

**Data Supplement 5****MISSINGNESS SENSITIVITY ANALYSIS  
HOSPITAL COSTS**SI = Single Imputation with Dummy  
Variables

CCA = Complete Case Analysis

MI = Multiple Imputation

	<b>SI</b>		<b>CCA</b>		<b>MI</b>	
	Ln Cost		Ln Cost		Ln Cost	
<b>HOSPITAL CHARACTERISTICS</b>	(SE)		(SE)		(SE)	
<b>ED Specific</b>						
Percent ABEM Certified	0.26	**	0.12	**	0.24	**
	(0.02)		(0.02)		(0.03)	
Percent US Trained	-0.03		-0.03		-0.01	
	(0.02)		(0.02)		(0.03)	
EM Residency	0.13	**	0.08		0.11	
	(0.04)		(0.03)		(0.06)	
Chest Pain Acuity	0.65	**	0.35	**	0.82	**
	(0.02)		(0.02)		(0.01)	
Chest Pain Volume (2)	0.14	**	0.13	**	-0.83	**
	(0.02)		(0.03)		(0.05)	
Chest Pain Volume (3)	0.20	**	0.15	**	-1.15	**
	(0.03)		(0.03)		(0.04)	
Chest Pain Volume (4)	0.18	**	0.10	**	-1.25	**
	(0.03)		(0.03)		(0.01)	
Chest Pain Volume (5)	-1.06	**	omit		omit	
	(0.05)					
Average Years in Practice	0.02		0.02		0.02	
	(0.02)		(0.02)		(0.03)	
Percent Men	-0.01		-0.02		-0.03	
	(0.02)		(0.02)		(0.02)	
<b>Hospital-Wide</b>						
Cardiac Catheterization Hospital	0.21	**	0.25	**	0.05	
	(0.03)		(0.02)		(0.04)	
Cardiac Intensive Care Unit Hospital	0.03		0.07	**	0.06	**
	(0.02)		(0.02)		(0.01)	
Level of Technology (1)	0.01		-0.01		0.05	
	(0.02)		(0.02)		(0.03)	
Level of Technology (2)	0.03		0.03		-0.03	
	(0.03)		(0.02)		(0.04)	
Level of Technology (3)	0.05		0.05		-0.08	
	(0.04)		(0.03)		(0.06)	
Level of Technology (4)	0.07		0.07		0.05	

	(0.06)		(0.05)		(0.09)	
Level of Technology (5)	0.14		0.12		-0.03	
	(0.09)		(0.07)		(0.13)	
Medium Bed Size	0.22	**	0.23	**	0.26	**
	(0.02)		(0.02)		(0.03)	
Large Bed Size	0.30	**	0.32	**	0.14	**
	(0.02)		(0.02)		(0.04)	
Med School Affiliation	0.14	**	0.14	**	0.06	**
	(0.03)		(0.02)		(0.01)	
Med School and Residency Affiliation	0.23	**	0.26	**	0.13	**
	(0.03)		(0.02)		(0.02)	
Micropolitan Area	-0.30	**	-0.24	**	-0.12	**
	(0.03)		(0.02)		(0.03)	
Small Town	-0.48	**	-0.49	**	-0.33	**
	(0.03)		(0.03)		(0.04)	
Rural	-0.56	**	-0.59	**	-0.50	**
	(0.04)		(0.04)		(0.06)	
Private Hospital	0.19	**	0.08	**	0.24	**
	(0.03)		(0.02)		(0.03)	
Public Hospital	-0.01		-0.01		-0.05	
	(0.02)		(0.02)		(0.03)	
Trauma Hospital	0.05	**	0.05	**	0.11	**
	(0.02)		(0.02)		(0.03)	
<b><u>PATIENT CHARACTERISTICS</u></b>						
<b>Demographics</b>						
70-74 (Women)	0.00		-0.01		0.00	
	(0.01)		(0.01)		(0.01)	
75-79 (Women)	-0.03	**	-0.01		-0.02	**
	(0.01)		(0.01)		(0.01)	
80-84 (Women)	-0.08	**	-0.05	**	-0.08	**
	(0.01)		(0.01)		(0.01)	
85-89 (Women)	-0.16	**	-0.11	**	-0.15	**
	(0.01)		(0.01)		(0.01)	
90-94 (Women)	-0.26	**	-0.17	**	-0.24	**
	(0.01)		(0.01)		(0.01)	
95-99 (Women)	-0.35	**	-0.19	**	-0.33	**
	(0.01)		(0.01)		(0.01)	
> 99 (Women)	-0.43	**	-0.21	**	-0.31	**
	(0.02)		(0.02)		(0.02)	
70-74 (Men)	-0.01		0.01		-0.01	
	(0.01)		(0.01)		(0.01)	
75-79 (Men)	-0.03		-0.01		-0.05	**

	(0.01)		(0.01)		(0.01)	
80-84 (Men)	-0.04	**	-0.02		-0.11	**
	(0.01)		(0.01)		(0.01)	
85-89 (Men)	-0.05	**	-0.03	**	-0.19	**
	(0.01)		(0.01)		(0.01)	
90-94 (Men)	-0.06	**	-0.04	**	-0.30	**
	(0.01)		(0.01)		(0.01)	
95-99 (Men)	-0.06	**	-0.02		-0.39	**
	(0.02)		(0.02)		(0.02)	
> 99 (Men)	-0.12		-0.07		-0.25	**
	(0.05)		(0.05)		(0.03)	
Male	0.06	**	0.05	**	0.06	**
	(0.01)		(0.01)		(0.01)	
African American	-0.08	**	-0.05	**	-0.07	**
	(0.01)		(0.01)		(0.01)	
Other Race	-0.01		0.00		0.00	
	(0.02)		(0.02)		(0.02)	
Asian	0.04		0.03		0.03	
	(0.02)		(0.02)		(0.02)	
Hispanic	0.00		0.00		0.00	
	(0.01)		(0.01)		(0.01)	
Native American	-0.05		-0.05		-0.05	
	(0.03)		(0.03)		(0.03)	
Socioeconomic Level	0.02	**	0.00		0.02	**
	(0.00)		(0.00)		(0.01)	
<b>Comorbidities</b>						
Congestive Heart Failure	0.19	**	0.13	**	0.19	**
	(0.00)		(0.00)		(0.00)	
Cardiac Arrhythmias	0.04	**	0.01		0.04	**
	(0.00)		(0.00)		(0.00)	
Valvular Heart Disease	-0.16	**	-0.04	**	-0.14	**
	(0.01)		(0.01)		(0.01)	
Pulm. Circulatory Disorder	-0.04	**	-0.04	**	-0.04	**
	(0.00)		(0.00)		(0.00)	
Peripheral Vascular Disorder	0.08	**	-0.04	**	0.07	**
	(0.00)		(0.00)		(0.00)	
Hypertension	-0.06	**	-0.02	**	-0.05	**
	(0.01)		(0.01)		(0.01)	
Paralysis	-0.05	**	-0.04	**	-0.05	**
	(0.00)		(0.00)		(0.00)	
Other Neurologic Disorder	-0.03	**	-0.01	**	-0.03	**
	(0.00)		(0.00)		(0.00)	
Chronic Pulmonary Disease	0.00		-0.03	**	0.00	

	(0.00)		(0.00)		(0.00)	
Diabetes, Uncomplicated	-0.07	**	-0.04	**	-0.07	**
	(0.01)		(0.01)		(0.01)	
Diabetes, Complicated	-0.01		-0.01	**	-0.01	
	(0.00)		(0.00)		(0.00)	
Hypothyroidism	0.00		-0.01		0.00	
	(0.00)		(0.00)		(0.00)	
Renal Failure	-0.23	**	-0.10	**	-0.21	**
	(0.02)		(0.02)		(0.02)	
Liver Disease	-0.03	**	-0.03	**	-0.03	**
	(0.01)		(0.01)		(0.01)	
Peptic Ulcer Disease	-0.11		0.07		-0.07	
	(0.12)		(0.11)		(0.11)	
AIDS	-0.11	**	-0.03		-0.11	**
	(0.02)		(0.01)		(0.02)	
Lymphoma	-0.15	**	-0.02		-0.14	**
	(0.02)		(0.02)		(0.02)	
Metastatic Cancer	-0.07	**	-0.04	**	-0.07	**
	(0.00)		(0.00)		(0.00)	
Solid Tumor without Metastases	-0.02		-0.03	**	-0.02	
	(0.01)		(0.01)		(0.01)	
Arthritis/Collagen Vascular Disease	0.14	**	0.15	**	0.14	**
	(0.01)		(0.00)		(0.01)	
Coagulopathy	0.00		0.01		0.00	
	(0.01)		(0.01)		(0.01)	
Obesity	-0.12	**	0.04	**	-0.11	**
	(0.01)		(0.01)		(0.01)	
Weight Loss	-0.01	**	0.02	**	-0.01	
	(0.00)		(0.00)		(0.00)	
Fluid, Electrolyte Disorder	(omitted)		omit		omit	
Blood Loss Anemia	-0.14	**	-0.14	**	-0.14	**
	(0.01)		(0.00)		(0.01)	
Deficiency Anemia	0.02		0.01		0.02	
	(0.01)		(0.01)		(0.01)	
Alcohol Abuse	-0.09	**	-0.07	**	-0.08	
	(0.03)		(0.02)		(0.02)	
Drug Abuse	-0.08	**	-0.04	**	-0.07	**
	(0.01)		(0.01)		(0.01)	
Psychosis	-0.08	**	-0.04	**	-0.07	**
	(0.01)		(0.01)		(0.01)	

**REGIONAL CHARACTERISTICS**

Mid Atlantic	0.13	**	-0.05		0.05	
	(0.05)		(0.04)		(0.05)	
South Atlantic	0.02		-0.10	**	-0.16	**
	(0.05)		(0.04)		(0.04)	
East North Central	0.02		-0.10	**	-0.09	
	(0.05)		(0.04)		(0.04)	
East South Central	0.11		-0.04		-0.01	
	(0.05)		(0.04)		(0.05)	
West North Central	-0.15	**	-0.25	**	-0.49	**
	(0.05)		(0.04)		(0.05)	
West South Central	0.17	**	0.03		0.05	
	(0.05)		(0.04)		(0.05)	
Mountain	0.08		0.02		-0.05	
	(0.06)		(0.05)		(0.07)	
Pacific	0.07		0.01		-0.07	
	(0.06)		(0.05)		(0.07)	
Associated Areas	-0.25	**	omit		-0.66	**
	(0.08)				(0.12)	
<b><u>TEMPORAL CHARACTERISTICS</u></b>						
<b>Weekday</b>						
Monday	0.01		0.01		0.00	
	(0.01)		(0.00)		(0.01)	
Tuesday	0.00		0.01		-0.01	
	(0.01)		(0.00)		(0.01)	
Wednesday	0.00		0.01		-0.01	
	(0.01)		(0.00)		(0.01)	
Thursday	0.00		0.02	**	0.00	
	(0.01)		(0.00)		(0.01)	
Friday	0.02	**	0.03	**	0.01	
	(0.01)		(0.00)		(0.01)	
Saturday	0.01		0.01	**	0.00	
	(0.01)		(0.00)		(0.01)	
<b>Season</b>						
Spring	0.01		0.01		-0.05	**
	(0.00)		(0.00)		(0.00)	
Summer	0.01	**	0.01	**	-0.05	**
	(0.00)		(0.00)		(0.00)	
Fall	0.05	**	0.04	**	-0.04	**
	(0.00)		(0.00)		(0.00)	
<b>Intercept</b>	7.41	**	8.07	**	8.39	**
	(0.05)		(0.05)		(0.06)	

\*\* = Statistically Significant,  $p < 0.01$