

Weekly COVID-19 Breakthrough Infections Report

Clark County, Nevada

Date: June 21, 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

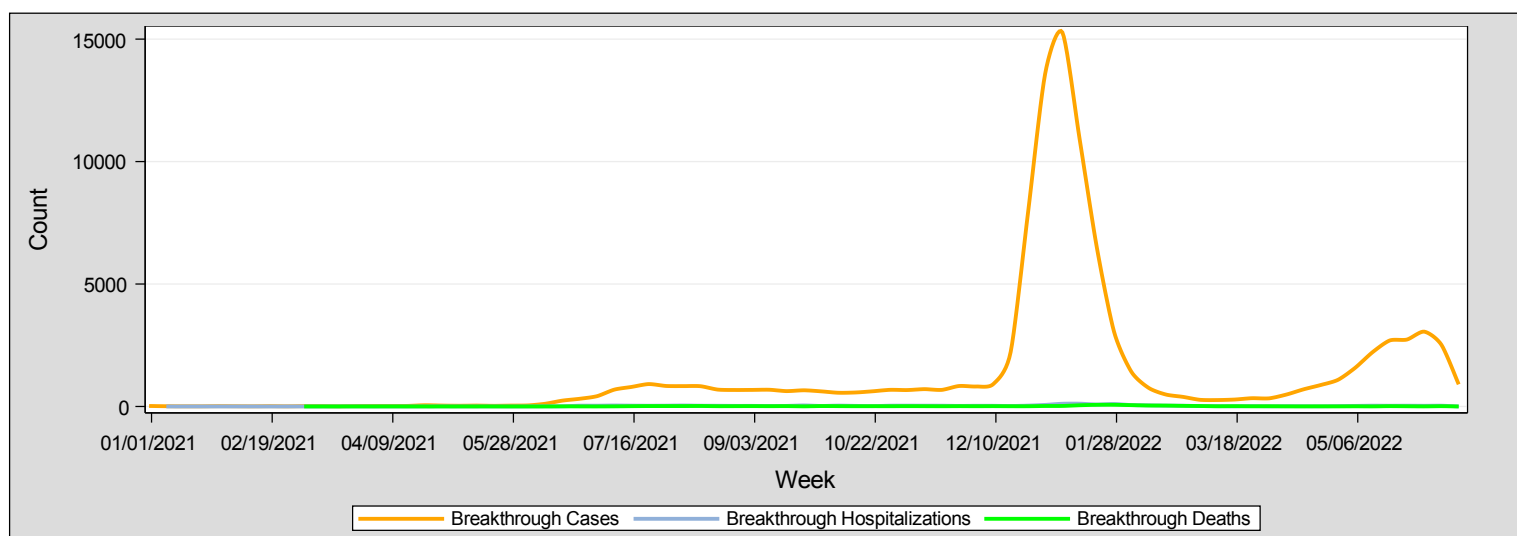


Figure 2: Percentage of Cases among 12 Years and Older By Vaccination Status

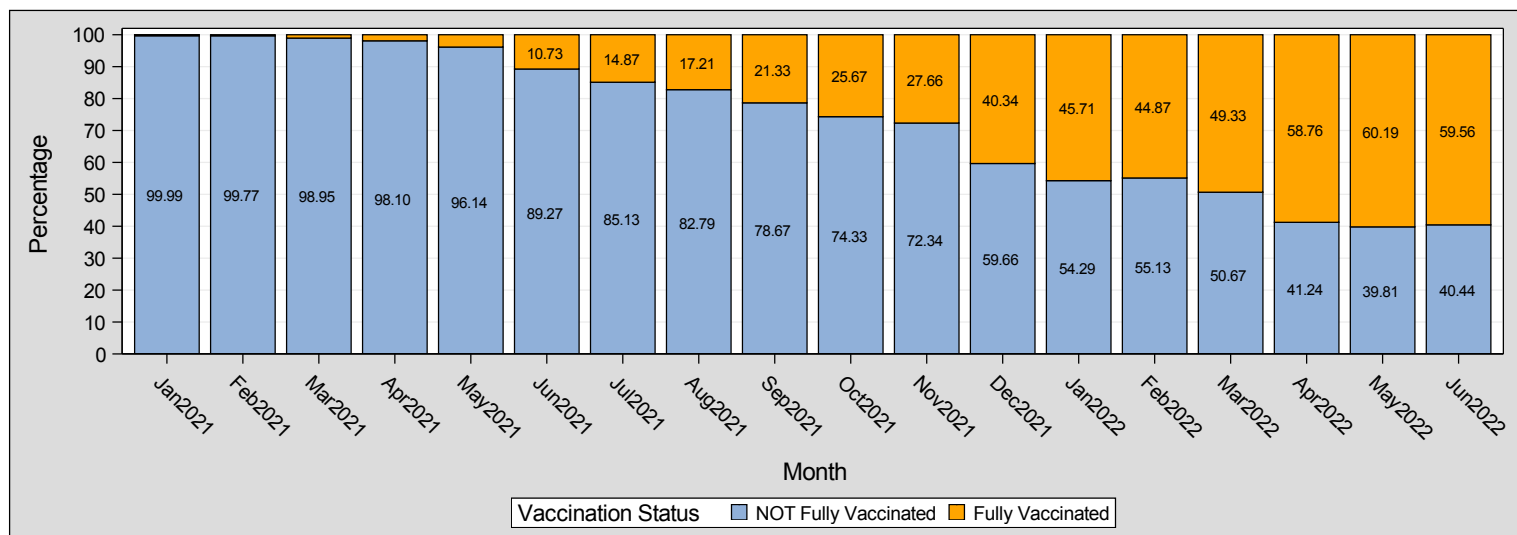


Table 1: Population Characteristics of COVID-19 Breakthrough Cases

	<i>Overall</i>	
	<i>N</i>	<i>%</i>
<i>All</i>	102217	100
Age (in years)		
5-11	1199	1
12-17	5161	5
18-24	9232	9
25-49	46823	46
50-64	23809	23
65+	15993	16
Gender		
Male	44554	44
Female	56955	56
Unknown	708	1
Race/Ethnicity		
Hispanic	21199	21
White	31278	31
Black	7576	7
API	12691	12
AEA	358	0
Other	8007	8
Unknown	21108	21
Travel History		
Yes	3450	3
No	22947	22
Unknown	75820	74
Hospitalization		
Yes	2185	2
No	25828	25
Unknown	74204	73
Death		
Yes	859	1
No	6203	6
Unknown	95155	93
Vaccine Type		
Pfizer	67805	66
Unknown	773	1
Moderna	27314	27
Janssen	6325	6
Underlying Conditions		
Yes	12492	12
No	89725	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
1303565	102217	1014609	443360	7841	43698

* 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>	2185	100
Age (in years)		
5-11	3	0
12-17	11	1
18-24	23	1
25-49	228	10
50-64	377	17
65+	1543	71
Gender		
Male	1186	54
Female	997	46
Unknown	2	0
Race/Ethnicity		
Hispanic	290	13
White	1227	56
Black	253	12
API	214	10
AEA	12	1
Other	68	3
Unknown	121	6
Travel History		
Yes	76	3
No	1069	49
Unknown	1040	48
Death		
Yes	627	29
No	368	17
Unknown	1190	54
Vaccine Type		
Pfizer	1271	58
Unknown	52	2
Moderna	666	30
Janssen	196	9
Underlying Conditions		
Yes	1538	70
No	647	30

Table 4: Population Characteristics of COVID-19 Breakthrough Deaths

	<i>Overall</i>	
	<i>N</i>	<i>%</i>
<i>All</i>	859	100
Age (in years)		
25-49	31	4
50-64	114	13
65+	714	83
Gender		
Male	515	60
Female	344	40
Race/Ethnicity		
Hispanic	106	12
White	558	65
Black	91	11
API	86	10
AEA	6	1
Other	9	1
Unknown	3	0
Hospitalization		
Yes	627	73
No	54	6
Unknown	178	21
Vaccine Type		
Pfizer	471	55
Unknown	20	2
Moderna	264	31
Janssen	104	12
Underlying Conditions		
Yes	503	59
No	356	41

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
1303565	859	1014609	7746	66	763

* 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	1538	70
	No	647	30
Hypertension	Yes	980	N/A
Immunocompromised	Yes	90	N/A
Chronic Heart Disease	Yes	471	N/A
Chronic Liver Disease	Yes	42	N/A
Chronic Kidney Disease	Yes	319	N/A
Diabetes	Yes	572	N/A
Neurologic/Neurodevelopmental	Yes	137	N/A
Chronic Lung Disease	Yes	420	N/A
Historically Healthy	Yes	190	N/A

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

Variable	Outcome	N	%
Underlying Medical Condition	Yes	503	59
	No	356	41
Hypertension	Yes	324	N/A
Immunocompromised	Yes	37	N/A
Chronic Heart Disease	Yes	185	N/A
Chronic Liver Disease	Yes	17	N/A
Chronic Kidney Disease	Yes	133	N/A
Diabetes	Yes	187	N/A
Neurologic/Neurodevelopmental	Yes	41	N/A
Chronic Lung Disease	Yes	146	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).