

Supplemental Online Content

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eFigure 1. Changes in Mortality or Major Morbidity in Patients With Sepsis as a Function of the Weekly Hospital COVID-19 Burden; This Sensitivity Analysis Excludes Patients With COVID-19

eFigure 2. Changes in Mortality in Patients With Sepsis as a Function of the Weekly Hospital COVID-19 Burden; This Sensitivity Analysis Excludes Patients With COVID-19

eFigure 3. Changes in Mortality or Major Morbidity in Patients With Sepsis as a Function of the Weekly Hospital COVID-19 Burden; This Sensitivity Analysis Excludes Patients Admitted Between February and June 2020

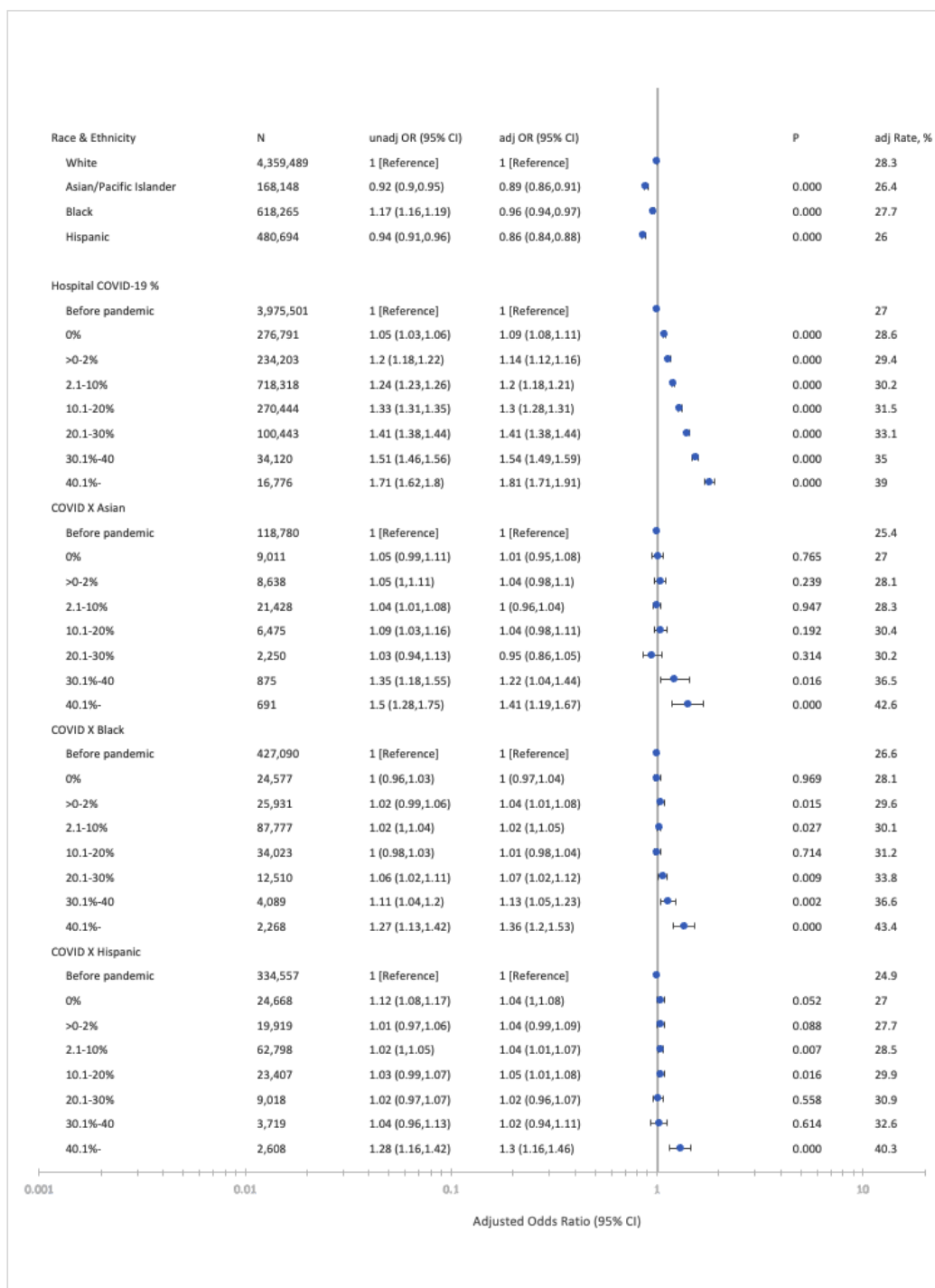
eFigure 4. Changes in Mortality in Patients With Sepsis as a Function of the Weekly Hospital COVID-19 Burden; This Sensitivity Analysis Excludes Patients Admitted Between February and June 2020

eTable 1. *ICD-10-CM* Diagnostic Codes

eTable 2. Hospital Characteristics

eTable 3. All-Cause 30-Day Mortality and Major Complications

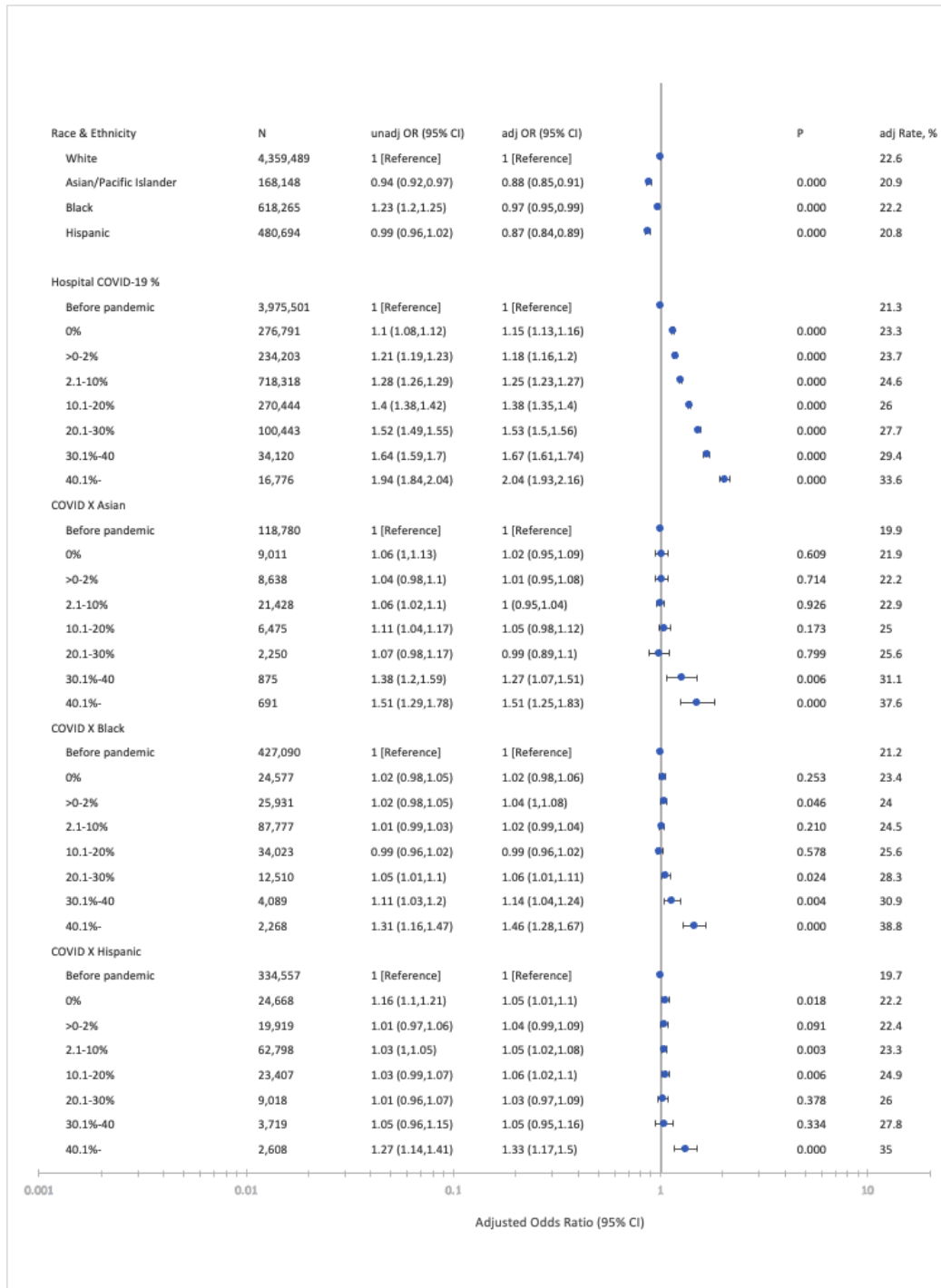
This supplemental material has been provided by the authors to give readers additional information about their work.



Supplement Figure 1. Changes in Mortality or Major Morbidity in Patients With Sepsis as a Function of the Weekly Hospital COVID-19 Burden. This sensitivity analysis excludes patients with COVID-19.

The model was adjusted for patient demographics, payer status, site of origin, frailty, COVID-19, dialysis, prior procedures, comorbidities, hospital characteristics, and time trends. The *unadjusted model* was adjusted for patient demographics, payer status, site of origin, and time trends.

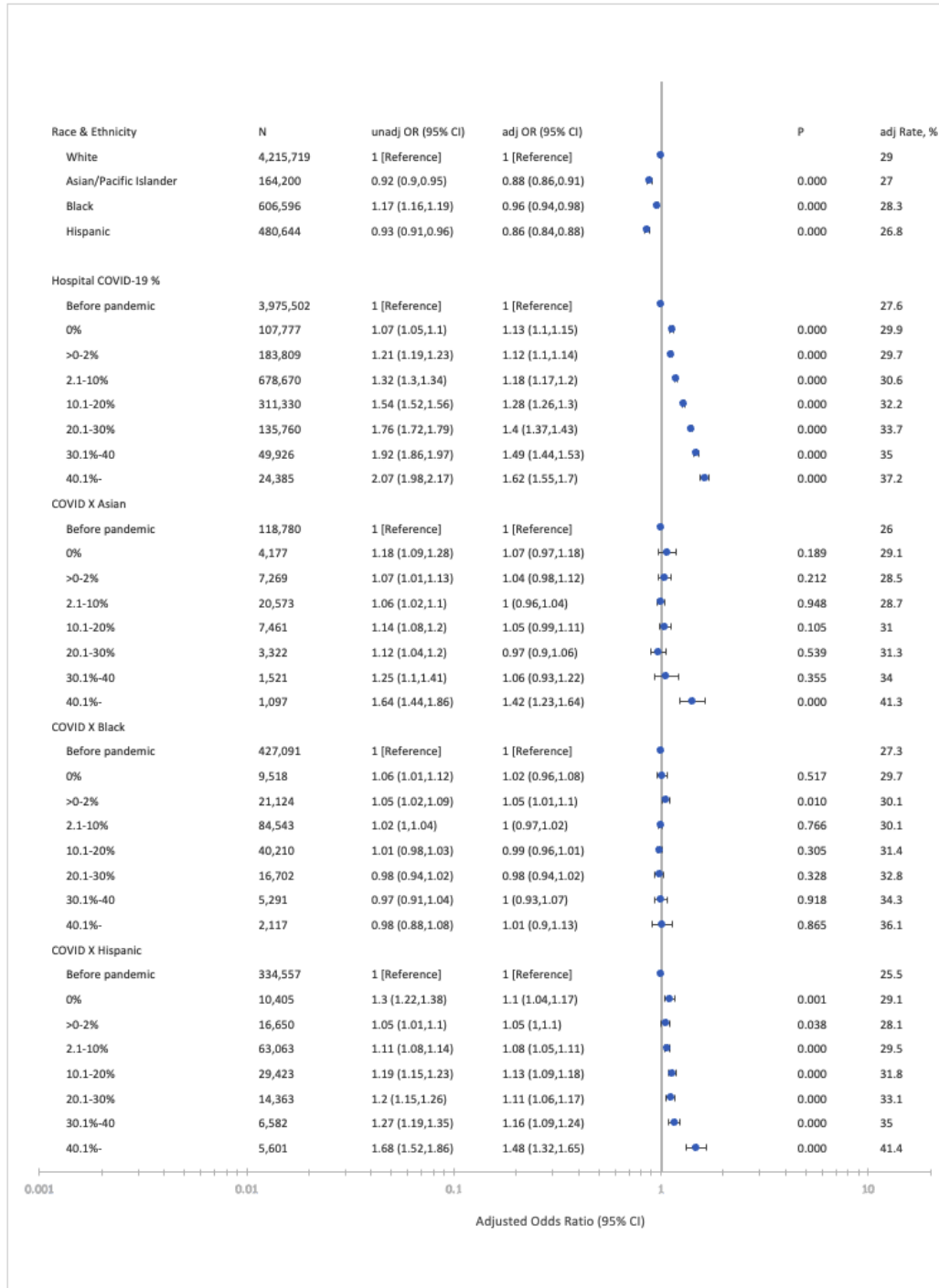
The *Hospital COVID-19 %* odds ratios quantifies the association between the outcome and the hospital COVID-19 burden for White individuals. The interaction term *COVID x Black* odds ratios quantifies the additional effect of the hospital COVID-19 burden for Black individuals compared to White individuals. The other interaction terms are interpreted in a similar fashion.



Supplement Figure 2. Changes in Mortality in Patients With Sepsis as a Function of the Weekly Hospital COVID-19 Burden. This sensitivity analysis excludes patients with COVID-19.

The model was adjusted for patient demographics, payer status, site of origin, frailty, COVID-19, dialysis, prior procedures, comorbidities, hospital characteristics, and time trends. The *unadjusted model* was adjusted for patient demographics, payer status, site of origin, and time trends.

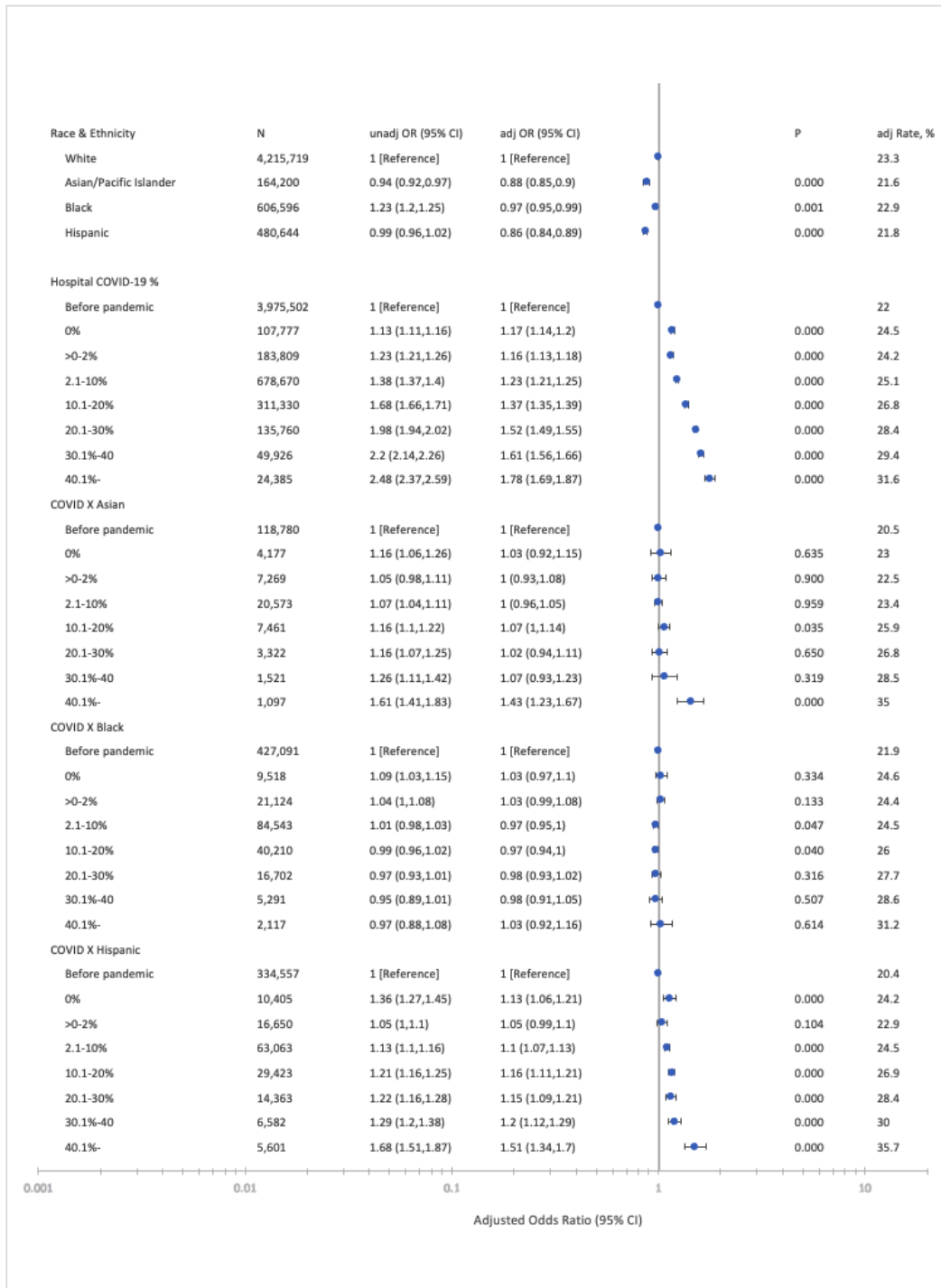
The *Hospital COVID-19 %* odds ratios quantifies the association between the outcome and the hospital COVID-19 burden for White individuals. The interaction term *COVID x Black* odd ratios quantifies the additional effect of the hospital COVID-19 burden for Black individuals compared to White individuals. The other interaction terms are interpreted in a similar fashion.



Supplement Figure 3. Changes in Mortality or Major Morbidity in Patients With Sepsis As a Function of the Weekly Hospital COVID-19 Burden. This sensitivity analysis excludes patients admitted between February and June, 2020.

The model was adjusted for patient demographics, payer status, site of origin, frailty, COVID-19, dialysis, prior procedures, comorbidities, hospital characteristics, and time trends. The *unadjusted model* was adjusted for patient demographics, payer status, site of origin, and time trends.

The *Hospital COVID-19 %* odds ratios quantifies the association between the outcome and the hospital COVID-19 burden for White individuals. The interaction term *COVID x Black* odd ratios quantifies the additional effect of the hospital COVID-19 burden for Black individuals compared to White individuals. The other interaction terms are interpreted in a similar fashion.



Supplement Figure 4. Changes in Mortality in Patients With Sepsis As a Function of the Weekly Hospital COVID-19 Burden. This sensitivity analysis excludes patients admitted between February and June, 2020.

The model was adjusted for patient demographics, payer status, site of origin, frailty, COVID-19, dialysis, prior procedures, comorbidities, hospital characteristics, and time trends. The *unadjusted model* was adjusted for patient demographics, payer status, site of origin, and time trends.

The *Hospital COVID-19 %* odds ratios quantifies the association between the outcome and the hospital COVID-19 burden for White individuals. The interaction term *COVID x Black* odd ratios quantifies the additional effect of the hospital COVID-19 burden for Black individuals compared to White individuals. The other interaction terms are interpreted in a similar fashion.

| Supplement Table 1. ICD-10-CM codes used to identify patient characteristics. | |
|--|---|
| Sepsis | |
| | A02.1; A20.7; A21.7; A22.7; A24.1; A26.7; A28.2; A32.7; A39.4; A40; A41; A42.7; A54.86; B00.7; B37.7; R65.2 |
| Complications | |
| Acute myocardial infarction | I21; I22 |
| Congestive heart failure | I50 |
| Acute renal failure | N17 |
| Stroke | I60; I61; I62; I63; I69 |
| Respiratory failure | J96.0; J96.2; J96.9 |
| Frailty | |
| Wheel-chair | Z99.3 |
| Supplemental oxygen | Z99.81 |
| Dependent on provider | Z74 |
| History of falls | W00, W01, W02, W04, W05, W06, W07, W08, W09, W10, W11, W12, W13, W14, W15, W16, W17, W18, W19 |
| Fecal incontinence | R15 |
| Pre-existing Conditions | |
| Shock | |
| Myocardial infarction | |
| Prior ST-segment elevation MI | I210; I220; I211; I221; I212; I228; I213; I229 |
| Prior Non-ST-segment elevation MI | I214; I222 |
| Prior other MI | I219; I21A |
| Congestive heart failure | |
| Systolic CHF | I502 |
| Diastolic CHF | I503 |
| Systolic and diastolic CHF | I504 |
| Unspecified CHF | I501; I509; I5089 |
| Pulmonary | |
| Acute respiratory distress syndrome | J80 |
| Pulmonary edema | J81 |
| Pulmonary interstitial disease | J84 |
| Acute respiratory failure | J960 |
| Acute on chronic respiratory failure | J962 |
| Respiratory failure, unspecified | J969 |
| COVID-19 | U071 |
| Prior procedures | |
| PCI | Z9861; Z955 |
| CABG | Z951 |
| Heart valve surgery | Z952; Z953; Z954 |
| Left ventricular assist device | Z95811 |
| Kidney transplant | Z940 |
| Heart transplant | Z941 |
| Liver transplant | Z944 |

| Supplement Table 2. Hospital Characteristics. | |
|--|--------------------|
| Characteristics | Hospitals, No. (%) |
| Total number of beds | |
| <50 | 547 (17) |
| 51-149 | 1,140 (35.5) |
| 150-249 | 651 (20.3) |
| 250-499 | 651 (20.3) |
| 500- | 221 (6.9) |
| Average daily census | |
| <20 | 719 (22.4) |
| 21-50 | 604 (18.8) |
| 51-150 | 1,046 (32.6) |
| 151-300 | 555 (17.3) |
| 301- | 286 (8.9) |
| Disproportionate share percentage (DSH) | |
| 0-9.9% | 250 (7.8) |
| 10.0-24.9% | 1,098 (34.2) |
| 25.0-49.9% | 1,517 (47.3) |
| 50.0%- | 345 (10.8) |
| Resident-to-bed ratio | |
| 0 | 2,103 (65.5) |
| >0-0.10 | 519 (16.2) |
| 0.11-0.20 | 203 (6.3) |
| 0.21-0.40 | 202 (6.3) |
| 0.41- | 183 (5.7) |
| ECMO availability | 323 (10.1) |
| Region | |
| New England | 132 (4.1) |
| Middle Atlantic | 352 (11) |
| South Atlantic | 534 (16.6) |
| East North Central | 437 (13.6) |
| East South Central | 350 (10.9) |
| West North Central | 256 (8) |
| West South Central | 486 (15.1) |
| Mountain | 222 (6.9) |
| Pacific | 391 (12.2) |
| Puerto Rico | 50 (1.6) |

Supplement Table 3. 30-day Mortality and Morbidity

| | Unadjusted | | Patient Characteristics | | Patient and Hospital Characteristics | |
|---|-------------------|-------|-------------------------|-------|--------------------------------------|-------|
| | OR (95% CI) | P | OR (95% CI) | P | OR (95% CI) | P |
| Race | | | | | | |
| White | reference | | reference | | reference | |
| Asian/Pacific Islander | 0.92 (0.89, 0.94) | 0.000 | 0.81 (0.78, 0.83) | 0.000 | 0.89 (0.86, 0.91) | 0.000 |
| Black | 1.17 (1.16, 1.19) | 0.000 | 1 (0.98, 1.01) | 0.689 | 0.96 (0.95, 0.98) | 0.000 |
| Hispanic | 0.93 (0.91, 0.96) | 0.000 | 0.87 (0.85, 0.9) | 0.000 | 0.86 (0.84, 0.88) | 0.000 |
| Hospital weekly COVID-19 burden (%) | | | | | | |
| Before pandemic | reference | | reference | | reference | |
| 0% | 1.07 (1.05, 1.08) | 0.000 | 1.08 (1.06, 1.09) | 0.000 | 1.1 (1.08, 1.11) | 0.000 |
| 0.1-2.0% | 1.24 (1.22, 1.26) | 0.000 | 1.13 (1.11, 1.15) | 0.000 | 1.14 (1.12, 1.15) | 0.000 |
| 2.1-10.0% | 1.34 (1.33, 1.36) | 0.000 | 1.2 (1.18, 1.21) | 0.000 | 1.19 (1.18, 1.21) | 0.000 |
| 10.1-20.0% | 1.58 (1.56, 1.6) | 0.000 | 1.31 (1.29, 1.33) | 0.000 | 1.3 (1.28, 1.32) | 0.000 |
| 20.1-30.0% | 1.82 (1.79, 1.85) | 0.000 | 1.44 (1.41, 1.46) | 0.000 | 1.43 (1.4, 1.45) | 0.000 |
| 30.1-40.0% | 2.04 (1.99, 2.1) | 0.000 | 1.55 (1.51, 1.6) | 0.000 | 1.55 (1.51, 1.6) | 0.000 |
| 40.1%- | 2.57 (2.44, 2.71) | 0.000 | 1.86 (1.76, 1.97) | 0.000 | 1.9 (1.8, 2) | 0.000 |
| Hospital COVID-19 X Asian/Pacific Islander | | | | | | |
| Before pandemic | reference | | reference | | reference | |
| 0% | 1.05 (1, 1.12) | 0.073 | 1 (0.94, 1.06) | 0.935 | 1.01 (0.95, 1.08) | 0.745 |
| >0-2% | 1.06 (1.01, 1.12) | 0.017 | 1.04 (0.98, 1.11) | 0.204 | 1.04 (0.98, 1.11) | 0.176 |
| 2.1-10% | 1.08 (1.05, 1.12) | 0.000 | 1.02 (0.98, 1.06) | 0.331 | 1.01 (0.97, 1.05) | 0.606 |
| 10.1-20% | 1.15 (1.1, 1.21) | 0.000 | 1.07 (1.01, 1.13) | 0.018 | 1.05 (0.99, 1.11) | 0.098 |
| 20.1-30% | 1.2 (1.11, 1.28) | 0.000 | 1.08 (1, 1.16) | 0.059 | 1.03 (0.96, 1.12) | 0.377 |
| 30.1%-40 | 1.27 (1.14, 1.41) | 0.000 | 1.12 (1, 1.26) | 0.044 | 1.1 (0.97, 1.23) | 0.125 |
| 40.1%- | 1.6 (1.45, 1.78) | 0.000 | 1.49 (1.33, 1.68) | 0.000 | 1.44 (1.28, 1.61) | 0.000 |
| Hospital COVID-19 X Black | | | | | | |
| Before pandemic | reference | | reference | | reference | |
| 0% | 1.01 (0.97, 1.04) | 0.746 | 1 (0.97, 1.04) | 0.99 | 1 (0.96, 1.03) | 0.939 |
| >0-2% | 1.04 (1.01, 1.07) | 0.021 | 1.02 (0.99, 1.06) | 0.218 | 1.03 (1, 1.07) | 0.056 |
| 2.1-10% | 1.04 (1.02, 1.06) | 0.000 | 1 (0.98, 1.02) | 0.905 | 1.01 (0.99, 1.03) | 0.519 |
| 10.1-20% | 1.02 (0.99, 1.04) | 0.142 | 0.98 (0.96, 1.01) | 0.186 | 0.99 (0.96, 1.01) | 0.320 |
| 20.1-30% | 1.01 (0.98, 1.05) | 0.420 | 0.99 (0.95, 1.03) | 0.589 | 0.99 (0.95, 1.03) | 0.712 |
| 30.1%-40 | 1.05 (0.99, 1.11) | 0.139 | 1.05 (0.98, 1.11) | 0.173 | 1.05 (0.99, 1.12) | 0.131 |
| 40.1%- | 1.2 (1.1, 1.31) | 0.000 | 1.2 (1.09, 1.31) | 0.000 | 1.21 (1.11, 1.33) | 0.000 |
| Hospital COVID-19 X Hispanic | | | | | | |
| Before pandemic | reference | | reference | | reference | |
| 0% | 1.15 (1.1, 1.2) | 0.006 | 1.15 (1.1, 1.2) | 0.000 | 1.05 (1.01, 1.1) | 0.010 |
| >0-2% | 1.06 (1.02, 1.11) | 0.000 | 1.05 (1.01, 1.1) | 0.020 | 1.06 (1.02, 1.11) | 0.008 |
| 2.1-10% | 1.12 (1.1, 1.15) | 0.000 | 1.06 (1.03, 1.09) | 0.000 | 1.08 (1.05, 1.11) | 0.000 |
| 10.1-20% | 1.2 (1.16, 1.24) | 0.000 | 1.09 (1.05, 1.13) | 0.000 | 1.13 (1.09, 1.17) | 0.000 |
| 20.1-30% | 1.21 (1.16, 1.26) | 0.000 | 1.07 (1.02, 1.12) | 0.010 | 1.12 (1.07, 1.17) | 0.000 |
| 30.1%-40 | 1.28 (1.2, 1.36) | 0.000 | 1.11 (1.04, 1.19) | 0.001 | 1.17 (1.1, 1.24) | 0.000 |
| 40.1%- | 1.6 (1.47, 1.75) | 0.000 | 1.38 (1.26, 1.52) | 0.000 | 1.45 (1.32, 1.59) | 0.000 |
| Age | | | | | | |
| 65-69 | reference | | reference | | reference | |
| 70-74 | 1.02 (1.02, 1.03) | 0.000 | 1.11 (1.11, 1.12) | 0.000 | 1.11 (1.1, 1.12) | 0.000 |
| 75-79 | 1.16 (1.15, 1.17) | 0.000 | 1.27 (1.26, 1.28) | 0.000 | 1.27 (1.26, 1.28) | 0.000 |
| 80-84 | 1.34 (1.33, 1.35) | 0.000 | 1.5 (1.49, 1.51) | 0.000 | 1.5 (1.49, 1.51) | 0.000 |
| 85-89 | 1.6 (1.58, 1.61) | 0.000 | 1.82 (1.8, 1.83) | 0.000 | 1.82 (1.81, 1.84) | 0.000 |
| 90-94 | 1.94 (1.92, 1.96) | 0.000 | 2.27 (2.25, 2.3) | 0.000 | 2.29 (2.27, 2.32) | 0.000 |
| 95- | 2.46 (2.43, 2.49) | 0.000 | 2.96 (2.92, 3) | 0.000 | 3 (2.96, 3.04) | 0.000 |
| Sex | | | | | | |
| Male | reference | | reference | | reference | |
| Female | 0.91 (0.9, 0.91) | 0.000 | 0.98 (0.98, 0.99) | 0.000 | 0.98 (0.98, 0.98) | 0.000 |

| Supplement Table 3. 30-day Mortality and Morbidity | | | | | | |
|--|------------------|-------|-------------------------|-------|--------------------------------------|-------|
| | Unadjusted | | Patient Characteristics | | Patient and Hospital Characteristics | |
| | OR (95% CI) | P | OR (95% CI) | P | OR (95% CI) | P |
| Admission source | | | | | | |
| Community | reference | | reference | | reference | |
| Hospital | 1.76 (1.72 ,1.8) | 0.000 | 1.3 (1.28 ,1.33) | 0.000 | 1.31 (1.29 ,1.34) | 0.000 |
| SNF/Nursing Home | 1.73 (1.7 ,1.77) | 0.000 | 1.44 (1.41 ,1.47) | 0.000 | 1.45 (1.42 ,1.48) | 0.000 |
| Other | 1.5 (1.45 ,1.55) | 0.000 | 1.29 (1.26 ,1.33) | 0.000 | 1.3 (1.26 ,1.33) | 0.000 |
| Dual-eligible | 1 (0.99 ,1.01) | 0.406 | 0.91 (0.9 ,0.92) | 0.000 | 0.92 (0.91 ,0.92) | 0.000 |
| Medicare Advantage | | | 0.98 (0.97 ,0.99) | 0.002 | 0.99 (0.98 ,1) | 0.040 |
| Functional Status/frailty | | | | | | |
| Malnutrition | | | 1.29 (1.25 ,1.32) | 0.000 | 1.31 (1.27 ,1.34) | 0.000 |
| Senility | | | 1.25 (1.2 ,1.29) | 0.000 | 1.23 (1.18 ,1.27) | 0.000 |
| Cognitive | | | 1.17 (1.15 ,1.18) | 0.000 | 1.16 (1.15 ,1.18) | 0.000 |
| Dependent on provider | | | 1.38 (1.35 ,1.41) | 0.000 | 1.33 (1.3 ,1.35) | 0.000 |
| Pre-existing Conditions | | | | | | |
| COVID-19 | | | 2.02 (1.99 ,2.06) | 0.000 | 2.02 (1.99 ,2.06) | 0.000 |
| Shock | | | 3.2 (3.17 ,3.23) | 0.000 | 3.19 (3.16 ,3.22) | 0.000 |
| Myocardial infarction | | | | | | |
| No prior myocardial infarction | | | reference | | reference | |
| Prior ST-segment elevation MI | | | 3.52 (3.34 ,3.7) | 0.000 | 3.51 (3.34 ,3.69) | 0.000 |
| Prior Non-ST-segment elevation MI | | | 1.61 (1.59 ,1.63) | 0.000 | 1.6 (1.58 ,1.62) | 0.000 |
| Prior other MI | | | 1.17 (1.15 ,1.19) | 0.000 | 1.18 (1.16 ,1.19) | 0.000 |
| Congestive heart failure | | | | | | |
| None | | | reference | | reference | |
| Systolic CHF | | | 1.25 (1.24 ,1.26) | 0.000 | 1.25 (1.24 ,1.26) | 0.000 |
| Diastolic CHF | | | 0.99 (0.98 ,1) | 0.007 | 0.99 (0.98 ,1) | 0.014 |
| Systolic and diastolic CHF | | | 1.19 (1.18 ,1.21) | 0.000 | 1.2 (1.18 ,1.22) | 0.000 |
| Unspecified CHF | | | 1.29 (1.28 ,1.3) | 0.000 | 1.28 (1.27 ,1.3) | 0.000 |
| Pulmonary | | | | | | |
| Acute respiratory distress syndrome | | | 5.63 (5.44 ,5.83) | 0.000 | 5.7 (5.51 ,5.9) | 0.000 |
| Pulmonary edema | | | 1.27 (1.24 ,1.3) | 0.000 | 1.27 (1.24 ,1.3) | 0.000 |
| Pulmonary interstitial disease | | | 1.38 (1.36 ,1.41) | 0.000 | 1.39 (1.37 ,1.42) | 0.000 |
| Acute respiratory failure | | | 1.76 (1.74 ,1.78) | 0.000 | 1.77 (1.75 ,1.79) | 0.000 |
| Acute on chronic respiratory failure | | | 1.68 (1.66 ,1.7) | 0.000 | 1.69 (1.67 ,1.71) | 0.000 |
| Respiratory failure, unspecified | | | 2.25 (2.19 ,2.31) | 0.000 | 2.25 (2.2 ,2.31) | 0.000 |
| Elixhauser comorbidities | | | | | | |
| Alcohol abuse | | | 1.11 (1.1 ,1.13) | 0.000 | 1.12 (1.11 ,1.14) | 0.000 |
| Lymphoma | | | 1.36 (1.34 ,1.38) | 0.000 | 1.37 (1.36 ,1.39) | 0.000 |
| Leukemia | | | 1.67 (1.65 ,1.7) | 0.000 | 1.69 (1.66 ,1.72) | 0.000 |
| Metastatic cancer | | | 3.64 (3.59 ,3.69) | 0.000 | 3.68 (3.63 ,3.73) | 0.000 |
| Solid tumor | | | 1.58 (1.56 ,1.59) | 0.000 | 1.58 (1.56 ,1.6) | 0.000 |
| Cerebrovascular disease | | | 1.19 (1.18 ,1.21) | 0.000 | 1.2 (1.18 ,1.21) | 0.000 |
| Coagulopathy | | | 1.23 (1.22 ,1.24) | 0.000 | 1.23 (1.22 ,1.24) | 0.000 |
| Dementia | | | 1.33 (1.32 ,1.34) | 0.000 | 1.33 (1.32 ,1.34) | 0.000 |
| Liver disease, mild | | | 1.14 (1.13 ,1.16) | 0.000 | 1.15 (1.14 ,1.17) | 0.000 |
| Liver disease and failure, moderate to severe | | | 2.6 (2.56 ,2.65) | 0.000 | 2.63 (2.59 ,2.68) | 0.000 |
| Chronic pulmonary disease | | | 0.99 (0.98 ,1) | 0.001 | 0.99 (0.98 ,0.99) | 0.000 |
| Neurologic disorder, other | | | 1.32 (1.3 ,1.33) | 0.000 | 1.32 (1.31 ,1.33) | 0.000 |
| Seizures and epilepsy | | | 1.01 (0.99 ,1.02) | 0.348 | 1 (0.99 ,1.01) | 0.434 |
| Paralysis | | | 1.02 (1.01 ,1.04) | 0.001 | 1.03 (1.02 ,1.05) | 0.000 |
| Peripheral vascular disease | | | 1.06 (1.04 ,1.09) | 0.000 | 1.1 (1.08 ,1.12) | 0.000 |
| Pulmonary circulation disease | | | 1.22 (1.21 ,1.23) | 0.000 | 1.22 (1.21 ,1.24) | 0.000 |
| Renal failure, moderate | | | 1.13 (1.12 ,1.14) | 0.000 | 1.14 (1.13 ,1.14) | 0.000 |
| Renal failure, severe | | | 1.72 (1.71 ,1.74) | 0.000 | 1.72 (1.7 ,1.74) | 0.000 |
| Peptic ulcer disease with bleeding | | | 1.16 (1.14 ,1.18) | 0.000 | 1.17 (1.15 ,1.19) | 0.000 |
| Valvular disease | | | 1.13 (1.12 ,1.14) | 0.000 | 1.13 (1.12 ,1.14) | 0.000 |
| Weight loss | | | 1.43 (1.4 ,1.47) | 0.000 | 1.43 (1.39 ,1.46) | 0.000 |
| Dialysis | | | 1.02 (1 ,1.03) | 0.029 | 1.02 (1 ,1.04) | 0.029 |

Supplement Table 3. 30-day Mortality and Morbidity

| | Unadjusted | | Patient Characteristics | | Patient and Hospital Characteristics | |
|--|-------------|---|-------------------------|-------|--------------------------------------|-------|
| | OR (95% CI) | P | OR (95% CI) | P | OR (95% CI) | P |
| Prior procedures | | | | | | |
| PCI | | | 0.85 (0.85 ,0.86) | 0.000 | 0.85 (0.84 ,0.86) | 0.000 |
| CABG | | | 0.98 (0.97 ,0.99) | 0.000 | 0.97 (0.96 ,0.98) | 0.000 |
| Heart valve surgery | | | 0.86 (0.84 ,0.87) | 0.000 | 0.86 (0.85 ,0.88) | 0.000 |
| Left ventricular assist device | | | 1.18 (1.02 ,1.35) | 0.023 | 1.21 (1.05 ,1.4) | 0.008 |
| Kidney transplant | | | 0.65 (0.63 ,0.68) | 0.000 | 0.67 (0.65 ,0.69) | 0.000 |
| Heart transplant | | | 0.75 (0.68 ,0.82) | 0.000 | 0.76 (0.7 ,0.83) | 0.000 |
| Liver transplant | | | 0.32 (0.3 ,0.34) | 0.000 | 0.32 (0.3 ,0.34) | 0.000 |
| Hospital characteristics | | | | | | |
| ECMO availability | | | | | 0.95 (0.92 ,0.98) | 0.000 |
| Bed size | | | | | | |
| <= 50 | | | | | reference | |
| 51-149 | | | | | 0.97 (0.93 ,1.01) | 0.168 |
| 150-249 | | | | | 1 (0.95 ,1.05) | 0.933 |
| 250-499 | | | | | 1 (0.94 ,1.06) | 0.937 |
| 500- | | | | | 0.97 (0.9 ,1.04) | 0.399 |
| Average daily census | | | | | | |
| <=20 | | | | | reference | |
| 21-50 | | | | | 1.01 (0.96 ,1.05) | 0.717 |
| 51-150 | | | | | 1.05 (0.99 ,1.1) | 0.078 |
| 151-300 | | | | | 1.07 (1.01 ,1.14) | 0.025 |
| 301- | | | | | 1.11 (1.03 ,1.19) | 0.006 |
| Resident-to-bed ratio | | | | | | |
| 0 | | | | | reference | |
| >0-0.10 | | | | | 0.97 (0.95 ,1) | 0.031 |
| 0.11-0.20 | | | | | 0.99 (0.96 ,1.02) | 0.596 |
| 0.21-0.40 | | | | | 0.92 (0.89 ,0.95) | 0.000 |
| 0.41- | | | | | 0.91 (0.87 ,0.95) | 0.000 |
| Disproportionate share percentage (DSH) | | | | | | |
| 0-9.9% | | | | | reference | |
| 10.0-24.9% | | | | | 1.09 (1.05 ,1.14) | 0.000 |
| 25.0-49.9% | | | | | 1.16 (1.12 ,1.21) | 0.000 |
| 50.0%- | | | | | 1.16 (1.1 ,1.23) | 0.000 |
| Region | | | | | | |
| New England | | | | | reference | |
| Middle Atlantic | | | | | 1.05 (1 ,1.1) | 0.055 |
| South Atlantic | | | | | 1.07 (1.02 ,1.11) | 0.003 |
| East North Central | | | | | 1.01 (0.96 ,1.05) | 0.808 |
| East South Central | | | | | 1.09 (1.04 ,1.14) | 0.000 |
| West North Central | | | | | 0.95 (0.9 ,1) | 0.033 |
| West South Central | | | | | 0.98 (0.93 ,1.02) | 0.300 |
| Mountain | | | | | 0.87 (0.82 ,0.91) | 0.000 |
| Pacific | | | | | 0.8 (0.77 ,0.84) | 0.000 |
| Puerto Rico | | | | | 3 (2.52 ,3.57) | 0.000 |

| Supplement Table 3. 30-day Mortality and Morbidity | | | | | | |
|--|---------------------|-------|-------------------------|-------|--------------------------------------|-------|
| | Unadjusted | | Patient Characteristics | | Patient and Hospital Characteristics | |
| | OR (95% CI) | P | OR (95% CI) | P | OR (95% CI) | P |
| Time | 0.997 (0.997,0.997) | 0.000 | 0.996 (0.996,0.996) | 0.000 | 0.996 (0.996,0.996) | 0.000 |
| Admission month | | | | | | |
| January | reference | 0.000 | reference | | reference | |
| February | 0.97 (0.96,0.98) | 0.000 | 0.98 (0.97,0.99) | 0.000 | 0.98 (0.97,0.99) | 0.000 |
| March | 0.96 (0.95,0.97) | 0.000 | 0.99 (0.98,1) | 0.084 | 0.99 (0.98,1) | 0.018 |
| April | 0.96 (0.95,0.97) | 0.000 | 0.97 (0.96,0.98) | 0.000 | 0.96 (0.95,0.97) | 0.000 |
| May | 0.9 (0.9,0.91) | 0.000 | 0.93 (0.92,0.94) | 0.000 | 0.93 (0.92,0.94) | 0.000 |
| June | 0.88 (0.87,0.89) | 0.000 | 0.92 (0.92,0.93) | 0.000 | 0.92 (0.91,0.93) | 0.000 |
| July | 0.89 (0.89,0.9) | 0.000 | 0.94 (0.93,0.95) | 0.000 | 0.94 (0.93,0.95) | 0.000 |
| August | 0.91 (0.9,0.92) | 0.000 | 0.95 (0.94,0.96) | 0.000 | 0.95 (0.94,0.96) | 0.000 |
| September | 0.92 (0.91,0.93) | 0.000 | 0.96 (0.95,0.97) | 0.000 | 0.96 (0.95,0.97) | 0.000 |
| October | 0.94 (0.93,0.95) | 0.000 | 0.98 (0.97,0.99) | 0.001 | 0.98 (0.97,0.99) | 0.000 |
| November | 0.95 (0.94,0.96) | 0.000 | 0.98 (0.97,0.99) | 0.000 | 0.98 (0.97,0.99) | 0.000 |
| December | 0.92 (0.91,0.93) | 0.000 | 0.98 (0.97,0.99) | 0.000 | 0.98 (0.97,0.99) | 0.001 |
| Admission day of week | | | | | | |
| Sunday | 0.97 (0.97,0.98) | 0.000 | 0.99 (0.98,0.99) | 0.000 | 0.99 (0.98,0.99) | 0.000 |
| Monday | reference | | reference | | reference | |
| Tuesday | 1.03 (1.02,1.04) | 0.000 | 1.03 (1.02,1.04) | 0.000 | 1.03 (1.02,1.04) | 0.000 |
| Wednesday | 0.99 (0.99,1) | 0.046 | 1 (0.99,1) | 0.477 | 1 (0.99,1) | 0.403 |
| Thursday | 0.98 (0.97,0.99) | 0.000 | 0.99 (0.98,0.99) | 0.001 | 0.99 (0.98,0.99) | 0.001 |
| Friday | 0.98 (0.97,0.98) | 0.000 | 0.99 (0.98,0.99) | 0.000 | 0.99 (0.98,0.99) | 0.000 |
| Saturday | 0.97 (0.96,0.98) | 0.000 | 0.98 (0.98,0.99) | 0.000 | 0.98 (0.98,0.99) | 0.000 |