

## Supplemental Tables

Table S1: Propensity models

Variables included in propensity models	Pretreated without continuation	Pretreated with continuation	<i>De novo</i>
Admitted to the nursing home in 365 days prior to hospitalization			x
Age at culture collection	x	x	x
Body mass index	x	x	x
Concurrent endocarditis			x
Concurrent joint infection			x
Concurrent osteomyelitis	x	x	
Concurrent positive MRSA nares			x
Concurrent positive <i>S. aureus</i> culture, blood vessel	x		x
Concurrent positive <i>S. aureus</i> culture, bone			x
Concurrent positive <i>S. aureus</i> culture, cerebral spinal fluid		x	
Concurrent positive <i>S. aureus</i> culture, lung		x	

Concurrent positive <i>S. aureus</i> culture, other sites		x	
Concurrent positive <i>S. aureus</i> culture, skin	x		
Concurrent positive <i>S. aureus</i> culture, urine		x	
Concurrent skin infection			x
Concurrent surgical site infection		x	x
Concurrent urinary tract infection	x		
Current adverse effects of medical care	x	x	
Current adverse effects of medical drugs	x		
Current aftercare	x		
Current alcohol related disorders			x
Current amputation	x		
Current anemia		x	
Current anxiety		x	
Current arterial embolism or thrombosis	x		
Current attention deficit disorder			x
Current bacteremia diagnosis code		x	

Current bone disease and musculoskeletal deformities	x		
Current burn		x	
Current cancer	x	x	x
Current cancer of head and neck		x	
Current cancer of colon			x
Current cellulitis or abscess diagnosis code			x
Current chronic kidney disease		x	x
Current chronic pulmonary disease		x	x
Current cognitive disorders	x		x
Current conduction disorders	x		x
Current deficiency and other anemia			x
Current dementia		x	x
Current dialysis	x	x	
Current disorder of teeth or jaw	x		
Current dizziness or vertigo		x	
Current Elixhauser score	x	x	x
Current esophageal disorder	x		x

Current gangrene	x	x	
Current genitourinary symptoms		x	
Current heart valve disorder		x	
Current hepatitis		x	x
Current history malignant neoplasm	x	x	
Current hypothyroidism	x		
Current infective arthritis			x
Current large cell lymphoma	x		
Current liver disease	x		
Current maintenance chemotherapy radiotherapy	x		
Current malignant neoplasm	x		
Current medical examination and evaluation		x	
Current melanomas of skin		x	
Current metastatic cancer		x	x
Current mood disorders	x		
Current mycoses		x	

Current myocardial infarction	x	x	x
Current nonspecific chest pain	x	x	x
Current non traumatic joint disorders		x	
Current occlusion or stenosis of pre-cerebral arteries	x	x	x
Current osteoarthritis	x	x	
Current osteoporosis		x	
Current other & ill-defined heart diseases			x
Current other ear and sense organ disorders		x	
Current other gastrointestinal disorders			x
Current other hematologic conditions			x
Current other hereditary and degenerative nervous diseases			x
Current other lower respiratory disease	x		
Current other nervous system disorders	x	x	x
Current other neurological disorders		x	
Current other skin inflammation	x		
Current peripheral vascular disease	x	x	

Current phlebitis	x	x	x
Current place of occurrence (E codes)			x
Current <i>Pseudomonas</i> diagnosis code			x
Current residual codes unclassified	x	x	
Current retinal detachment vascular occlusion and retinopathy			x
Current <i>S. aureus</i> diagnosis code			x
Current secondary malignancies	x		
Current septicemia diagnosis code		x	x
Current shock diagnosis code	x		
Current spinal cord injury		x	
Current spondylosis	x		
Current <i>Streptococcus</i> diagnosis code		x	
Current thyroid disease		x	
Current use of acid suppressing medications	x	x	x
Current use of aspirin			x
Current use of corticosteroids		x	x

Current use of insulin	x	x	
Current use of non-steroidal anti-inflammatories	x	x	
Current use of oral anti-hypertensives	x	x	x
Current use of other cholesterol lowering medications	x		x
Current use of thyroid suppressants			x
Current valvular disease	x	x	
Current weight loss		x	
Current asthma		x	
Duration of antibiotic therapy	x	x	x
Elevated temperature	x		
Elevated white blood cell count	x		x
Facility indicator	x	x	x
Gender	x	x	x
History of arterial embolism or thrombosis		x	x
History of biliary tract disease			x
History of other skin ulcer diagnosis code		x	

History of natural/environment (E codes)			x
History of acute myocardial infarction	x	x	x
History of adverse effect of medical drugs	x		x
History of adverse effects of medical care		x	
History of alcohol related disorders	x		
History of allergic reaction		x	
History of amputation	x		
History of anemia		x	
History of anxiety	x	x	x
History of bacterial infection diagnosis code		x	
History of blindness and vision defects		x	
History of bone disease and musculoskeletal deformities	x		
History of cancer		x	
History of cellulitis or abscess diagnosis code	x		
History of colon cancer	x	x	
History of coma stupor and brain damage			x



History of conduction disorder			x
History of dementia		x	
History of dialysis			x
History of disease of white blood cells	x		x
History of diverticulosis and diverticulitis			x
History of Elixhauser score	x	x	x
History of esophageal disorder	x	x	
History of fluid or electrolyte disorder	x	x	x
History of gastritis and duodenitis		x	x
History of gastrointestinal hemorrhage		x	
History of gout and other crystal arthropathies			x
History of Gram Negative diagnosis code	x		x
History of headache including migraine	x	x	
History of heart valve disorder	x		
History of hepatitis		x	
History of hypothyroidism			x

History of immunization and screening for infectious disease	x		
History of infective arthritis	x		x
History of liver disease		x	x
History of lymphoma		x	
History of malignant neoplasm	x	x	x
History of melanomas of skin		x	
History of metastatic cancer	x		
History of methicillin-resistant <i>S. aureus</i> diagnosis code			x
History of motor vehicle traffic	x		
History of neoplasm w/ unspecified nature or uncertain behavior	x	x	
History of nephrotic syndrome			x
History of neutropenia			x
History of nonspecific chest pain		x	x
History of non-traumatic joint disorders		x	
History of occlusion or stenosis of pre-cerebral arteries	x		

History of osteomyelitis	x		
History of osteoporosis	x		
History of other & ill-defined heart diseases			x
History of other aftercare			x
History of other congenital anomalies			x
History of other diseases of vein and lymphatic system	x		
History of other endocrine disorder			x
History of other eye disorder	x		
History of other hematologic conditions	x	x	
History of other immunocompromising disorder	x		
History of other leukemia	x		
History of other neurological disorders		x	
History of peptic ulcer disease excluding bleeding	x		
History of peripheral vascular disease		x	x
History of place of occurrence (E Codes)		x	
History of poisoning		x	

History of pulmonary circulation disorders	x	x	
History of rehabilitation care	x	x	
History of respiratory infection	x		
History of retinal detachment vascular occlusion and retinopathy	x		
History of rheumatoid arthritis/collagen disorder			x
History of <i>S. aureus</i> diagnosis code	x		x
History of secondary malignancies			x
History of septicemia diagnosis code	x		
History of skin or subcutaneous tissue infection			x
History of solid tumor without metastasis			x
History of <i>Streptococcus</i> diagnosis code	x		
History of substance related disorders	x	x	
History of surgical site infection	x	x	x
History of tobacco use disorder		x	
History of transplant	x		

History of use of acid suppressing medication	x	x	x
History of use antibiotics	x	x	
History of use of anti-hypertensives	x	x	x
History of use of aspirin	x		
History of use of corticosteroids	x	x	
History of use of insulin	x	x	x
History of use of oral anti-diabetic agents	x	x	
History of use of other cholesterol lowering medications	x	x	
History of use of non-steroidal anti-inflammatory drugs		x	x
History of weight loss	x		x
Hospital unit at treatment initiation	x	x	x
Hospitalization in last 180 days			x
Hospitalization in last 30 days	x	x	
Influenza immunization in previous 90 days	x	x	x
Initial antibiotic treatment	x	x	x
Low-density lipoprotein	x	x	x

Methicillin-resistant or susceptible <i>Staphylococcus aureus</i>	x	x	x
Other current immunodeficiency		x	
Race	x	x	x
Region of facility	x	x	x
Sepsis	x	x	x
Source of admission	x	x	x
Surgical procedure during the current admission	x		
Surgical procedure in last 30 days	x		
Surgical procedure in the last year		x	
Time to antibiotic treatment initiation from culture collection	x	x	x
Time to culture collection from admission	x	x	x
Treating specialty	x	x	x
Year of infection	x	x	x
C-statistic	0.89	0.92	0.86

Table S2: Clinical outcomes, pretreated statin users without continuation: unadjusted, quintile adjusted, and inverse probability of treatment weighted (IPTW) results

Outcome	Model	No of events: non-users	No of patients: non-users	No of events: pretreated without continuation	No of patients: pretreated without continuation	Hazard ratio	Lower confidence level	Upper confidence level
Time to 14-Day Mortality	Unadjusted	2141	16448	40	344	0.884	0.647	1.209
Time to 14-Day Mortality	Quintile					0.806	0.587	1.108
Time to 14-Day Mortality	IPTW					3.805	3.260	4.441
Time to 30-Day Mortality	Unadjusted	3337	16448	64	344	0.907	0.709	1.162
Time to 30-Day Mortality	Quintile					0.846	0.658	1.088
Time to 30-Day Mortality	IPTW					2.837	2.456	3.278
Time to 30-Day Readmission	Unadjusted	3362	13546	86	290	1.245	1.005	1.542

Time to 30-Day Readmission	Quintile					1.153	0.926	1.436
Time to 30-Day Readmission	IPTW					1.256	1.004	1.571
Time to 30-Day S. aureus Reinfection	Unadjusted					1.075	0.697	1.657
Time to 30-Day S. aureus Reinfection	Quintile	914	13546	21	290	0.949	0.610	1.475
Time to 30-Day S. aureus Reinfection	IPTW					1.281	0.843	1.947
Time to Discharge	Unadjusted					1.082	0.963	1.215
Time to Discharge	Quintile	13546	16448	290	344	1.068	0.948	1.203
Time to Discharge	IPTW					1.261	1.117	1.424
Time to ICU Discharge	Unadjusted					1.138	0.891	1.454
Time to ICU Discharge	Quintile	2415	3262	66	78	1.062	0.826	1.367
Time to ICU Discharge	IPTW					1.112	0.789	1.568



Time to Inpatient Mortality	Unadjusted					0.947	0.724	1.240
Time to Inpatient Mortality	Quintile	2902	16448	54	344	0.836	0.636	1.100
Time to Inpatient Mortality	IPTW					3.756	3.234	4.362

Table S3: Clinical outcomes, pretreated statin users with continuation: unadjusted, quintile adjusted, and inverse probability of treatment weighted (IPTW) results

Outcome	Model	No of events: non-users	No of patients: non-users	No of events: pretreated with continuation	No of patients: pretreated with continuation	Hazard ratio	Lower confidence level	Upper confidence level
Time to 14-Day Mortality	Unadjusted					0.466	0.250	0.866
Time to 14-Day Mortality	Quintile	2141	16448	10	159	0.437	0.234	0.816
Time to 14-Day Mortality	IPTW					0.146	0.067	0.319
Time to 30-Day Mortality	Unadjusted					0.650	0.428	0.987
Time to 30-Day Mortality	Quintile	3337	16448	22	159	0.617	0.404	0.942
Time to 30-Day Mortality	IPTW					0.169	0.095	0.300
Time to 30-Day Readmission	Unadjusted	3362	13546	30	136	0.852	0.594	1.220

Time to 30-Day Readmission	Quintile					0.876	0.608	1.262
Time to 30-Day Readmission	IPTW					0.775	0.529	1.136
Time to 30-Day S. aureus Reinfection	Unadjusted					0.533	0.221	1.283
Time to 30-Day S. aureus Reinfection	Quintile	914	13546	5	136	0.538	0.222	1.306
Time to 30-Day S. aureus Reinfection	IPTW					0.383	0.132	1.114
Time to Discharge	Unadjusted					1.009	0.853	1.195
Time to Discharge	Quintile	13546	16448	136	159	1.031	0.869	1.224
Time to Discharge	IPTW					0.243	0.204	0.289
Time to ICU Discharge	Unadjusted					1.245	0.914	1.695
Time to ICU Discharge	Quintile	2415	3262	41	47	1.220	0.888	1.675
Time to ICU Discharge	IPTW					0.823	0.409	1.656

Time to Inpatient Mortality	Unadjusted					0.815	0.541	1.229
Time to Inpatient Mortality	Quintile	2902	16448	23	159	0.765	0.505	1.158
Time to Inpatient Mortality	IPTW					1.388	1.190	1.619

Table S4: Clinical outcomes, *de novo* statin users: unadjusted, quintile adjusted, and inverse probability of treatment weighted (IPTW) results

Outcome	Model	No of events: non-users	No of patients: non-users	No of events: pretreated <i>de novo</i>	No of patients: <i>de novo</i>	Hazard ratio	Lower confidence level	Upper confidence level
Time to 14-Day Mortality	Unadjusted	2141	16448	18	187	0.718	0.452	1.141
Time to 14-Day Mortality	Quintile					0.873	0.546	1.397
Time to 14-Day Mortality	IPTW					1.359	0.816	2.265
Time to 30-Day Mortality	Unadjusted	3337	16448	31	187	0.792	0.556	1.128
Time to 30-Day Mortality	Quintile					0.932	0.651	1.335
Time to 30-Day Mortality	IPTW					1.067	0.742	1.535
Time to 30-Day Readmission	Unadjusted	3362	13546	37	163	0.910	0.658	1.258
Time to 30-Day Readmission	Quintile					0.955	0.687	1.326

Time to 30-Day Readmission	IPTW					1.751	1.113	2.754
Time to 30-Day S. aureus Reinfection	Unadjusted					0.357	0.134	0.951
Time to 30-Day S. aureus Reinfection	Quintile	914	13546	4	163	0.433	0.161	1.163
Time to 30-Day S. aureus Reinfection	IPTW					12.332	1.211	125.587
Time to Discharge	Unadjusted					1.148	0.984	1.340
Time to Discharge	Quintile	13546	16448	163	187	1.046	0.894	1.223
Time to Discharge	IPTW					0.997	0.837	1.187
Time to ICU Discharge	Unadjusted					1.099	0.798	1.514
Time to ICU Discharge	Quintile	2415	3262	38	49	1.008	0.728	1.396
Time to ICU Discharge	IPTW					0.966	0.635	1.47
Time to Inpatient Mortality	Unadjusted	2902	16448	24	187	0.796	0.532	1.189

Time to Inpatient Mortality	Quintile					0.894	0.595	1.343
Time to Inpatient Mortality	IPTW					1.063	0.715	1.58