

Use of antivirals for COVID-19 in acute care hospitals reporting to the National Healthcare Safety Network Antimicrobial Use Option



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Background

Centers for Disease Control and Prevention’s (CDC) National Healthcare Safety Network (NHSN) Antimicrobial Use (AU) Option provides a mechanism for hospitals to track AU by using electronic medication administration data. The COVID-19 pandemic necessitated rapid changes to NHSN to track new and high-priority treatment options.

Methods

NHSN receives AU data from participating hospitals for all inpatient locations, emergency departments, and 24-hour observation areas. We assessed days of therapy (DOT) per 1,000 days present for remdesivir, molnupiravir, and nirmatrelvir among hospitals reporting at least one month of data to the AU Option during Jan 2020 – Dec

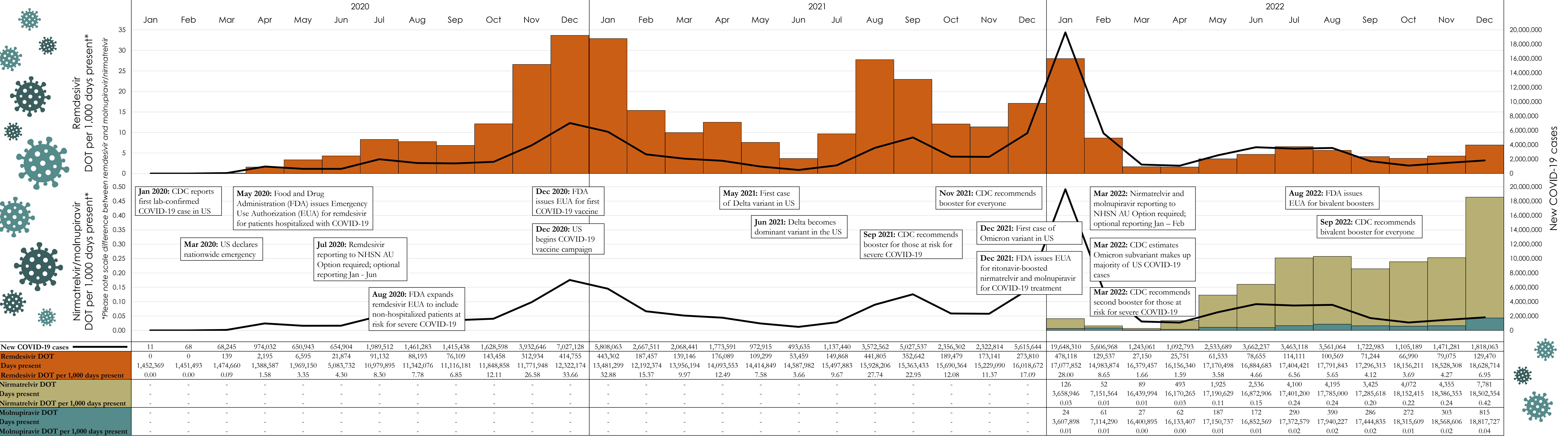
2022 and submitted data to NHSN by June 1, 2023. Remdesivir DOT were limited to intravenous administrations and molnupiravir and nirmatrelvir were limited to oral administrations. COVID-19 case data were obtained from the CDC COVID-19 Response Weekly United States COVID-19 Cases and Deaths by State (version date: June 1, 2023).

Results

Of the 2,542 hospitals included in the analysis, 2,377 (94%) submitted remdesivir, nirmatrelvir, or molnupiravir antimicrobial days for at least one month during Jan 2020 – Dec 2022. Remdesivir was administered more frequently than molnupiravir and nirmatrelvir (on average, 11.20 DOT for remdesivir vs. 0.18 DOT for nirmatrelvir and

0.02 DOT for molnupiravir per 1,000 days present) in the hospital setting. Remdesivir was most frequently administered in respiratory critical care units (96.44 DOT per 1,000 days present), pulmonary wards (84.56 DOT per 1,000 days present), and medical critical care units (35.59 DOT per 1,000 days present). Molnupiravir and nirmatrelvir were most

frequently administered in gerontology wards (1.34 DOT for nirmatrelvir and 0.05 DOT for molnupiravir per 1,000 days present), gastrointestinal wards (1.01 DOT for nirmatrelvir and 0.52 DOT for molnupiravir per 1,000 days present), and pulmonary wards (0.54 DOT for nirmatrelvir and 0.04 DOT for molnupiravir per 1,000 days present).



Conclusions

Peaks in remdesivir usage correspond to peaks in COVID-19 cases. Data on antiviral administrations can help assess uptake of COVID-19 treatment recommendations among

hospitals reporting to the NHSN AU Option. The national COVID-19 Public Health Emergency ended on May 11, 2023, as did CDC’s aggregate COVID-19 case reporting.

NHSN continues to monitor COVID-19 antiviral use and explore opportunities for additional analyses.

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