

Real-world Effectiveness of Sotrovimab for the Early Treatment of COVID-19: Evidence from the US National COVID Cohort Collaborative (N3C)

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Table S1 Emergency Use Authorization criteria

Criteria^a	Additional information
Age \geq 65 years	
Obesity	
Pregnancy	
History of CKD (any stage)	
History of CKD (stage \geq 3)	
History of type 1 diabetes	
History of type 2 diabetes	
Immunosuppressive disease	Defined as the presence of a condition or procedure occurrence relating to any of the following: Hodgkin's lymphoma, non-Hodgkin's lymphoma, leukaemia, solid cancer, human immunodeficiency virus, autoimmune disease, solid organ transplant and/or allogeneic stem cell transplant
Immunosuppressive treatment	Defined as \geq 2 drug exposure events for systemic corticosteroid therapy in the past 365 days or \geq 1 systemic non-corticosteroid immunosuppressants drug exposures in the past 365 days.
Cardiovascular disease (incl. congenital heart disease) or hypertension	
Chronic lung disease (COPD or asthma)	
Sickle cell disease	
Neurodevelopmental disorder	
Medical-related technological dependence	The presence of a procedure occurrence or device exposure event relating to any of the following: respiratory aspirator, gastro- or jejunostomy, Mitrofanoff, a nasogastric tube, renal replacement therapy, total parenteral nutrition or ventricular assistance
Liver disease	
Anti-diabetic therapies	
Acute or acute-on-chronic respiratory failure	
Pulmonary hypertension	

Heart failure	
Acquired heart disease	
Non-asthma and non-COPD chronic respiratory diseases	
ICS-containing therapies	

CKD chronic kidney disease, *COPD* chronic obstructive pulmonary disease; *ICS* inhaled corticosteroid

^aAll applicable during baseline period or at index date, except for age ≥ 65 years (at index date only)

Table S2. Study covariates

Variable	Type	Time frame	Additional information
Age	Continuous	Index date	Derived as year of index date – year of birth. Only year of birth is provided in data source
Gender	Categorical	Not applicable	Recorded as 'FEMALE', 'MALE' or 'OTHER' in source data
Ethnicity	Categorical	Not applicable	Assessed based on race and ethnicity concepts listed in Person table. (Note that White ethnicity is stratified into 'White Hispanic or Latino' and 'White not Hispanic or Latino'. This will be based on the ethnicity concept field and the race concept field)
US state of patient's primary care provider	Categorical	Not applicable	Assessed based on the location of the patient's primary care provider as listed in the Person table
Antibody test during baseline	Boolean	Baseline period	COVID-19 antibody tests will be identified based on the following CPT codes: 86328, 86769
Time from last vaccination dose	Continuous	Vaccination assessment period	Time from last vaccination dose to index date
Patient fully vaccinated^a	Boolean	Vaccination assessment period	<p>Patients has received two or more vaccinations during assessment period with an mRNA vaccine (Pfizer-BioNTech [BNT162b2] or Moderna [mRNA-1273])</p> <p>OR</p> <p>Patient has received a single dose of viral vector (Johnson & Johnson ([JNJ-784336725])</p>
Patient fully vaccinated with booster^a	Boolean	Vaccination assessment period	<p>Patient has received three or more vaccinations with an mRNA vaccine</p> <p>OR</p>

Variable	Type	Time frame	Additional information
			Two or more vaccinations, with at least one of those vaccinations being with JNJ-784336725
Patients partially vaccinated^a	Boolean	Vaccination assessment period	Patient has received one vaccine during assessment period with an mRNA vaccine (Pfizer-BioNTech [BNT162b2] or Moderna [mRNA-1273])
Patient unvaccinated	Boolean	Vaccination assessment period	Patient has received no SARS-CoV-2 vaccines during assessment period
Pre-COVID diagnoses	Array	Baseline period	Conditions listed with a condition start date occurring during the baseline period. Will be based on Condition Concept Name listed in the Condition_Occurrence table
Time to sotrovimab infusion from the COVID-19 diagnosis date (Cohort 1)	Continuous	Baseline period	Time from positive PCR/Ag test for SARS-CoV-2 or first date of diagnosis of U07.1 (COVID-19, virus identified) to sotrovimab infusion in Cohort 1
Quan–Charlson Comorbidity Index	Integer	Baseline period	Based on the presence of ICD-9-CM and ICD-10-CM diagnosis codes incorporating 17 comorbidities
Number of healthcare encounters during baseline	Integer	Baseline period	–
Number of inpatient encounters during baseline	Integer	Baseline period	–
Number of encounters requiring critical care during baseline	Integer	Baseline period	Presence of a critical care, intubation or mechanical ventilation CPT code in the procedure occurrence table

Ag antigen, COVID-19, coronavirus disease 2019, CPT, Current Procedural Terminology, PCR polymerase chain reaction, SARS-CoV-2, severe acute respiratory syndrome coronavirus 2

^aCode set IDs for mRNA vaccines: 37003432, 37003518, 37003436, 724904 (vaccine unspecified); Code set IDs for viral vector vaccine: 739906, 702866, 724905