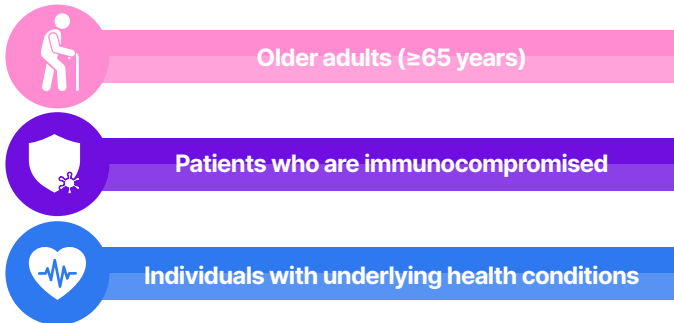
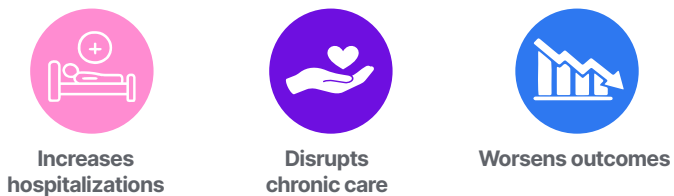


## The Persistent Burden of COVID-19 in Vulnerable Populations

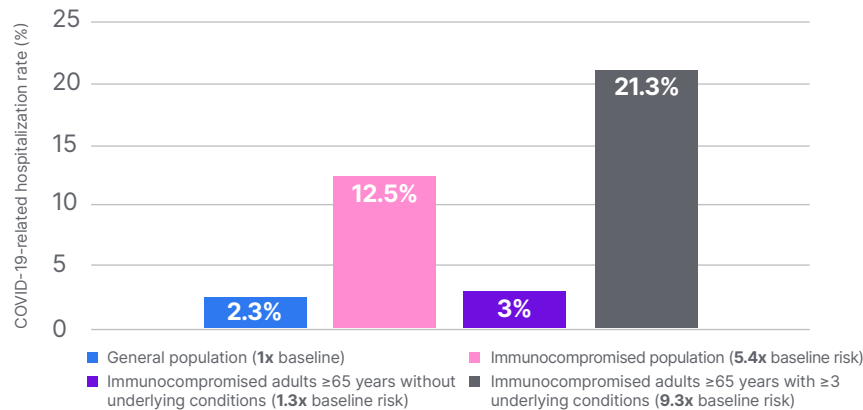
- Hospitalizations due to COVID-19 have declined, but SARS-CoV-2 transmission remains high in high-exposure settings and disproportionately affects the following populations:<sup>1-3</sup>



- In vulnerable patients, SARS-CoV-2 infection:<sup>4,5</sup>



- COVID-19-related hospitalization rates are higher in high-risk populations<sup>6</sup>



## The Burden of COVID-19 Remains Higher Than That of Other Respiratory Infections

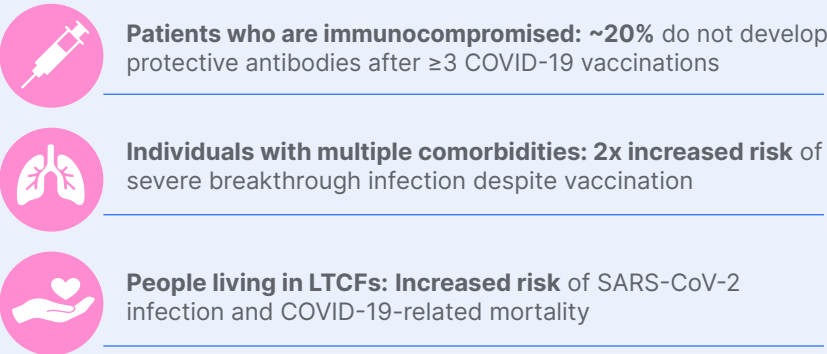
The risk of severe outcomes for SARS-CoV-2 infection exceeds that of influenza and RSV, especially for older adults, patients who are immunocompromised, and those with comorbidities<sup>7,8</sup>

### 30-day hospitalization and mortality rates in 2022–2023<sup>8</sup>

	30-day hospitalization rate	30-day mortality rate
COVID-19	17.5%	1.0%
Influenza	15.9%	0.7%
RSV	14.4%	0.7%

## Unmet Need for Prophylaxis

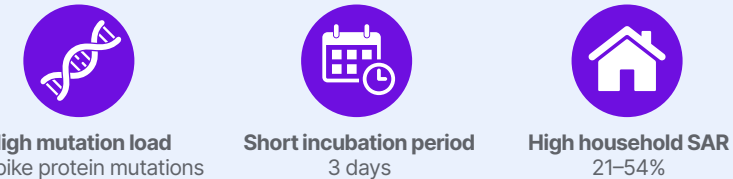
- Limited effectiveness of vaccines in high-risk populations
  - Although an essential first line of defense, **vaccines do not fully protect** certain high-risk groups<sup>9-11</sup>



- Waning of protection over time: gradual but relatively rapid waning in vaccine immunity against infection<sup>12</sup>

- Omicron sublineages are more transmissible and harder to contain

- Infection characteristics of SARS-CoV-2 Omicron<sup>13-16</sup>



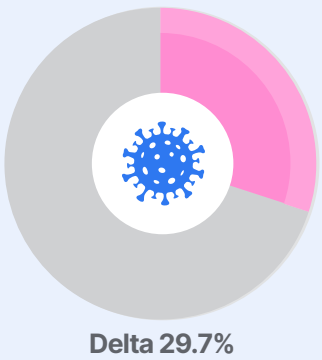
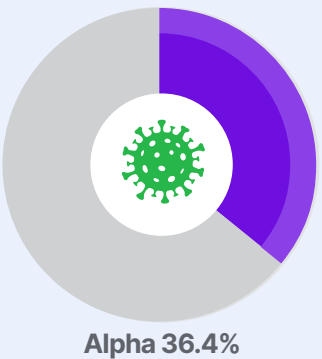
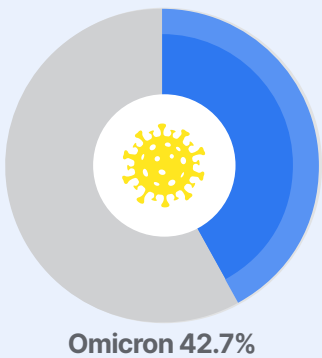
- Omicron spreads more effectively within households, even among vaccinated individuals<sup>17</sup>

## Clinical Rationale for Early Intervention

- Oral antivirals offer meaningful clinical benefit when used early<sup>18,19</sup>
  - Key benefits of early intervention:

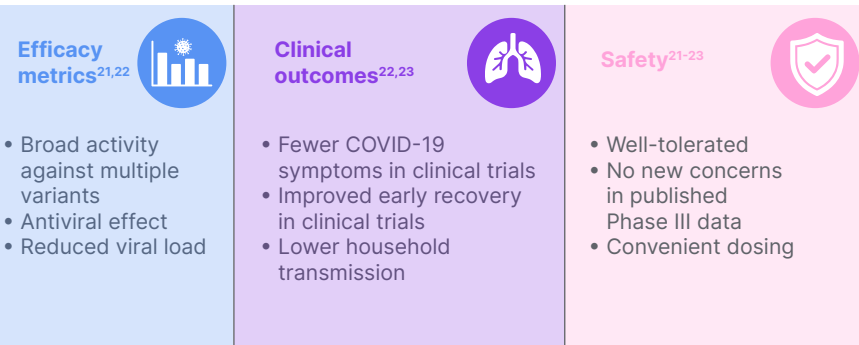


## SAR of SARS-CoV-2 variants<sup>17</sup>



## Clinical Considerations for PEP Using Emerging Antivirals

- Early PEP with oral antivirals aims to protect vulnerable populations and reduce COVID-19 transmission in high-risk settings<sup>20-22</sup>
- Clinical profile of oral antivirals being investigated for PEP



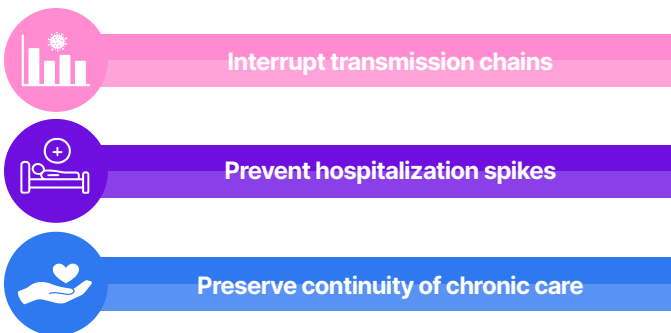
- Critical window for early PEP intervention<sup>1,14,23</sup>



<sup>\*</sup>Based on SARS-CoV-2 Omicron

<sup>†</sup>Optimal timing may vary depending on the antiviral agent

- Early PEP in households and LTCFs could:<sup>19,23</sup>



## Key takeaways:

- The persistent burden of COVID-19 in vulnerable populations, coupled with the high transmissibility of Omicron sublineages and significant SAR, underscores the critical need for effective PEP strategies<sup>8,13-17</sup>
- Emerging oral antivirals offer promising avenues to reduce the burden of hospitalization, viral load, and transmission, providing crucial protection where vaccines may offer limited efficacy<sup>21-23</sup>
- Implementing timely PEP interventions is essential to mitigate the ongoing impact of COVID-19 and protect those at highest risk<sup>19-23</sup>

## References:

- Choi T et al. Open Forum Infect Dis. 2025;12(3):ofaf115.
- Sumsuzzman DM et al. BMC Infect Dis. 2025;25(1):215.
- Singson JRC et al. MMWR Morb Mortal Wkly Rep. 2022;71(27):878-84.
- Li Y et al. J Chemother. 2025;DOI:10.1080/1120009X.2025.2458377.
- Hanson HA et al. SN Compr Clin Med. 2023;5(1):144.
- Fang C et al. Infect Dis Ther. 2025;14(6):1343-67.
- Xing Y, Bahl A. J Clin Med. 2025;14(14):4894.
- Bajema KL et al. JAMA Intern Med. 2025;185(3):324-34.
- Pearce FA et al. Lancet Rheumatol. 2023;5(8):e461-73.
- Meister T et al. Sci Rep. 2023;13(1):8531.
- Rolland Y et al. BMJ Public Health. 2025;3(1):e002156.
- Chemaitelly H, Abu-Raddad LJ. Lancet. 2022;399(10327):771-3.
- Ma W et al. Genomics Proteomics Bioinformatics. 2022;20(1):60-9.
- Del Águila-Mejía J et al. Emerg Infect Dis. 2022;28(6):1224-8.
- Song JS et al. Emerg Infect Dis. 2022;28(3):756-9.
- Lyngse FP et al. Nat Commun. 2022;13(1):5760.
- Madewell ZJ et al. JAMA Netw Open. 2022;5(4):e229317.
- Vegivinti CTR et al. BMC Infect Dis. 2022;22(1):107.
- Ma BH et al. JAMA Netw Open. 2023;6(4):e2310887.
- Mitjà O, Clotet B. Lancet Glob Health. 2020;8(5):e639-40.
- Hammond J et al. N Engl J Med. 2024;391(3):224-34.
- Ohmagari N et al. Influenza Other Respir Viruses. 2024;18(6):e13338.
- Hayden FG et al. Abstract 200. CROI, 9–12 March, 2025.

## Abbreviations:

LTCF: long-term care facility; PEP: post-exposure prophylaxis; RSV: respiratory syncytial virus; SAR: secondary attack rate.