

## COVID-19 Breakthrough Infections Clark County, Nevada

**Date:** July 29, 2021

Breakthrough cases are U.S. residents with a SARS-CoV2 RNA or antigen detected on respiratory specimen collected greater than or equal to 14 days after completing the primary series of an FDA authorized COVID-19 vaccine (i.e., complete vaccination). Complete vaccination is two doses of the Pfizer or Moderna vaccine or one dose of the Johnson and Johnson (Janssen) vaccine.

Exclusion Criteria: The persons who were recently positive for COVID-19, defined as a positive <45 days prior to the current positive test under investigations were excluded.

Given the large number of people being vaccinated in the United States and the high level of ongoing SARS-CoV-2 circulation, thousands of symptomatic vaccine breakthrough cases are expected, even if the vaccines remain as effective as demonstrated during the clinical trials.

The Centers for Disease Control and Prevention (CDC) recently updated guidance on reporting of breakthrough infections to only report those that have been hospitalized and contacted by public health and an interview is performed or are a recorded COVID-19 death. As with other metrics related to COVID-19 disease investigation and contact tracing, this information is self-reported by the individual. Due the small number of associated deaths, further breakdowns are not provided at this time to protect privacy and confidentiality. Data is considered preliminary and subject to change.

As of today, Southern Nevada Health District is reporting a total of 178 breakthrough hospitalizations and 40 breakthrough deaths (34 of them were hospitalized) in Clark county, Nevada.

**Table 1: Population Characteristics of COVID-19 Breakthrough Hospitalizations**

|                                 | <i>Overall</i> |          |
|---------------------------------|----------------|----------|
|                                 | <i>N</i>       | <i>%</i> |
| <b>All</b>                      | 178            | 100      |
| <b>Age (in years)</b>           |                |          |
| 25-49                           | 20             | 11       |
| 50-64                           | 32             | 18       |
| 65+                             | 126            | 71       |
| <b>Gender</b>                   |                |          |
| Male                            | 116            | 65       |
| Female                          | 62             | 35       |
| <b>Race/Ethnicity</b>           |                |          |
| Hispanic                        | 25             | 14       |
| White                           | 100            | 56       |
| Black                           | 24             | 13       |
| API                             | 16             | 9        |
| Other                           | 7              | 4        |
| Unknown                         | 6              | 3        |
| <b>Travel History</b>           |                |          |
| Yes                             | 13             | 7        |
| No                              | 136            | 76       |
| Unknown                         | 29             | 16       |
| <b>Variant of concern (VOC)</b> |                |          |
| Gamma                           | 1              | 1        |
| Delta                           | 6              | 3        |
| Unknown                         | 171            | 96       |
| <b>Death</b>                    |                |          |
| Yes                             | 34             | 19       |
| No                              | 78             | 44       |
| Unknown                         | 66             | 37       |
| <b>Vaccine Type</b>             |                |          |
| Pfizer                          | 98             | 55       |
| Moderna                         | 43             | 24       |
| Janssen                         | 26             | 15       |
| Unknown                         | 11             | 6        |
| <b>Underlying Conditions</b>    |                |          |
| Yes                             | 146            | 82       |
| No                              | 32             | 18       |

**Table 2: Breakdown of COVID-19 Breakthrough Hospitalizations according to Underlying conditions**

|                                | <i>Overall</i> |            |
|--------------------------------|----------------|------------|
|                                | <i>N</i>       | <i>%</i>   |
| <b>All</b>                     | <b>146</b>     | <b>100</b> |
| <b>Diabetes</b>                |                |            |
| Yes                            | 55             | 38         |
| No                             | 91             | 62         |
| <b>Hypertension</b>            |                |            |
| Yes                            | 75             | 51         |
| No                             | 71             | 49         |
| <b>Chronic Lung Disease</b>    |                |            |
| Yes                            | 45             | 31         |
| No                             | 101            | 69         |
| <b>Chronic Heart Disease</b>   |                |            |
| Yes                            | 45             | 31         |
| No                             | 101            | 69         |
| <b>Chronic Liver Disease</b>   |                |            |
| Yes                            | 3              | 2          |
| No                             | 143            | 98         |
| <b>Chronic Kidney Disease</b>  |                |            |
| Yes                            | 25             | 17         |
| No                             | 120            | 82         |
|                                | 1              | 1          |
| <b>Neurological Conditions</b> |                |            |
| Yes                            | 13             | 9          |
| No                             | 133            | 91         |
| <b>Immunocompromised</b>       |                |            |
| Yes                            | 12             | 8          |
| No                             | 134            | 92         |
| <b>Other conditions</b>        |                |            |
| Yes                            | 79             | 54         |
| No                             | 67             | 46         |
| <b>Unknown</b>                 |                |            |
| Yes                            | 2              | 1          |
| No                             | 144            | 99         |

**Notes:**

\* White, Black, Asian, and AEA are non-Hispanic

\* AEA=American Indian/Eskimos/Alaskan Natives API=Asian Pacific Islander

\* There are a limited number of specimens for sequencing of VOCs compared to the total number of all COVID-19 cases; 'Unknown' does not necessarily mean cases were not VOC

\* The report does not include breakthrough hospitalizations from State approved facilities as State is responsible for their investigation.

\* Given the low number of breakthrough deaths, detailed information is not provided to protect confidentiality of the cases .