

## COVID-19 Breakthrough Infections Clark County, Nevada

**Date:** July 15, 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 122 breakthrough hospitalizations and 20 breakthrough deaths (18 of them were hospitalized) in Clark county, Nevada.

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

	<i>Overall</i>
	<i>N %</i>
<b>All</b>	<b>122 100</b>
<b>Age (in years)</b>	
25-49	13 11
50-64	21 17
65+	88 72
<b>Gender</b>	
Male	80 66
Female	42 34
<b>Race/Ethnicity</b>	
Hispanic	15 12
White	73 60
Black	18 15
API	9 7
Other	4 3
Unknown	3 2
<b>Travel History</b>	
Yes	9 7
No	96 79
Unknown	17 14
<b>Variant of concern (VOC)</b>	
Gamma	1 1
Delta	2 2
Unknown	119 98
<b>Death</b>	
Yes	18 15
No	61 50
Unknown	43 35
<b>Vaccine Type</b>	
Pfizer	66 54
Moderna	28 23
Janssen	18 15
Unknown	10 8
<b>Underlying Conditions</b>	
Yes	102 84
No	20 16

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

	<i>Overall</i>	
	<i>N</i>	<i>%</i>
<b>All</b>	<b>102</b>	<b>100</b>
<b>Diabetes</b>		
Yes	39	38
No	63	62
<b>Hypertension</b>		
Yes	55	54
No	47	46
<b>Chronic Lung Disease</b>		
Yes	31	30
No	71	70
<b>Chronic Heart Disease</b>		
Yes	33	32
No	69	68
<b>Chronic Liver Disease</b>		
Yes	3	3
No	99	97
<b>Chronic Kidney Disease</b>		
Yes	15	15
No	86	84
	1	1
<b>Neurological Conditions</b>		
Yes	10	10
No	92	90
<b>Immunocompromised</b>		
Yes	8	8
No	94	92
<b>Other conditions</b>		
Yes	60	59
No	42	41
<b>Unknown</b>		
Yes	1	1
No	101	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 .