

Weekly COVID-19 Breakthrough Infections Report

Clark County, Nevada

Date: June 29, 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

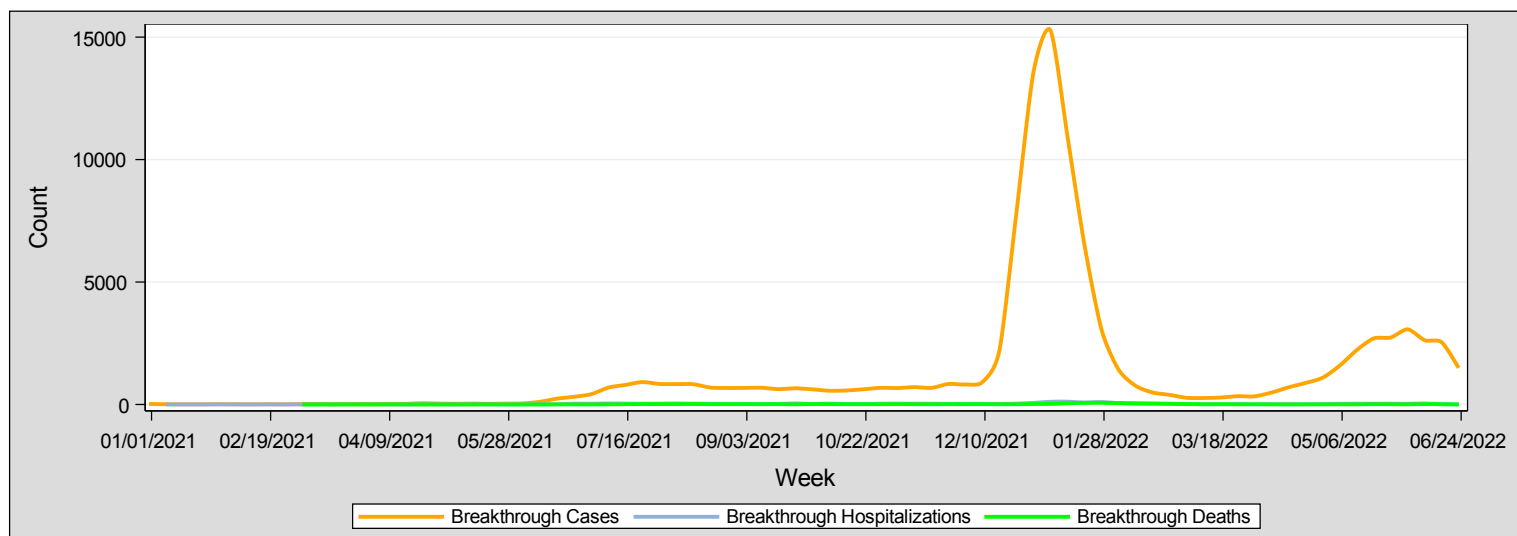


Figure 2: Percentage of Cases among 12 Years and Older By Vaccination Status

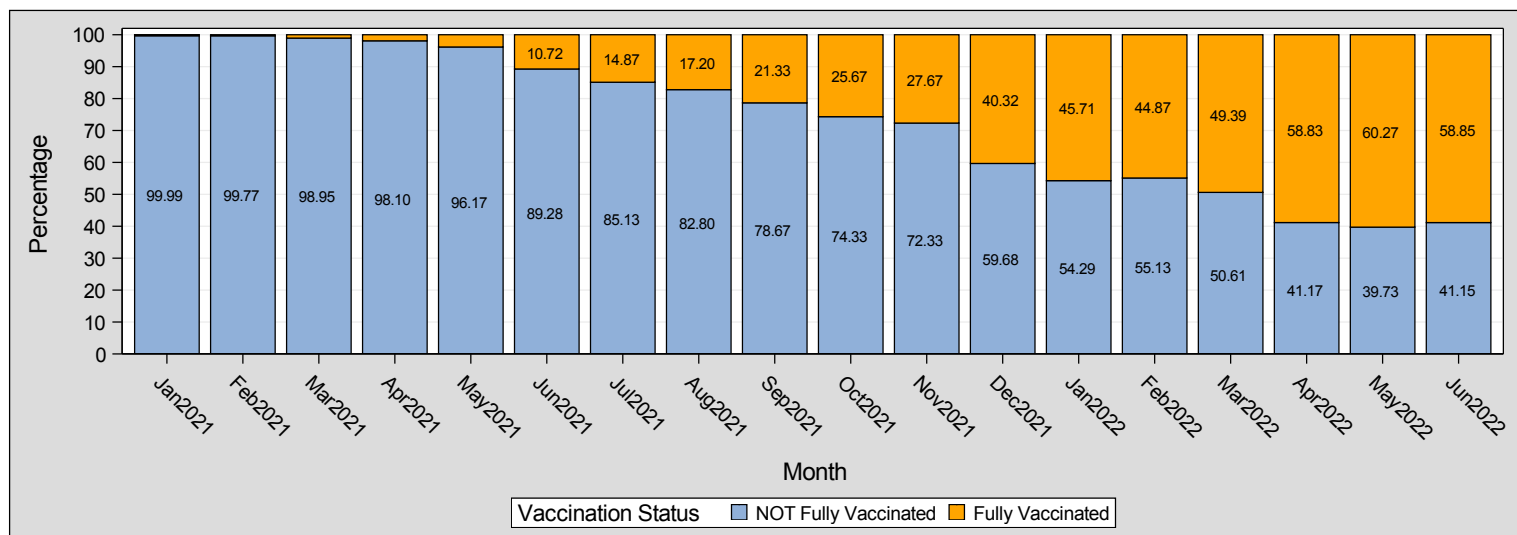


Table 1: Population Characteristics of COVID-19 Breakthrough Cases

	<i>Overall</i>	
	<i>N</i>	<i>%</i>
<i>All</i>	105518	100
Age (in years)		
5-11	1244	1
12-17	5251	5
18-24	9467	9
25-49	48133	46
50-64	24675	23
65+	16748	16
Gender		
Male	46008	44
Female	58770	56
Unknown	740	1
Race/Ethnicity		
Hispanic	21668	21
White	32311	31
Black	7807	7
API	13096	12
AEA	369	0
Other	8194	8
Unknown	22073	21
Travel History		
Yes	3520	3
No	23350	22
Unknown	78648	75
Hospitalization		
Yes	2220	2
No	26286	25
Unknown	77012	73
Death		
Yes	878	1
No	6312	6
Unknown	98328	93
Vaccine Type		
Pfizer	69921	66
Unknown	840	1
Moderna	28313	27
Janssen	6444	6
Underlying Conditions		
Yes	12716	12
No	92802	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
1305522	105518	1012652	446019	8082	44045

* 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>	2220	100
Age (in years)		
5-11	3	0
12-17	11	0
18-24	24	1
25-49	230	10
50-64	383	17
65+	1569	71
Gender		
Male	1201	54
Female	1017	46
Unknown	2	0
Race/Ethnicity		
Hispanic	291	13
White	1253	56
Black	258	12
API	216	10
AEA	12	1
Other	67	3
Unknown	123	6
Travel History		
Yes	77	3
No	1083	49
Unknown	1060	48
Death		
Yes	636	29
No	369	17
Unknown	1215	55
Vaccine Type		
Pfizer	1295	58
Unknown	52	2
Moderna	676	30
Janssen	197	9
Underlying Conditions		
Yes	1562	70
No	658	30

Table 4: Population Characteristics of COVID-19 Breakthrough Deaths

	<i>Overall</i>	
	<i>N</i>	<i>%</i>
<i>All</i>	878	100
Age (in years)		
25-49	31	4
50-64	115	13
65+	732	83
Gender		
Male	524	60
Female	354	40
Race/Ethnicity		
Hispanic	106	12
White	575	65
Black	92	10
API	88	10
AEA	6	1
Other	8	1
Unknown	3	0
Hospitalization		
Yes	636	72
No	57	6
Unknown	185	21
Vaccine Type		
Pfizer	481	55
Unknown	20	2
Moderna	273	31
Janssen	104	12
Underlying Conditions		
Yes	512	58
No	366	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
1305522	878	1012652	7763	67	767

* 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	1562	70
	No	658	30
Hypertension	Yes	999	N/A
Immunocompromised	Yes	91	N/A
Chronic Heart Disease	Yes	477	N/A
Chronic Liver Disease	Yes	44	N/A
Chronic Kidney Disease	Yes	326	N/A
Diabetes	Yes	583	N/A
Neurologic/Neurodevelopmental	Yes	142	N/A
Chronic Lung Disease	Yes	429	N/A
Historically Healthy	Yes	193	N/A

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

Variable	Outcome	N	%
Underlying Medical Condition	Yes	512	58
	No	366	42
Hypertension	Yes	331	N/A
Immunocompromised	Yes	40	N/A
Chronic Heart Disease	Yes	186	N/A
Chronic Liver Disease	Yes	17	N/A
Chronic Kidney Disease	Yes	137	N/A
Diabetes	Yes	190	N/A
Neurologic/Neurodevelopmental	Yes	41	N/A
Chronic Lung Disease	Yes	148	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).