Table 2 Supplement: Length of Stay

Variables	IRR	p-value	95% CI
Age (Years)	**1.01**	**0.035**	**(1.00, 1.01)**
Sex: Female (Referent)	1.00	-	-
Sex: Male	**1.26**	**<0.001**	**(1.20, 1.32)**
Comorbid Conditions: No (Referent)	1.00	-	-
Comorbid Conditions: Yes	**1.76**	**<0.001**	**(1.66, 1.87)**
Insurance Status: PPO (Referent)	1.00	-	-
Insurance Status: HMO	0.96	0.261	(0.88, 1.03)
Insurance Status: Uninsured/Other	**1.32**	**<0.001**	**(1.15, 1.52)**
Insurance Status: Medicaid	1.06	0.093	(0.99, 1.13)
Insurance Status: Private	1.08	0.078	(0.99, 1.17)
Region: West (Referent)	1.00	-	-
Region: Northeast	**0.80**	**0.034**	**(0.65, 0.98)**
Region: Midwest	1.00	0.984	(0.82, 1.23)
Region: South	1.02	0.855	(0.82, 1.27)
Race: Caucasian (Referent)	1.00	-	-
Race: Black	**1.33**	**<0.001**	**(1.18, 1.49)**
Race: Other	**1.21**	**<0.001**	**(1.14, 1.30)**
Surgeon Volume: High (Referent)	1.00	-	-
Surgeon Volume: Low	**1.47**	**<0.001**	**(1.19, 1.82)**
Hospital Volume: High (Referent)	1.00	-	-
Hospital Volume: Low	0.96	0.614	(0.83, 1.12)
Year of Surgery: 2004--2006 (Referent)	1.00	-	-
Year of Surgery: 2007--2009	**0.90**	**<0.001**	**(0.85, 0.95)**

Table 2. Poisson regression analysis regressing length of stay on the independent variables are shown. Incidence rate ratios (IRR) and their corresponding 95% confidence intervals are depicted.

Table 3 Supplement: Intensive Care Unit Days (Probability of At Least One Day in ICU)

Variables	OR	p-value*	95% CI*	
Age (Years)	1.00	0.882	(0.94,	1.06)
Sex: Female (Referent)	1.00	-	-	
Sex: Male	**2.13**	**0.012**	**(1.26,**	**3.86)**
Comorbid Conditions: No (Referent)	1.00	-	-	
Comorbid Conditions: Yes	**11.70**	**0.002**	**(7.01,**	**22.7)**
Insurance Status: PPO (Referent)	1.00	-	-	
Insurance Status: HMO	0.47	0.16	(0.18,	1.41)
Insurance Status: Uninsured/Other	2.29	0.236	(0.70,	10.3)
Insurance Status: Medicaid	1.17	0.701	(0.52,	2.78)
Insurance Status: Private	**2.33**	**0.048**	**(0.97,**	**5.40)**
Region: West (Referent)	1.00	-	-	
Region: Northeast	1.35	0.701	(0.33,	6.22)
Region: Midwest	1.34	0.778	(0.26,	5.48)
Region: South	1.25	0.806	(0.22,	5.91)
Race: Caucasian (Referent)	1.00	-	-	
Race: Black	1.65	0.365	(0.56,	4.79)
Race: Other	**2.91**	**0.002**	**(1.50,**	**5.29)**
Surgeon Volume: High (Referent)	1.00	-	-	
Surgeon Volume: Low	**8.14**	**0.002**	**(3.12,**	**22.4)**
Hospital Volume: High (Referent)	1.00	-	-	
Hospital Volume: Low	1.16	0.766	(0.36,	4.12)
Year of Surgery: 2004--2006 (Referent)	1.00	-	-	
Year of Surgery: 2007--2009	1.64	0.12	(0.91,	2.81)

Table 3. The hurdle model was used to evaluate the probability of spending at least one day in the ICU, exponentiated in the form of an odds ratio (OR).

Table 4 Supplement: Intensive Care Unit Days (Length of Stay in ICU)

Variables	IRR	p-value*	95% CI*
Age (Years)	1.00	0.922	(0.96, 1.04)
Sex: Female (Referent)	1.00	-	-
Sex: Male	0.92	0.673	(0.60, 1.45)
Comorbid Conditions: No (Referent)	1.00	-	-
Comorbid Conditions: Yes	**2.03**	**0.008**	**(1.30, 3.28)**
Insurance Status: PPO (Referent)	1.00	-	-
Insurance Status: HMO	0.55	0.148	(0.22, 1.21)
Insurance Status: Uninsured/Other	0.84	0.762	(0.29, 2.42)
Insurance Status: Medicaid	0.64	0.156	(0.35, 1.23)
Insurance Status: Private	1.13	0.721	(0.56, 2.20)
Region: West (Referent)	1.00	-	-
Region: Northeast	1.73	0.337	(0.50, 4.74)
Region: Midwest	1.26	0.697	(0.37, 3.82)
Region: South	2.01	0.277	(0.60, 7.39)
Race: Caucasian (Referent)	1.00	-	-
Race: Black	1.47	0.337	(0.70, 2.30)
Race: Other	**1.89**	**0.008**	**(1.20, 3.24)**
Surgeon Volume: High (Referent)	1.00	-	-
Surgeon Volume: Low	**2.42**	**0.016**	**(1.18, 4.83)**
Hospital Volume: High (Referent)	1.00	-	-
Hospital Volume: Low	0.88	0.745	(0.32, 1.88)
Year of Surgery: 2004--2006 (Referent)	1.00	-	-
Year of Surgery: 2007--2009	**0.55**	**0.002**	**(0.87, 0.34)**

Table 4. Length of Stay in the ICU by patients who spent at least one day there, exponentiated in the form of an incident rate ratio (IRR). Incidence rate ratios (IRR) and their corresponding 95% confidence intervals are depicted.

Table 5 Supplement: Complications (Post-Operative Perforation and Hemorrhage)

Variables	OR	p-value	95% CI
Age (Years)	1.07	0.071	(0.99, 1.15)
Sex: Female (Referent)	1.00	-	-
Sex: Male	**1.85**	**0.039**	**(1.03, 3.28)**
Comorbid Conditions: No (Referent)	1.00	-	-
Comorbid Conditions: Yes	1.35	0.43	(0.64, 2.83)
Insurance Status: PPO (Referent)	1.00	-	-
Insurance Status: HMO	0.56	0.249	(0.21, 1.51)
Insurance Status: Uninsured/Other	1.81	0.343	(0.53, 6.20)
Insurance Status: Medicaid	0.93	0.866	(0.42, 2.07)
Insurance Status: Private	0.88	0.793	(0.35, 2.23)
Region: West (Referent)	1.00	-	-
Region: Northeast	1.31	0.655	(0.40, 4.26)
Region: Midwest	1.01	0.989	(0.27, 3.71)
Region: South	0.56	0.431	(0.13, 2.38)
Race: Caucasian (Referent)	1.00	-	-
Race: Black	1.46	0.596	(0.36, 5.89)
Race: Other	1.14	0.736	(0.53, 2.46)
Surgeon Volume: High (Referent)	1.00	-	-
Surgeon Volume: Low	**2.63**	**0.024**	**(1.14, 6.08)**
Hospital Volume: High (Referent)	1.00	-	-
Hospital Volume: Low	0.70	0.479	(0.25, 1.90)
Year of Surgery: 2004--2006 (Referent)	1.00	-	-
Year of Surgery: 2007--2009	0.66	0.164	(0.37, 1.18)

Table 5. Multivariate logistic model regressing complications (Post-Operative Perforation and Hemorrhage). Odds ratios (OR) and their corresponding 95% confidence intervals are depicted.

Table 6 Supplement: Complications (post-operative wound infections and others)

Variables	OR	p-value	95% CI
Age (Years)	1.00	0.965	(0.96, 1.04)
Sex: Female (Referent)	1.00	-	-
Sex: Male	**1.51**	**0.015**	**(1.08, 2.11)**
Comorbid Conditions: No (Referent)	1.00	-	-
Comorbid Conditions: Yes	**3.99**	**<0.001**	**(2.79, 5.71)**
Insurance Status: PPO (Referent)	1.00	-	-
Insurance Status: HMO	**0.51**	**0.026**	**(0.28, 0.92)**
Insurance Status: Uninsured/Other	1.15	0.766	(0.46, 2.87)
Insurance Status: Medicaid	0.92	0.688	(0.60, 1.41)
Insurance Status: Private	1.11	0.67	(0.69, 1.79)
Region: West (Referent)	1.00	-	-
Region: Northeast	0.78	0.49	(0.39, 1.57)
Region: Midwest	1.23	0.537	(0.64, 2.39)
Region: South	1.35	0.376	(0.69, 2.65)
Race: Caucasian (Referent)	1.00	-	-
Race: Black	0.92	0.843	(0.41, 2.06)
Race: Other	1.49	0.063	(0.98, 2.26)
Surgeon Volume: High (Referent)	1.00	-	-
Surgeon Volume: Low	**1.66**	**0.025**	**(1.06, 2.58)**
Hospital Volume: High (Referent)	1.00	-	-
Hospital Volume: Low	0.71	0.185	(0.42, 1.18)
Year of Surgery: 2004--2006 (Referent)	1.00	-	-
Year of Surgery: 2007--2009	**0.66**	**0.014**	**(0.47, 0.92)**

Table 6. Multivariate logistic model regressing complications (post-operative wound infections and others). Odds ratios (OR) and their corresponding 95% confidence intervals are depicted.

Table 7 Supplement: Complications (Total All Categories)

Variables	OR	p-value	95% CI	
Age (Years)	1.00	0.898	(0.97,	1.03)
Sex: Female (Referent)	1.00	-	-	
Sex: Male	**1.47**	**0.001**	**(1.17,**	**1.86)**
Comorbid Conditions: No (Referent)	1.00	-	-	
Comorbid Conditions: Yes	**3.77**	**<0.001**	**(2.91,**	**4.87)**
Insurance Status: PPO (Referent)	1.00	-	-	
Insurance Status: HMO	**0.65**	**0.03**	**(0.44,**	**0.96)**
Insurance Status: Uninsured/Other	1.63	0.111	(0.89,	2.96)
Insurance Status: Medicaid	1.18	0.287	(0.87,	1.59)
Insurance Status: Private	0.95	0.777	(0.66,	1.37)
Region: West (Referent)	1.00	-	-	
Region: Northeast	1.34	0.26	(0.80,	2.25)
Region: Midwest	1.61	0.083	(0.94,	2.75)
Region: South	1.26	0.415	(0.72,	2.20)
Race: Caucasian (Referent)	1.00	-	-	
Race: Black	0.94	0.838	(0.52,	1.69)
Race: Other	**1.58**	**0.002**	**(1.18,**	**2.12)**
Surgeon Volume: High (Referent)	1.00	-	-	
Surgeon Volume: Low	**2.07**	**<0.001**	**(1.47,**	**2.91)**
Hospital Volume: High (Referent)	1.00	-	-	
Hospital Volume: Low	**0.55**	**0.004**	**(0.37,**	**0.82)**
Year of Surgery: 2004--2006 (Referent)	1.00	-	-	
Year of Surgery: 2007--2009	0.82	0.091	(0.65,	1.03)

Table 7. Multivariate logistic model regressing complications (total complication during the entire hospitalization). Odds ratios (OR) and their corresponding 95% confidence intervals are depicted.