

Weekly COVID-19 Breakthrough Infections Report

Clark County, Nevada

Date: April 19, 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

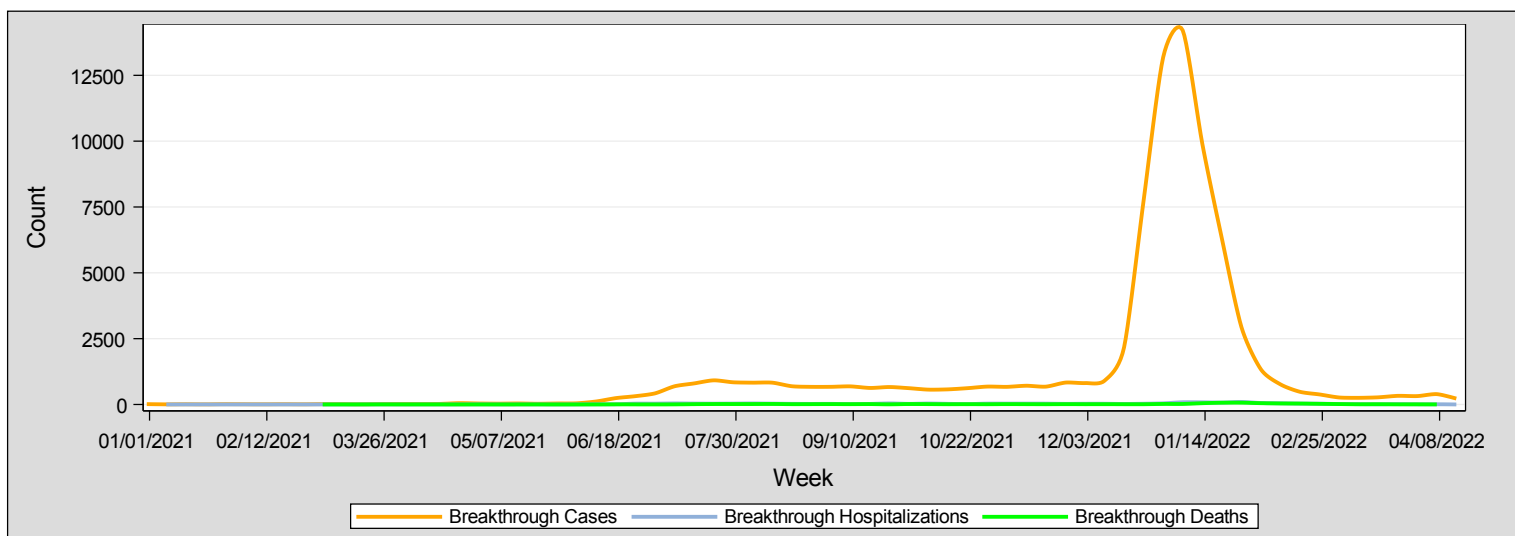


Figure 2: Percentage of Cases among 12 Years and Older By Vaccination Status

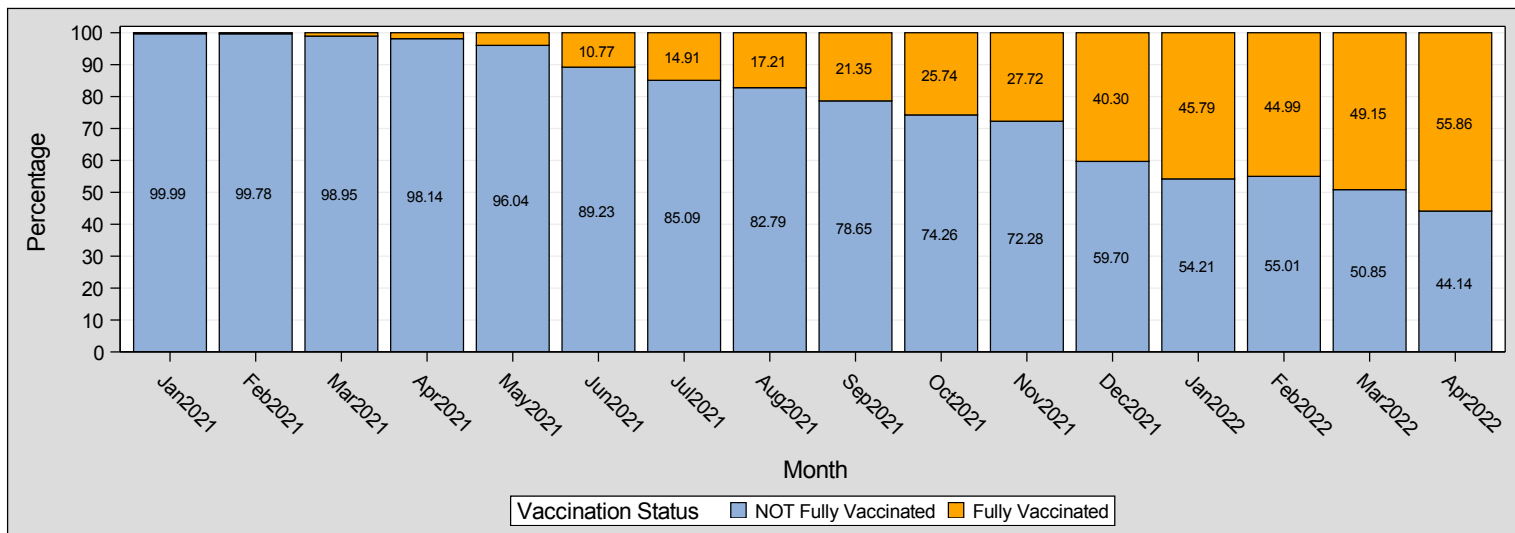


Table 1: Population Characteristics of COVID-19 Breakthrough Cases

	<i>Overall</i>	
	<i>N</i>	<i>%</i>
<i>All</i>	80482	100
Age (in years)		
.	5095	6
18-24	7646	10
25-49	37592	47
50-64	18215	23
65+	11934	15
Gender		
Male	35184	44
Female	44713	56
Unknown	585	1
Race/Ethnicity		
Hispanic	17256	21
White	24365	30
Black	5934	7
API	9671	12
AEA	67	0
Other	6866	9
Unknown	16323	20
Travel History		
Yes	2508	3
No	17682	22
Unknown	60292	75
Hospitalization		
Yes	1768	2
No	19616	24
Unknown	59098	73
Death		
Yes	762	1
No	4540	6
Unknown	75180	93
Vaccine Type		
Pfizer	53422	66
Unknown	605	1
Moderna	20898	26
Janssen	5557	7
Underlying Conditions		
Yes	9157	11
No	71325	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
1288937	80482	1029237	425192	6244	41311

* 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>	1768	100
Age (in years)		
.	10	1
18-24	16	1
25-49	189	11
50-64	313	18
65+	1240	70
Gender		
Male	985	56
Female	779	44
Unknown	4	0
Race/Ethnicity		
Hispanic	246	14
White	974	55
Black	205	12
API	170	10
AEA	5	0
Other	56	3
Unknown	112	6
Travel History		
Yes	65	4
No	877	50
Unknown	826	47
Death		
Yes	557	32
No	245	14
Unknown	966	55
Vaccine Type		
Pfizer	1013	57
Unknown	42	2
Moderna	540	31
Janssen	173	10
Underlying Conditions		
Yes	1202	68
No	566	32

Table 4: Population Characteristics of COVID-19 Breakthrough Deaths

	<i>Overall</i>	
	<i>N</i>	<i>%</i>
<i>All</i>	762	100
Age (in years)		
25-49	28	4
50-64	100	13
65+	634	83
Gender		
Male	457	60
Female	300	39
Unknown	5	1
Race/Ethnicity		
Hispanic	87	11
White	470	62
Black	83	11
API	77	10
AEA	3	0
Other	7	1
Unknown	35	5
Hospitalization		
Yes	557	73
No	43	6
Unknown	162	21
Vaccine Type		
Pfizer	420	55
Unknown	19	2
Moderna	229	30
Janssen	94	12
Underlying Conditions		
Yes	416	55
No	346	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
1288937	762	1029237	7593	59	738

* 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	1202	68
	No	566	32
Hypertension	Yes	759	N/A
Immunocompromised	Yes	68	N/A
Chronic Heart Disease	Yes	372	N/A
Chronic Liver Disease	Yes	35	N/A
Chronic Kidney Disease	Yes	250	N/A
Diabetes	Yes	460	N/A
Neurologic/Neurodevelopmental	Yes	109	N/A
Chronic Lung Disease	Yes	328	N/A
Historically Healthy	Yes	163	N/A

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

Variable	Outcome	N	%
Underlying Medical Condition	Yes	416	55
	No	346	45
Hypertension	Yes	268	N/A
Immunocompromised	Yes	30	N/A
Chronic Heart Disease	Yes	151	N/A
Chronic Liver Disease	Yes	12	N/A
Chronic Kidney Disease	Yes	107	N/A
Diabetes	Yes	161	N/A
Neurologic/Neurodevelopmental	Yes	34	N/A
Chronic Lung Disease	Yes	118	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).