

# Weekly COVID-19 Breakthrough Infections Report

## Clark County, Nevada

**Date: June 14, 2022**

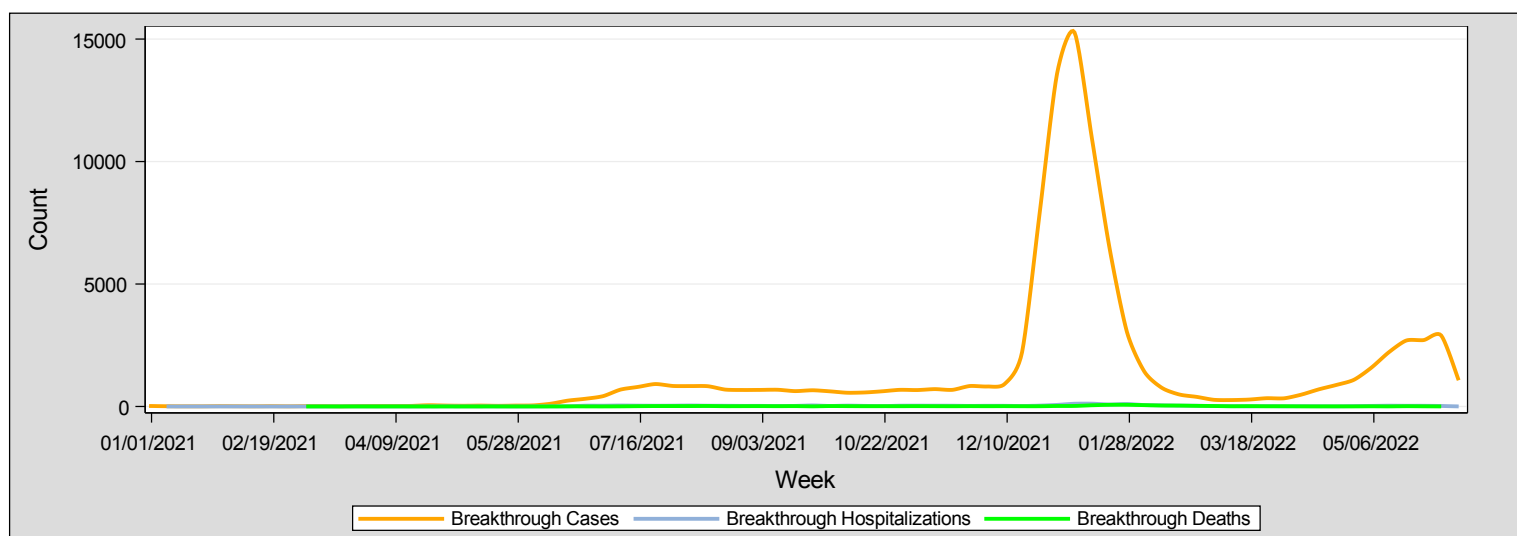
Breakthrough cases are U.S. residents with a SARS-CoV2 RNA or antigen detected on respiratory specimen collected greater than or equal to 14 days after completing the primary series of an FDA authorized COVID-19 vaccine (i.e., complete vaccination). Complete vaccination is two doses of the Pfizer or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

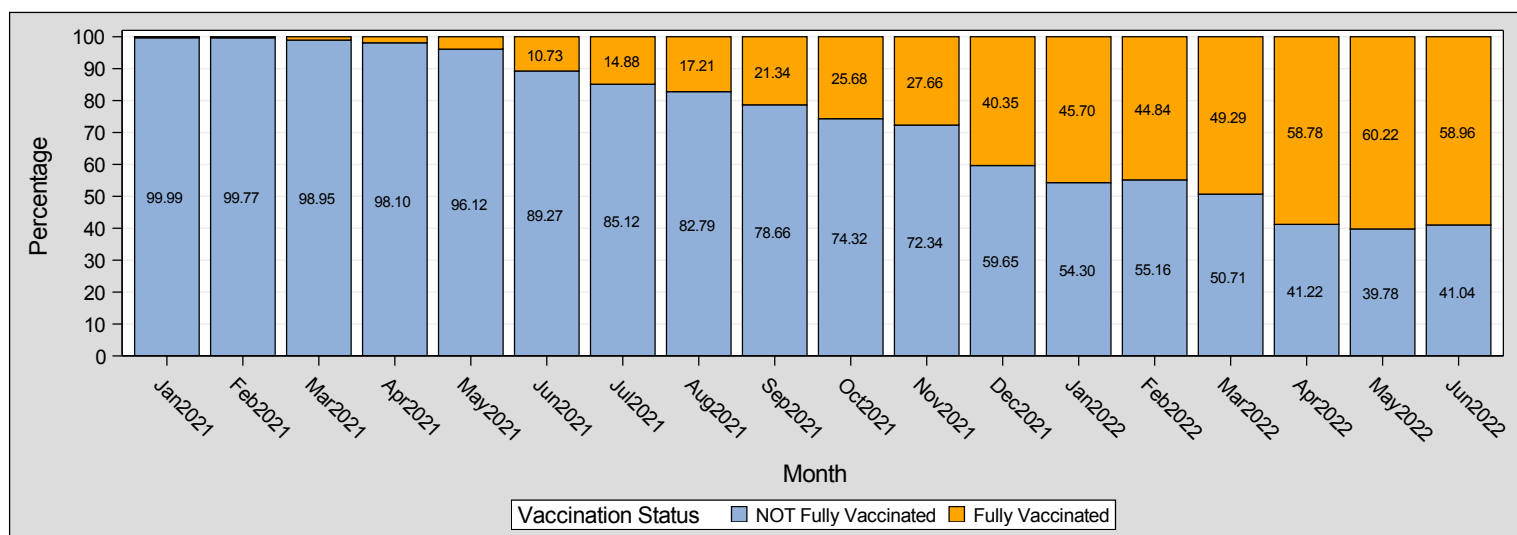
Given the large number of people being vaccinated in the United States and the high level of ongoing SARS-CoV-2 circulation, thousands of symptomatic vaccine breakthrough cases are expected, even if the vaccines remain as effective as demonstrated during the clinical trials.

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>	99649	100
<b>Age (in years)</b>		
5-11	1160	1
12-17	5099	5
18-24	9063	9
25-49	45759	46
50-64	23104	23
65+	15464	16
<b>Gender</b>		
Male	43418	44
Female	55546	56
Unknown	685	1
<b>Race/Ethnicity</b>		
Hispanic	20788	21
White	30455	31
Black	7401	7
API	12309	12
AEA	348	0
Other	7884	8
Unknown	20464	21
<b>Travel History</b>		
Yes	3318	3
No	22316	22
Unknown	74015	74
<b>Hospitalization</b>		
Yes	2132	2
No	25094	25
Unknown	72423	73
<b>Death</b>		
Yes	837	1
No	6035	6
Unknown	92777	93
<b>Vaccine Type</b>		
Pfizer	66161	66
Unknown	756	1
Moderna	26483	27
Janssen	6249	6
<b>Underlying Conditions</b>		
Yes	12101	12
No	87548	88

**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
1302036	99649	1016138	441564	7653	43455

\* 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>	2132	100
<b>Age (in years)</b>		
5-11	3	0
12-17	11	1
18-24	22	1
25-49	224	11
50-64	369	17
65+	1503	70
<b>Gender</b>		
Male	1168	55
Female	962	45
Unknown	2	0
<b>Race/Ethnicity</b>		
Hispanic	288	14
White	1200	56
Black	246	12
API	205	10
AEA	12	1
Other	65	3
Unknown	116	5
<b>Travel History</b>		
Yes	74	3
No	1043	49
Unknown	1015	48
<b>Death</b>		
Yes	612	29
No	362	17
Unknown	1158	54
<b>Vaccine Type</b>		
Pfizer	1232	58
Unknown	52	2
Moderna	654	31
Janssen	194	9
<b>Underlying Conditions</b>		
Yes	1495	70
No	637	30

**Table 4: Population Characteristics of COVID-19 Breakthrough Deaths**

	<i>Overall</i>	
	<i>N</i>	<i>%</i>
<i>All</i>	837	100
<b>Age (in years)</b>		
25-49	28	3
50-64	113	14
65+	696	83
<b>Gender</b>		
Male	501	60
Female	336	40
<b>Race/Ethnicity</b>		
Hispanic	105	13
White	546	65
Black	89	11
API	82	10
AEA	6	1
Other	7	1
Unknown	2	0
<b>Hospitalization</b>		
Yes	612	73
No	54	6
Unknown	171	20
<b>Vaccine Type</b>		
Pfizer	458	55
Unknown	20	2
Moderna	256	31
Janssen	103	12
<b>Underlying Conditions</b>		
Yes	487	58
No	350	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
1302036	837	1016138	7737	64	761

\* 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	1495	70
	No	637	30
Hypertension	Yes	956	N/A
Immunocompromised	Yes	89	N/A
Chronic Heart Disease	Yes	464	N/A
Chronic Liver Disease	Yes	40	N/A
Chronic Kidney Disease	Yes	308	N/A
Diabetes	Yes	557	N/A
Neurologic/Neurodevelopmental	Yes	134	N/A
Chronic Lung Disease	Yes	407	N/A
Historically Healthy	Yes	185	N/A

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

Variable	Outcome	N	%
Underlying Medical Condition	Yes	487	58
	No	350	42
Hypertension	Yes	312	N/A
Immunocompromised	Yes	36	N/A
Chronic Heart Disease	Yes	180	N/A
Chronic Liver Disease	Yes	16	N/A
Chronic Kidney Disease	Yes	130	N/A
Diabetes	Yes	186	N/A
Neurologic/Neurodevelopmental	Yes	41	N/A
Chronic Lung Disease	Yes	138	N/A
Historically Healthy	Yes	20	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).