

Weekly COVID-19 Breakthrough Infections Report

Clark County, Nevada

Date: April 26, 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

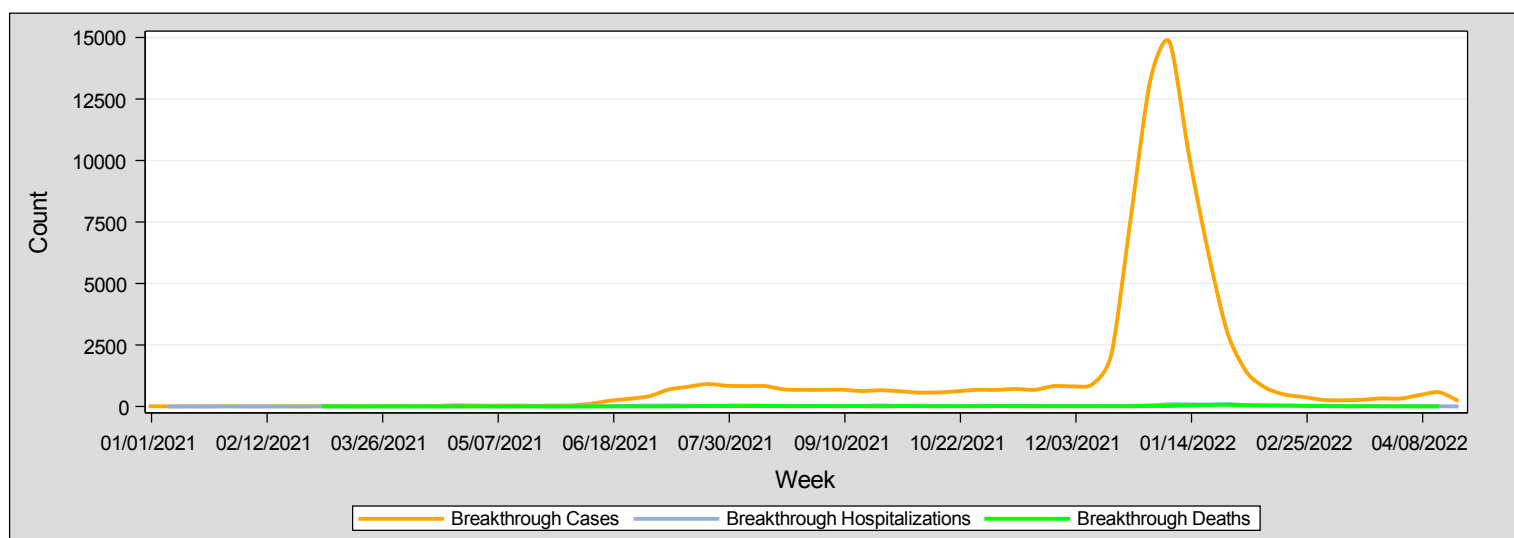


Figure 2: Percentage of Cases among 12 Years and Older By Vaccination Status

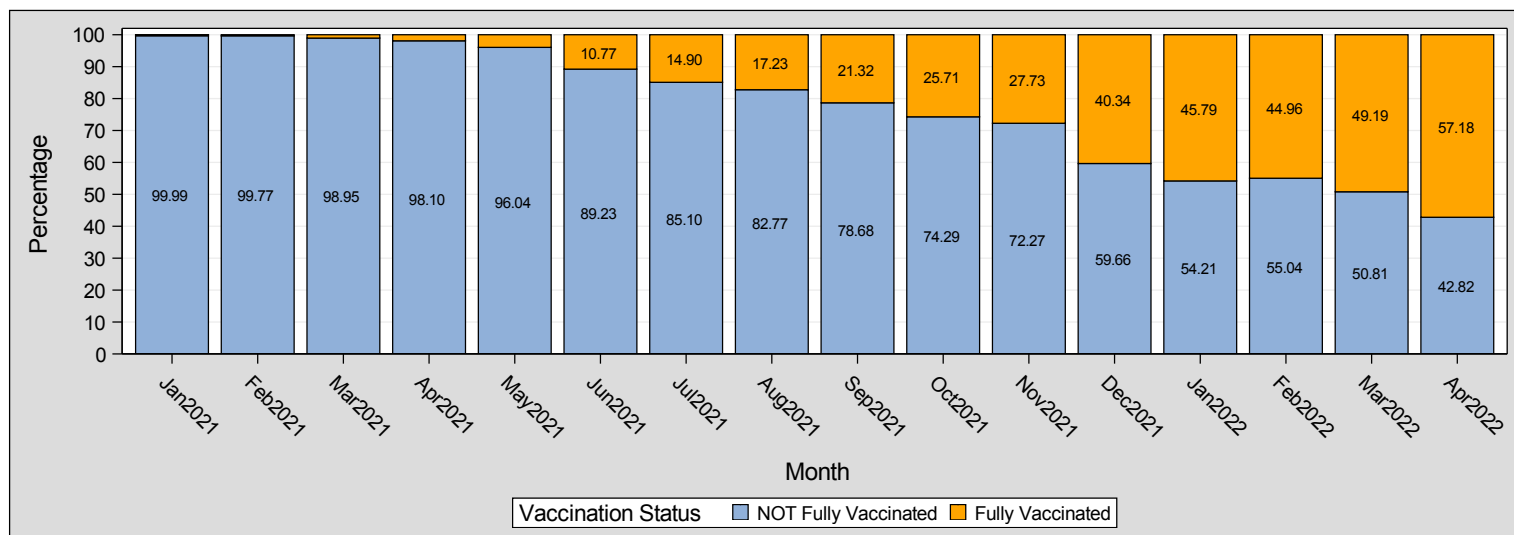


Table 1: Population Characteristics of COVID-19 Breakthrough Cases

	<i>Overall</i>	
	<i>N</i>	<i>%</i>
<i>All</i>	82330	100
Age (in years)		
.	5218	6
18-24	7797	9
25-49	38471	47
50-64	18629	23
65+	12215	15
Gender		
Male	36093	44
Female	45645	55
Unknown	592	1
Race/Ethnicity		
Hispanic	17807	22
White	24856	30
Black	6037	7
API	9885	12
AEA	67	0
Other	6969	8
Unknown	16709	20
Travel History		
Yes	2601	3
No	18120	22
Unknown	61609	75
Hospitalization		
Yes	1814	2
No	20150	24
Unknown	60366	73
Death		
Yes	778	1
No	4814	6
Unknown	76738	93
Vaccine Type		
Pfizer	54638	66
Unknown	615	1
Moderna	21398	26
Janssen	5679	7
Underlying Conditions		
Yes	9477	12
No	72853	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
1291853	82330	1026321	427207	6373	41625

* 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>	1814	100
Age (in years)		
.	11	1
18-24	16	1
25-49	192	11
50-64	320	18
65+	1275	70
Gender		
Male	1010	56
Female	801	44
Unknown	3	0
Race/Ethnicity		
Hispanic	251	14
White	1007	56
Black	210	12
API	177	10
AEA	5	0
Other	57	3
Unknown	107	6
Travel History		
Yes	67	4
No	899	50
Unknown	848	47
Death		
Yes	565	31
No	294	16
Unknown	955	53
Vaccine Type		
Pfizer	1048	58
Unknown	44	2
Moderna	548	30
Janssen	174	10
Underlying Conditions		
Yes	1250	69
No	564	31

Table 4: Population Characteristics of COVID-19 Breakthrough Deaths

	<i>Overall</i>	
	<i>N</i>	<i>%</i>
<i>All</i>	778	100
Age (in years)		
25-49	29	4
50-64	104	13
65+	645	83
Gender		
Male	467	60
Female	306	39
Unknown	5	1
Race/Ethnicity		
Hispanic	96	12
White	491	63
Black	83	11
API	79	10
AEA	3	0
Other	8	1
Unknown	18	2
Hospitalization		
Yes	565	73
No	46	6
Unknown	167	21
Vaccine Type		
Pfizer	430	55
Unknown	19	2
Moderna	233	30
Janssen	96	12
Underlying Conditions		
Yes	430	55
No	348	45

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
1291853	778	1026321	7643	60	745

* 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	1250	69
	No	564	31
Hypertension	Yes	793	N/A
Immunocompromised	Yes	73	N/A
Chronic Heart Disease	Yes	382	N/A
Chronic Liver Disease	Yes	35	N/A
Chronic Kidney Disease	Yes	259	N/A
Diabetes	Yes	476	N/A
Neurologic/Neurodevelopmental	Yes	112	N/A
Chronic Lung Disease	Yes	339	N/A
Historically Healthy	Yes	162	N/A

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

Variable	Outcome	N	%
Underlying Medical Condition	Yes	430	55
	No	348	45
Hypertension	Yes	280	N/A
Immunocompromised	Yes	31	N/A
Chronic Heart Disease	Yes	156	N/A
Chronic Liver Disease	Yes	12	N/A
Chronic Kidney Disease	Yes	109	N/A
Diabetes	Yes	168	N/A
Neurologic/Neurodevelopmental	Yes	37	N/A
Chronic Lung Disease	Yes	121	N/A
Historically Healthy	Yes	21	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).