

COVID-19 Breakthrough Infections Clark County, Nevada

Date: July 22, 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 to 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 148 breakthrough hospitalizations and 26 breakthrough deaths (23 of them were hospitalized) in Clark county, Nevada.

Table 1: Population Characteristics of COVID-19 Breakthrough Hospitalizations

	<i>Overall</i>
	<i>N %</i>
All	148 100
Age (in years)	
25-49	19 13
50-64	24 16
65+	105 71
Gender	
Male	97 66
Female	51 34
Race/Ethnicity	
Hispanic	21 14
White	84 57
Black	19 13
API	13 9
Other	7 5
Unknown	4 3
Travel History	
Yes	10 7
No	116 78
Unknown	22 15
Variant of concern (VOC)	
Gamma	1 1
Delta	4 3
Unknown	143 97
Death	
Yes	23 16
No	67 45
Unknown	58 39
Vaccine Type	
Pfizer	80 54
Moderna	35 24
Janssen	22 15
Unknown	11 7
Underlying Conditions	
Yes	122 82
No	26 18

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

	<i>Overall</i>	
	<i>N</i>	<i>%</i>
All	122	100
Diabetes		
Yes	45	37
No	77	63
Hypertension		
Yes	62	51
No	60	49
Chronic Lung Disease		
Yes	36	30
No	86	70
Chronic Heart Disease		
Yes	38	31
No	84	69
Chronic Liver Disease		
Yes	3	2
No	119	98
Chronic Kidney Disease		
Yes	19	16
No	102	84
	1	1
Neurological Conditions		
Yes	12	10
No	110	90
Immunocompromised		
Yes	10	8
No	112	92
Other conditions		
Yes	70	57
No	52	43
Unknown		
Yes	2	2
No	120	98

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 .