Treatment Utilization and Key Characteristics of COVID-19 Patients Treated With Monoclonal Antibody Therapy in the Outpatient Setting

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Introduction

Background

Coronavirus disease 2019 (COVID-19) has rapidly spread and evolved since its discovery.[1] Treatment guidelines for COVID-19, particularly for monoclonal antibody (mAb) therapies, have frequently changed as disease understanding develops and new variants emerge that undermine treatment effectiveness.[2, 3]

Because of the novelty and constant evolution of this virus, limited research exists on COVID-19 mAb treatment utilization. Furthermore, greater understanding of who has received these therapies is needed to examine health disparities and possible access issues.[4]

Objectives

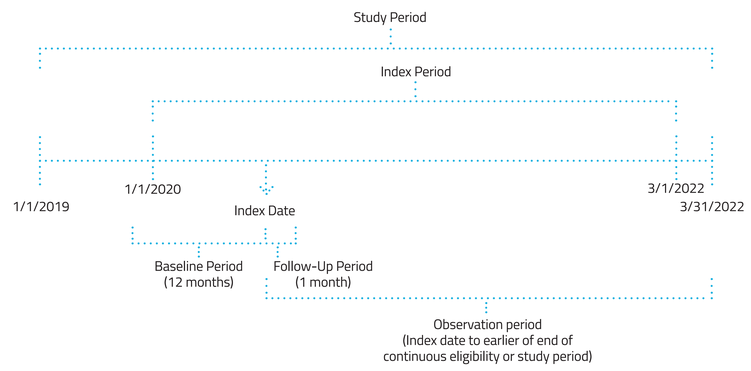
- To describe the utilization and pattern use of monoclonal antibody (mAb) therapy in the outpatient setting for COVID-19 patients.
- To identify key characteristics of COVID-19 patients who received mAb therapy in the outpatient setting.

Methods

Study Design

This retrospective, observational study was conducted using de-identified, administrative, closed claims data from January 1, 2019, through March 31, 2022 (study period) from Komodo's Healthcare Map™.

Figure 1. Study Design



Inclusion Criteria

- Patients with ≥1 COVID-19 claim between 1/1/2020 and 3/31/2022
- Patients with ≥1 mAb therapy claim in the outpatient setting between 1/1/2020 and 3/31/2022
- Index date: The date of the first mAb therapy claim
- Index therapy: mAb therapy initiated on the index date
- Patients with continuous medical and pharmacy enrollment for ≥365 days before the index date (baseline period) and ≥30 days after the index date (follow-up period)
- Patients ≥18 years old on the index date

Variable of Interest

- Demographic and clinical characteristics (pre-existing conditions)
- COVID-related medication utilization
- Severity of COVID-19

Results

Analysis

A descriptive analysis of mAb treatment utilization and key patient characteristics was conducted. Patient demographics and clinical characteristics were assessed during the baseline period or on the index date. mAb utilization was assessed both on the index date and during the observation period.

Figure 2. Sample Selection

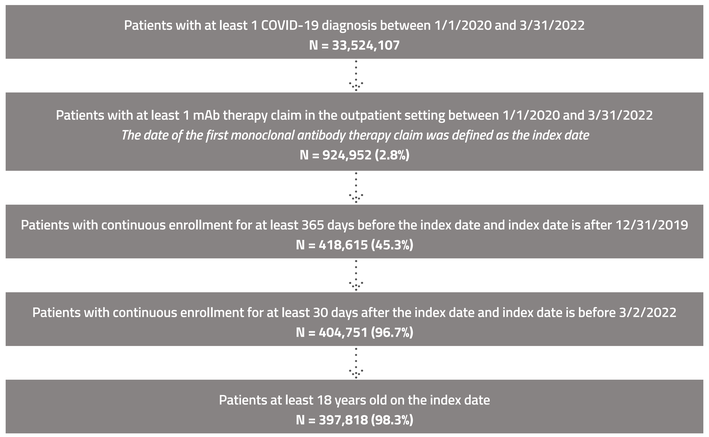


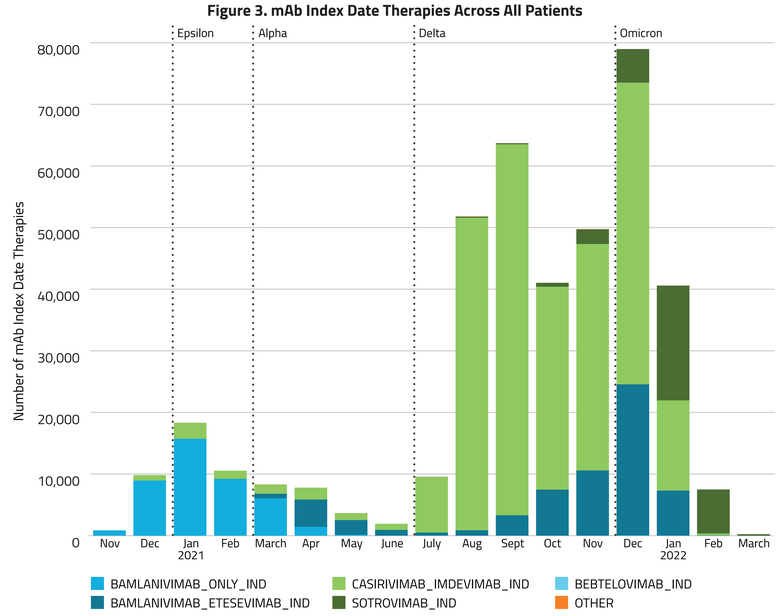
Table 1. Patient Characteristics

Patient Characteristics	All Patients (N = 397,818)
Demographics	
Mean age (SD)	50.5 (14.2)
Female, n (%)	223,303 (56.1)
Patients with race information, n (%)	183,015 (46.0)
White	151,169 (82.6)
Black or African American	19,175 (10.5)
Asian or Pacific Islander	2,211 (1.2)
American Indian or Alaska Native	207 (0.1)
Other	10,253 (5.6)
Patients with ethnicity information, n (%)	160,541 (40.4)
Non-Hispanic or Latino	145,768 (90.8)
Clinical and Treatment Characteristics	
Any high-risk pre-existing conditions, n (%)	313,935 (78.9)
Heart conditions (e.g., hypertension, ischemic heart diseases)	191,461 (48.1)
Mental health conditions	164,314 (41.3)
Overweight and obesity	109,217 (27.5)
Diabetes (type 1 or type 2)	89,087 (22.4)
Other COVID-related medications within 30 days, n (%)	66,390 (16.7)

Pre-existing conditions were leveraged from the list of high-risk conditions identified by the CDC[5]. Other COVID-related medications assessed within the 30 days prior to or after the index date were paxlovid, remdesivir, or systemic corticosteroids.

This figure shows the mAb index date therapies in connection to the COVID-19 most prevalent variant.

Figure 3. mAb Index Date Therapies Across All Patients



Conclusion

mAb utilization and pattern use varied over time, possibly due to changes in the most prevalent variant, supply chain issues, and current recommendations and regulations. Patients were older and predominantly female, white, and non-Hispanic or Latino. Most patients also had at least one pre-existing condition associated with greater risk of severe disease; however, most patients did not receive other COVID-related medications in addition to mAb therapy.

References

[1] World Health Organization. "Coronavirus disease (COVID-19) pandemic." https://www.who.int/emergencies/diseases/novel-coronavirus-2019

[2] National Institutes of Health. "COVID-19 Treatment Guidelines." https://www.covid19treatmentguidelines.nih.gov/

[3] National Institutes of Health. "Therapeutic Management of Nonhospitalized Adults With COVID-19." https://www.covid19treatmentguidelines.nih.gov/management/clinical-management-of-adults/nonhospitalized-adults--therapeutic-management

[4] Wiltz, JL, Feehan, AK, Molinari, NM, et al. "Racial and Ethnic Disparities in Receipt of Medications for Treatment of COVID-19 — United States, March 2020–August 2021." Morbidity and Mortality Weekly Report (MMWR) 2022;71:96–102.

[5] Centers for Disease Control and Prevention. "COVID-19: People with Certain Medical Conditions." https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html#MedicalConditionsAdults

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