Medicare COVID-19 Hospitalization Trends Overview

CMS publicly released the first Preliminary Medicare COVID-19 Snapshot in June 2020 during the early stages of the Public Health Emergency for COVID-19. That report focused on COVID-19 cases and hospitalizations data for Medicare beneficiaries with a COVID-19 diagnosis. Beginning in October 2021, CMS shifted its public COVID-19 reporting away from cumulative case and hospitalization rates to hospitalization trends over time with the release of this report, the Medicare COVID-19 Hospitalization Trends Report. This report presents information about Medicare beneficiaries who were hospitalized with a COVID-19 diagnosis. The final update (this version) was released in early 2024, and includes claims incurred between January 1, 2020 and June 30, 2023. More information about release dates for both COVID-19 data products can be found in the methodology document.

Medicare COVID-19 Hospitalizations

Medicare COVID-19 Hospitalization: A count of stays with a diagnosis of COVID-19 on a claim or encounter record for an *inpatient hospital* setting.

We use the following International Classification of Diseases (ICD), Tenth Revision (ICD-10), diagnosis codes to identify COVID-19 cases on claims and encounters:
- B97.29 (other coronavirus as the cause of diseases classified elsewhere) - before April 1, 2020
- U07.1 (2019 Novel Coronavirus, COVID-19) – from April 1, 2020 onward.

We find COVID-19 hospitalizations using ICD-10 diagnosis codes on claims and encounters. The Centers for Disease Control and Prevention (CDC) has issued COVID-19 ICD-10 coding guidance. Diagnosis code accuracy depends on: (1) how clinicians document (e.g., omitting information or using synonyms or abbreviations to describe a patient's condition) and (2) medical coder experience and training. As a result, we consider diagnosis information from claims and encounters less reliable than clinical information collected other ways (e.g., chart reviews). Since we don't need this type of clinical information to run our programs, we only collect it in limited circumstances (e.g., for program integrity purposes).

All data are presented by month. The data included in this presentation, as well as additional levels of detail, are available in the data file.

Please see the methodology document for more details.

Medicare Enrollee Facts

As of June 2023, around 66.2 million Americans are enrolled in Medicare: 51% in Medicare Fee-for-Service (FFS), also known as Original Medicare, and 49% in Medicare Advantage (MA) plans.

Race/Ethnicity Data

A person's race/ethnicity is identified using data collected by the Social Security Administration (SSA) with adjustments to improve the race/ethnicity classification for Hispanic and Asian/Pacific Islander populations. Specifically, CMS worked with the Research Triangle Institute (RTI) to develop an algorithm that uses Census surname lists for likely Hispanic and Asian/Pacific Islander origin and simple geography (residence in Puerto Rico or Hawaii) to improve the SSA race/ethnicity data. The variable developed using this algorithm is often referred to as the RTI Race Code. The race/ethnicity classifications are: American Indian/Alaska Native, White, Black/African American, Asian/Pacific Islander, Hispanic, and Other/Unknown.

Note: Even with the application of the RTI algorithm, comparisons to self-reported data show that race/ethnicity is still misclassified for some people (self-reported data is only available through survey and assessment data for a small subset of the Medicare population). The RTI algorithm improves the accuracy of Medicare race/ethnicity data, but continues to undercount people with a race/ethnicity of Asian/Pacific Islander and American Indian/Alaska Native, and to a lesser extent Hispanic, in the Medicare population.

Medicare Entitlement

Medicare entitlement is available to three basic groups of "insured individuals" – people age 65 and older (*aged)*, younger people with disabilities (*disabled)*, and people with end stage renal disease *(ESRD)*. How a person qualifies for Medicare can change over time (e.g., when a person turns 65 his/her entitlement reason changes to *aged*). For purposes of this snapshot, people who have ESRD, regardless of whether they are also aged or disabled, are classified as *ESRD*. In all other cases, we use a person's current reason for entitlement (*aged* or *disabled*).

For additional details on data limitations, please see the disclaimer on the next page and view the methodology document available here.

What You Should Know When Using Our Data (Disclaimer)

You should use caution when interpreting our data. We collect Medicare claims and encounter data for payment and other program purposes, but not for public health surveillance. There will always be a delay or "claims lag" between when a service occurs and when the claim or encounter for that service is in our database. The length of the lag depends on the service type and program. There may also be longer claims lag due to the pandemic, but we're not sure of the impact.

Historically, 90% of FFS claims across all claim types are submitted within 3 months, while 90% of MA encounters across all claim types are submitted within 12 months. We expect timely FFS claims submissions because providers submit claims directly to us for payment. A longer claims lag is expected for Medicare Advantage encounters because Medicare Advantage Organizations: (1) collect encounters before submitting them to us and (2) have more time to submit encounters because there are different programmatic uses for the data, like risk adjustment.

Percent of Medicare FFS Claims Received by Time after Date of Service

Claim Type	1 Month†	2 Months	3 Months		6 Months		9 Months		12 Months
Inpatient	43%	91%	96%		99%		99%		100%
SNF	2%	81%	94%		98%		99%		100%
Hospice	3%	81%	92%		98%		99%		100%
Home Health	22%	74%	90%		97%		99%		100%
Outpatient	37%	90%	95%		98%		99%		100%
Carrier	43%	87%	93%		98%		99%		100%
DME	57%	84%	90%		96%		98%		100%

Percent of Medicare Advantage Claims Received by Time after Date of Service

Claim Type	1 Month	2 Months	3 Months		6 Months		9 Months		12 Months
Inpatient	11%	52%	61%		80%		88%		92%
SNF	5%	46%	66%		81%		87%		92%
Home Health	11%	52%	65%		83%		89%		93%
Outpatient	17%	63%	73%		87%		92%		95%
Professional	21%	62%	73%		87%		93%		95%
DME	23%	61%	72%		86%		91%		94%

Month 1 is the service month (i.e., month for the claim through date); FFS claims analysis based on data for July 2016; MA encounter data shows the % of encounters reported to us by 30 day increments from the through date of the service for January 2018. The data in this table is meant to be descriptive, but shouldn't be used to adjust data presented in this update due to pandemic-related claims submission uncertainties.

Summary of COVID-19 Hospitalizations and Hospitalized Enrollees

3,550,972 COVID-19 Hospitalizations

3,109,221 Enrollees with a COVID-19 Hospitalization

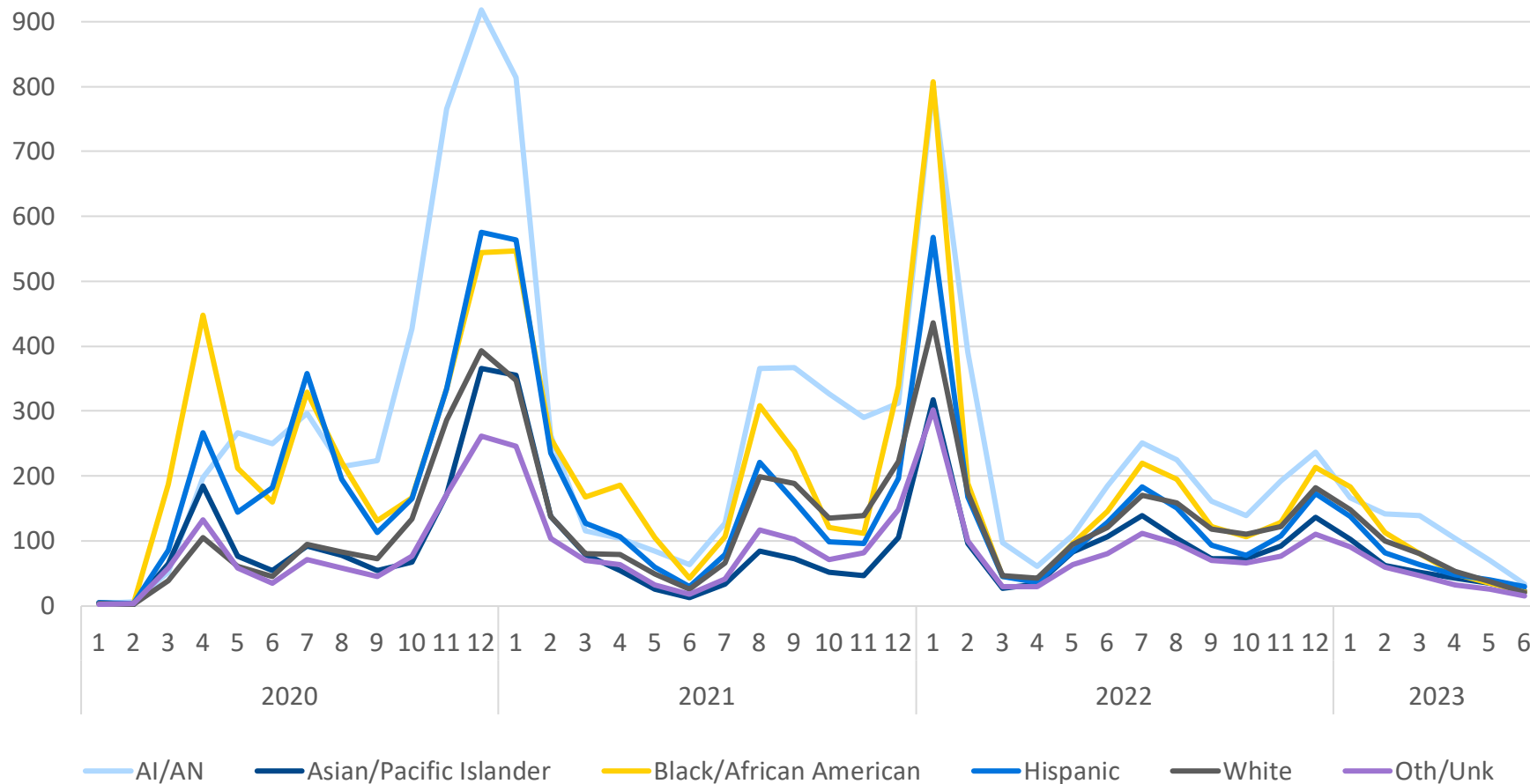| Timeframe	COVID-19 Hospitalizations	Unique Enrollees with a COVID-19 Hospitalization	Hospitalizations per 100K
2020: Jan - Jun	239,772	215,801	385
2020: Jul - Dec	746,818	665,383	1189
2021: Jan - Jun	514,854	461,102	814
2021: Jul - Dec	600,865	547,768	942
2022: Jan - Jun	613,738	562,368	953
2022: Jul - Dec	552,379	505,398	849
2023: Jan - Jun	282,546	261,232	430
2020: Total	**986,590**	**874,679**	**1,578**
2021: Total	**1,115,719**	**1,005,247**	**1,757**
2022: Total	**1,166,117**	**1,054,934**	**1,802**

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Medicare Payments for COVID-19 Hospitalizations (Fee-for-Service only)

1,923,359 COVID-19 Hospitalizations

$42B Total Medicare Payment for COVID-19 Hospitalizations

$21,803 Average Medicare Payment per COVID-19 Hospitalization

Timeframe	Total Fee-for-Service COVID-19 Hospitalizations	Total Medicare Payment for Fee-for-Service COVID-19 hospitalizations	Average Medicare Payment per Fee-for-Service COVID-19 hospitalization	5th Percentile	95th Percentile
2020: Jan - Jun	141,258	$3.6B	$25,464	$7,430	$71,415
2020: Jul - Dec	430,431	$9.3B	$21,598	$7,159	$57,569
2021: Jan - Jun	269,289	$6.1B	$22,635	$7,499	$60,574
2021: Jul - Dec	320,594	$7.4B	$23,219	$6,718	$63,530
2022: Jan - Jun	320,656	$6.8B	$21,207	$6,738	$53,331
2022: Jul - Dec	294,716	$5.8B	$19,823	$6,188	$48,104
2023: Jan - Jun	146,415	$2.9B	$19,538	$6,260	$46,959
2020: Total	571,689	**$12.9B**	$22,553	$7,220	$61,450
2021: Total	589,883	**$13.5B**	$22,952	$7,099	$62,187
2022: Total	615,372	**$12.6B**	$20,544	$6,454	$50,889

Note: This chart only includes fee-for-service COVID-19 hospitalizations with non-zero payments. Spending data are not available for encounter claims.

Monthly COVID-19 Hospitalization Rate per 100K: Overall

Medicare COVID-19 Hospitalization Trends Report
Medicare Claims and Encounter Data: January 1, 2020 to June 30, 2023, Received by November 10, 2023

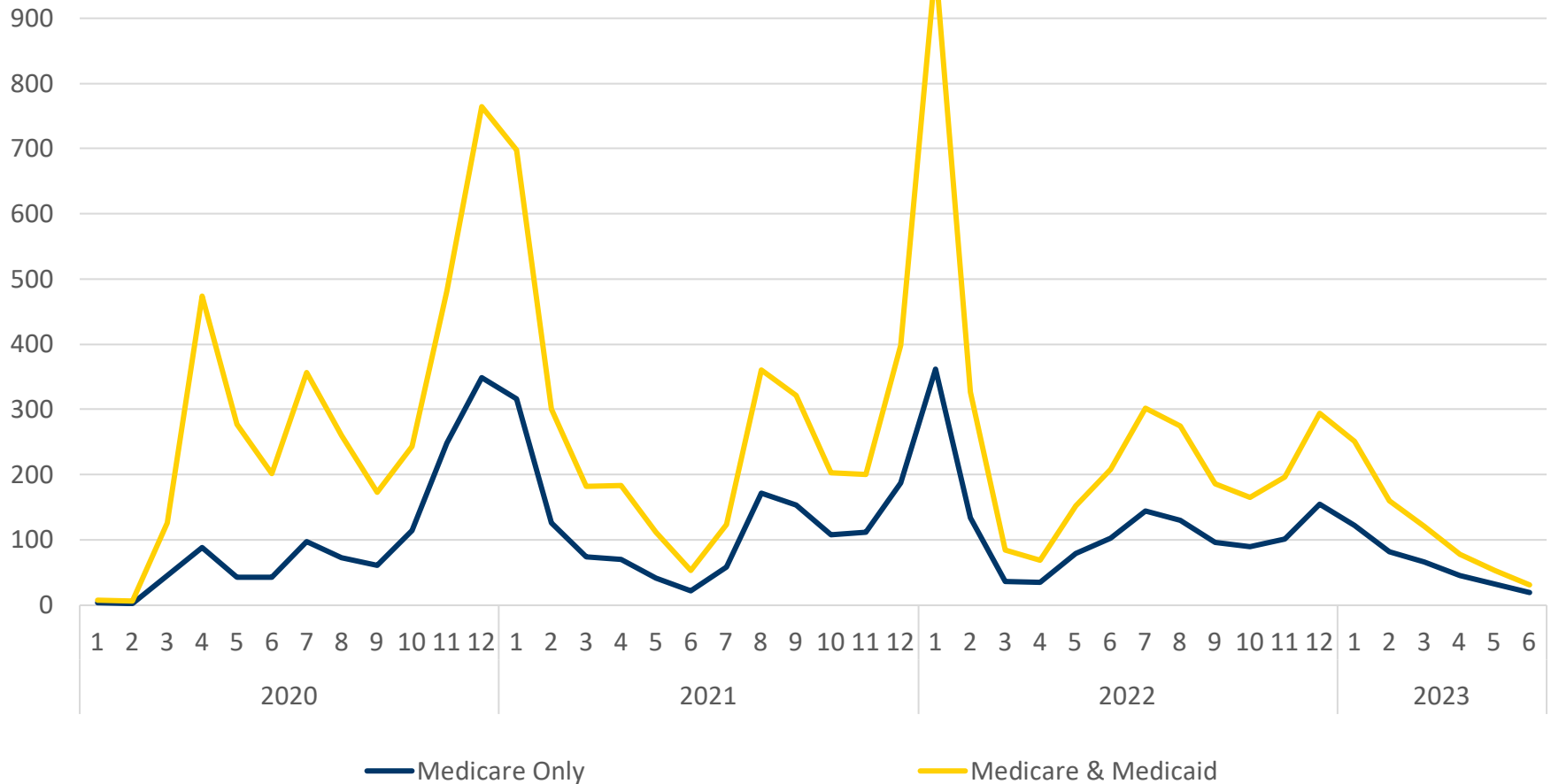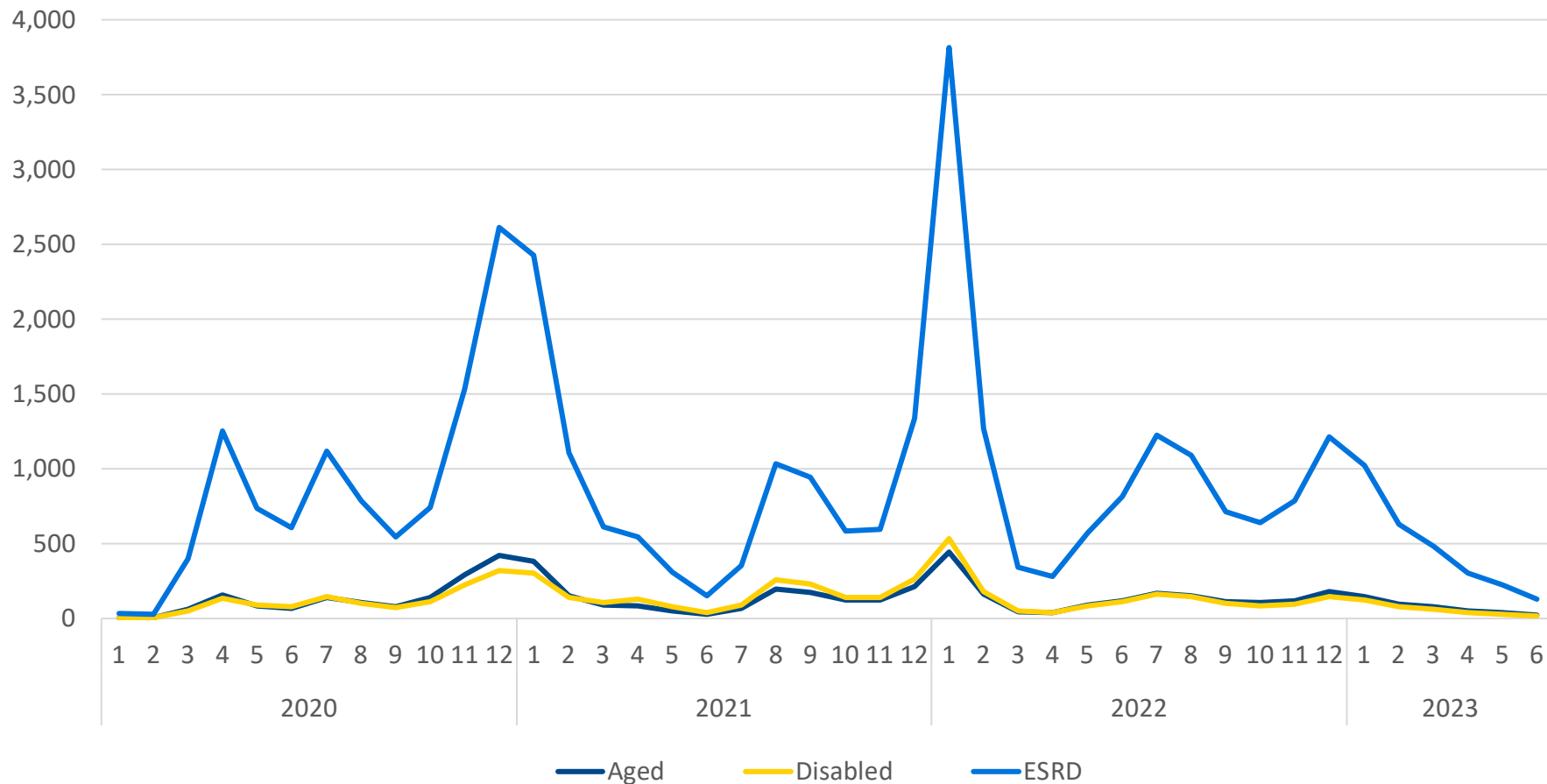## Monthly COVID-19 Hospitalization Rate per 100K: By Race/Ethnicity

Legend: AI/AN — Asian/Pacific Islander — Black/African American — Hispanic — White — Oth/Unk

Monthly COVID-19 Hospitalization Rate per 100K: By Medicaid Eligibility

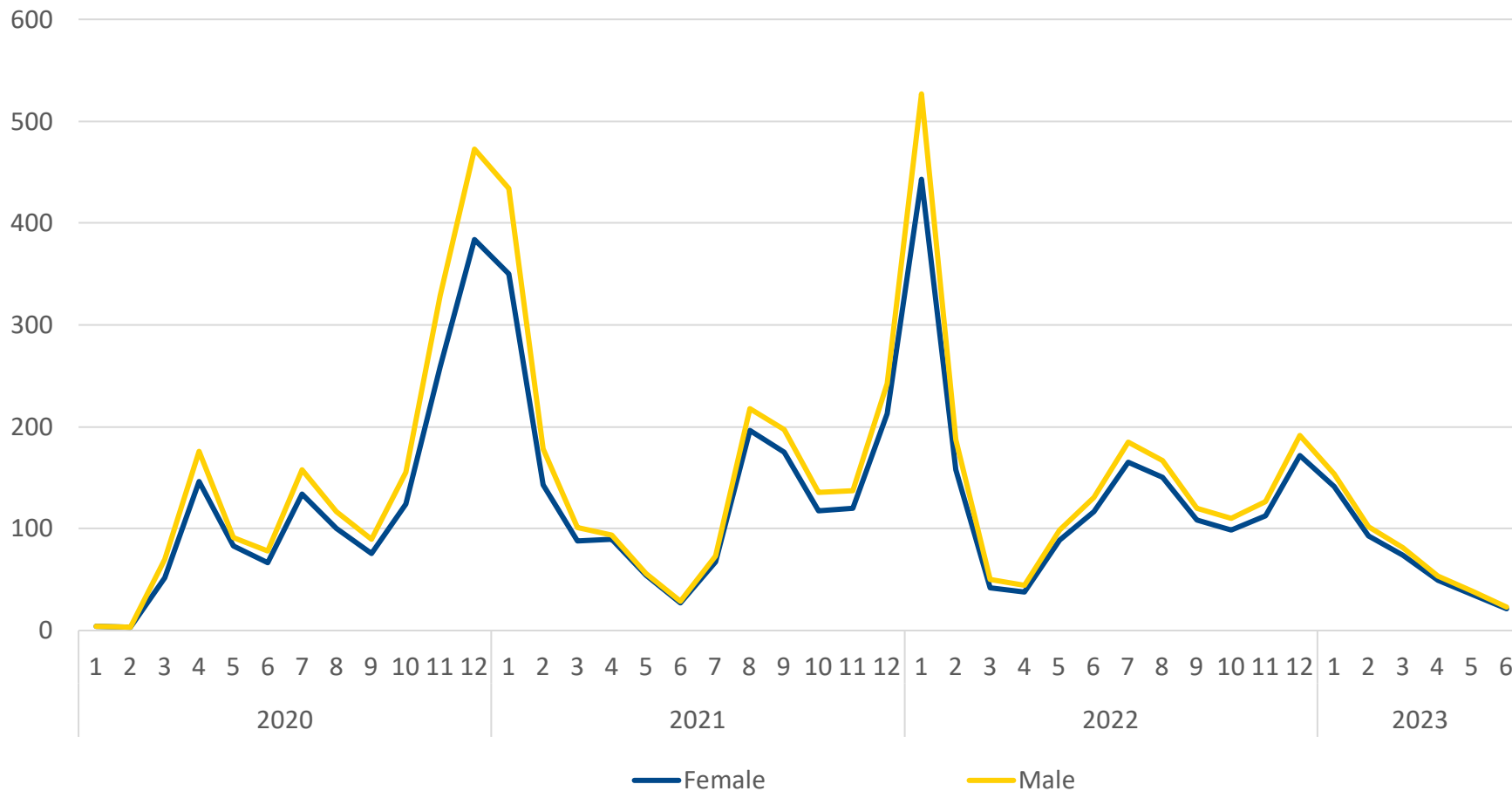Legend: Medicare Only — Medicare & Medicaid

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Medicare Claims and Encounter Data: January 1, 2020 to June 30, 2023, Received by November 10, 2023

Monthly COVID-19 Hospitalization Rate per 100K: By Medicare Entitlement

Legend: Aged, Disabled, ESRD

Monthly COVID-19 Hospitalization Rate per 100K: By Sex
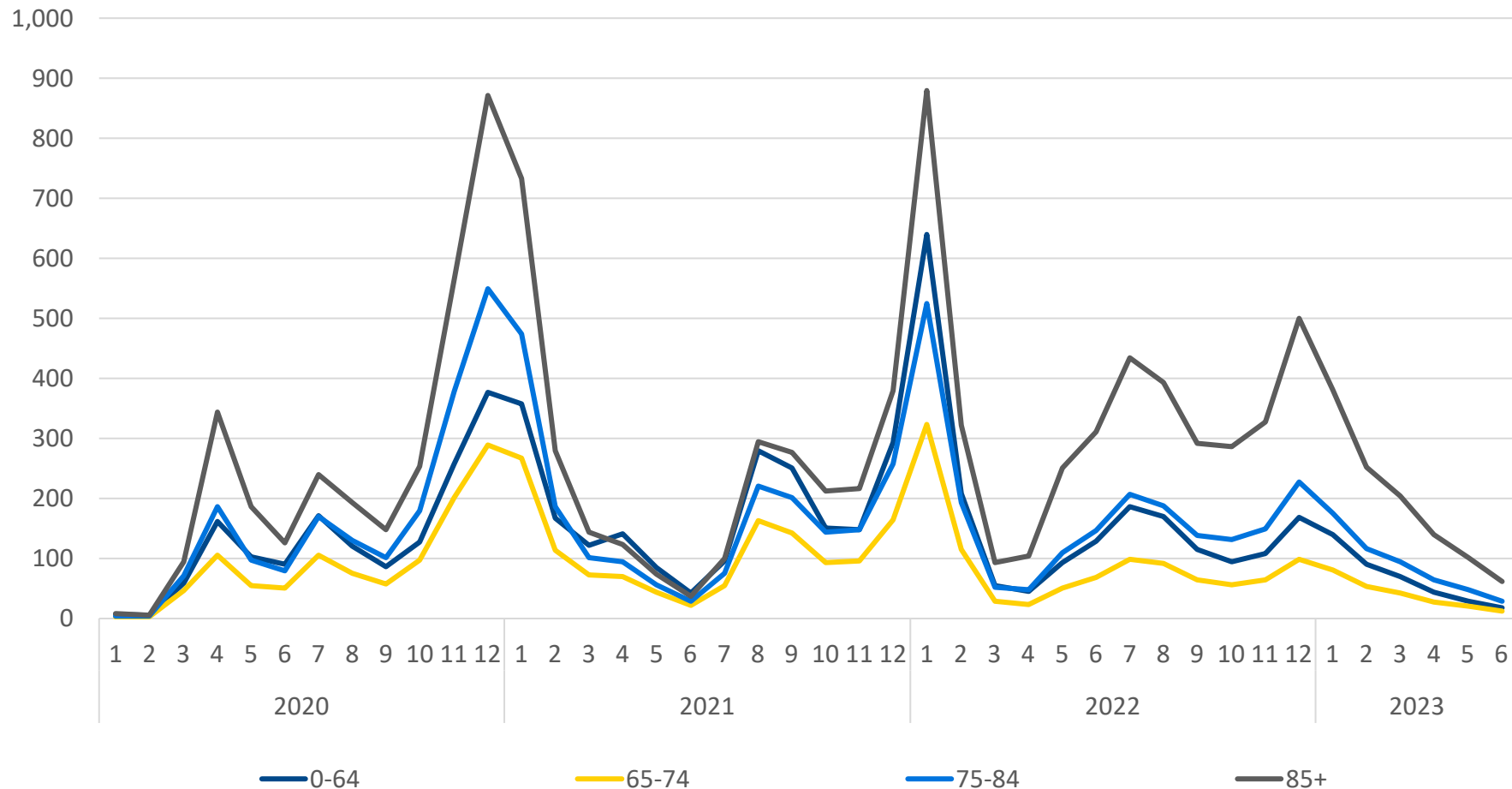

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Monthly COVID-19 Hospitalization Rate per 100K: By Age Group

Legend: 0-64, 65-74, 75-84, 85+

Monthly COVID-19 Hospitalization Rate per 100K: By Rural/Urban
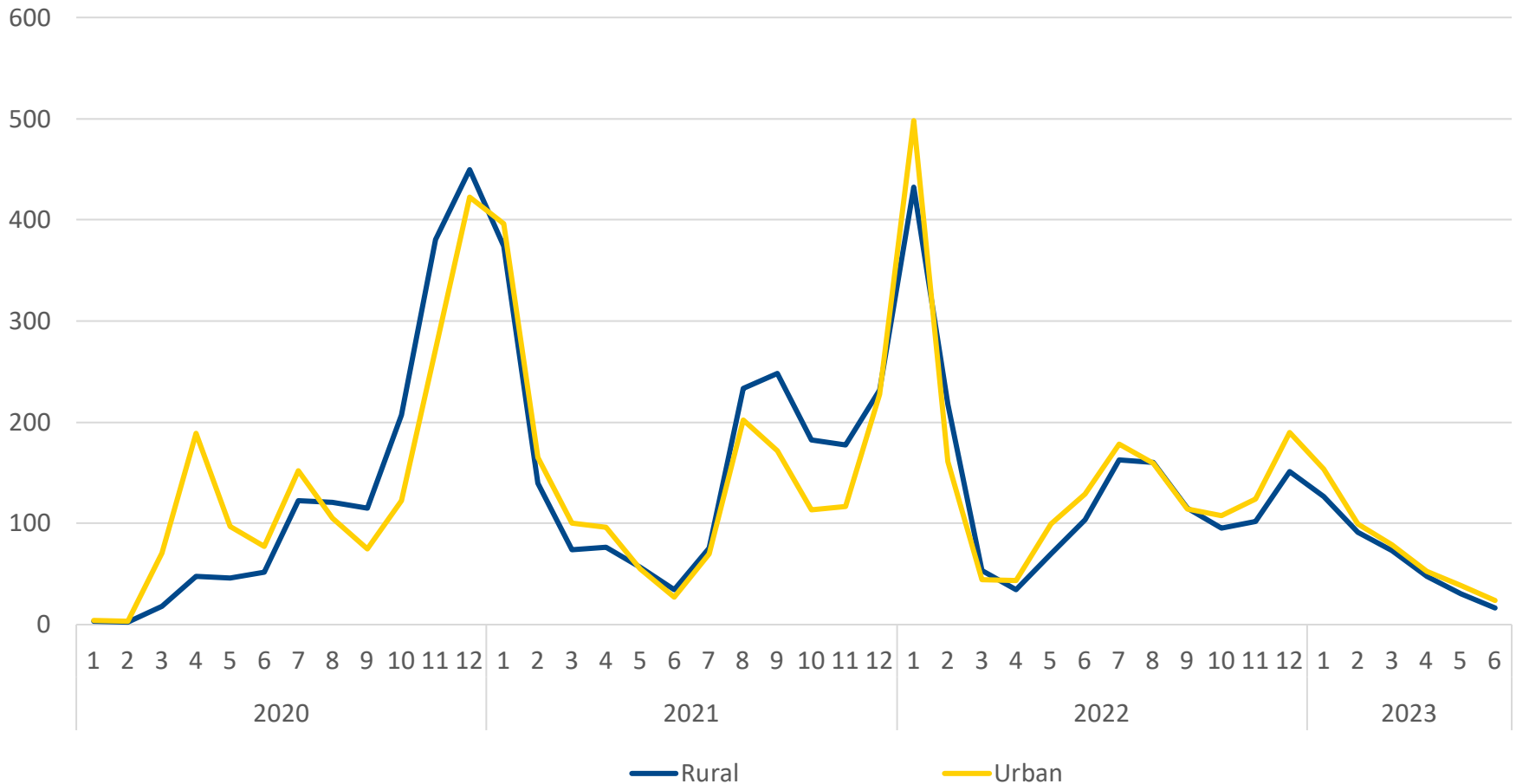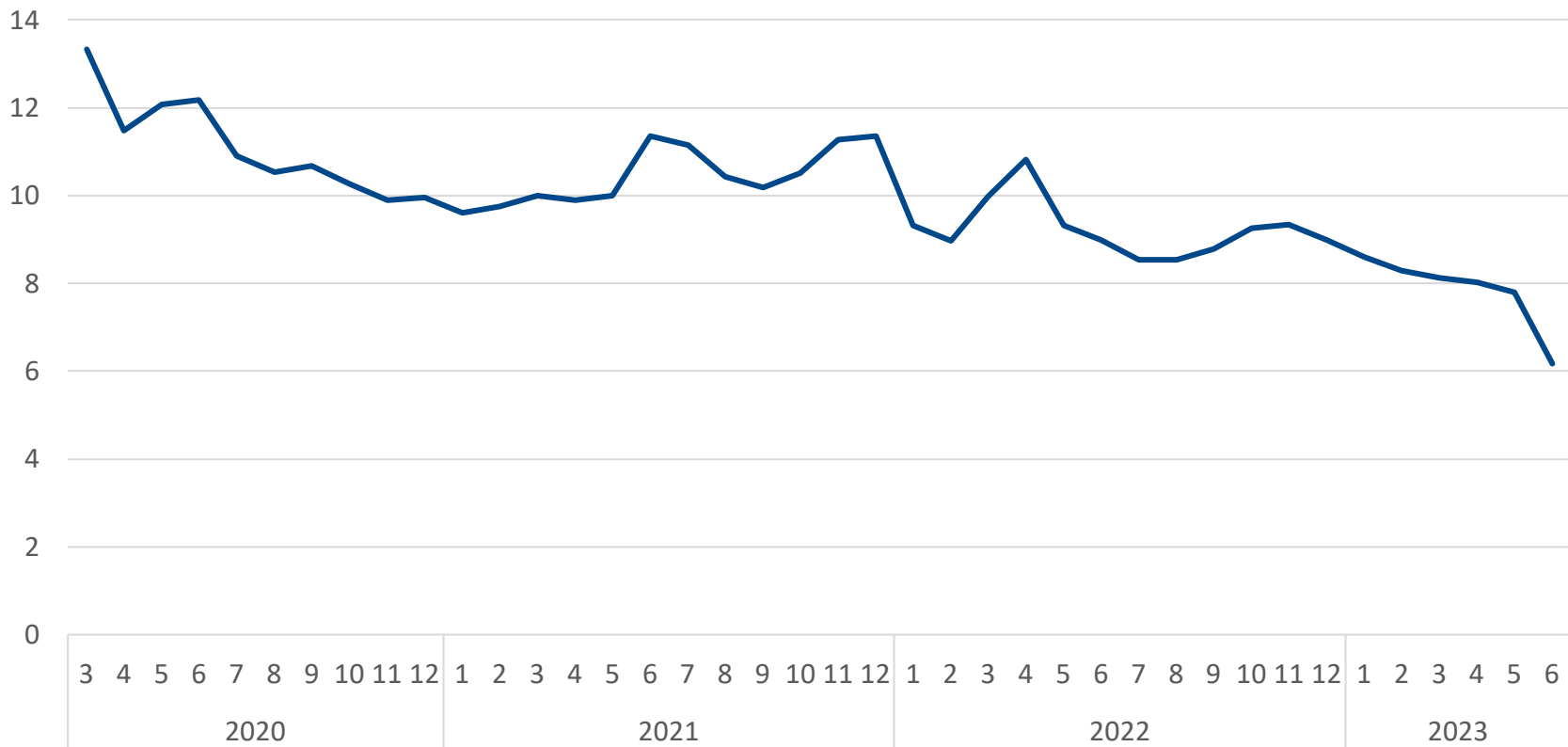

Legend: Rural, Urban

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Monthly Average Length of Stay for COVID-19 Hospitalizations

Average Length of Stay (days)

<u>Note</u>: We did not display January and February 2020 due to the low number of COVID-10 hospitalizations during those months.

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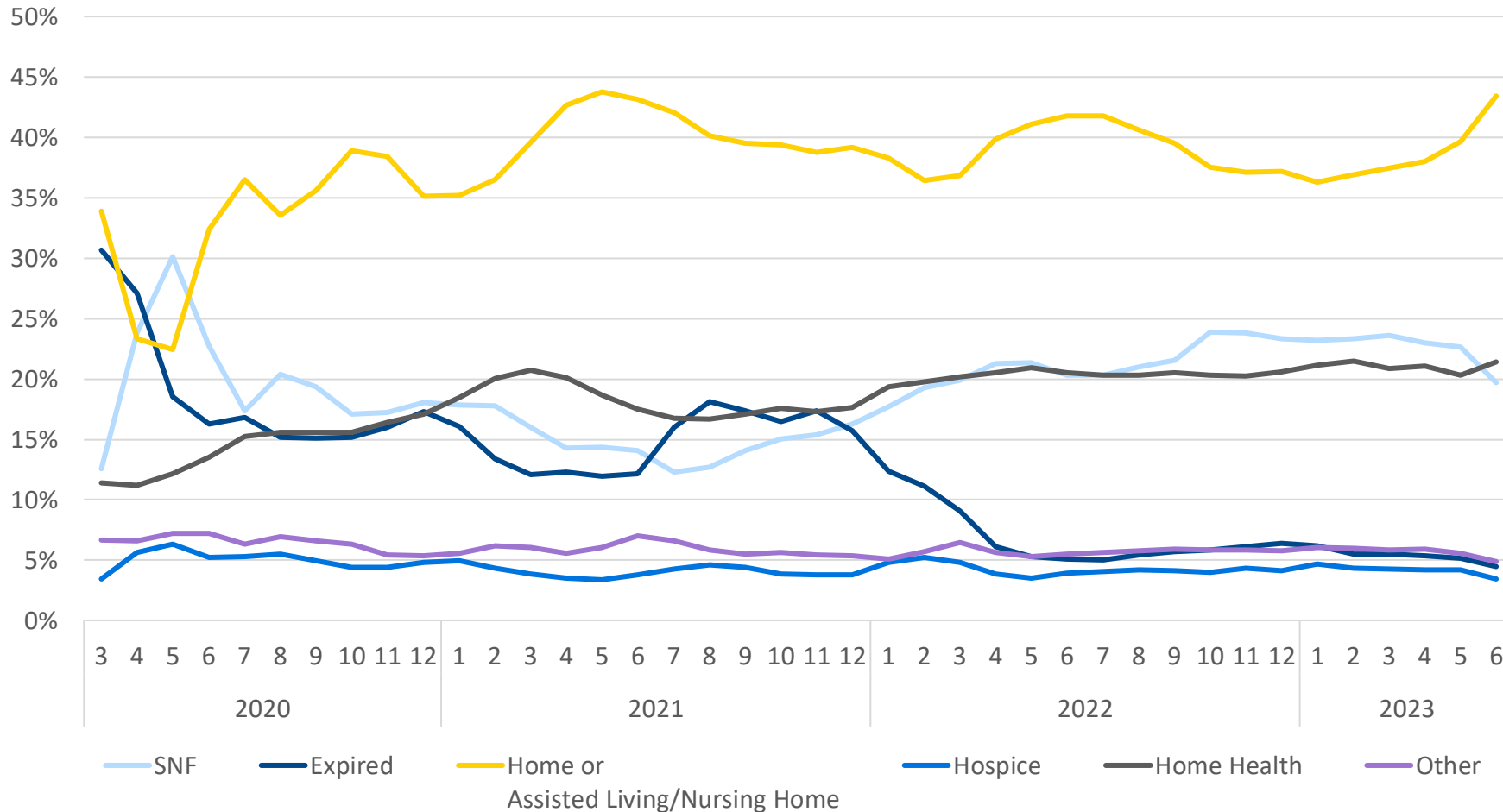## Proportion of Monthly COVID-19 Hospitalizations by Discharge Status

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Medicare COVID-19 Hospitalization Trends Data File

A Medicare COVID-19 Hospitalization Trends data file is available at the following link:

https://data.cms.gov/covid-19/medicare-covid-19-hospitalization-trends

The data file includes all data points from the preceding charts. The data file also includes additional levels of detail, presenting COVID-19 Hospitalizations by:

- Year/Half Year/Month and State
- Year/Half Year/Month, State and Medicaid Eligibility Status
- Year/Half Year/Month, State and Race/Ethnicity
- Year/Half Year/Month, State and Medicare Status
- Year/Half Year/Month, State and Beneficiary Sex
- Year/Half Year/Month, State and Age Group
- Year/Half Year/Month, State and Rural/Urban Status
- Year/Half Year/Month, Medicaid Eligibility Status and Race/Ethnicity
- Year/Half Year/Month, Medicaid Eligibility Status and Medicare Status
- Year/Half Year/Month, Medicaid Eligibility Status and Beneficiary Sex
- Year/Half Year/Month, Medicaid Eligibility Status and Age Group
- Year/Half Year/Month, Medicaid Eligibility Status and Rural/Urban Status
- Year/Half Year/Month, Race/Ethnicity and Medicare Status
- Year/Half Year/Month, Race/Ethnicity and Beneficiary Sex
- Year/Half Year/Month, Race/Ethnicity and Age Group
- Year/Half Year/Month, Race/Ethnicity and Rural/Urban Status

Please see the methodology document for more details.