.0900052706	0.2757
COVDDX_Q5	COVID, Quarter 1, 2021	1	0.6151740913	0.2350644641	2.6170441958	0.0089
COVDDX_Q6	COVID, Quarter 2, 2021	1	0.5428551065	0.3429759448	1.5827789518	0.1135
COVDDX_Q7	COVID, Quarter 3, 2021	1	0.8095973797	0.3047616103	2.6564939689	0.0079
COVDDX_Q8	COVID, Quarter 4, 2021	1	0.3660605238	0.2941348559	1.2445329634	0.2133
COVDDX_Q9	COVID, Quarter 1, 2022	1	0.1860469051	0.2130988385	0.8730545246	0.3826
COVDDX_Q10	COVID, Quarter 2, 2022	1	-0.2444955057	0.3305558557	-0.7396495977	0.4595
TRANSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.3787450330	0.0700639836	5.4057022365	<.0001
HPPS13_1	Medium immune risk	1	0.3056632761	0.0337852207	9.0472481692	<.0001
HPPS13_2	High immune risk	1	0.5008187601	0.0286677746	17.4697466656	<.0001
HPPS13_3	Very High immune risk	1	1.1441420658	0.0674563718	16.9612156026	<.0001
PS13_NonWt_1	PS13 Comorbidity count using non-weighted method, category 1, count > 2 and count <= 4	1	0.3690500475	0.0270395737	13.6485157256	<.0001
PS13_NonWt_2	PS13 Comorbidity count using non-weighted method, category 2, count >= 5	1	0.1698107362	0.0444971262	3.8162180539	0.0001

c-statistic=0.848

C-statistics for hospital level indicators are based on the test data (a random sample of 2020-2022 HCUP reference population, not used for the LASSO feature selection).

Table 15. Risk Adjustment Coefficients for PSI 14 - Postoperative Wound Dehiscence Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
Intercept	Intercept	1	-10.21628505	0.1738478138	-58.7656803133	<.0001
Age_LT30	Age < 30	1	-0.5504470751	0.0815946366	-6.7461183448	<.0001
Age_30_34	30 <= Age <= 34	1	-0.5742822454	0.0898664112	-6.3903992364	<.0001
Age_35_39	35 <= Age <= 39	1	-0.5084889932	0.0809662657	-6.2802574497	<.0001
Age_40_44	40 <= Age <= 44	1	-0.4762834369	0.0771912939	-6.1701703975	<.0001
Age_45_49	45 <= Age <= 49	1	-0.2456795340	0.0634424627	-3.8724778903	0.0001
Age_50_54	50 <= Age <= 54	1	-0.2251849592	0.2322915830	-0.9694064515	0.3323
Age_55_59	55 <= Age <= 59	1	-0.2481330829	0.2288078198	-1.0844606762	0.2782
Age_60_64	60 <= Age <= 64	1	-0.0679956565	0.0500558957	-1.3583945613	0.1743
Age_70_74	70 <= Age <= 74	1	-0.0584595538	0.0510919197	-1.1442035082	0.2525
Age_75_79	75 <= Age <= 79	1	-0.1738494650	0.0580946673	-2.9925201909	0.0028
Age_80_84	80 <= Age <= 84	1	-0.1702033617	0.0707301942	-2.4063748673	0.0161
Age_85_89	85 <= Age <= 89	1	-0.1949416287	0.0872992583	-2.2330273197	0.0255
Age_90Plus	Age >= 90	1	-0.4805829251	0.1358574888	-3.5374047417	0.0004
MALE	Patient Sex Flag: 1=Male / 0=Female	1	0.6424789321	0.0316319448	20.3110791007	<.0001
CMR_ALCOHOL	Alcohol abuse	1	0.1296925320	0.3563074884	0.3639904750	0.7159
CMR_ANEMDEF	Anemias due to other nutritional deficiencies	1	0.0403309643	0.1910589662	0.2110917122	0.8328
CMR_CANCER_METS	Metastatic cancer	1	0.1197703083	0.2162953564	0.5537349957	0.5798
CMR_COAG	Coagulopathy	1	0.1365497128	0.0516100433	2.6457972899	0.0081
CMR_DEPRESS	Depression	1	0.0051985992	0.2000318651	0.0259888554	0.9793
CMR_DIAB_CX	Diabetes with chronic complications	1	-0.5675380103	0.2209441167	-2.5686948304	0.0102
CMR_DIAB_UNCX	Diabetes without chronic complications	1	-0.3631919737	0.2155474153	-1.6849748496	0.0920
CMR_DRUG_ABUSE	Drug abuse	1	0.3570920507	0.0702244159	5.0850127571	<.0001
CMR_HF	Heart failure	1	0.2975433791	0.0523142946	5.6876114205	<.0001
CMR_HTN_CX	Hypertension, complicated	1	0.6051050334	0.2577442370	2.3476956862	0.0189
CMR_HTN_UNCX	Hypertension, uncomplicated	1	0.2309685590	0.1466966228	1.5744640507	0.1154
CMR_LIVER_SEV	Liver disease, moderate to severe	1	0.1950454772	0.0948915694	2.0554563320	0.0398
CMR_LUNG_CHRONIC	Chronic pulmonary disease	1	0.4436301688	0.0324240474	13.6821342270	<.0001
CMR_NEURO_OTH	Other neurological disorders	1	0.0625617999	0.0660950537	0.9465428403	0.3439
CMR_OBESE	Obesity	1	0.5980829581	0.1348809181	4.4341554511	<.0001
CMR_PARALYSIS	Paralysis	1	0.2718711757	0.0712311808	3.8167439122	0.0001
CMR_PERIVASC	Peripheral vascular disease	1	0.0826570806	0.0507978765	1.6271759017	0.1037
CMR_PSYCHOSES	Psychoses	1	0.3801486554	0.0621643621	6.1152184714	<.0001
CMR_RENLFL_MOD	Renal failure, moderate	1	0.1658907115	0.2950886337	0.5621724883	0.5740
CMR_RENLFL_SEV	Renal failure, severe	1	0.1494147186	0.3806806720	0.3924935769	0.6947
CMR_THYROID_HYPO	Hypothyroidism	1	0.0583228552	0.1892442555	0.3081882463	0.7579
CMR_VALVE	Valvular disease	1	0.2825380532	0.2648102713	1.0669452199	0.2860
CMR_WGHTLOSS	Weight loss	1	0.6093723192	0.0344675542	17.6795926920	<.0001

Table 15. Risk Adjustment Coefficients for PSI 14 - Postoperative Wound Dehiscence Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
MDC_4	Diseases and disorders of the respiratory system	1	0.6696386970	0.1126524847	5.9442869722	<.0001
MDC_6	Diseases and disorders of the digestive system	1	0.9223566889	0.0699527110	13.1854316461	<.0001
MDC_7	Diseases and disorders of the hepatobiliary system and pancreas	1	-0.2027907200	0.0944410699	-2.1472725828	0.0318
MDC_8	Diseases and disorders of the musculoskeletal system and connective tissue	1	1.5381675587	0.7206799055	2.1343283571	0.0328
MDC_11	Diseases and disorders of the kidney and urinary tract	1	1.5179173102	0.2094943735	7.2456232833	<.0001
MDC_13	Diseases and disorders of the female reproductive system	1	1.2485779054	0.7099020861	1.7588029811	0.0786
MDC_18	Infectious and parasitic diseases, systemic or unspecified sites	1	0.0143072016	0.3262070362	0.0438592672	0.9650
MDC_21	Injuries, poisonings and toxic effects of drugs	1	0.6916533787	0.1041845369	6.6387335352	<.0001
MDC_24	Multiple significant trauma	1	1.1177235104	0.0910288163	12.2787877002	<.0001
MDRG_542	OTHER MAJOR CARDIOVASCULAR PROCEDURES	1	-0.4453659217	0.1375809321	-3.2371195259	0.0012
MDRG_602	MAJOR SMALL & LARGE BOWEL PROCEDURES	1	0.8852536341	0.1540042566	5.7482413381	<.0001
MDRG_604	PERITONEAL ADHESIOLYSIS	1	-0.7847978034	0.0987362886	-7.9484231621	<.0001
MDRG_607	MINOR SMALL & LARGE BOWEL PROCEDURES	1	-1.531676326	0.2190569188	-6.9921385464	<.0001
MDRG_609	INGUINAL & FEMORAL HERNIA PROCEDURES	1	-2.633474704	0.3038825225	-8.6660946546	<.0001
MDRG_611	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES	1	-2.098961466	0.2384188902	-8.8036709837	<.0001
MDRG_622	APPENDIX PROCEDURES	1	-1.041881542	0.1902150039	-5.4773888528	<.0001
MDRG_704	CHOLECYSTECTOMY EXCEPT BY LAPAROSCOPE W/O C.D.E.	1	-0.8250632796	0.2156716842	-3.8255521699	0.0001
MDRG_1102	MAJOR BLADDER PROCEDURES	1	1.0457471007	0.1201432510	8.7041685002	<.0001
MDRG_1304	UTERINE & ADNEXA PROC FOR NON-MALIGNANCY	1	-0.8931374557	1.2185911364	-0.7329262695	0.4636
COVIDDX	COVID-19 Diagnosis	1	0.4304326492	0.0758031300	5.6782965179	<.0001
TRANSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	-0.2944439530	0.3534731077	-0.8330024166	0.4048
PS14s	PS14 Open Approach Diagnosis Stratum	1	3.6859241280	0.1622599784	22.7161630611	<.0001
PS14s_Age_50_54	Interaction between PS14 Open Approach Diagnosis Stratum and 50 <= Age <= 54	1	-0.0487524588	0.2377918840	-0.2050215422	0.8376
PS14s_Age_55_59	Interaction between PS14 Open Approach Diagnosis Stratum and 55 <= Age <= 59	1	0.2046649951	0.2303847580	0.8883616992	0.3743
PS14s_CMV_ALCOHOL	Interaction between PS14 Open Approach Diagnosis Stratum and Alcohol abuse	1	0.2404810626	0.3605968559	0.6668972808	0.5048
PS14s_CMV_ANEMDEF	Interaction between PS14 Open Approach Diagnosis Stratum and Anemias due to other nutritional deficiencies	1	-0.3272064838	0.1938190638	-1.6882058832	0.0914
PS14s_CMV_CANCER_METS	Interaction between PS14 Open Approach Diagnosis Stratum and Metastatic cancer	1	-0.4024090786	0.2232310934	-1.8026569346	0.0714

Table 15. Risk Adjustment Coefficients for PSI 14 - Postoperative Wound Dehiscence Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
PS14s_CMR_DEPRESS	Interaction between PS14 Open Approach Diagnosis Stratum and Depression	1	0.0963442436	0.2051161513	0.4697057885	0.6386
PS14s_CMR_DIAB_CX	Interaction between PS14 Open Approach Diagnosis Stratum and Diabetes with chronic complications	1	0.1945546181	0.2245854982	0.8662830846	0.3863
PS14s_CMR_DIAB_UNCX	Interaction between PS14 Open Approach Diagnosis Stratum and Diabetes without chronic complications	1	-0.2672161550	0.2240316757	-1.1927605956	0.2330
PS14s_CMR_HTN_CX	Interaction between PS14 Open Approach Diagnosis Stratum and Hypertension, complicated	1	-0.6727634587	0.2559551643	-2.6284426049	0.0086
PS14s_CMR_HTN_UNCX	Interaction between PS14 Open Approach Diagnosis Stratum and Hypertension, uncomplicated	1	-0.4707625863	0.1494036942	-3.1509434155	0.0016
PS14s_CMR_OBESE	Interaction between PS14 Open Approach Diagnosis Stratum and Obesity	1	0.0321274178	0.1392380088	0.2307374118	0.8175
PS14s_CMR_RENLFL_MOD	Interaction between PS14 Open Approach Diagnosis Stratum and Renal failure, moderate	1	-0.3608799113	0.3002752837	-1.2018302233	0.2294
PS14s_CMR_RENLFL_SEV	Interaction between PS14 Open Approach Diagnosis Stratum and Renal failure, severe	1	-0.4133188741	0.3873833818	-1.0669504513	0.2860
PS14s_CMR_THYROID_HYPO	Interaction between PS14 Open Approach Diagnosis Stratum and Hypothyroidism	1	-0.1307362241	0.1942950924	-0.6728745564	0.5010
PS14s_CMR_VALVE	Interaction between PS14 Open Approach Diagnosis Stratum and Valvular disease	1	-0.5182546261	0.2733177572	-1.8961615643	0.0579
PS14s_MDC_11	Interaction between PS14 Open Approach Diagnosis Stratum and Diseases and disorders of the kidney and urinary tract	1	-1.820847033	0.2120364828	-8.5874232999	<.0001
PS14s_MDC_13	Interaction between PS14 Open Approach Diagnosis Stratum and Diseases and disorders of the female reproductive system	1	-1.684953576	0.7104851872	-2.3715534212	0.0177
PS14s_MDC_18	Interaction between PS14 Open Approach Diagnosis Stratum and Infectious and parasitic diseases, systemic or unspecified sites	1	0.8104874549	0.3234143370	2.5060344030	0.0122
PS14s_MDC_8	Interaction between PS14 Open Approach Diagnosis Stratum and Diseases and disorders of the musculoskeletal system and connective tissue	1	-3.952149832	0.7136885964	-5.5376390374	<.0001
PS14s_MDRG_1304	Interaction between PS14 Open Approach Diagnosis Stratum and UTERINE & ADNEXA PROC FOR NON-MALIGNANCY	1	-0.0579935776	1.2405791145	-0.0467471820	0.9627
PS14s_MDRG_602	Interaction between PS14 Open Approach Diagnosis Stratum and MAJOR SMALL & LARGE BOWEL PROCEDURES	1	-1.150706072	0.1540535704	-7.4695190030	<.0001

Table 15. Risk Adjustment Coefficients for PSI 14 - Postoperative Wound Dehiscence Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
PS14s_TRNSFER	Interaction between PS14 Open Approach Diagnosis Stratum and TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.5979640702	0.3510568171	1.7033256189	0.0885

c-statistic=0.859

C-statistics for hospital level indicators are based on the test data (a random sample of 2020-2022 HCUP reference population, not used for the HGLR feature selection).

Table 16. 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	-6.908440280	0.0439257872	-157.2752753157	<.0001
Age_LT30	Age < 30	1	-0.4399830426	0.0729063569	-6.0349064405	<.0001
Age_30_34	30 <= Age <= 34	1	-0.3981098849	0.0763709150	-5.2128468627	<.0001
Age_35_39	35 <= Age <= 39	1	-0.3002178081	0.0655955723	-4.5767998914	<.0001
Age_40_44	40 <= Age <= 44	1	-0.1922047380	0.0557436651	-3.4480104163	0.0006
Age_45_49	45 <= Age <= 49	1	-0.1229003136	0.0508700588	-2.4159656278	0.0157
Age_50_54	50 <= Age <= 54	1	-0.1534274091	0.0470661718	-3.2598234195	0.0011
Age_55_59	55 <= Age <= 59	1	-0.1065802691	0.0451286450	-2.3616988516	0.0182
Age_60_64	60 <= Age <= 64	1	-0.0327748341	0.0420417023	-0.7795791383	0.4356
Age_70_74	70 <= Age <= 74	1	0.0576168157	0.0390841619	1.4741729847	0.1404
Age_75_79	75 <= Age <= 79	1	0.1358275618	0.0423821237	3.2048314232	0.0014
Age_80_84	80 <= Age <= 84	1	0.1362082871	0.0480017093	2.8375715992	0.0045
Age_85_89	85 <= Age <= 89	1	0.1260286168	0.0583925032	2.1583013199	0.0309
Age_90Plus	Age >= 90	1	-0.1430565592	0.0902889340	-1.5844307041	0.1131
MALE	Patient Sex Flag: 1=Male / 0=Female	1	-0.0646441585	0.0230304498	-2.8068995188	0.0050
CMR_WGHTLOSS	Weight loss	1	0.7622100748	0.0286159176	26.6358775042	<.0001
MDC_8	Diseases and disorders of the musculoskeletal system and connective tissue	1	-1.305231853	0.0885410064	-14.7415520308	<.0001
MDC_13	Diseases and disorders of the female reproductive system	1	0.4851942401	0.0580944440	8.3518182879	<.0001
MDRG_501	OTHER HEART ASSIST SYSTEM IMPLANT	1	0.2569975294	0.5295125662	0.4853473662	0.6274
MDRG_519	OTHER CIRCULATORY SYSTEM O.R. PROCEDURES	1	1.2275982290	0.1861631380	6.5942067908	<.0001
MDRG_601	STOMACH, ESOPHAGEAL & DUODENAL PROC	1	1.1788494725	0.0503682464	23.4046161404	<.0001
MDRG_602	MAJOR SMALL & LARGE BOWEL PROCEDURES	1	1.5188066601	0.0369687064	41.0835760741	<.0001
MDRG_702	BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E.	1	2.6478287457	0.0846494911	31.2799133322	<.0001
MDRG_703	CHOLECYSTECTOMY W C.D.E.	1	1.8213994484	0.2309722263	7.8857942237	<.0001
MDRG_704	CHOLECYSTECTOMY EXCEPT BY LAPAROSCOPE W/O C.D.E.	1	1.6006879504	0.0883122125	18.1253294992	<.0001
MDRG_706	HEPATOBIILIARY DIAGNOSTIC PROCEDURES	1	0.9082432630	0.1646388074	5.5165806730	<.0001
MDRG_1102	MAJOR BLADDER PROCEDURES	1	1.1360885192	0.1002697612	11.3303203860	<.0001
MDRG_1307	FEMALE REPRODUCTIVE SYSTEM RECONSTRUCTIVE PROCEDURES	1	0.3532075453	0.3394722337	1.0404607808	0.2981
MDRG_1801	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURE	1	0.6854315472	0.0401864783	17.0562730553	<.0001
MDRG_1802	POSTOPERATIVE OR POST-TRAUMATIC INFECTIONS W O.R. PROC	1	1.2312193462	0.1060745822	11.6071100250	<.0001
MEDICDR	Medical DRGs flag	1	-3.160794073	0.0693806584	-45.5572798741	<.0001

Table 16. Risk Adjustment Coefficients for PSI 15 - Abdominopelvic Accidental Puncture or Laceration Rate

Parameter	Label	DF	Estimate	Standard Error	Z-Statistics	Prob Z-Statistics
TRANSFER	TRANSFER FROM ANOTHER ACUTE CARE HOSPITAL	1	0.2715165664	0.0411668944	6.5955076433	<.0001
HPPS15_3	1 major ther PR/no diag PR	1	-1.227218495	0.0470589772	-26.0783078776	<.0001
HPPS15_4	1 major ther PR/minor diag PR	1	-1.125972029	0.0727359147	-15.4802759308	<.0001
HPPS15_6	2 major therapeutic PR	1	-0.6136995174	0.0409374833	-14.9911393824	<.0001
HPPS15_7	3+ major therapeutic PR	1	0.0946105593	0.0383527480	2.4668521598	0.0136

c-statistic=0.844

C-statistics for hospital level indicators are based on the test data (a random sample of 2020-2022 HCUP reference population, not used for the LASSO feature selection).

Table 17. Composite Weights for PSI 90, v2025

Indicator	Harm Weight	Volume Weight	Component Weight
PSI 03 Pressure Ulcer Rate	0.3080	0.1429	0.2186
PSI 06 Iatrogenic Pneumothorax Rate	0.1381	0.0513	0.0352
PSI 08 In Hospital Fall-Associated Fracture Rate	0.1440	0.0708	0.0506
PSI 09 Postoperative Hemorrhage or Hematoma Rate	0.0570	0.1192	0.0338
PSI 10 Postoperative Acute Kidney Injury Requiring Dialysis Rate	0.3584	0.0285	0.0507
PSI 11 Postoperative Respiratory Failure Rate	0.2219	0.1952	0.2152
PSI 12 Perioperative Pulmonary Embolism or Deep Vein Thrombosis Rate	0.1557	0.2083	0.1611
PSI 13 Postoperative Sepsis Rate	0.3102	0.1243	0.1915
PSI 14 Postoperative Wound Dehiscence Rate	0.1441	0.0237	0.0169
PSI 15 Abdominopelvic Accidental Puncture or Laceration Rate	0.1474	0.0359	0.0263
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), 2020, 2021, 2022. The harm weight was estimated using 2012-2013 Medicare Fee-for-Service claims data in combination with information from the published literature.

Appendix Tables

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

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
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

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

M/S	MDRG	MS DRG	MS DRG DESCRIPTION
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
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

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

M/S	MDRG	MS DRG	MS DRG DESCRIPTION
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
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

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

M/S	MDRG	MS DRG	MS DRG DESCRIPTION
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 OR THROMBOLYTIC AGENT
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
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

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

M/S	MDRG	MS DRG	MS DRG DESCRIPTION
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
S	402	173	ULTRASOUND ACCELERATED AND OTHER THROMBOLYSIS WITH PRINCIPAL DIAGNOSIS PULMONARY EMBOLISM
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
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

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

M/S	MDRG	MS DRG	MS DRG DESCRIPTION
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	503	212	CONCOMITANT AORTIC AND MITRAL VALVE PROCEDURES
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
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	544	222	CARDIAC DEFIBRILLATOR IMPLANT WITH CARDIAC CATHETERIZATION WITH AMI/HF/SHOCK WITH MCC

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

M/S	MDRG	MS DRG	MS DRG DESCRIPTION
S	544	223	CARDIAC DEFIBRILLATOR IMPLANT WITH CARDIAC CATHETERIZATION WITH AMI/HF/SHOCK WITHOUT MCC
S	544	224	CARDIAC DEFIBRILLATOR IMPLANT WITH CARDIAC CATHETERIZATION WITHOUT AMI/HF/SHOCK WITH MCC
S	544	225	CARDIAC DEFIBRILLATOR IMPLANT WITH CARDIAC CATHETERIZATION WITHOUT AMI/HF/SHOCK WITHOUT MCC
S	544	226	CARDIAC DEFIBRILLATOR IMPLANT WITHOUT CARDIAC CATHETERATION WITH MCC
S	544	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
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

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

M/S	MDRG	MS DRG	MS DRG DESCRIPTION
S	511	248	PERCUTANEOUS CARDIOVASCULAR PROCEDURES W NON-DRUG-ELUTING STENT W MCC OR 4+ ARTERIES OR STENTS
S	511	249	PERCUTANEOUS CARDIOVASCULAR PROCEDURES WITH NON-DRUG-ELUTING STENT WITHOUT MCC
S	513	250	PERCUTANEOUS CARDIOVASCULAR PROCEDURES WITHOUT INTRALUMINAL DEVICE WITH MCC
S	513	251	PERCUTANEOUS CARDIOVASCULAR PROCEDURES WITHOUT INTRALUMINAL DEVICE 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
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
S	544	275	CARDIAC DEFIBRILLATOR IMPLANT WITH CARDIAC CATHETERIZATION AND MCC
S	544	276	CARDIAC DEFIBRILLATOR IMPLANT WITH MCC OR CAROTID SINUS NEUROSTIMULATOR

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

M/S	MDRG	MS DRG	MS DRG DESCRIPTION
S	544	277	CARDIAC DEFIBRILLATOR IMPLANT WITHOUT MCC
S	514	278	ULTRASOUND ACCELERATED AND OTHER THROMBOLYSIS OF PERIPHERAL VASCULAR STRUCTURES WITH MCC
S	514	279	ULTRASOUND ACCELERATED AND OTHER THROMBOLYSIS OF PERIPHERAL VASCULAR STRUCTURES 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
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

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

M/S	MDRG	MS DRG	MS DRG DESCRIPTION
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	543	317	CONCOMITANT LEFT ATRIAL APPENDAGE CLOSURE AND CARDIAC ABLATION
S	536	319	OTHER ENDOVASCULAR CARDIAC VALVE PROCEDURES W MCC
S	536	320	OTHER ENDOVASCULAR CARDIAC VALVE PROCEDURES W/O MCC
S	511	321	PERCUTANEOUS CARDIOVASCULAR PROCEDURES WITH INTRALUMINAL DEVICE WITH MCC OR 4+ ARTERIES/INTRALUMIN
S	511	322	PERCUTANEOUS CARDIOVASCULAR PROCEDURES WITH INTRALUMINAL DEVICE WITHOUT MCC
S	511	323	CORONARY INTRAVASCULAR LITHOTRIPSY WITH INTRALUMINAL DEVICE WITH MCC
S	511	324	CORONARY INTRAVASCULAR LITHOTRIPSY WITH INTRALUMINAL DEVICE WITHOUT MCC
S	513	325	CORONARY INTRAVASCULAR LITHOTRIPSY WITHOUT INTRALUMINAL DEVICE
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
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	622	338	APPENDECTOMY WITH COMPLICATED PRINCIPAL DIAGNOSIS WITH MCC
S	622	339	APPENDECTOMY WITH COMPLICATED PRINCIPAL DIAGNOSIS WITH CC
S	622	340	APPENDECTOMY WITH COMPLICATED PRINCIPAL DIAGNOSIS WITHOUT CC/MCC
S	622	341	APPENDECTOMY WITHOUT COMPLICATED PRINCIPAL DIAGNOSIS WITH MCC

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

M/S	MDRG	MS DRG	MS DRG DESCRIPTION
S	622	342	APPENDECTOMY WITHOUT COMPLICATED PRINCIPAL DIAGNOSIS WITH CC
S	622	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
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

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

M/S	MDRG	MS DRG	MS DRG DESCRIPTION
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	622	397	APPENDIX PROCEDURES WITH MCC
S	622	398	APPENDIX PROCEDURES WITH CC
S	622	399	APPENDIX PROCEDURES WITHOUT CC/MCC
S	801	402	SINGLE LEVEL COMBINED ANTERIOR AND POSTERIOR SPINAL FUSION EXCEPT CERVICAL
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
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

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

M/S	MDRG	MS DRG	MS DRG DESCRIPTION
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
S	801	426	MULTIPLE LEVEL COMBINED ANTERIOR AND POSTERIOR SPINAL FUSION EXCEPT CERVICAL WITH MCC OR CUSTOM-MA
S	801	427	MULTIPLE LEVEL COMBINED ANTERIOR AND POSTERIOR SPINAL FUSION EXCEPT CERVICAL WITH CC
S	801	428	MULTIPLE LEVEL COMBINED ANTERIOR AND POSTERIOR SPINAL FUSION EXCEPT CERVICAL WITHOUT CC/MCC
S	801	429	COMBINED ANTERIOR AND POSTERIOR CERVICAL SPINAL FUSION WITH MCC
S	801	430	COMBINED ANTERIOR AND POSTERIOR CERVICAL SPINAL FUSION WITHOUT 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
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	803	447	MULTIPLE LEVEL SPINAL FUSION EXCEPT CERVICAL WITH MCC OR CUSTOM-MADE ANATOMICALLY DESIGNED INTERBO

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

M/S	MDRG	MS DRG	MS DRG DESCRIPTION
S	803	448	MULTIPLE LEVEL SPINAL FUSION EXCEPT CERVICAL WITHOUT MCC
S	803	450	SINGLE LEVEL SPINAL FUSION EXCEPT CERVICAL WITH MCC OR CUSTOM-MADE ANATOMICALLY DESIGNED INTERBODY
S	803	451	SINGLE LEVEL SPINAL FUSION EXCEPT CERVICAL WITHOUT 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
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

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

M/S	MDRG	MS DRG	MS DRG DESCRIPTION
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
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 FIXATION 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

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

M/S	MDRG	MS DRG	MS DRG DESCRIPTION
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
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

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

M/S	MDRG	MS DRG	MS DRG DESCRIPTION
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
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

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

M/S	MDRG	MS DRG	MS DRG DESCRIPTION
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
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

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

M/S	MDRG	MS DRG	MS DRG DESCRIPTION
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
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

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

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
S	1109	675	OTHER KIDNEY AND URINARY TRACT PROCEDURES WITHOUT CC/MCC

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

M/S	MDRG	MS DRG	MS DRG DESCRIPTION
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
S	1206	717	OTHER MALE REPRODUCTIVE SYSTEM O.R. PROCEDURES EXCEPT MALIGNANCY WITH CC/MCC

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

M/S	MDRG	MS DRG	MS DRG DESCRIPTION
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
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

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

M/S	MDRG	MS DRG	MS DRG DESCRIPTION
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
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 IMMATURITY OR RESPIRATORY DISTRESS SYNDROME NEONATE
M	1503	791	PREMATURITY WITH MAJOR PROBLEMS

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

M/S	MDRG	MS DRG	MS DRG DESCRIPTION
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	SPLENIC PROCEDURES WITH MCC
S	1601	800	SPLENIC PROCEDURES WITH CC
S	1601	801	SPLENIC PROCEDURES 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
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

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

M/S	MDRG	MS DRG	MS DRG DESCRIPTION
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
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 WITH MCC
M	1711	835	ACUTE LEUKEMIA WITH CC
M	1711	836	ACUTE LEUKEMIA 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

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

M/S	MDRG	MS DRG	MS DRG DESCRIPTION
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
S	1707	850	ACUTE LEUKEMIA WITH OTHER PROCEDURES
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

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

M/S	MDRG	MS DRG	MS DRG DESCRIPTION
M	1917	887	OTHER MENTAL DISORDER DIAGNOSES
M	2018	894	ALCOHOL DRUG ABUSE OR DEPENDENCE LEFT AMA
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

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

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
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

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

M/S	MDRG	MS DRG	MS DRG DESCRIPTION
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

M/S: Indicate if an MS-DRG is medical (M) or surgical (S).

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

Table A.4. Comorbidity Categories (COMORB), Elixhauser Comorbidity Software Refined, Version v2025.1*

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

Table A.4. Comorbidity Categories (COMORB), Elixhauser Comorbidity Software Refined, Version v2025.1*

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). November 2024. Agency for Healthcare Research and Quality, Rockville, MD.
www.hcup-us.ahrq.gov/toolssoftware/comorbidityicd10/comorbidity_icd10.jsp.

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

CATEGORY	DESCRIPTION	DEFINITION
TRANSFER	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 TRANSFER=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 immunocompromised state (IMMUNIP), 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 (PCLASSR).
	HPPS15_2	Discharges otherwise qualifying for the denominator with one or more minor therapeutic procedures, with any or no diagnostic procedures (PCLASSR), 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 (PCLASSR), 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) (PCLASSR), and not meeting the inclusion rules for HPPS15_1 through HPPS15_3.
	HPPS15_5	Discharges otherwise qualifying for the denominator with one major therapeutic procedure, with one or more major diagnostic procedure(s) (PCLASSR), 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 (PCLASSR), 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 (PCLASSR), and not meeting the inclusion rules for HPPS15_1 through HPPS15_6.

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

CATEGORY	DESCRIPTION	DEFINITION
	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

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 thrombotic 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. For detailed information on the creation of risk factors, please refer to the most recent Empirical Methods document.

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
J1561	Pneumonia due to <i>Acinetobacter baumannii</i>
J1569	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. For detailed information on the creation of risk factors, please refer to the most recent Empirical Methods document.

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. For detailed information on the creation of risk factors, please refer to the most recent Empirical Methods document.

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. For detailed information on the creation of risk factors, please refer to the most recent Empirical Methods document.

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

Diagnosis Code	Diagnosis Code
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. For detailed information on the creation of risk factors, please refer to the most recent Empirical Methods document.

Table A.11. DNR: Do Not Resuscitate Diagnosis Codes

Diagnosis Code		Description
Z66		Do not resuscitate

Note: DNR setname is used in the risk-adjustment model for all PSI04 strata. For detailed information on the creation of risk factors, please refer to the most recent Empirical Methods document.

Table A.12. Categorical Variables Used for Comorbidity Counts

Measure	Comorbidity Count Category	Description
PSI 03	PS03_NonWt_1	PS03 Comorbidity count using non-weighted method, category 1, count > 1 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 <= 6
PSI 04 DVT_PE	PS04_DVT_PE_NonWt_2	PS04_DVT_PE Comorbidity count using non-weighted method, category 2, count >= 7
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 <= 5
PSI 04 PNEUMONIA	PS04_PNEUMONIA_NonWt_2	PS04_PNEUMONIA Comorbidity count using non-weighted method, category 2, count >= 6
PSI 04 SEPSIS	PS04_SEPSIS_NonWt_1	PS04_SEPSIS Comorbidity count using non-weighted method, category 1, count > 2 and count <= 5
PSI 04 SEPSIS	PS04_SEPSIS_NonWt_2	PS04_SEPSIS Comorbidity count using non-weighted method, category 2, count >= 6
PSI 04 SHOCK	PS04_SHOCK_NonWt_1	PS04_SHOCK Comorbidity count using non-weighted method, category 1, count > 1 and count <= 3
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

Table A.12. Categorical Variables Used for Comorbidity Counts

Measure	Comorbidity Count Category	Description
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 > 0 and count ≤ 2
PSI 07	PS07_NonWt_2	PS07 Comorbidity count using non-weighted method, category 2, count ≥ 3
PSI 08	PS08_NonWt_1	PS08 Comorbidity count using non-weighted method, category 1, count > 3 and count ≤ 5
PSI 08	PS08_NonWt_2	PS08 Comorbidity count using non-weighted method, category 2, count ≥ 6
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 > 3 and count ≤ 5
PSI 11	PS11_NonWt_2	PS11 Comorbidity count using non-weighted method, category 2, count ≥ 6
PSI 12	PS12_NonWt_1	PS12 Comorbidity count using non-weighted method, category 1, count > 1 and count ≤ 3
PSI 12	PS12_NonWt_2	PS12 Comorbidity count using non-weighted method, category 2, count ≥ 4

Table A.12. Categorical Variables Used for Comorbidity Counts

Measure	Comorbidity Count Category	Description
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 15	PS15_NonWt_1	PS15 Comorbidity count using non-weighted method, category 1, count > 1 and count <= 4
PSI 15	PS15_NonWt_2	PS15 Comorbidity count using non-weighted method, category 2, count >= 5

Table A.13. ODC_VEN: Ventilator Dependence Diagnosis Codes

Diagnosis Code	Description
Z9911	Dependence on respirator [ventilator] status
Z9912	Encounter for respirator [ventilator] dependence during power failure
J95850	Mechanical complication of respirator
J95859	Other complication of respirator [ventilator]

Note: ODC_VEN setname is used in the risk-adjustment model for all PSI. For detailed information on the creation of risk factors, please refer to the most recent Empirical Methods document.

Table A.14. CSHOCKANOXBDD: Cardiogenic shock, cardiac arrest, and anoxic brain damage diagnosis codes

Diagnosis Code	Description
G931	Anoxic brain damage, not elsewhere classified
I462	Cardiac arrest due to underlying cardiac condition
I468	Cardiac arrest due to other underlying condition
I469	Cardiac arrest, cause unspecified
R570	Cardiogenic shock

Note: CSHOCKANOXBDD setname is used in the risk-adjustment model for PSI 03. For detailed information on the creation of risk factors, please refer to the most recent Empirical Methods document.

Table A.15. CHVTEPEDVTD: Chronic VTE PSI 12 trigger diagnosis codes

Diagnosis Code	Description
I2724	Chronic thromboembolic pulmonary hypertension
I2782	Chronic pulmonary embolism
I82221	Chronic embolism and thrombosis of inferior vena cava
I82501	Chronic embolism and thrombosis of unspecified deep veins of right lower extremity
I82502	Chronic embolism and thrombosis of unspecified deep veins of left lower extremity
I82503	Chronic embolism and thrombosis of unspecified deep veins of lower extremity, bilateral
I82509	Chronic embolism and thrombosis of unspecified deep veins of unspecified lower extremity
I82511	Chronic embolism and thrombosis of right femoral vein
I82512	Chronic embolism and thrombosis of left femoral vein
I82513	Chronic embolism and thrombosis of femoral vein, bilateral
I82519	Chronic embolism and thrombosis of unspecified femoral vein
I82521	Chronic embolism and thrombosis of right iliac vein
I82522	Chronic embolism and thrombosis of left iliac vein
I82523	Chronic embolism and thrombosis of iliac vein, bilateral
I82529	Chronic embolism and thrombosis of unspecified iliac vein
I82531	Chronic embolism and thrombosis of right popliteal vein
I82532	Chronic embolism and thrombosis of left popliteal vein
I82533	Chronic embolism and thrombosis of popliteal vein, bilateral
I82539	Chronic embolism and thrombosis of unspecified popliteal vein
I82541	Chronic embolism and thrombosis of right tibial vein
I82542	Chronic embolism and thrombosis of left tibial vein
I82543	Chronic embolism and thrombosis of tibial vein, bilateral
I82549	Chronic embolism and thrombosis of unspecified tibial vein
I82551	Chronic embolism and thrombosis of right peroneal vein
I82552	Chronic embolism and thrombosis of left peroneal vein
I82553	Chronic embolism and thrombosis of peroneal vein, bilateral
I82559	Chronic embolism and thrombosis of unspecified peroneal vein
I82561	Chronic embolism and thrombosis of right calf muscular vein
I82562	Chronic embolism and thrombosis of left calf muscular vein
I82563	Chronic embolism and thrombosis of calf muscular vein, bilateral
I82569	Chronic embolism and thrombosis of unspecified calf muscular vein
I82591	Chronic embolism and thrombosis of other specified deep vein of right lower extremity
I82592	Chronic embolism and thrombosis of other specified deep vein of left lower extremity
I82593	Chronic embolism and thrombosis of other specified deep vein of lower extremity, bilateral
I82599	Chronic embolism and thrombosis of other specified deep vein of unspecified lower extremity
I825Y1	Chronic embolism and thrombosis of unspecified deep veins of right proximal lower extremity
I825Y2	Chronic embolism and thrombosis of unspecified deep veins of left proximal lower extremity
I825Y3	Chronic embolism and thrombosis of unspecified deep veins of proximal lower extremity, bilateral
I825Y9	Chronic embolism and thrombosis of unspecified deep veins of unspecified proximal lower extremity
I825Z1	Chronic embolism and thrombosis of unspecified deep veins of right distal lower extremity

Table A.15. CHVTEPEDVTD: Chronic VTE PSI 12 trigger diagnosis codes

Diagnosis Code	Description
I825Z2	Chronic embolism and thrombosis of unspecified deep veins of left distal lower extremity
I825Z3	Chronic embolism and thrombosis of unspecified deep veins of distal lower extremity, bilateral
I825Z9	Chronic embolism and thrombosis of unspecified deep veins of unspecified distal lower extremity

Note: CHVTEPEDVTD setname is used in the risk-adjustment model for PSI 12. For detailed information on the creation of risk factors, please refer to the most recent Empirical Methods document.

Table A.16. CHVTEOTHD: Chronic VTE unrelated site diagnosis codes

Diagnosis Code	Description
I82211	Chronic embolism and thrombosis of superior vena cava
I82291	Chronic embolism and thrombosis of other thoracic veins
I82701	Chronic embolism and thrombosis of unspecified veins of right upper extremity
I82702	Chronic embolism and thrombosis of unspecified veins of left upper extremity
I82703	Chronic embolism and thrombosis of unspecified veins of upper extremity, bilateral
I82709	Chronic embolism and thrombosis of unspecified veins of unspecified upper extremity
I82711	Chronic embolism and thrombosis of superficial veins of right upper extremity
I82712	Chronic embolism and thrombosis of superficial veins of left upper extremity
I82713	Chronic embolism and thrombosis of superficial veins of upper extremity, bilateral
I82719	Chronic embolism and thrombosis of superficial veins of unspecified upper extremity
I82721	Chronic embolism and thrombosis of deep veins of right upper extremity
I82722	Chronic embolism and thrombosis of deep veins of left upper extremity
I82723	Chronic embolism and thrombosis of deep veins of upper extremity, bilateral
I82729	Chronic embolism and thrombosis of deep veins of unspecified upper extremity
I82891	Chronic embolism and thrombosis of other specified veins
I8291	Chronic embolism and thrombosis of unspecified vein
I82A21	Chronic embolism and thrombosis of right axillary vein
I82A22	Chronic embolism and thrombosis of left axillary vein
I82A23	Chronic embolism and thrombosis of axillary vein, bilateral
I82A29	Chronic embolism and thrombosis of unspecified axillary vein
I82B21	Chronic embolism and thrombosis of right subclavian vein
I82B22	Chronic embolism and thrombosis of left subclavian vein
I82B23	Chronic embolism and thrombosis of subclavian vein, bilateral
I82B29	Chronic embolism and thrombosis of unspecified subclavian vein
I82C21	Chronic embolism and thrombosis of right internal jugular vein
I82C22	Chronic embolism and thrombosis of left internal jugular vein
I82C23	Chronic embolism and thrombosis of internal jugular vein, bilateral
I82C29	Chronic embolism and thrombosis of unspecified internal jugular vein

Note: CHVTEOTHD setname is used in the risk-adjustment model for PSI 12. For detailed information on the creation of risk factors, please refer to the most recent Empirical Methods document.

Table A.17. SOLKIDD: Solitary kidney diagnosis codes

Diagnosis Code	Description
Q600	Renal agenesis, unilateral
Q602	Renal agenesis, unspecified
Q606	Potter's syndrome
T8610	Unspecified complication of kidney transplant
T8611	Kidney transplant rejection
T8612	Kidney transplant failure
T8613	Kidney transplant infection
T8619	Other complication of kidney transplant
Z905	Acquired absence of kidney

Note: SOLKIDD setname is used in the risk-adjustment model for PSI 10. For detailed information on the creation of risk factors, please refer to the most recent Empirical Methods document.