

Weekly COVID-19 Breakthrough Infections Report

Clark County, Nevada

Date: May 24, 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

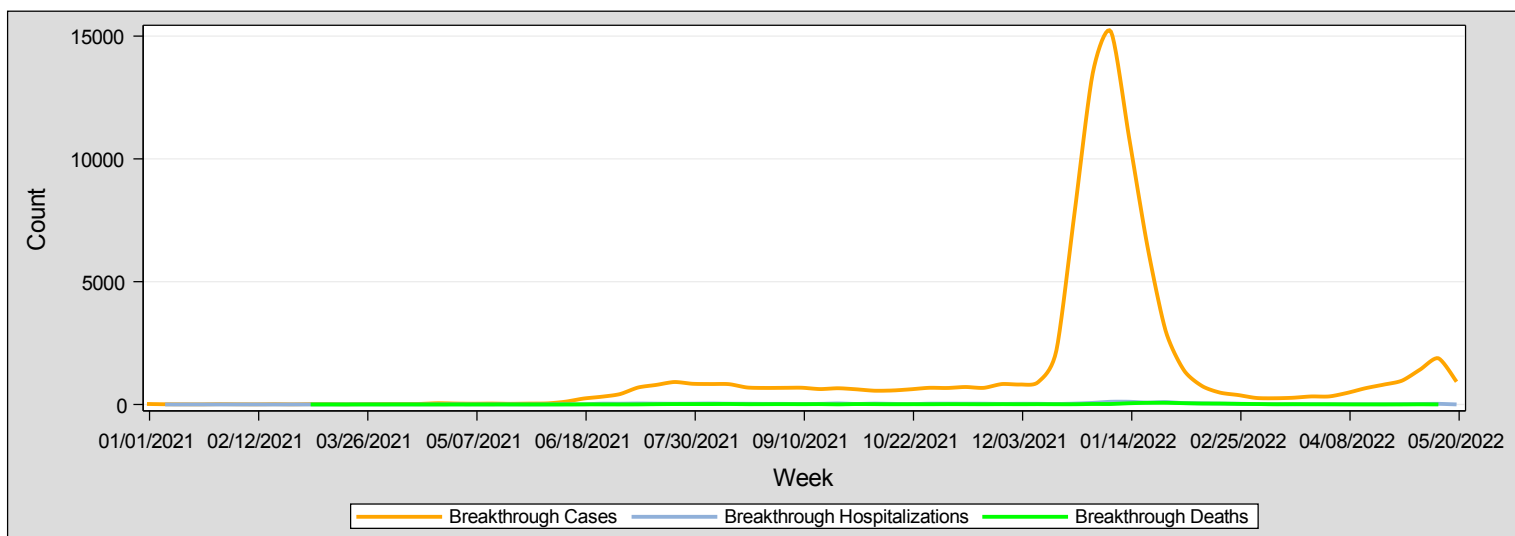


Figure 2: Percentage of Cases among 12 Years and Older By Vaccination Status

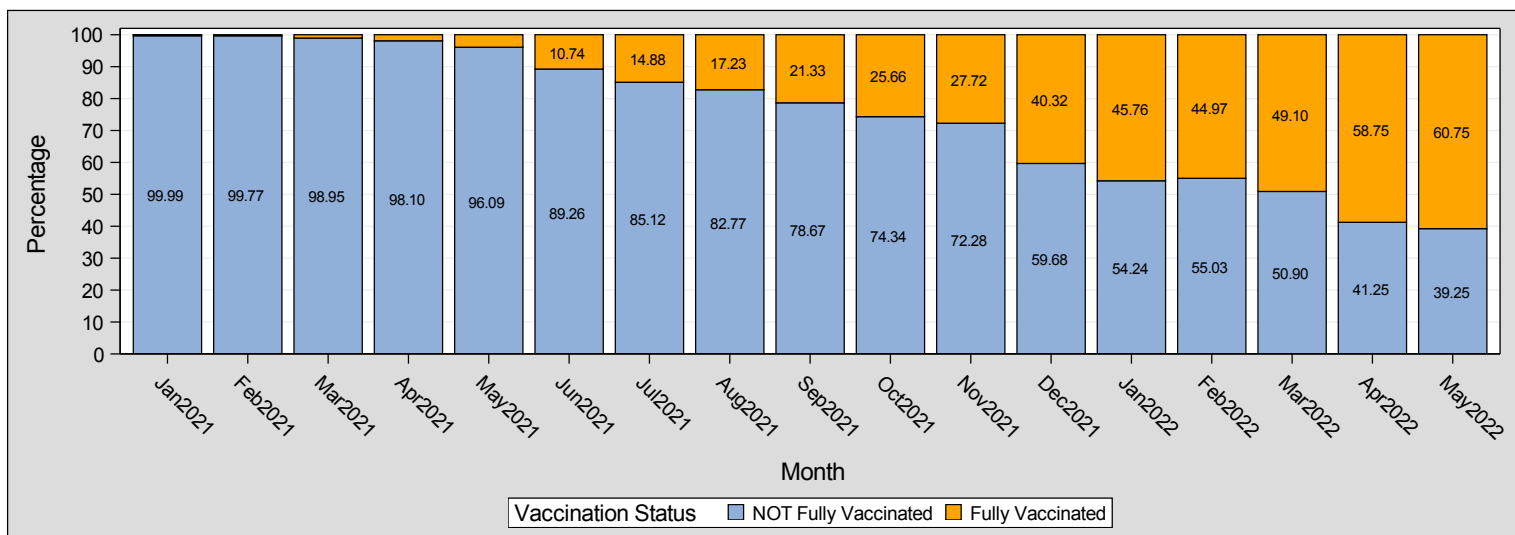


Table 1: Population Characteristics of COVID-19 Breakthrough Cases

	<i>Overall</i>	
	<i>N</i>	<i>%</i>
<i>All</i>	89818	100
Age (in years)		
5-11	994	1
12-17	4721	5
18-24	8324	9
25-49	41666	46
50-64	20574	23
65+	13539	15
Gender		
Male	39165	44
Female	50010	56
Unknown	643	1
Race/Ethnicity		
Hispanic	19283	21
White	27261	30
Black	6577	7
API	10964	12
AEA	75	0
Other	7288	8
Unknown	18370	20
Travel History		
Yes	2989	3
No	20261	23
Unknown	66568	74
Hospitalization		
Yes	2002	2
No	22736	25
Unknown	65080	72
Death		
Yes	806	1
No	5314	6
Unknown	83698	93
Vaccine Type		
Pfizer	59647	66
Unknown	671	1
Moderna	23593	26
Janssen	5907	7
Underlying Conditions		
Yes	10917	12
No	78901	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
1297559	89818	1020615	433858	6922	42509

* 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>	2002	100
Age (in years)		
5-11	3	0
12-17	11	1
18-24	17	1
25-49	216	11
50-64	348	17
65+	1407	70
Gender		
Male	1104	55
Female	895	45
Unknown	3	0
Race/Ethnicity		
Hispanic	272	14
White	1113	56
Black	228	11
API	195	10
AEA	5	0
Other	65	3
Unknown	124	6
Travel History		
Yes	70	3
No	978	49
Unknown	954	48
Death		
Yes	593	30
No	317	16
Unknown	1092	55
Vaccine Type		
Pfizer	1154	58
Unknown	49	2
Moderna	616	31
Janssen	183	9
Underlying Conditions		
Yes	1409	70
No	593	30

Table 4: Population Characteristics of COVID-19 Breakthrough Deaths

	<i>Overall</i>	
	<i>N</i>	<i>%</i>
<i>All</i>	806	100
Age (in years)		
25-49	28	3
50-64	109	14
65+	669	83
Gender		
Male	483	60
Female	318	39
Unknown	5	1
Race/Ethnicity		
Hispanic	99	12
White	519	64
Black	86	11
API	81	10
AEA	3	0
Other	7	1
Unknown	11	1
Hospitalization		
Yes	593	74
No	53	7
Unknown	160	20
Vaccine Type		
Pfizer	443	55
Unknown	19	2
Moderna	245	30
Janssen	99	12
Underlying Conditions		
Yes	471	58
No	335	42

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
1297559	806	1020615	7688	62	753

* 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

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

Variable	Outcome	N	%
Underlying Medical Condition	Yes	471	58
	No	335	42
Hypertension	Yes	301	N/A
Immunocompromised	Yes	34	N/A
Chronic Heart Disease	Yes	175	N/A
Chronic Liver Disease	Yes	16	N/A
Chronic Kidney Disease	Yes	122	N/A
Diabetes	Yes	183	N/A
Neurologic/Neurodevelopmental	Yes	38	N/A
Chronic Lung Disease	Yes	131	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).