

# COVID-19 Breakthrough Hospitalizations and Deaths

## Clark County, Nevada

**Date: August 26, 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. 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 349 breakthrough hospitalizations and 104 breakthrough deaths (92 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>	<b>349</b>	<b>100</b>
<b>Age (in years)</b>		
18-24	2	1
25-49	31	9
50-64	63	18
65+	253	72
<b>Gender</b>		
Male	208	60
Female	140	40
Unknown	1	0
<b>Race/Ethnicity</b>		
Hispanic	42	12
White	199	57
Black	45	13
API	28	8
Other	12	3
Unknown	23	7
<b>Travel History</b>		
Yes	17	5
No	196	56
Unknown	136	39
<b>Variant of concern (VOC)</b>		
Gamma	1	0
Epsilon	1	0
Delta	24	7
Alpha	1	0
Unknown	322	92
<b>Death</b>		
Yes	92	26
No	98	28
Unknown	159	46
<b>Vaccine Type</b>		
Pfizer	221	63
Moderna	83	24
Janssen	45	13
<b>Underlying Conditions</b>		
Yes	232	66
No	117	34

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

	<i>Overall</i>	
	<i>N</i>	<i>%</i>
<b>All</b>	<b>232</b>	<b>100</b>
<b>Diabetes</b>		
Yes	84	36
No	148	64
<b>Hypertension</b>		
Yes	134	58
No	98	42
<b>Chronic Lung Disease</b>		
Yes	62	27
No	170	73
<b>Chronic Heart Disease</b>		
Yes	74	32
No	158	68
<b>Chronic Liver Disease</b>		
Yes	4	2
No	228	98
<b>Chronic Kidney Disease</b>		
Yes	38	16
No	192	83
	2	1
<b>Neurological Conditions</b>		
Yes	31	13
No	201	87
<b>Immunocompromised</b>		
Yes	15	6
No	217	94
<b>Other conditions</b>		
Yes	107	46
No	125	54
<b>Unknown</b>		
Yes	2	1
No	230	99

**Table 3: Population Characteristics of COVID-19 Breakthrough Deaths**

	<i>Overall</i>	
	<i>N</i>	<i>%</i>
<b>All</b>	<b>104</b>	<b>100</b>
<b>Age (in years)</b>		
25-49	5	5
50-64	15	14
65+	84	81
<b>Gender</b>		
Male	68	65
Female	36	35
<b>Race/Ethnicity</b>		
Hispanic	11	11
White	73	70
Black	11	11
API	9	9
<b>Variant of concern (VOC)</b>		
Gamma	1	1
Delta	11	11
Alpha	2	2
Unknown	90	87
<b>Hospitalization</b>		
Yes	91	88
Unknown	9	9
No	4	4
<b>Vaccine Type</b>		
Pfizer	67	64
Moderna	20	19
Janssen	17	16
<b>Underlying Conditions</b>		
Yes	58	56
No	46	44

**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.