

Weekly COVID-19 Breakthrough Infections Report

Clark County, Nevada

Date: June 7, 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

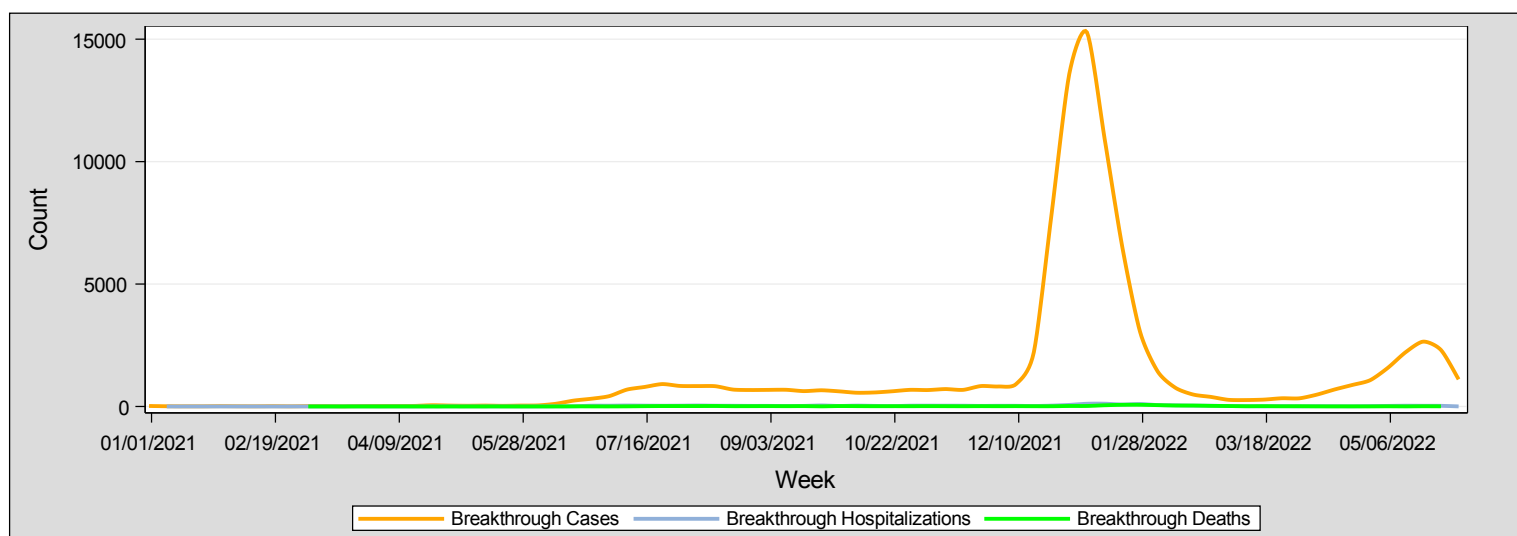


Figure 2: Percentage of Cases among 12 Years and Older By Vaccination Status

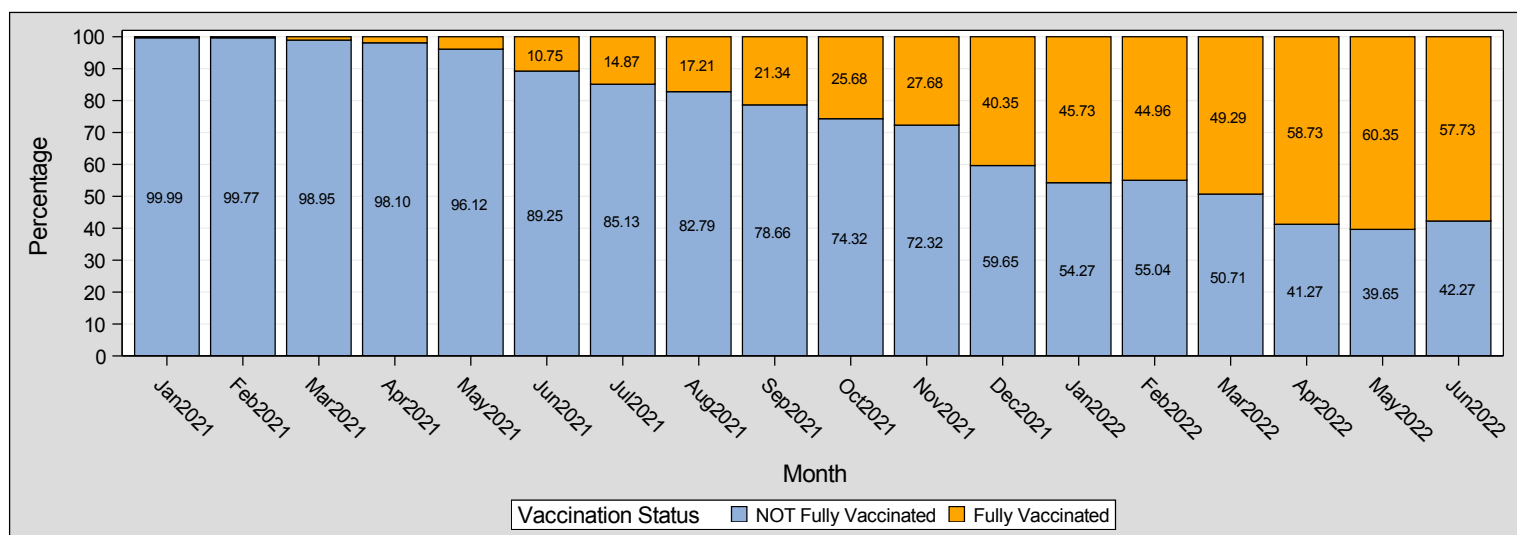


Table 1: Population Characteristics of COVID-19 Breakthrough Cases

	<i>Overall</i>	
	<i>N</i>	<i>%</i>
<i>All</i>	96248	100
Age (in years)		
5-11	1115	1
12-17	5004	5
18-24	8830	9
25-49	44370	46
50-64	22199	23
65+	14730	15
Gender		
Male	41943	44
Female	53636	56
Unknown	669	1
Race/Ethnicity		
Hispanic	20325	21
White	29496	31
Black	7136	7
API	11881	12
AEA	329	0
Other	7724	8
Unknown	19357	20
Travel History		
Yes	3210	3
No	21641	22
Unknown	71397	74
Hospitalization		
Yes	2094	2
No	24315	25
Unknown	69839	73
Death		
Yes	833	1
No	5813	6
Unknown	89602	93
Vaccine Type		
Pfizer	63947	66
Unknown	719	1
Moderna	25454	26
Janssen	6128	6
Underlying Conditions		
Yes	11698	12
No	84550	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
1300487	96248	1017687	438889	7401	43126

* 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>	2094	100
Age (in years)		
5-11	3	0
12-17	11	1
18-24	21	1
25-49	222	11
50-64	360	17
65+	1477	71
Gender		
Male	1150	55
Female	942	45
Unknown	2	0
Race/Ethnicity		
Hispanic	284	14
White	1169	56
Black	241	12
API	203	10
AEA	12	1
Other	70	3
Unknown	115	5
Travel History		
Yes	71	3
No	1026	49
Unknown	997	48
Death		
Yes	610	29
No	347	17
Unknown	1137	54
Vaccine Type		
Pfizer	1207	58
Unknown	52	2
Moderna	645	31
Janssen	190	9
Underlying Conditions		
Yes	1478	71
No	616	29

Table 4: Population Characteristics of COVID-19 Breakthrough Deaths

	<i>Overall</i>	
	<i>N</i>	<i>%</i>
<i>All</i>	833	100
Age (in years)		
25-49	29	3
50-64	111	13
65+	693	83
Gender		
Male	499	60
Female	334	40
Race/Ethnicity		
Hispanic	106	13
White	543	65
Black	89	11
API	82	10
AEA	6	1
Other	7	1
Hospitalization		
Yes	610	73
No	54	6
Unknown	169	20
Vaccine Type		
Pfizer	457	55
Unknown	20	2
Moderna	254	30
Janssen	102	12
Underlying Conditions		
Yes	489	59
No	344	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
1300487	833	1017687	7715	64	758

* 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	1478	71
	No	616	29
Hypertension	Yes	943	N/A
Immunocompromised	Yes	87	N/A
Chronic Heart Disease	Yes	459	N/A
Chronic Liver Disease	Yes	39	N/A
Chronic Kidney Disease	Yes	303	N/A
Diabetes	Yes	552	N/A
Neurologic/Neurodevelopmental	Yes	133	N/A
Chronic Lung Disease	Yes	398	N/A
Historically Healthy	Yes	182	N/A

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

Variable	Outcome	N	%
Underlying Medical Condition	Yes	489	59
	No	344	41
Hypertension	Yes	313	N/A
Immunocompromised	Yes	36	N/A
Chronic Heart Disease	Yes	181	N/A
Chronic Liver Disease	Yes	16	N/A
Chronic Kidney Disease	Yes	130	N/A
Diabetes	Yes	189	N/A
Neurologic/Neurodevelopmental	Yes	40	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).