

5.4.4 Risk/Case-Mix Adjustment Modeling and/or Stratification Results

CBE ID 3566, Standardized Ratio of Emergency Department Encounters Occurring Within 30 Days of Hospital Discharge (ED30) for Dialysis Facilities

Please see section 5.4.6 for a list of the final set of risk factors used in the model.

Covariate	Coefficient	P-value	Odds Ratio
Medicare Advantage during month of index discharge start date	0.155	0.0000	1.17
Female	0.015	0.1068	1.02
Age: 18-24 (Ref: 60-75)	0.481	0.0000	1.62
Age: 24-44	0.218	0.0000	1.24
Age: 45-59	0.093	0.0000	1.10
Age: > 75	-0.081	0.0000	0.92
BMI: Underweight (Ref: BMI Normal)	-0.011	0.6422	0.99
BMI: Overweight	-0.022	0.0338	0.98
BMI: Obese	-0.048	0.0000	0.95
Diabetes as cause of ESRD	0.004	0.6270	1.00
Time on ESRD: < 6 months (Ref: 1-2 years)	0.011	0.5731	1.01
Time on ESRD: 6 months - 1 year	-0.008	0.5790	0.99
Time on ESRD: 2-3 years	-0.010	0.4443	0.99
Time on ESRD: 3-5 years	-0.008	0.5095	0.99
Time on ESRD: 5+ years	-0.021	0.0706	0.98
1-90 days spent in Nursing Home	-0.035	0.0010	0.97
90+ days spent in Nursing Home	-0.103	0.0000	0.90
HIV infection	0.096	0.0002	1.10
Hepatitis	0.056	0.0000	1.06
Viral infection	0.020	0.0716	1.02
Other infections; including parasitic	0.034	0.0014	1.03
Melanomas of skin	-0.051	0.0017	0.95
Benign neoplasm of uterus	-0.024	0.0065	0.98
Diabetes mellitus without complication	0.023	0.0422	1.02

Covariate	Coefficient	P-value	Odds Ratio
Meningitis (except that caused by tuberculosis or sexually transmitted disease)	-0.066	0.0172	0.94
Otitis media and related conditions	0.082	0.0000	1.08
Other nervous system disorders	0.030	0.0057	1.03
Essential hypertension	0.158	0.0000	1.17
Hypertension with complications and secondary hypertension	0.149	0.0525	1.16
Acute myocardial infarction	0.024	0.0124	1.02
Nonspecific chest pain	0.183	0.0000	1.20
Pulmonary heart disease	0.012	0.1229	1.01
Other and ill-defined heart disease	0.051	0.0000	1.05
Conduction disorders	0.053	0.0000	1.05
Other circulatory disease	0.047	0.0000	1.05
Phlebitis; thrombophlebitis and thromboembolism	0.028	0.0009	1.03
Acute and chronic tonsillitis	0.038	0.0000	1.04
Chronic obstructive pulmonary disease and bronchiectasis	0.021	0.0083	1.02
Other lower respiratory disease	0.126	0.0000	1.13
Other upper respiratory disease	0.015	0.0896	1.01
Disorders of teeth and jaw	0.056	0.0000	1.06
Esophageal disorders	0.022	0.0093	1.02
Gastroduodenal ulcer (except hemorrhage)	0.042	0.0000	1.04
Anal and rectal conditions	0.025	0.0944	1.03
Peritonitis and intestinal abscess	-0.049	0.0003	0.95
Pancreatic disorders (not diabetes)	0.040	0.0008	1.04
Gastrointestinal hemorrhage	0.003	0.7301	1.00
Noninfectious gastroenteritis	0.034	0.0010	1.03
Other gastrointestinal disorders	0.029	0.0031	1.03
Urinary tract infections	0.025	0.0035	1.03
Other diseases of kidney and ureters	0.037	0.0000	1.04

Covariate	Coefficient	P-value	Odds Ratio
Hyperplasia of prostate	0.010	0.3698	1.01
Skin and subcutaneous tissue infections	0.053	0.0000	1.05
Infective arthritis and osteomyelitis (except that caused by tuberculosis or sexually transmitted disease)	-0.044	0.0003	0.96
Sprains and strains	0.096	0.0000	1.10
Complication of device; implant or graft	0.039	0.0000	1.04
Superficial injury; contusion	0.063	0.0000	1.06
Poisoning by psychotropic agents	0.004	0.8379	1.00
Other injuries and conditions due to external causes	0.043	0.0000	1.04
Syncope	0.065	0.0000	1.07
Gangrene	-0.055	0.0001	0.95
Shock	-0.126	0.0000	0.88
Nausea and vomiting	0.094	0.0000	1.10
Abdominal pain	0.147	0.0000	1.16
Malaise and fatigue	0.090	0.0000	1.09
Allergic reactions	0.054	0.0000	1.06
Anxiety disorders	0.063	0.0000	1.06
Attention-deficit conduct and disruptive behavior disorders	0.046	0.0263	1.05
Developmental disorders	0.103	0.0007	1.11
Mood disorders	-0.002	0.8598	1.00
Personality disorders	0.121	0.0005	1.13
Schizophrenia and other psychotic disorders	0.123	0.0000	1.13
Alcohol-related disorders	0.075	0.0000	1.08
Suicide and intentional self-inflicted injury	0.177	0.0000	1.19
Screening and history of mental health and substance abuse codes	0.019	0.0116	1.02
Miscellaneous mental health disorders	0.044	0.0002	1.05
Epilepsy; convulsions	0.047	0.0000	1.05
Headache; including migraine	0.121	0.0000	1.13

Covariate	Coefficient	P-value	Odds Ratio
Calculus of urinary tract	0.009	0.3666	1.01
Other non-traumatic joint disorders	0.075	0.0000	1.08
Spondylosis; intervertebral disc disorders; other back problems	0.049	0.0000	1.05
Osteoporosis	-0.043	0.0010	0.96
Other connective tissue disease	0.071	0.0000	1.07
Length of index discharge admission 2nd quantile (Ref: 1 st quantile)	-0.052	0.0000	0.95
Length of index discharge admission 3rd quantile	-0.047	0.0000	0.95
Length of index discharge admission 4th quantile	-0.044	0.0001	0.96

The table below shows the parameter estimates for patient and area level SDS/SES variables tested based on a model that included these variables along with the original covariates.

Table SDS/SES Variables

Covariate	Estimate	P-value	Odds Ratio
Race: Black	0.156	<.0001	1.17
Race: AAPI	-0.068	0.002	0.93
Race: Native American	0.075	0.042	1.08
Race: Other	0.121	0.131	1.13
Hispanic Ethnicity	0.052	<.0001	1.05
Dual Eligibility	0.130	<.0001	N/A*
Dual Eligibility*Female	-0.010	0.542	N/A*
ADI National Rank of Patient's ZIP Code of Residence	0.000	0.298	1.00

*Odds ratios are not shown for interaction terms or main effects of variables that have interaction terms. See below for interpretation.

The Dual Eligibility (DE) main effect can be interpreted as the effect of DE for males. The OR=1.14 meaning that males with dual eligibility have 14% higher odds of an ED encounter than those without dual eligibility, all else equal. The interaction between Dual Eligibility and Female is negative but not statistically significant. This means that the difference in ED encounter odds for DE females compared to non-DE females is not quite as large as the difference for DE males compared to non-DE males, but the

difference is not significant. To calculate the OR for DE females compared to non-DE females, we sum the dual eligibility and dual eligibility by female interaction terms before exponentiating to get an OR of 1.13.