

Supplementary Online Content

Kabarriti R, Brodin NP, Maron MI, et al. Association of race and ethnicity with comorbidities and survival among patients with COVID-19 at an urban medical center in New York. *JAMA Netw Open*. 2020;3(9):e2019795. doi:10.1001/jamanetworkopen.2020.19795

eFigure. Death Rates Across Age Strata Among Non-Hispanic White Patients, Non-Hispanic Black Patients, Hispanic Patients, and Asian Patients or Patients with Other Race/Ethnicity, Stratified by Sex and Number of Medical Comorbidities

eTable 1. Death Rates By Patient Demographic Characteristics

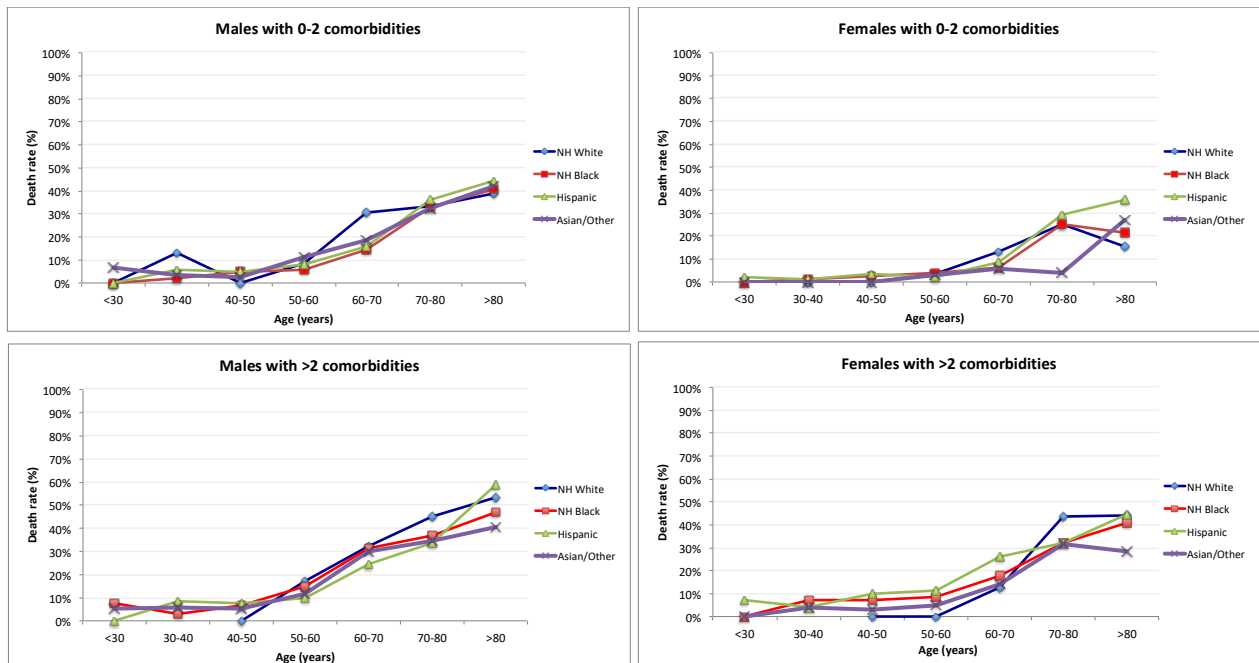
eTable 2. Cox Proportional Hazards Models for the Association of Demographic Characteristics and Comorbidities With Overall Survival in Univariable Analysis for Complete Case and Multiple Imputation Analyses

eTable 3. Management Setting Shown by Race and Ethnicity and the Association Between Socioeconomic Status and Number of Comorbidities

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

eFigure. Death Rates Across Age Strata Among Non-Hispanic White Patients, Non-Hispanic Black Patients, Hispanic Patients, and Asian Patients or Patients with Other Race/Ethnicity, Stratified by Sex and Number of Medical Comorbidities

Asian patients or patients with other race/ethnicity were grouped together due to the relatively low number of Asian patients in our cohort.



eTable 1. Death Rates By Patient Demographic Characteristics

| | Nr of deaths (% death rate) |
|---------------------------|-----------------------------|
| Sex | |
| Male | 522 (18.9%) |
| Female | 396 (12.7%) |
| Age | |
| ≤40 | 27 (2.1%) |
| 41-60 years | 133 (6.6%) |
| 61-80 years | 507 (25.3%) |
| >80 years | 251 (40.5%) |
| Socioeconomic status | |
| Lowest quartile | 220 (14.9%) |
| 2 nd quartile | 206 (13.7%) |
| 3 rd quartile | 280 (19.4%) |
| Highest quartile | 212 (14.3%) |
| Ethnicity/Race | |
| Non-Hispanic White | 102 (20.0%) |
| Non-Hispanic Black | 333 (17.2%) |
| Hispanic | 309 (16.2%) |
| Asian | 29 (17.0%) |
| Other | 95 (12.0%) |
| Nr of comorbidities | |
| 0 | 56 (3.1%) |
| 1-2 | 276 (12.3%) |
| >2 | 586 (31.3%) |
| BMI | |
| 18.5-35 | 719 (15.3%) |
| <18.5 | 29 (28.4%) |
| >35 | 170 (15.3%) |
| Hypertension | |
| No | 319 (9.8%) |
| Yes | 599 (22.7%) |
| Cardiovascular disease | |
| No | 468 (10.2%) |
| Yes | 450 (34.5%) |
| Diabetes mellitus | |
| No | 408 (10.3%) |
| Yes | 510 (26.3%) |
| Cancer | |
| No | 809 (14.5%) |
| Yes | 109 (32.7%) |
| Liver disease | |
| No | 805 (14.6%) |
| Yes | 113 (28.8%) |
| Dementia | |
| No | 776 (13.9%) |
| Yes | 142 (46.9%) |
| Chronic pulmonary disease | |
| No | 640 (13.8%) |
| Yes | 278 (22.2%) |
| Peptic ulcer | |
| No | 869 (15.1%) |
| Yes | 49 (32.5%) |
| Hemiplegia/Paraplegia | |
| No | 868 (15.0%) |
| Yes | 50 (39.1%) |
| Renal disease | |
| No | 455 (9.6%) |
| Yes | 463 (39.4%) |
| HIV/AIDS | |
| No | 902 (15.5%) |
| Yes | 16 (17.4%) |

eTable 2. Cox Proportional Hazards Models for the Association of Demographic Characteristics and Comorbidities With Overall Survival in Univariable Analysis for Complete Case and Multiple Imputation Analyses

| | Complete case | | MI = 20 | |
|---------------------------|-----------------------|---------|-----------------------|---------|
| | Hazard Ratio (95% CI) | P-value | Hazard Ratio (95% CI) | P-value |
| Sex | | | | |
| Male | (ref) | | (ref) | |
| Female | 0.67 (0.59, 0.76) | <0.001 | 0.67 (0.59, 0.76) | <0.001 |
| Age | | | | |
| ≤40 | (ref) | | (ref) | |
| 41-60 years | 2.42 (1.60, 3.66) | <0.001 | 2.42 (1.60, 3.66) | <0.001 |
| 61-80 years | 7.63 (5.18, 11.2) | <0.001 | 7.63 (5.18, 11.2) | <0.001 |
| >80 years | 14.9 (9.98, 22.1) | <0.001 | 14.9 (9.98, 22.1) | <0.001 |
| Socioeconomic status | | | | |
| Lowest quartile | (ref) | | (ref) | |
| 2 nd quartile | 1.11 (0.92, 1.35) | 0.27 | 1.11 (0.91, 1.34) | 0.31 |
| 3 rd quartile | 1.36 (1.13, 1.63) | 0.001 | 1.34 (1.12, 1.61) | 0.002 |
| Highest quartile | 1.13 (0.92, 1.38) | 0.23 | 1.13 (0.92, 1.38) | 0.24 |
| Ethnicity/Race | | | | |
| Non-Hispanic White | (ref) | | (ref) | |
| Non-Hispanic Black | 0.68 (0.54, 0.85) | 0.001 | 0.68 (0.54, 0.85) | 0.001 |
| Hispanic | 0.66 (0.52, 0.82) | <0.001 | 0.66 (0.52, 0.82) | <0.001 |
| Asian | 0.79 (0.53, 1.20) | 0.28 | 0.79 (0.53, 1.20) | 0.28 |
| Other | 0.57 (0.43, 0.76) | <0.001 | 0.57 (0.43, 0.76) | <0.001 |
| Unknown/declined | 0.56 (0.40, 0.78) | 0.001 | 0.56 (0.40, 0.78) | 0.001 |
| Nr of comorbidities | | | | |
| 0 | (ref) | | (ref) | |
| 1-2 | 1.66 (1.18, 2.34) | 0.004 | 1.66 (1.18, 2.34) | 0.004 |
| >2 | 3.52 (2.54, 4.89) | <0.001 | 3.52 (2.54, 4.89) | <0.001 |
| BMI | | | | |
| 18.5-35 | (ref) | | (ref) | |
| <18.5 | 1.37 (0.95, 1.99) | 0.094 | 1.37 (0.94, 1.99) | 0.096 |
| >35 | 0.89 (0.75, 1.05) | 0.17 | 0.88 (0.74, 1.04) | 0.13 |
| Hypertension | 1.58 (1.38, 1.81) | <0.001 | 1.58 (1.38, 1.81) | <0.001 |
| Cardiovascular disease | 2.35 (2.06, 2.67) | <0.001 | 2.35 (2.06, 2.67) | <0.001 |
| Diabetes mellitus | 1.82 (1.60, 2.07) | <0.001 | 1.82 (1.60, 2.07) | <0.001 |
| Cancer | 1.56 (1.28, 1.91) | <0.001 | 1.56 (1.28, 1.91) | <0.001 |
| Liver disease | 1.30 (1.07, 1.58) | 0.009 | 1.30 (1.07, 1.58) | 0.009 |
| Dementia | 3.06 (2.56, 3.66) | <0.001 | 3.06 (2.56, 3.66) | <0.001 |
| Chronic pulmonary disease | 1.16 (1.01, 1.34) | 0.035 | 1.16 (1.01, 1.34) | 0.035 |
| Peptic ulcer | 1.56 (1.17, 2.08) | 0.002 | 1.56 (1.17, 2.08) | 0.002 |
| Hemiplegia/Paraplegia | 1.90 (1.43, 2.52) | <0.001 | 1.90 (1.43, 2.52) | <0.001 |

| | | | | |
|---------------|-------------------|--------|-------------------|--------|
| Renal disease | 2.68 (2.35, 3.05) | <0.001 | 2.68 (2.35, 3.05) | <0.001 |
| HIV/AIDS | 0.88 (0.53, 1.44) | 0.60 | 0.88 (0.53, 1.44) | 0.60 |

eTable 3. Management Setting Shown by Race and Ethnicity and the Association Between Socioeconomic Status and Number of Comorbidities

| | Management setting | | | |
|-----------------------|-----------------------------------|----------------------|---------------------------------|---------|
| | Outpatient | Admitted to hospital | Sent to the ED but not admitted | |
| Ethnicity/Race | | | | |
| Non-Hispanic White | 202 (40%) | 243 (48%) | 64 (12%) | |
| Non-Hispanic Black | 411 (21%) | 1206 (62%) | 318 (16%) | |
| Hispanic | 276 (14%) | 1148 (60%) | 481 (25%) | |
| Asian | 56 (33%) | 81 (47%) | 34 (20%) | |
| Other | 306 (39%) | 362 (46%) | 124 (16%) | |
| P-value | <0.001 | | | |
| | | | | |
| | Nr of comorbidities | | | P-value |
| | 0 | 1-2 | >2 | |
| | Median SES (inter-quartile range) | | | |
| Ethnicity/Race | | | | |
| Non-Hispanic White | 0.45 (-1.33, 1.90) | -0.70 (-1.98, 0.57) | -1.10 (-2.39, -0.17) | <0.001 |
| Non-Hispanic Black | -1.38 (-3.47, -0.76) | -1.68 (-4.08, -0.81) | -1.63 (-4.80, -1.04) | 0.11 |
| Hispanic | -3.61 (-6.18, -1.91) | -3.19 (-6.39, -1.47) | -3.54 (-6.46, -1.56) | 0.28 |
| Asian | -1.27 (-2.13, 0.50) | -2.27 (-3.95, -0.33) | -1.94 (-3.64, -1.00) | 0.096 |
| Oher | -1.59 (-4.16, 0.21) | -1.79 (-3.36, -0.58) | -2.02 (-5.08, -0.96) | 0.033 |