

**Retrospective Case Cohort Study of 3219 Hospitalized Patients with COVID19 in Southeast Michigan**

## Supplement

Four multivariate logistic regression models were created with death as the outcome of interest using age, gender, and chronic medical conditions and bivariate associations within the data. The first model calculated the odds ratio of death when controlling for age, gender, race, current smoking, diabetes mellitus (DM), hypertension (HTN), heart failure (HF), coronary artery disease (CAD), chronic kidney disease (CKD), obesity (BMI >30), asthma, and chronic obstructive pulmonary disease (COPD). The second model used the same variables as the first model with the addition of ten home medications of interest (angiotensin converting enzyme inhibitors, angiotensin receptor blockers, aspirin, insulin, metformin, warfarin, novel oral anticoagulants, inhaled corticosteroids, inhaled long-acting muscarinic antagonists, and inhaled long-acting beta agonists). The third model used the same variables as the first model with the addition of ten hospital-administered medications of interest (hydroxychloroquine, azithromycin, vitamin C, novel oral anticoagulants, remdesivir, tocilizumab, subcutaneous prophylactic heparin, and therapeutic heparin). The fourth model used the same variables as the first model with the addition of use of hydroxychloroquine, azithromycin, and therapeutically dosed heparin as categorical variables based on time period. All variables were retained in the final models other than the fourth model where highly nonsignificant medical conditions were excluded to increase model stability.

**Table S1. Odds Ratio of Death from Logistic Regression Model with Home Medications when Controlling for Age, Gender, and Chronic Medical Conditions**

Variable	Odds Ratio of Death	Confidence Interval	P-Value
<u>Male gender</u>	1.47	1.20 to 1.80	<0.001
Age (per year) <sup>a</sup>	1.04	1.03 to 1.05	<0.001
Diabetes	1.18	0.90 to 1.54	0.229
Hypertension	0.99	0.73 to 1.33	0.922
Heart Failure	1.32	1.03 to 1.70	0.031
Coronary Artery Disease	1.08	0.85 to 1.37	0.62
Chronic Kidney Disease	1.66	1.34 to 2.07	<0.001
Asthma	1.13	0.81 to 1.56	0.475
COPD	1.23	0.93 to 1.61	0.137
Ace Inhibitor	0.93	0.74 to 1.18	0.552
Angiotensin Receptor Blocker	1.01	0.80 to 1.29	0.906
Aspirin	1.16	0.92 to 1.48	0.214
Insulin	1.24	0.92 to 1.67	0.161
Metformin	0.98	0.73 to 1.31	0.884
Warfarin	1.05	0.74 to 1.48	0.785
Novel Oral Anticoagulant	0.85	0.62 to 1.15	0.281
Inhaled corticosteroid	0.86	0.54 to 1.35	0.500
Heparin Post-peak	1.08	0.56 to 2.09	0.830
LAMA	0.85	0.54 to 1.34	0.487
LABA	1.45	0.87 to 2.41	0.157

Abbreviations: COPD, chronic obstructive pulmonary disease; LAMA, long-acting muscarinic antagonist; LABA, long-acting beta agonist <sup>a</sup> Age: for every increase of one year in age

**Table S2. Odds Ratio of Death from Logistic Regression Model with Administration of Azithromycin, Hydroxychloroquine, and Therapeutically Dosed Heparin in Three Time Periods when Controlling for Age, Gender, and Chronic Medical Conditions**

Variable	Odds Ratio of Death	Confidence Interval	P-Value
<u>Male gender</u>	1.34	1.08 to 1.65	0.007
Age <sup>a</sup>	1.05	1.04 to 1.06	<0.001
DM	1.14	0.91 to 1.41	0.237
Heart Failure	1.35	1.05 to 1.73	0.017
CKD	1.54	1.24 to 1.93	<0.001
COPD	1.19	0.93 to 1.52	0.176
Azithromycin Pre-peak	0.68	0.40 to 1.16	0.158
Azithromycin Peak	0.89	0.58 to 1.34	0.568
Azithromycin Post-peak	0.90	0.39 to 2.09	0.806
Hydroxychloroquine Pre-peak	1.90	1.11 to 3.24	0.018
Hydroxychloroquine Peak	0.71	0.46 to 1.09	0.118
Hydroxychloroquine Post-peak	0.69	0.34 to 1.32	0.246
Heparin Pre-peak	3.41	2.47 to 4.70	<0.001
Heparin Peak	2.99	2.20 to 4.08	< 0.001
Heparin Post-peak	1.08	0.56 to 2.09	0.830

Abbreviations: DM, Diabetes Mellitus; CKD, chronic kidney disease; COPD, chronic obstructive pulmonary disease. a Age: for every increase of one year in age