

Appendix Table. Results of Sensitivity Analyses

Analysis	Details of Analysis	Outcome (aOR mortality in most burdened hospitals, 95% CI)
Primary	Adjusted OR mortality among subjects in the most burdened hospitals, compared to all hospitals, as detailed in text	1.46 (1.07-2.00)
SA 1	Restricted population to 4,538 patients (32%) age 75 and older	1.45 (1.09-1.92)
SA 2	Restricted sample to the 78 hospitals (67%) with at least 100 beds and at least 20 COVID-19 admissions	1.35 (0.98-1.87)
SA 3	Assumed the 145 patients (1%) who remained hospitalized after 5 weeks had all died	1.43 (1.06-1.93)
SA 4	Used the last admission rather than the first for the 839 patients (5.9%) with more than one hospital admission in April 2020 for COVID-19	1.44 (1.08-1.92)
SA 5	Added zipcode-level Race (White vs. non-White) to the model, for the 76% of subjects with known zipcode of residence	1.32 (0.92-1.91)
SA 6	Added zipcode-level AGI to the model as a continuous variable, for the 76% of subjects with known zipcode of residence	1.34 (0.93-1.93)
SA 7	Redefined burden over a 15 day rather than 30 day span, selecting the more burdened half of the month for each study hospital	1.50 (1.11-2.03)
SA 8	Treated COVID-19 burden as a continuous predictor (rather than comparing mortality across quintiles), reporting adjusted odds ratio of mortality for each additional COVID-19 admission per 3 hospital beds	1.17 (1.04-1.33)