

Weekly COVID-19 Breakthrough Infections Report

Clark County, Nevada

Date: April 5, 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

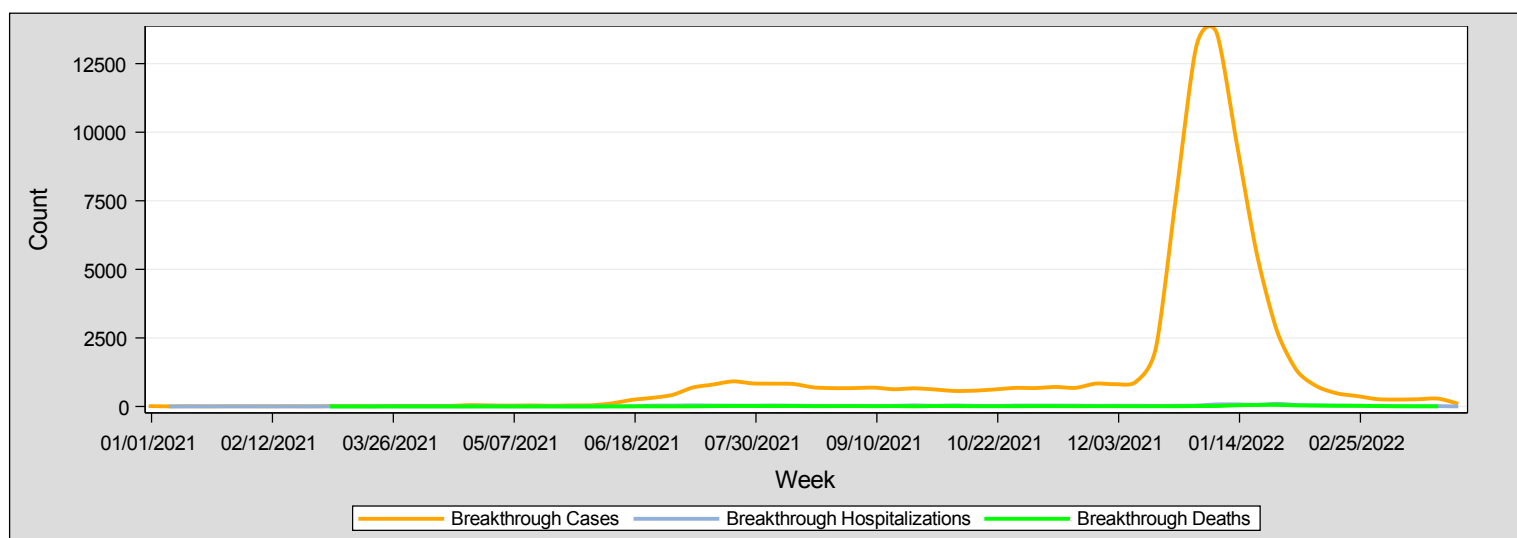


Figure 2: Percentage of Cases among 12 Years and Older By Vaccination Status

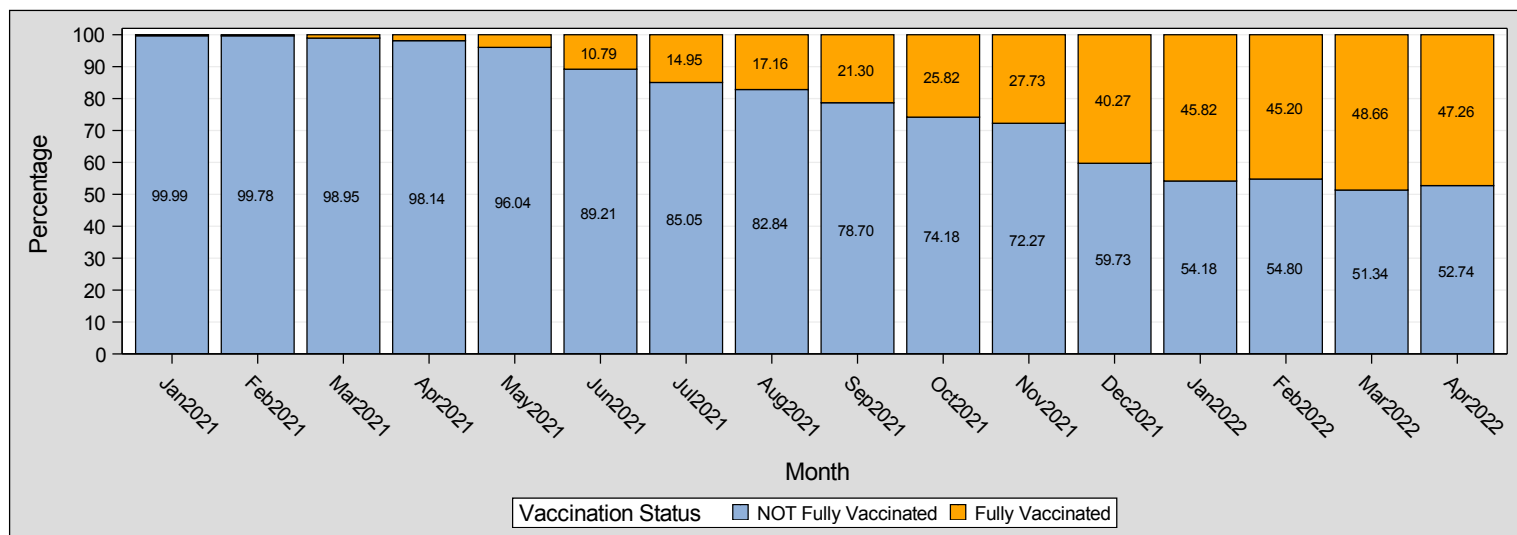


Table 1: Population Characteristics of COVID-19 Breakthrough Cases

	<i>Overall</i>	
	<i>N</i>	<i>%</i>
<i>All</i>	77579	100
Age (in years)		
.	4899	6
18-24	7417	10
25-49	36266	47
50-64	17514	23
65+	11483	15
Gender		
Male	33818	44
Female	43213	56
Unknown	548	1
Race/Ethnicity		
Hispanic	16358	21
White	23568	30
Black	5730	7
API	9362	12
AEA	63	0
Other	6679	9
Unknown	15819	20
Travel History		
Yes	2415	3
No	16841	22
Unknown	58323	75
Hospitalization		
Yes	1679	2
No	18648	24
Unknown	57252	74
Death		
Yes	644	1
No	4386	6
Unknown	72549	94
Vaccine Type		
Pfizer	51407	66
Unknown	582	1
Moderna	20149	26
Janssen	5441	7
Underlying Conditions		
Yes	8641	11
No	68938	89

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
1292481	77579	1025693	421542	6002	41098

* 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>	1679	100
Age (in years)		
.	7	0
18-24	16	1
25-49	179	11
50-64	295	18
65+	1182	70
Gender		
Male	934	56
Female	740	44
Unknown	5	0
Race/Ethnicity		
Hispanic	233	14
White	926	55
Black	189	11
API	160	10
AEA	5	0
Other	53	3
Unknown	113	7
Travel History		
Yes	62	4
No	843	50
Unknown	774	46
Death		
Yes	525	31
No	233	14
Unknown	921	55
Vaccine Type		
Pfizer	960	57
Unknown	41	2
Moderna	512	30
Janssen	166	10
Underlying Conditions		
Yes	1139	68
No	540	32

Table 4: Population Characteristics of COVID-19 Breakthrough Deaths

	<i>Overall</i>	
	<i>N</i>	<i>%</i>
<i>All</i>	644	100
Age (in years)		
25-49	21	3
50-64	90	14
65+	533	83
Gender		
Male	395	61
Female	247	38
Unknown	2	0
Race/Ethnicity		
Hispanic	79	12
White	404	63
Black	74	11
API	71	11
AEA	3	0
Other	4	1
Unknown	9	1
Hospitalization		
Yes	525	82
No	32	5
Unknown	87	14
Vaccine Type		
Pfizer	355	55
Unknown	17	3
Moderna	189	29
Janssen	83	13
Underlying Conditions		
Yes	369	57
No	275	43

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
1292481	644	1025693	7181	50	700

* 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	1139	68
	No	540	32
Hypertension	Yes	714	N/A
Immunocompromised	Yes	66	N/A
Chronic Heart Disease	Yes	356	N/A
Chronic Liver Disease	Yes	34	N/A
Chronic Kidney Disease	Yes	234	N/A
Diabetes	Yes	429	N/A
Neurologic/Neurodevelopmental	Yes	101	N/A
Chronic Lung Disease	Yes	310	N/A
Historically Healthy	Yes	154	N/A

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

Variable	Outcome	N	%
Underlying Medical Condition	Yes	369	57
	No	275	43
Hypertension	Yes	243	N/A
Immunocompromised	Yes	27	N/A
Chronic Heart Disease	Yes	137	N/A
Chronic Liver Disease	Yes	10	N/A
Chronic Kidney Disease	Yes	94	N/A
Diabetes	Yes	151	N/A
Neurologic/Neurodevelopmental	Yes	29	N/A
Chronic Lung Disease	Yes	104	N/A
Historically Healthy	Yes	19	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).