

Supplemental Material

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Table S1. Baseline characteristics of discharges with or without in-hospital COVID-19 (continued from Table 1)

Baseline Characteristic	In-hospital COVID-19 (N=22,149)	No In-hospital COVID-19 (N=414,596)	<i>P</i> Value	Discharges with In-hospital COVID-19 (%)
Body mass index (BMI)				
Lower than 18.5	534 (2.4)	12,640 (3.1)		4.1
18.5-24.9	5,341 (24.1)	104,854 (25.3)	<0.001	4.8
25-29.9	6,093 (27.5)	110,464 (26.6)		5.2
30 or greater	10,181 (46.0)	186,638 (45.0)		5.2
Medicare Advantage	4,542 (20.5)	103,197 (24.9)	<0.001	4.2
High-risk diagnosis at discharge	83 (0.4)	4,477 (1.1)	<0.001	1.8
Diabetes as cause of ESKD	12,052 (54.4)	208,102 (50.2)	<0.001	5.5
Hepatitis	1,465 (6.6)	31,094 (7.5)	<0.001	4.5
Immunizations and screening for infectious disease	5,381 (24.3)	155,271 (37.5)	<0.001	3.3
Secondary malignancies	266 (1.2)	7,215 (1.7)	<0.001	3.6
Diabetes mellitus with complications	17,157 (77.5)	304,071 (73.3)	<0.001	5.3
Other endocrine disorders	2,231 (10.1)	50,374 (12.2)	<0.001	4.2
Nutritional deficiencies	5,551 (25.1)	107,623 (26.0)	0.003	4.9
Fluid and electrolyte disorders	17,770 (80.2)	337,270 (81.3)	<0.001	5.0
Deficiency and other anemia	20,274 (91.5)	379,904 (91.6)	0.60	5.1
Other hematologic conditions	436 (2.0)	10,382 (2.5)	<0.001	4.0
Other nervous system disorders	10,731 (48.4)	207,557 (50.1)	<0.001	4.9
Heart valve disorders	3,994 (18.0)	105,342 (25.4)	<0.001	3.7
Peri-, endo-, and myocarditis; cardiomyopathy (except that caused by tuberculosis or Sexually transmitted disease)	4,054 (18.3)	91,391 (22.0)	<0.001	4.2
Acute myocardial infarction	3,936 (17.8)	76,603 (18.5)	0.009	4.9
Coronary atherosclerosis and other heart disease	12,075 (54.5)	246,906 (59.6)	<0.001	4.7
Nonspecific chest pain	1,501 (6.8)	42,623 (10.3)	<0.001	3.4
Cardiac dysrhythmias	8,649 (39)	186,039 (44.9)	<0.001	4.4
Cardiac arrest and ventricular fibrillation	434 (2.0)	11,328 (2.7)	<0.001	3.7
Congestive heart failure; non-hypertensive	12,739 (57.5)	265,828 (64.1)	<0.001	4.6
Other circulatory disease	9,500 (42.9)	194,901 (47.0)	<0.001	4.6
Phlebitis; thrombophlebitis and thromboembolism	3,082 (13.9)	68,988 (16.6)	<0.001	4.3
Hemorrhoids	960 (4.3)	25,488 (6.1)	<0.001	3.6
Other diseases of veins and lymphatics	1,377 (6.2)	34,255 (8.3)	<0.001	3.9
Pneumonia (except that caused by Tuberculosis or sexually transmitted disease)	17,183 (77.6)	130,235 (31.4)	<0.001	11.7
COPD and bronchiectasis	5,585 (25.2)	127,067 (30.6)	<0.001	4.2
Pleurisy; pneumothorax; pulmonary collapse	3,599 (16.2)	79,553 (19.2)	<0.001	4.3
Respiratory failure; insufficiency; arrest (adult)	13,347 (60.3)	173,167 (41.8)	<0.001	7.2
Other lower respiratory disease	7,107 (32.1)	124,053 (29.9)	<0.001	5.4
Other upper respiratory disease	1,053 (4.8)	25,555 (6.2)	<0.001	4.0
Intestinal infection	1,741 (7.9)	33,458 (8.1)	0.30	4.9
Esophageal disorders	8,456 (38.2)	183,986 (44.4)	<0.001	4.4
Gastritis and duodenitis	1,780 (8.0)	46,123 (11.1)	<0.001	3.7
Other disorders of stomach and duodenum	1,895 (8.6)	49,877 (12)	<0.001	3.7

Baseline Characteristic	In-hospital COVID-19 (N=22,149)	No In-hospital COVID-19 (N=414,596)	<i>P</i> Value	Discharges with In-hospital COVID-19 (%)
Other liver diseases	2,982 (13.5)	69,536 (16.8)	<0.001	4.1
Pancreatic disorders (not diabetes)	817 (3.7)	21,588 (5.2)	<0.001	3.6
Gastrointestinal hemorrhage	2,812 (12.7)	59,703 (14.4)	<0.001	4.5
Noninfectious gastroenteritis	1,222 (5.5)	29,478 (7.1)	<0.001	4.0
Other gastrointestinal disorders	8,643 (39.0)	177,803 (42.9)	<0.001	4.6
Chronic kidney disease	22,132 (99.9)	414,301 (99.9)	0.90	5.1
Urinary tract infections	4,003 (18.1)	78,777 (19.0)	0.001	4.8
Skin and subcutaneous tissue infections	3,200 (14.4)	81,826 (19.7)	<0.001	3.8
Other inflammatory condition of skin	726 (3.3)	19,862 (4.8)	<0.001	3.5
Chronic ulcer of skin	4,274 (19.3)	88,377 (21.3)	<0.001	4.6
Infective arthritis and osteomyelitis (except that Caused by tuberculosis or sexually transmitted disease)	1,893 (8.5)	42,573 (10.3)	<0.001	4.3
Complication of device; implant or graft	6,492 (29.3)	153,933 (37.1)	<0.001	4.0
Other injuries and conditions due to external causes	2,150 (9.7)	50,585 (12.2)	<0.001	4.1
Abdominal pain	888 (4.0)	22,954 (5.5)	<0.001	3.7
Allergic reactions	6,129 (27.7)	136,467 (32.9)	<0.001	4.3
Administrative/social admission	1,971 (8.9)	36,926 (8.9)	0.90	5.1
Residual codes; unclassified	15,103 (68.2)	306,866 (74.0)	<0.001	4.7
Anxiety disorders	4,438 (20.0)	104,742 (25.3)	<0.001	4.1
Schizophrenia and other psychotic disorders	699 (3.2)	9,502 (2.3)	<0.001	6.9
Alcohol-related disorders	717 (3.2)	17,262 (4.2)	<0.001	4.0
Substance-related disorders	3,245 (14.7)	96,815 (23.4)	<0.001	3.2

The first two columns list counts and percentages (in parentheses) of discharges with the specified characteristic from the groups with and without COVID-19. The third column presents *P* values from chi-squared tests. The last column shows percentages of discharges with in-hospital COVID-19.

Table S2. Effects of baseline characteristics on unplanned readmission and death after discharge day (continued from Table 3)

Baseline Characteristic	Readmission		Death	
	HR (95% CI)	P Value	HR (95% CI)	P Value
Body mass index (BMI)				
Lower than 18.5	1.02 (0.99,1.06)	0.20	1.04 (0.94,1.16)	0.50
18.5-24.9 (reference)	–	–	–	–
25-29.9	0.99 (0.97,1.00)	0.08	0.95 (0.90,0.99)	0.03
30 or greater	0.95 (0.93,0.96)	<0.001	0.92 (0.87,0.96)	<0.001
ESKD vintage				
Shorter than 1 year (reference)	–	–	–	–
1-2 years	1.11 (1.09,1.13)	<0.001	1.13 (1.07,1.21)	<0.001
2-3 years	1.10 (1.07,1.12)	<0.001	1.25 (1.17,1.34)	<0.001
3-6 years	1.08 (1.07,1.10)	<0.001	1.28 (1.21,1.35)	<0.001
Longer than 6 years	1.07 (1.05,1.09)	<0.001	1.39 (1.31,1.47)	<0.001
Nursing home stay in 2019				
0 day (reference)	–	–	–	–
1-89 days	1.02 (1.00,1.03)	0.06	1.06 (1.01,1.11)	0.01
90 days or more	0.91 (0.89,0.94)	<0.001	1.03 (0.97,1.10)	0.30
Length of hospitalization				
Quartile 1 (reference)	–	–	–	–
Quartile 2	1.04 (1.02,1.05)	<0.001	1.04 (0.98,1.10)	0.20
Quartile 3	1.08 (1.06,1.10)	<0.001	1.21 (1.14,1.29)	<0.001
Quartile 4	1.20 (1.18,1.22)	<0.001	1.49 (1.41,1.58)	<0.001
Medicare Advantage	0.94 (0.93,0.95)	<0.001	1.03 (0.98,1.07)	0.20
High-risk diagnosis at discharge	1.37 (1.30,1.43)	<0.001	1.21 (1.02,1.43)	0.03
Diabetes as cause of ESKD	1.01 (0.99,1.02)	0.30	1.02 (0.98,1.07)	0.30
Hepatitis	1.05 (1.03,1.07)	<0.001	0.96 (0.89,1.03)	0.30
Immunizations and screening for infectious disease	1.04 (1.03,1.05)	<0.001	1.01 (0.97,1.05)	0.70
Secondary malignancies	1.31 (1.26,1.36)	<0.001	1.79 (1.64,1.96)	<0.001
Diabetes mellitus with complications	1.03 (1.01,1.05)	<0.001	1.05 (1.00,1.10)	0.07
Other endocrine disorders	1.06 (1.04,1.07)	<0.001	1.11 (1.05,1.17)	<0.001
Nutritional deficiencies	1.09 (1.07,1.10)	<0.001	1.31 (1.26,1.36)	<0.001
Fluid and electrolyte disorders	1.12 (1.10,1.15)	<0.001	1.04 (0.98,1.10)	0.20
Deficiency and other anemia	1.04 (1.01,1.07)	0.002	0.82 (0.76,0.88)	<0.001
Other hematologic conditions	1.08 (1.05,1.12)	<0.001	1.11 (1.00,1.23)	0.06
Other nervous system disorders	1.13 (1.12,1.14)	<0.001	1.23 (1.18,1.28)	<0.001
Heart valve disorders	1.05 (1.03,1.06)	<0.001	1.09 (1.04,1.13)	<0.001
Peri-, endo-, and myocarditis; cardiomyopathy (except that caused by tuberculosis or Sexually transmitted disease)	1.04 (1.02,1.05)	<0.001	1.09 (1.04,1.14)	<0.001
Acute myocardial infarction	1.10 (1.09,1.12)	<0.001	1.22 (1.17,1.28)	<0.001
Coronary atherosclerosis and other heart disease	1.04 (1.03,1.06)	<0.001	1.04 (1.00,1.09)	0.05
Nonspecific chest pain	1.12 (1.10,1.14)	<0.001	0.76 (0.71,0.82)	<0.001
Cardiac dysrhythmias	1.07 (1.06,1.08)	<0.001	1.19 (1.15,1.24)	<0.001
Cardiac arrest and ventricular fibrillation	0.99 (0.96,1.02)	0.60	1.37 (1.27,1.49)	<0.001
Congestive heart failure; non-hypertensive	1.09 (1.07,1.10)	<0.001	1.11 (1.06,1.16)	<0.001

Baseline Characteristic	Readmission		Death	
	HR (95% CI)	P Value	HR (95% CI)	P Value
Other circulatory disease	1.07 (1.05,1.08)	<0.001	1.11 (1.07,1.16)	<0.001
Phlebitis; thrombophlebitis and thromboembolism	1.06 (1.04,1.07)	<0.001	0.96 (0.91,1.00)	0.07
Hemorrhoids	1.02 (1.00,1.05)	0.05	0.89 (0.83,0.97)	0.005
Other diseases of veins and lymphatics	1.05 (1.03,1.07)	<0.001	0.99 (0.93,1.06)	0.90
Pneumonia (except that caused by Tuberculosis or sexually transmitted disease)	1.03 (1.02,1.05)	<0.001	1.07 (1.03,1.12)	0.001
COPD and bronchiectasis	1.08 (1.06,1.09)	<0.001	1.03 (0.99,1.07)	0.20
Pleurisy; pneumothorax; pulmonary collapse	1.08 (1.07,1.10)	<0.001	1.11 (1.06,1.16)	<0.001
Respiratory failure; insufficiency; arrest (adult)	1.09 (1.07,1.10)	<0.001	1.22 (1.17,1.28)	<0.001
Other lower respiratory disease	1.06 (1.04,1.07)	<0.001	0.97 (0.93,1.01)	0.10
Other upper respiratory disease	1.03 (1.01,1.05)	0.007	1.00 (0.93,1.08)	0.90
Intestinal infection	1.06 (1.04,1.08)	<0.001	1.01 (0.95,1.07)	0.90
Esophageal disorders	1.04 (1.03,1.05)	<0.001	0.92 (0.89,0.96)	<0.001
Gastritis and duodenitis	1.05 (1.03,1.07)	<0.001	0.94 (0.89,1.00)	0.07
Other disorders of stomach and duodenum	1.15 (1.14,1.18)	<0.001	0.98 (0.92,1.05)	0.60
Other liver diseases	1.10 (1.08,1.11)	<0.001	1.24 (1.18,1.30)	<0.001
Pancreatic disorders (not diabetes)	1.11 (1.08,1.13)	<0.001	0.89 (0.81,0.97)	0.009
Gastrointestinal hemorrhage	1.10 (1.08,1.12)	<0.001	1.08 (1.03,1.14)	0.002
Noninfectious gastroenteritis	1.08 (1.06,1.11)	<0.001	0.97 (0.90,1.05)	0.50
Other gastrointestinal disorders	1.07 (1.06,1.09)	<0.001	1.07 (1.03,1.11)	<0.001
Chronic kidney disease	0.78 (0.62,0.97)	0.02	1.46 (0.73,2.92)	0.30
Urinary tract infections	1.05 (1.04,1.07)	<0.001	1.01 (0.97,1.06)	0.60
Skin and subcutaneous tissue infections	1.04 (1.02,1.06)	<0.001	0.97 (0.93,1.02)	0.30
Other inflammatory condition of skin	1.10 (1.07,1.13)	<0.001	0.98 (0.90,1.08)	0.70
Chronic ulcer of skin	1.10 (1.08,1.11)	<0.001	1.43 (1.37,1.50)	<0.001
Infective arthritis and osteomyelitis (except that Caused by tuberculosis or sexually transmitted disease)	0.93 (0.91,0.95)	<0.001	0.92 (0.87,0.98)	0.009
Complication of device; implant or graft	1.02 (1.00,1.03)	0.02	0.96 (0.93,1.00)	0.05
Other injuries and conditions due to external causes	1.09 (1.07,1.11)	<0.001	0.97 (0.92,1.03)	0.30
Abdominal pain	1.11 (1.09,1.14)	<0.001	0.94 (0.86,1.03)	0.20
Allergic reactions	1.04 (1.02,1.05)	<0.001	0.88 (0.85,0.92)	<0.001
Administrative/social admission	1.11 (1.09,1.13)	<0.001	1.02 (0.96,1.08)	0.60
Residual codes; unclassified	1.06 (1.04,1.08)	<0.001	1.17 (1.11,1.23)	<0.001
Anxiety disorders	1.06 (1.05,1.07)	<0.001	0.95 (0.90,0.99)	0.01
Schizophrenia and other psychotic disorders	1.11 (1.07,1.14)	<0.001	0.94 (0.84,1.06)	0.30
Alcohol-related disorders	1.12 (1.09,1.15)	<0.001	1.05 (0.96,1.15)	0.30
Substance-related disorders	1.14 (1.12,1.15)	<0.001	0.99 (0.94,1.04)	0.70

HR, hazard ratio; CI, confidence interval.

Table S3. Effects of baseline characteristics on unplanned readmission and death after discharge day using home discharges only

Baseline Characteristic	Readmission		Death	
	HR (95% CI)	P Value	HR (95% CI)	P Value
Sex				
Male (reference)	–	–	–	–
Female	1.02 (1.01,1.03)	0.007	0.80 (0.75,0.85)	<0.001
Age				
24 years or below	1.42 (1.31,1.55)	<0.001	0.74 (0.37,1.45)	0.40
25-44 years	1.18 (1.15,1.20)	<0.001	0.84 (0.73,0.97)	0.02
45-59 years (reference)	–	–	–	–
60-74 years	0.98 (0.96,0.99)	0.006	1.35 (1.24,1.47)	<0.001
75 years or above	0.99 (0.97,1.01)	0.40	2.35 (2.14,2.58)	<0.001
Race				
White (reference)	–	–	–	–
Black	0.97 (0.95,0.99)	0.001	0.81 (0.74,0.87)	<0.001
Other	0.97 (0.94,1.01)	0.10	0.87 (0.75,1.01)	0.06
Body mass index (BMI)				
Lower than 18.5	1.03 (0.99,1.07)	0.09	1.15 (0.97,1.37)	0.10
18.5-24.9 (reference)	–	–	–	–
25-29.9	0.98 (0.97,1.00)	0.09	0.96 (0.89,1.04)	0.30
30 or greater	0.94 (0.92,0.96)	<0.001	0.96 (0.89,1.03)	0.30
In-hospital COVID-19				
No in-hospital COVID-19 (reference)	–	–	–	–
Effect in 1-7 days	1.72 (1.63,1.80)	<0.001	2.04 (1.68,2.48)	<0.001
Effect in 8-30 days	0.93 (0.89,0.98)	0.003	1.05 (0.86,1.27)	0.60
Time since previous COVID-19				
0 day (reference)	–	–	–	–
1-7 days	0.98 (0.93,1.04)	0.60	0.93 (0.72,1.21)	0.60
8-14 days	0.90 (0.81,0.99)	0.03	0.85 (0.55,1.33)	0.50
15-21 days	0.95 (0.85,1.06)	0.30	0.85 (0.51,1.42)	0.50
22-28 days	1.06 (0.94,1.20)	0.30	0.91 (0.51,1.63)	0.80
Over 28 days	1.03 (0.99,1.08)	0.20	0.73 (0.57,0.93)	0.01
Planned hospitalization	0.91 (0.89,0.94)	<0.001	0.75 (0.67,0.83)	<0.001
Discharge destination				
Home with self-care (reference)	–	–	–	–
Home with medical care	1.10 (1.08,1.12)	<0.001	1.33 (1.25,1.41)	<0.001
ESKD vintage				
Shorter than 1 year	–	–	–	–
1-2 years	1.12 (1.09,1.15)	<0.001	1.24 (1.12,1.36)	<0.001
2-3 years	1.11 (1.08,1.13)	<0.001	1.34 (1.21,1.48)	<0.001
3-6 years	1.08 (1.06,1.10)	<0.001	1.40 (1.28,1.53)	<0.001
Longer than 6 years	1.05 (1.03,1.08)	<0.001	1.51 (1.38,1.65)	<0.001
Nursing home stay in 2019				
0 day (reference)	–	–	–	–
1-89 days	1.04 (1.02,1.06)	<0.001	1.03 (0.95,1.11)	0.50

Baseline Characteristic	Readmission		Death	
	HR (95% CI)	P Value	HR (95% CI)	P Value
90 days or more	1.08 (1.04,1.12)	<0.001	1.10 (0.94,1.28)	0.20
Length of hospitalization				
Quartile 1 (reference)	–	–	–	–
Quartile 2	1.05 (1.03,1.07)	<0.001	1.17 (1.08,1.27)	<0.001
Quartile 3	1.10 (1.08,1.13)	<0.001	1.42 (1.30,1.55)	<0.001
Quartile 4	1.21 (1.18,1.23)	<0.001	1.83 (1.68,2.00)	<0.001
Medicare Advantage	0.94 (0.92,0.95)	<0.001	1.17 (1.09,1.25)	<0.001
High-risk diagnosis at discharge	1.39 (1.32,1.46)	<0.001	1.22 (0.94,1.59)	0.10
Diabetes as cause of ESKD	1.01 (0.99,1.02)	0.40	1.04 (0.97,1.12)	0.20
Hepatitis	1.05 (1.02,1.07)	<0.001	0.97 (0.86,1.08)	0.50
Immunizations and screening for infectious disease	1.03 (1.02,1.05)	<0.001	1.02 (0.97,1.09)	0.40
Secondary malignancies	1.32 (1.26,1.39)	<0.001	2.57 (2.23,2.98)	<0.001
Diabetes mellitus with complications	1.04 (1.02,1.06)	<0.001	1.06 (0.98,1.15)	0.10
Other endocrine disorders	1.05 (1.03,1.07)	<0.001	1.13 (1.04,1.24)	0.005
Nutritional deficiencies	1.09 (1.07,1.11)	<0.001	1.36 (1.27,1.45)	<0.001
Fluid and electrolyte disorders	1.12 (1.10,1.14)	<0.001	1.09 (1.01,1.18)	0.03
Deficiency and other anemia	1.05 (1.02,1.08)	0.001	0.82 (0.74,0.91)	<0.001
Other hematologic conditions	1.06 (1.02,1.10)	0.001	1.13 (0.95,1.33)	0.20
Other nervous system disorders	1.12 (1.11,1.14)	<0.001	1.20 (1.13,1.28)	<0.001
Heart valve disorders	1.05 (1.03,1.06)	<0.001	1.17 (1.10,1.25)	<0.001
Peri-, endo-, and myocarditis; cardiomyopathy (except that caused by tuberculosis or sexually transmitted disease)	1.04 (1.02,1.06)	<0.001	1.09 (1.01,1.16)	0.02
Acute myocardial infarction	1.11 (1.09,1.13)	<0.001	1.38 (1.29,1.48)	<0.001
Coronary atherosclerosis and other heart disease	1.05 (1.03,1.07)	<0.001	1.16 (1.08,1.24)	<0.001
Nonspecific chest pain	1.12 (1.09,1.14)	<0.001	0.77 (0.69,0.85)	<0.001
Cardiac dysrhythmias	1.07 (1.05,1.08)	<0.001	1.20 (1.13,1.27)	<0.001
Cardiac arrest and ventricular fibrillation	0.98 (0.95,1.02)	0.40	1.35 (1.17,1.55)	<0.001
Congestive heart failure; non-hypertensive	1.09 (1.07,1.11)	<0.001	1.19 (1.11,1.28)	<0.001
Other circulatory disease	1.07 (1.06,1.09)	<0.001	1.17 (1.10,1.24)	<0.001
Phlebitis; thrombophlebitis and thromboembolism	1.06 (1.04,1.07)	<0.001	0.90 (0.83,0.98)	0.01
Hemorrhoids	1.03 (1.00,1.05)	0.06	0.88 (0.78,1.00)	0.05
Other diseases of veins and lymphatics	1.06 (1.04,1.09)	<0.001	1.08 (0.98,1.20)	0.10
Pneumonia (except that caused by Tuberculosis or sexually transmitted disease)	1.03 (1.02,1.05)	<0.001	1.04 (0.97,1.11)	0.20
COPD and bronchiectasis	1.08 (1.06,1.10)	<0.001	1.03 (0.96,1.10)	0.40
Pleurisy; pneumothorax; pulmonary collapse	1.09 (1.07,1.11)	<0.001	1.09 (1.02,1.17)	0.02
Respiratory failure; insufficiency; arrest (adult)	1.08 (1.06,1.10)	<0.001	1.14 (1.06,1.21)	<0.001
Other lower respiratory disease	1.07 (1.05,1.08)	<0.001	0.99 (0.93,1.06)	0.80
Other upper respiratory disease	1.02 (0.99,1.04)	0.20	1.03 (0.91,1.15)	0.70
Intestinal infection	1.08 (1.05,1.10)	<0.001	1.09 (0.99,1.21)	0.09
Esophageal disorders	1.05 (1.03,1.06)	<0.001	0.92 (0.87,0.98)	0.009
Gastritis and duodenitis	1.06 (1.04,1.08)	<0.001	0.92 (0.83,1.01)	0.10
Other disorders of stomach and duodenum	1.16 (1.14,1.19)	<0.001	1.04 (0.95,1.15)	0.40
Other liver diseases	1.11 (1.09,1.13)	<0.001	1.26 (1.17,1.36)	<0.001
Pancreatic disorders (not diabetes)	1.11 (1.08,1.14)	<0.001	0.83 (0.72,0.96)	0.01

Baseline Characteristic	Readmission		Death	
	HR (95% CI)	<i>P</i> Value	HR (95% CI)	<i>P</i> Value
Gastrointestinal hemorrhage	1.10 (1.08,1.12)	<0.001	1.03 (0.95,1.12)	0.50
Noninfectious gastroenteritis	1.09 (1.07,1.12)	<0.001	1.06 (0.94,1.18)	0.30
Other gastrointestinal disorders	1.08 (1.07,1.10)	<0.001	1.06 (0.99,1.12)	0.08
Chronic kidney disease	0.78 (0.59,1.02)	0.07	1.26 (0.31,5.12)	0.70
Urinary tract infections	1.07 (1.05,1.09)	<0.001	1.02 (0.94,1.09)	0.70
Skin and subcutaneous tissue infections	1.04 (1.02,1.05)	<0.001	0.99 (0.92,1.07)	0.80
Other inflammatory condition of skin	1.10 (1.07,1.14)	<0.001	1.08 (0.94,1.23)	0.30
Chronic ulcer of skin	1.08 (1.06,1.10)	<0.001	1.53 (1.42,1.65)	<0.001
Infective arthritis and osteomyelitis (except that Caused by tuberculosis or sexually transmitted disease)	0.91 (0.89,0.94)	<0.001	0.97 (0.88,1.08)	0.60
Complication of device; implant or graft	1.02 (1.00,1.03)	0.03	0.92 (0.86,0.98)	0.007
Other injuries and conditions due to external causes	1.10 (1.08,1.12)	<0.001	1.00 (0.92,1.09)	0.90
Abdominal pain	1.10 (1.08,1.13)	<0.001	0.90 (0.78,1.03)	0.10
Allergic reactions	1.04 (1.02,1.05)	<0.001	0.87 (0.81,0.93)	<0.001
Administrative/social admission	1.13 (1.11,1.16)	<0.001	1.15 (1.04,1.28)	0.006
Residual codes; unclassified	1.08 (1.06,1.10)	<0.001	1.11 (1.03,1.19)	0.004
Anxiety disorders	1.07 (1.06,1.09)	<0.001	0.98 (0.92,1.06)	0.60
Schizophrenia and other psychotic disorders	1.15 (1.10,1.20)	<0.001	0.98 (0.78,1.22)	0.80
Alcohol-related disorders	1.14 (1.11,1.18)	<0.001	1.11 (0.96,1.27)	0.20
Substance-related disorders	1.16 (1.14,1.18)	<0.001	1.03 (0.95,1.11)	0.50

HR, hazard ratio; CI, confidence interval. Time since previous COVID-19 refers to time since the most recent positive COVID-19 diagnosis before the corresponding hospitalization.

Table S4. Effects of baseline characteristics on unplanned readmission and death after discharge day with calendar effects

Baseline Characteristic	Readmission		Death	
	HR (95% CI)	P Value	HR (95% CI)	P Value
Sex				
Male (reference)	–	–	–	–
Female	1.01 (1.00,1.02)	0.05	0.84 (0.81,0.87)	<0.001
Age				
24 years or below	1.45 (1.34,1.58)	<0.001	0.64 (0.35,1.19)	0.20
25-44 years	1.18 (1.16,1.21)	<0.001	0.78 (0.70,0.88)	<0.001
45-59 years (reference)	–	–	–	–
60-74 years	0.98 (0.97,1.00)	0.03	1.30 (1.22,1.38)	<0.001
75 years or above	0.99 (0.97,1.01)	0.20	2.03 (1.90,2.16)	<0.001
Race				
White (reference)	–	–	–	–
Black	0.97 (0.96,0.99)	<0.001	0.82 (0.78,0.86)	<0.001
Other	0.99 (0.96,1.02)	0.30	0.84 (0.76,0.92)	<0.001
Body mass index (BMI)				
Lower than 18.5	1.02 (0.99,1.06)	0.20	1.04 (0.94,1.16)	0.50
18.5-24.9 (reference)	–	–	–	–
25-29.9	0.99 (0.97,1.00)	0.07	0.95 (0.90,0.99)	0.03
30 or greater	0.95 (0.93,0.96)	<0.001	0.92 (0.87,0.96)	<0.001
No in-hospital COVID-19				
Discharged from January through March	1.04 (1.01,1.06)	0.002	0.86 (0.8,0.92)	<0.001
Discharged in April (reference)	–	–	–	–
Discharged in May	1.07 (1.04,1.10)	<0.001	0.94 (0.86,1.02)	0.10
Discharged in June	1.04 (1.02,1.07)	0.002	0.88 (0.80,0.96)	0.003
Discharged in July	1.07 (1.04,1.10)	<0.001	0.92 (0.84,1.00)	0.05
Discharged in August	1.06 (1.03,1.09)	<0.001	0.89 (0.82,0.98)	0.01
Discharged in September	1.07 (1.04,1.10)	<0.001	0.89 (0.81,0.97)	0.008
Discharged in October	1.07 (1.04,1.10)	<0.001	0.96 (0.88,1.05)	0.30
In-hospital COVID-19				
Discharged from January through March	0.93 (0.77,1.13)	0.50	1.96 (1.22,3.15)	0.006
Discharged in April	1.08 (1.02,1.15)	0.01	1.28 (1.09,1.51)	0.003
Discharged in May	1.02 (0.95,1.08)	0.60	0.89 (0.75,1.07)	0.20
Discharged in June	1.07 (0.99,1.16)	0.07	1.13 (0.90,1.41)	0.30
Discharged in July	1.27 (1.19,1.35)	<0.001	1.30 (1.09,1.56)	0.003
Discharged in August	1.20 (1.13,1.28)	<0.001	1.27 (1.04,1.55)	0.02
Discharged in September	1.21 (1.12,1.30)	<0.001	1.14 (0.90,1.45)	0.30
Discharged in October	1.32 (1.23,1.42)	<0.001	1.35 (1.09,1.66)	0.006
Time since previous COVID-19				
No previous COVID-19 (reference)	–	–	–	–
1-7 days	0.96 (0.92,1.01)	0.10	0.84 (0.74,0.96)	0.009
8-14 days	0.90 (0.84,0.97)	0.004	0.89 (0.72,1.09)	0.30
15-21 days	0.90 (0.82,0.97)	0.01	0.85 (0.66,1.10)	0.20

Baseline Characteristic	Readmission		Death	
	HR (95% CI)	P Value	HR (95% CI)	P Value
22-28 days	0.95 (0.86,1.04)	0.30	0.86 (0.65,1.15)	0.30
Over 28 days	0.97 (0.93,1.00)	0.08	0.73 (0.64,0.84)	<0.001
Planned hospitalization	0.92 (0.90,0.94)	<0.001	0.74 (0.68,0.79)	<0.001
Discharge destination				
Home with self-care (reference)	–	–	–	–
Home with medical care	1.11 (1.09,1.13)	<0.001	1.41 (1.33,1.50)	<0.001
Hospice	0.75 (0.70,0.81)	<0.001	73.11 (68.61,77.66)	<0.001
Skilled nursing facility	1.18 (1.16,1.20)	<0.001	2.49 (2.35,2.65)	<0.001
Other	1.26 (1.22,1.31)	<0.001	2.95 (2.68,3.25)	<0.001
ESKD vintage				
Shorter than 1 year	–	–	–	–
1-2 years	1.11 (1.09,1.13)	<0.001	1.13 (1.06,1.21)	<0.001
2-3 years	1.09 (1.07,1.12)	<0.001	1.25 (1.17,1.33)	<0.001
3-6 years	1.08 (1.06,1.10)	<0.001	1.28 (1.21,1.35)	<0.001
Longer than 6 years	1.07 (1.05,1.09)	<0.001	1.38 (1.31,1.46)	<0.001
Nursing home stay in 2019				
0 day (reference)	–	–	–	–
1-89 days	1.02 (1.00,1.03)	0.03	1.06 (1.01,1.11)	0.01
90 days or more	0.92 (0.89,0.94)	<0.001	1.04 (0.97,1.10)	0.30
Length of hospitalization				
Quartile 1 (reference)	–	–	–	–
Quartile 2	1.04 (1.02,1.05)	<0.001	1.04 (0.98,1.11)	0.20
Quartile 3	1.08 (1.06,1.10)	<0.001	1.22 (1.14,1.29)	<0.001
Quartile 4	1.20 (1.18,1.22)	<0.001	1.50 (1.41,1.59)	<0.001
Medicare Advantage	0.94 (0.92,0.95)	<0.001	1.03 (0.98,1.07)	0.20
High-risk diagnosis at discharge	1.37 (1.30,1.43)	<0.001	1.20 (1.02,1.43)	0.03
Diabetes as cause of ESKD	1.01 (0.99,1.02)	0.30	1.02 (0.98,1.07)	0.30
Hepatitis	1.05 (1.03,1.07)	<0.001	0.96 (0.89,1.03)	0.30
Immunizations and screening for infectious disease	1.02 (1.01,1.04)	0.003	0.98 (0.94,1.03)	0.50
Secondary malignancies	1.31 (1.26,1.36)	<0.001	1.79 (1.64,1.95)	<0.001
Diabetes mellitus with complications	1.03 (1.01,1.05)	<0.001	1.05 (1.00,1.11)	0.06
Other endocrine disorders	1.06 (1.04,1.07)	<0.001	1.11 (1.05,1.17)	<0.001
Nutritional deficiencies	1.09 (1.07,1.10)	<0.001	1.31 (1.26,1.36)	<0.001
Fluid and electrolyte disorders	1.12 (1.10,1.15)	<0.001	1.04 (0.98,1.10)	0.20
Deficiency and other anemia	1.04 (1.01,1.07)	0.002	0.82 (0.76,0.88)	<0.001
Other hematologic conditions	1.08 (1.04,1.12)	<0.001	1.10 (0.99,1.22)	0.08
Other nervous system disorders	1.13 (1.12,1.14)	<0.001	1.23 (1.18,1.28)	<0.001
Heart valve disorders	1.05 (1.03,1.06)	<0.001	1.09 (1.04,1.13)	<0.001
Peri-, endo-, and myocarditis; cardiomyopathy (except that caused by tuberculosis or Sexually transmitted disease)	1.04 (1.02,1.05)	<0.001	1.09 (1.04,1.14)	<0.001
Acute myocardial infarction	1.10 (1.09,1.12)	<0.001	1.22 (1.17,1.28)	<0.001
Coronary atherosclerosis and other heart disease	1.04 (1.03,1.06)	<0.001	1.05 (1.00,1.09)	0.04
Nonspecific chest pain	1.12 (1.10,1.14)	<0.001	0.76 (0.71,0.82)	<0.001
Cardiac dysrhythmias	1.07 (1.06,1.08)	<0.001	1.19 (1.14,1.24)	<0.001

Baseline Characteristic	Readmission		Death	
	HR (95% CI)	P Value	HR (95% CI)	P Value
Cardiac arrest and ventricular fibrillation	0.99 (0.96,1.02)	0.60	1.37 (1.27,1.49)	<0.001
Congestive heart failure; non-hypertensive	1.09 (1.07,1.10)	<0.001	1.11 (1.06,1.16)	<0.001
Other circulatory disease	1.07 (1.05,1.08)	<0.001	1.11 (1.07,1.16)	<0.001
Phlebitis; thrombophlebitis and thromboembolism	1.06 (1.04,1.07)	<0.001	0.96 (0.91,1.00)	0.07
Hemorrhoids	1.02 (1.00,1.05)	0.05	0.89 (0.83,0.97)	0.004
Other diseases of veins and lymphatics	1.05 (1.03,1.07)	<0.001	0.99 (0.93,1.06)	0.80
Pneumonia (except that caused by Tuberculosis or sexually transmitted disease)	1.03 (1.02,1.05)	<0.001	1.07 (1.03,1.12)	0.001
COPD and bronchiectasis	1.08 (1.07,1.09)	<0.001	1.03 (0.99,1.07)	0.20
Pleurisy; pneumothorax; pulmonary collapse	1.08 (1.07,1.10)	<0.001	1.11 (1.06,1.16)	<0.001
Respiratory failure; insufficiency; arrest (adult)	1.09 (1.07,1.10)	<0.001	1.22 (1.17,1.28)	<0.001
Other lower respiratory disease	1.06 (1.05,1.07)	<0.001	0.97 (0.93,1.01)	0.10
Other upper respiratory disease	1.03 (1.01,1.05)	0.006	1.01 (0.94,1.08)	0.90
Intestinal infection	1.06 (1.04,1.08)	<0.001	1.01 (0.95,1.07)	0.80
Esophageal disorders	1.04 (1.03,1.05)	<0.001	0.92 (0.89,0.96)	<0.001
Gastritis and duodenitis	1.05 (1.03,1.07)	<0.001	0.94 (0.89,1.01)	0.07
Other disorders of stomach and duodenum	1.16 (1.14,1.18)	<0.001	0.98 (0.92,1.05)	0.60
Other liver diseases	1.10 (1.08,1.12)	<0.001	1.24 (1.18,1.30)	<0.001
Pancreatic disorders (not diabetes)	1.11 (1.08,1.13)	<0.001	0.89 (0.82,0.97)	0.01
Gastrointestinal hemorrhage	1.10 (1.08,1.12)	<0.001	1.08 (1.03,1.14)	0.002
Noninfectious gastroenteritis	1.08 (1.06,1.11)	<0.001	0.97 (0.90,1.05)	0.40
Other gastrointestinal disorders	1.07 (1.06,1.09)	<0.001	1.07 (1.03,1.11)	<0.001
Chronic kidney disease	0.78 (0.62,0.97)	0.03	1.48 (0.74,2.97)	0.30
Urinary tract infections	1.05 (1.04,1.07)	<0.001	1.01 (0.97,1.05)	0.70
Skin and subcutaneous tissue infections	1.04 (1.02,1.06)	<0.001	0.97 (0.93,1.02)	0.30
Other inflammatory condition of skin	1.10 (1.07,1.13)	<0.001	0.99 (0.90,1.08)	0.70
Chronic ulcer of skin	1.09 (1.08,1.11)	<0.001	1.43 (1.37,1.50)	<0.001
Infective arthritis and osteomyelitis (except that Caused by tuberculosis or sexually transmitted disease)	0.93 (0.91,0.95)	<0.001	0.92 (0.87,0.98)	0.007
Complication of device; implant or graft	1.01 (1.00,1.03)	0.02	0.96 (0.93,1.00)	0.05
Other injuries and conditions due to external causes	1.09 (1.07,1.11)	<0.001	0.97 (0.92,1.03)	0.30
Abdominal pain	1.11 (1.09,1.14)	<0.001	0.94 (0.86,1.04)	0.20
Allergic reactions	1.04 (1.03,1.05)	<0.001	0.89 (0.85,0.92)	<0.001
Administrative/social admission	1.11 (1.09,1.13)	<0.001	1.01 (0.96,1.08)	0.60
Residual codes; unclassified	1.06 (1.04,1.08)	<0.001	1.17 (1.12,1.23)	<0.001
Anxiety disorders	1.06 (1.05,1.07)	<0.001	0.95 (0.90,0.99)	0.02
Schizophrenia and other psychotic disorders	1.11 (1.07,1.14)	<0.001	0.94 (0.84,1.06)	0.30
Alcohol-related disorders	1.12 (1.09,1.15)	<0.001	1.05 (0.96,1.15)	0.30
Substance-related disorders	1.14 (1.12,1.15)	<0.001	0.99 (0.94,1.04)	0.80

HR, hazard ratio; CI, confidence interval. Time since previous COVID-19 refers to time since the most recent positive COVID-19 diagnosis before the corresponding hospitalization. Other discharge destinations refer to a rehabilitation hospital, psychiatric hospital, nursing home, or any other long-term care hospital.

Table S5. Effects of baseline characteristics on unplanned readmission and death after discharge day using Medicare fee-for-service patients only

Baseline Characteristic	Readmission		Death	
	HR (95% CI)	P Value	HR (95% CI)	P Value
Sex				
Male (reference)	–	–	–	–
Female	1.02 (1.00,1.03)	0.02	0.83 (0.79,0.87)	<0.001
Age				
24 years or below	1.43 (1.32,1.56)	<0.001	0.70 (0.38,1.29)	0.30
25-44 years	1.19 (1.16,1.22)	<0.001	0.83 (0.73,0.94)	0.003
45-59 years (reference)	–	–	–	–
60-74 years	0.99 (0.97,1.01)	0.30	1.30 (1.21,1.39)	<0.001
75 years or above	1.00 (0.98,1.02)	0.90	2.04 (1.89,2.19)	<0.001
Race				
White (reference)	–	–	–	–
Black	0.98 (0.96,0.99)	0.007	0.82 (0.77,0.87)	<0.001
Other	0.99 (0.96,1.02)	0.50	0.84 (0.75,0.94)	0.003
Body mass index (BMI)				
Lower than 18.5	1.01 (0.97,1.05)	0.60	1.03 (0.91,1.18)	0.60
18.5-24.9 (reference)	–	–	–	–
25-29.9	0.99 (0.97,1.01)	0.20	0.93 (0.87,0.98)	0.01
30 or greater	0.95 (0.93,0.97)	<0.001	0.90 (0.85,0.96)	0.001
In-hospital COVID-19				
No in-hospital COVID-19 (reference)	–	–	–	–
Effect in 1-7 days	1.57 (1.50,1.64)	<0.001	1.53 (1.36,1.73)	<0.001
Effect in 8-30 days	0.94 (0.90,0.98)	0.002	0.93 (0.82,1.07)	0.30
Time since previous COVID-19				
0 day (reference)	–	–	–	–
1-7 days	0.98 (0.93,1.02)	0.30	0.88 (0.77,1.02)	0.09
8-14 days	0.92 (0.85,0.99)	0.02	0.86 (0.69,1.08)	0.20
15-21 days	0.92 (0.84,1.00)	0.06	0.82 (0.62,1.08)	0.20
22-28 days	0.98 (0.89,1.09)	0.70	0.89 (0.65,1.21)	0.50
Over 28 days	1.00 (0.96,1.04)	0.90	0.73 (0.63,0.85)	<0.001
Planned hospitalization	0.92 (0.90,0.95)	<0.001	0.71 (0.65,0.78)	<0.001
Discharge destination				
Home with self-care (reference)	–	–	–	–
Home with medical care	1.10 (1.08,1.12)	<0.001	1.42 (1.32,1.52)	<0.001
Hospice	0.79 (0.73,0.86)	<0.001	81.10 (75.09,87.60)	<0.001
Skilled nursing facility	1.15 (1.13,1.18)	<0.001	2.58 (2.41,2.77)	<0.001
Other	1.26 (1.21,1.32)	<0.001	2.98 (2.65,3.35)	<0.001
ESKD vintage				
Shorter than 1 year	–	–	–	–
1-2 years	1.08 (1.06,1.11)	<0.001	1.16 (1.07,1.26)	<0.001
2-3 years	1.08 (1.05,1.10)	<0.001	1.29 (1.19,1.40)	<0.001
3-6 years	1.07 (1.05,1.09)	<0.001	1.29 (1.21,1.39)	<0.001
Longer than 6 years	1.06 (1.03,1.08)	<0.001	1.41 (1.31,1.51)	<0.001

Baseline Characteristic	Readmission		Death	
	HR (95% CI)	P Value	HR (95% CI)	P Value
Nursing home stay in 2019				
0 day (reference)	–	–	–	–
1-89 days	1.03 (1.01,1.05)	0.009	1.08 (1.02,1.15)	0.007
90 days or more	0.93 (0.90,0.95)	<0.001	1.05 (0.97,1.12)	0.20
Length of hospitalization				
Quartile 1 (reference)	–	–	–	–
Quartile 2	1.05 (1.03,1.06)	<0.001	1.08 (1.01,1.16)	0.03
Quartile 3	1.08 (1.06,1.11)	<0.001	1.26 (1.17,1.35)	<0.001
Quartile 4	1.20 (1.18,1.23)	<0.001	1.54 (1.44,1.65)	<0.001
High-risk diagnosis at discharge	1.35 (1.28,1.42)	<0.001	1.21 (0.99,1.49)	0.06
Diabetes as cause of ESKD	1.01 (0.99,1.03)	0.30	1.04 (0.99,1.10)	0.10
Hepatitis	1.05 (1.03,1.08)	<0.001	0.92 (0.85,1.01)	0.07
Immunizations and screening for infectious disease	1.04 (1.03,1.06)	<0.001	1.01 (0.97,1.06)	0.50
Secondary malignancies	1.28 (1.22,1.34)	<0.001	1.79 (1.60,2.00)	<0.001
Diabetes mellitus with complications	1.03 (1.01,1.05)	<0.001	1.05 (0.99,1.12)	0.09
Other endocrine disorders	1.06 (1.04,1.08)	<0.001	1.07 (1.01,1.15)	0.03
Nutritional deficiencies	1.08 (1.07,1.10)	<0.001	1.28 (1.22,1.35)	<0.001
Fluid and electrolyte disorders	1.14 (1.12,1.17)	<0.001	1.04 (0.97,1.11)	0.20
Deficiency and other anemia	1.05 (1.02,1.08)	0.002	0.83 (0.76,0.91)	<0.001
Other hematologic conditions	1.06 (1.02,1.10)	0.004	1.09 (0.96,1.23)	0.20
Other nervous system disorders	1.13 (1.11,1.15)	<0.001	1.23 (1.17,1.29)	<0.001
Heart valve disorders	1.04 (1.03,1.06)	<0.001	1.09 (1.04,1.14)	0.001
Peri-, endo-, and myocarditis; cardiomyopathy (except that caused by tuberculosis or Sexually transmitted disease)	1.03 (1.02,1.05)	<0.001	1.08 (1.02,1.14)	0.004
Acute myocardial infarction	1.10 (1.08,1.12)	<0.001	1.25 (1.18,1.31)	<0.001
Coronary atherosclerosis and other heart disease	1.04 (1.02,1.05)	<0.001	1.05 (1.00,1.10)	0.07
Nonspecific chest pain	1.11 (1.09,1.13)	<0.001	0.76 (0.70,0.83)	<0.001
Cardiac dysrhythmias	1.07 (1.05,1.08)	<0.001	1.20 (1.15,1.26)	<0.001
Cardiac arrest and ventricular fibrillation	0.99 (0.96,1.03)	0.70	1.39 (1.26,1.53)	<0.001
Congestive heart failure; non-hypertensive	1.09 (1.07,1.11)	<0.001	1.14 (1.08,1.21)	<0.001
Other circulatory disease	1.06 (1.05,1.08)	<0.001	1.13 (1.07,1.18)	<0.001
Phlebitis; thrombophlebitis and thromboembolism	1.06 (1.04,1.08)	<0.001	0.95 (0.90,1.01)	0.09
Hemorrhoids	1.03 (1.00,1.06)	0.02	0.92 (0.83,1.00)	0.06
Other diseases of veins and lymphatics	1.04 (1.02,1.06)	0.001	0.97 (0.90,1.05)	0.50
Pneumonia (except that caused by Tuberculosis or sexually transmitted disease)	1.03 (1.01,1.05)	<0.001	1.04 (0.99,1.09)	0.10
COPD and bronchiectasis	1.07 (1.06,1.09)	<0.001	1.03 (0.98,1.08)	0.30
Pleurisy; pneumothorax; pulmonary collapse	1.08 (1.06,1.10)	<0.001	1.12 (1.06,1.18)	<0.001
Respiratory failure; insufficiency; arrest (adult)	1.09 (1.08,1.11)	<0.001	1.22 (1.16,1.29)	<0.001
Other lower respiratory disease	1.06 (1.04,1.07)	<0.001	0.97 (0.93,1.02)	0.30
Other upper respiratory disease	1.02 (0.99,1.04)	0.20	1.04 (0.96,1.13)	0.30
Intestinal infection	1.05 (1.03,1.08)	<0.001	1.01 (0.93,1.08)	0.90
Esophageal disorders	1.04 (1.03,1.06)	<0.001	0.92 (0.87,0.96)	<0.001
Gastritis and duodenitis	1.05 (1.03,1.07)	<0.001	0.95 (0.88,1.02)	0.20
Other disorders of stomach and duodenum	1.15 (1.13,1.17)	<0.001	0.97 (0.90,1.04)	0.40

Baseline Characteristic	Readmission		Death	
	HR (95% CI)	<i>P</i> Value	HR (95% CI)	<i>P</i> Value
Other liver diseases	1.11 (1.09,1.13)	<0.001	1.22 (1.16,1.30)	<0.001
Pancreatic disorders (not diabetes)	1.11 (1.08,1.14)	<0.001	0.82 (0.73,0.91)	<0.001
Gastrointestinal hemorrhage	1.11 (1.09,1.13)	<0.001	1.07 (1.01,1.14)	0.02
Noninfectious gastroenteritis	1.09 (1.06,1.11)	<0.001	0.97 (0.88,1.06)	0.40
Other gastrointestinal disorders	1.07 (1.05,1.08)	<0.001	1.06 (1.01,1.12)	0.01
Chronic kidney disease	0.77 (0.58,1.01)	0.06	1.18 (0.49,2.82)	0.70
Urinary tract infections	1.05 (1.03,1.07)	<0.001	0.99 (0.93,1.04)	0.60
Skin and subcutaneous tissue infections	1.05 (1.03,1.07)	<0.001	1.00 (0.94,1.06)	0.90
Other inflammatory condition of skin	1.10 (1.07,1.13)	<0.001	0.96 (0.87,1.07)	0.50
Chronic ulcer of skin	1.09 (1.07,1.11)	<0.001	1.43 (1.35,1.51)	<0.001
Infective arthritis and osteomyelitis (except that Caused by tuberculosis or sexually transmitted disease)	0.92 (0.90,0.95)	<0.001	0.94 (0.87,1.01)	0.07
Complication of device; implant or graft	1.01 (1.00,1.02)	0.20	0.94 (0.90,0.98)	0.008
Other injuries and conditions due to external causes	1.09 (1.07,1.11)	<0.001	0.97 (0.91,1.03)	0.30
Abdominal pain	1.13 (1.10,1.16)	<0.001	0.97 (0.87,1.08)	0.60
Allergic reactions	1.04 (1.02,1.05)	<0.001	0.89 (0.85,0.94)	<0.001
Administrative/social admission	1.11 (1.09,1.13)	<0.001	1.03 (0.96,1.11)	0.40
Residual codes; unclassified	1.06 (1.04,1.08)	<0.001	1.20 (1.13,1.27)	<0.001
Anxiety disorders	1.06 (1.05,1.08)	<0.001	0.95 (0.90,1.01)	0.08
Schizophrenia and other psychotic disorders	1.12 (1.08,1.16)	<0.001	0.98 (0.85,1.12)	0.70
Alcohol-related disorders	1.12 (1.09,1.16)	<0.001	1.08 (0.97,1.21)	0.20
Substance-related disorders	1.14 (1.12,1.15)	<0.001	0.98 (0.92,1.04)	0.50

HR, hazard ratio; CI, confidence interval. Time since previous COVID-19 refers to time since the most recent positive COVID-19 diagnosis before the corresponding hospitalization. Fee-for-service patients are those without Medicare Advantage.