



## Article Appraisal

**Article:** Presenting Characteristics, Comorbidities and Outcomes Among 5700 Patients Hospitalized with COVID-19 in the New York City Area

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### Background and Study Objective(s):

To describe the clinical characteristics and outcomes of patients with COVID-19 hospitalized in a US healthcare system.

### Study Design:

Case series of patients with confirmed COVID-19 admitted to 12 hospitals in New York City (NYC), Long Island, and Westchester County, New York, within the Northwell Health system. The study included all sequentially hospitalized patients between March 1, 2020, and April 4, 2020, inclusive of these dates.

### Results:

A total of 5700 patients were included (median age, 63 years [interquartile range {IQR}, 52-75; range, 0-107 years]; 39.7% female). The most common comorbidities were hypertension (3026; 56.6%), obesity (1737; 41.7%), and diabetes (1808; 33.8%). At triage, 30.7% of patients were febrile, 17.3% had a respiratory rate greater than 24 breaths/minute, and 27.8% received supplemental oxygen. The rate of respiratory virus co-infection was 2.1%. Outcomes were assessed for 2634 patients who were discharged or had died at the study end point. During hospitalization, 373 patients (14.2%) (median age, 68 years [IQR, 56-78]; 33.5% female) were treated in the intensive care unit care, 320 (12.2%) received invasive mechanical ventilation, 81 (3.2%) were treated with kidney replacement therapy, and 553 (21%) died. As of April 4, 2020, for patients requiring mechanical ventilation (n = 1151, 20.2%), 38 (3.3%) were discharged alive, 282 (24.5%) died, and 831 (72.2%) remained in hospital

### Validity of Results:

This is an administrative database and not specifically designed for research. The validity of these results is thus dependent on information being correctly entered within the database. Patients with high clinical suspicion for COVID but a negative swab may have been excluded, while 'asymptomatic carriers' hospitalized for unrelated reasons may have been included. Variables such duration of symptoms, initial chest X-ray, experimental treatment, and comorbidities not captured within the Charlson Comorbidity Index, were not included. Importantly, given the median follow-up of 4.4 days, many patients were still in hospital when their outcomes were right-censored and cannot be included in either survivor or mortality calculations.

### **Generalizability of Results:**

This is a reasonably large sample size collected during a short period during a pandemic. The patient population may differ from British Columbia in demographics and comorbidities. Notably, the overall COVID landscape has changed significantly since the release of this paper. During study period, massive patient volumes may have compromised resources in a manner not seen in other settings. Halfway during the study period, management also changed to reduce emphasis on mechanical ventilation.

### **The Bottom Line:**

This case series provides characteristics and early outcomes of sequentially hospitalized patients with confirmed COVID-19 in the NYC area. Findings include a higher mortality for older patients, men and those with pre-existing hypertension and diabetes.