

Weekly COVID-19 Breakthrough Infections Report

Clark County, Nevada

Date: August 9, 2022

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.

Following data have been obtained by matching COVID-19 cases information from Trisano (SNHD's surveillance system) to immunization records from Nevada WebIZ (Immunization database). Data is considered preliminary and subject to change.

Figure 1: Trends in Breakthrough Cases, Deaths and Hospitalizations

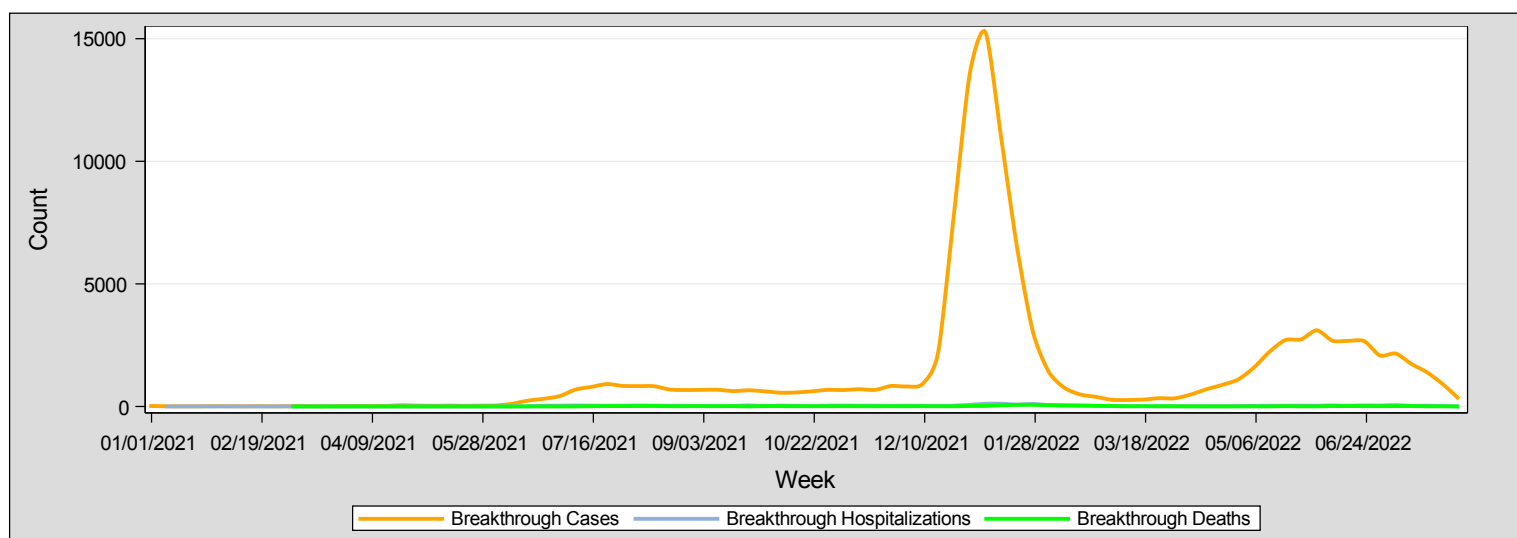


Figure 2: Percentage of Cases among 12 Years and Older By Vaccination Status

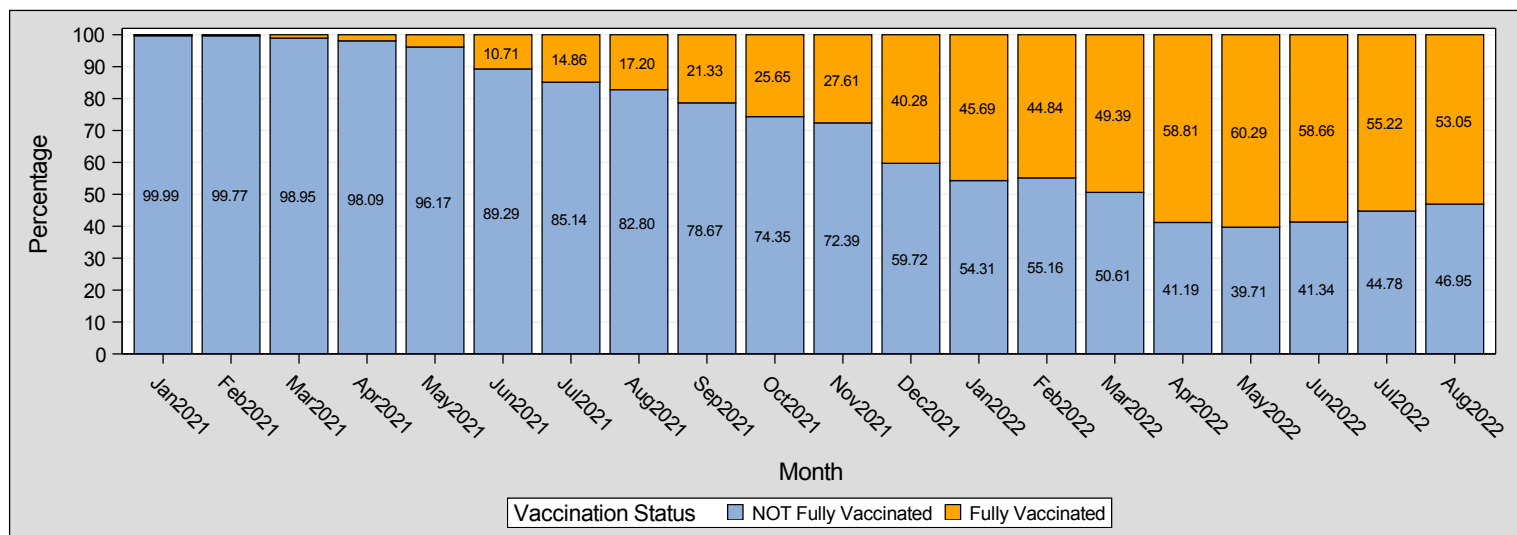


Table 1: Population Characteristics of COVID-19 Breakthrough Cases

	<i>Overall</i>	
	<i>N</i>	<i>%</i>
<i>All</i>	115573	100
Age (in years)		
<i>0-4</i>	1	0
<i>5-11</i>	1372	1
<i>12-17</i>	5522	5
<i>18-24</i>	10193	9
<i>25-49</i>	51894	45
<i>50-64</i>	27324	24
<i>65+</i>	19267	17
Gender		
<i>Male</i>	50387	44
<i>Female</i>	64377	56
<i>Unknown</i>	809	1
Race/Ethnicity		
<i>Hispanic</i>	23383	20
<i>White</i>	35477	31
<i>Black</i>	8698	8
<i>API</i>	14384	12
<i>AEA</i>	393	0
<i>Other</i>	8714	8
<i>Unknown</i>	24524	21
Travel History		
<i>Yes</i>	4137	4
<i>No</i>	25984	22
<i>Unknown</i>	85452	74
Hospitalization		
<i>Yes</i>	2528	2
<i>No</i>	29403	25
<i>Unknown</i>	83642	72
Death		
<i>Yes</i>	963	1
<i>No</i>	7089	6
<i>Unknown</i>	107521	93
Vaccine Type		
<i>Pfizer</i>	76386	66
<i>Unknown</i>	922	1
<i>Moderna</i>	31533	27
<i>Janssen</i>	6731	6
<i>Emergen</i>	1	0
Underlying Conditions		
<i>Yes</i>	14528	13
<i>No</i>	101045	87

Table 2: Breakthrough Case Rates

Fully Vaccinated Population*	Vaccinated Cases	Unvaccinated Population	Unvaccinated Cases	Vaccinated Case Rate per 100K population	Unvaccinated Case Rate per 100K population
1310574	115573	1007600	455258	8819	45182

* Please note that the numbers reported for fully vaccinated in the above table may not reflect the total number of completed doses reported on the SNHD dashboard. The CDC considers people to be fully vaccinated 2 weeks after their second dose in a 2-dose series, such as the Pfizer or Moderna vaccines, or 2 weeks after a single-dose vaccine, such as Johnson & Johnson's Janssen vaccine.

Table 3: Population Characteristics of COVID-19 Breakthrough Hospitalizations

	<i>Overall</i>	
	<i>N</i>	<i>%</i>
<i>All</i>	2528	100
Age (in years)		
5-11	4	0
12-17	13	1
18-24	28	1
25-49	251	10
50-64	442	17
65+	1790	71
Gender		
Male	1350	53
Female	1173	46
Unknown	5	0
Race/Ethnicity		
Hispanic	313	12
White	1441	57
Black	300	12
API	249	10
AEA	12	0
Other	77	3
Unknown	136	5
Travel History		
Yes	91	4
No	1229	49
Unknown	1208	48
Death		
Yes	690	27
No	408	16
Unknown	1430	57
Vaccine Type		
Pfizer	1476	58
Unknown	57	2
Moderna	777	31
Janssen	218	9
Underlying Conditions		
Yes	1793	71
No	735	29

Table 4: Population Characteristics of COVID-19 Breakthrough Deaths

	<i>Overall</i>	
	<i>N</i>	<i>%</i>
<i>All</i>	963	100
Age (in years)		
25-49	32	3
50-64	122	13
65+	809	84
Gender		
Male	571	59
Female	392	41
Race/Ethnicity		
Hispanic	113	12
White	637	66
Black	99	10
API	97	10
AEA	6	1
Other	9	1
Unknown	2	0
Hospitalization		
Yes	690	72
No	61	6
Unknown	212	22
Vaccine Type		
Pfizer	534	55
Unknown	24	2
Moderna	298	31
Janssen	107	11
Underlying Conditions		
Yes	559	58
No	404	42

Table 5: Breakthrough Death Rates

Fully Vaccinated Population	Vaccinated Deaths	Unvaccinated Population	Unvaccinated Deaths	Vaccinated Death Rate per 100K population	Unvaccinated Death Rate per 100K population
1310574	963	1007600	7865	73	781

* Please note that the numbers reported for fully vaccinated in the above table may not reflect the total number of completed doses reported on the SNHD dashboard. The CDC considers people to be fully vaccinated 2 weeks after their second dose in a 2-dose series, such as the Pfizer or Moderna vaccines, or 2 weeks after a single-dose vaccine, such as Johnson & Johnson's Janssen vaccine.

Table 6: Breakdown of COVID-19 Breakthrough Hospitalizations according to Underlying conditions

Variable	Outcome	N	%
Underlying Medical Condition	Yes	1793	71
	No	735	29
Hypertension	Yes	1162	N/A
Immunocompromised	Yes	100	N/A
Chronic Heart Disease	Yes	542	N/A
Chronic Liver Disease	Yes	47	N/A
Chronic Kidney Disease	Yes	370	N/A
Diabetes	Yes	666	N/A
Neurologic/Neurodevelopmental	Yes	163	N/A
Chronic Lung Disease	Yes	480	N/A
Historically Healthy	Yes	216	N/A

Table 7: Breakdown of COVID-19 Breakthrough Deaths according to Underlying conditions

Variable	Outcome	N	%
Underlying Medical Condition	Yes	559	58
	No	404	42
Hypertension	Yes	362	N/A
Immunocompromised	Yes	44	N/A
Chronic Heart Disease	Yes	200	N/A
Chronic Liver Disease	Yes	19	N/A
Chronic Kidney Disease	Yes	149	N/A
Diabetes	Yes	213	N/A
Neurologic/Neurodevelopmental	Yes	49	N/A
Chronic Lung Disease	Yes	164	N/A
Historically Healthy	Yes	23	N/A

Notes:

- * White, Black, Asian, and AEA are non-Hispanic. AEA=American Indian/Eskimos/Alaskan Natives & API=Asian Pacific Islander
- * The report does not include breakthrough hospitalizations from State approved facilities as State is responsible for their investigation.
- * The breakdown of underlying conditions are not mutually exclusive (i.e., a person can have more than one risk factor).