

Weekly COVID-19 Breakthrough Infections Report

Clark County, Nevada

Date: April 12, 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

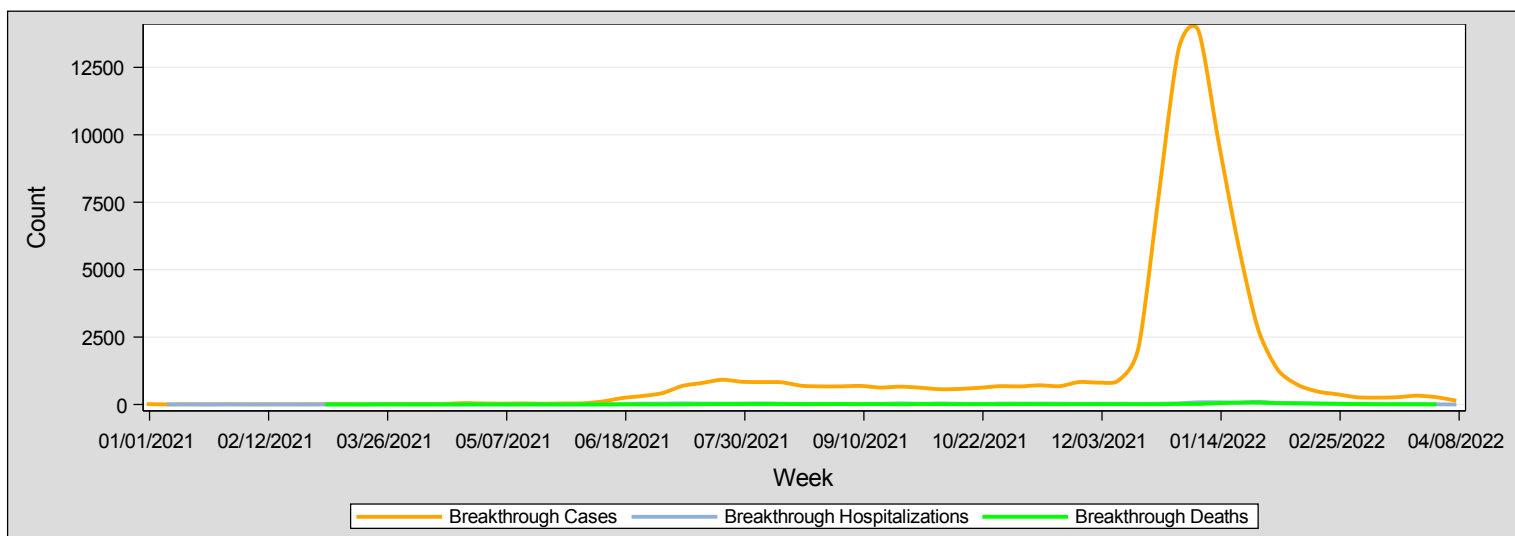


Figure 2: Percentage of Cases among 12 Years and Older by Vaccination Status

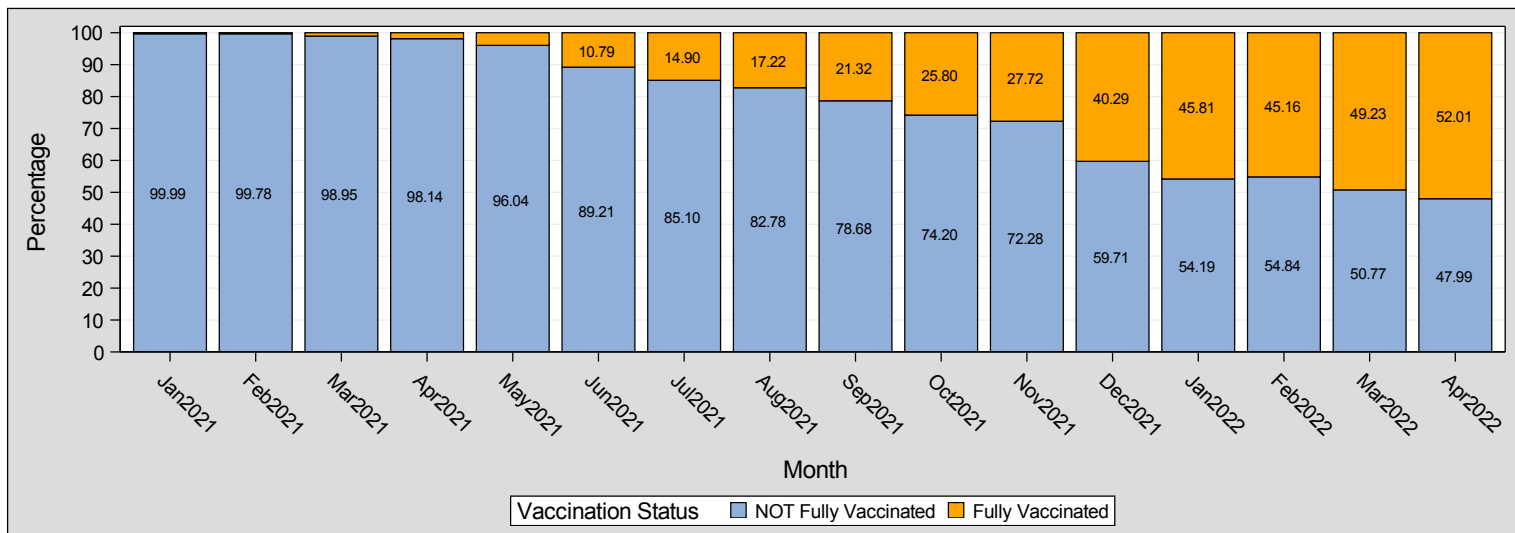


Table 1: Population Characteristics of COVID-19 Breakthrough Cases

	<i>Overall</i>	
	<i>N</i>	<i>%</i>
<i>All</i>	78913	100
Age (in years)		
.	5004	6
18-24	7518	10
25-49	36853	47
50-64	17861	23
65+	11677	15
Gender		
Male	34439	44
Female	43901	56
Unknown	573	1
Race/Ethnicity		
Hispanic	16793	21
White	23949	30
Black	5825	7
API	9495	12
AEA	66	0
Other	6753	9
Unknown	16032	20
Travel History		
Yes	2455	3
No	17231	22
Unknown	59227	75
Hospitalization		
Yes	1734	2
No	19097	24
Unknown	58082	74
Death		
Yes	755	1
No	4464	6
Unknown	73694	93
Vaccine Type		
Pfizer	52333	66
Unknown	592	1
Moderna	20493	26
Janssen	5495	7
Underlying Conditions		
Yes	8883	11
No	70030	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
1287053	78913	1031121	423298	6131	41052

* 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>	1734	100
Age (in years)		
.	8	0
18-24	16	1
25-49	184	11
50-64	307	18
65+	1219	70
Gender		
Male	966	56
Female	764	44
Unknown	4	0
Race/Ethnicity		
Hispanic	241	14
White	955	55
Black	198	11
API	166	10
AEA	5	0
Other	55	3
Unknown	114	7
Travel History		
Yes	63	4
No	864	50
Unknown	807	47
Death		
Yes	556	32
No	233	13
Unknown	945	54
Vaccine Type		
Pfizer	992	57
Unknown	42	2
Moderna	529	31
Janssen	171	10
Underlying Conditions		
Yes	1182	68
No	552	32

Table 4: Population Characteristics of COVID-19 Breakthrough Deaths

	<i>Overall</i>	
	<i>N</i>	<i>%</i>
<i>All</i>	755	100
Age (in years)		
25-49	26	3
50-64	99	13
65+	630	83
Gender		
Male	455	60
Female	295	39
Unknown	5	1
Race/Ethnicity		
Hispanic	85	11
White	459	61
Black	83	11
API	78	10
AEA	3	0
Other	8	1
Unknown	39	5
Hospitalization		
Yes	556	74
No	42	6
Unknown	157	21
Vaccine Type		
Pfizer	416	55
Unknown	19	3
Moderna	226	30
Janssen	94	12
Underlying Conditions		
Yes	410	54
No	345	46

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
1287053	755	1031121	7426	59	720

* 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	1182	68
	No	552	32
Hypertension	Yes	745	N/A
Immunocompromised	Yes	67	N/A
Chronic Heart Disease	Yes	370	N/A
Chronic Liver Disease	Yes	34	N/A
Chronic Kidney Disease	Yes	246	N/A
Diabetes	Yes	453	N/A
Neurologic/Neurodevelopmental	Yes	106	N/A
Chronic Lung Disease	Yes	324	N/A
Historically Healthy	Yes	157	N/A

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

Variable	Outcome	N	%
Underlying Medical Condition	Yes	410	54
	No	345	46
Hypertension	Yes	265	N/A
Immunocompromised	Yes	30	N/A
Chronic Heart Disease	Yes	151	N/A
Chronic Liver Disease	Yes	11	N/A
Chronic Kidney Disease	Yes	104	N/A
Diabetes	Yes	162	N/A
Neurologic/Neurodevelopmental	Yes	34	N/A
Chronic Lung Disease	Yes	118	N/A
Historically Healthy	Yes	22	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).