

Weekly COVID-19 Breakthrough Infections Report

Clark County, Nevada

Date: March 29, 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

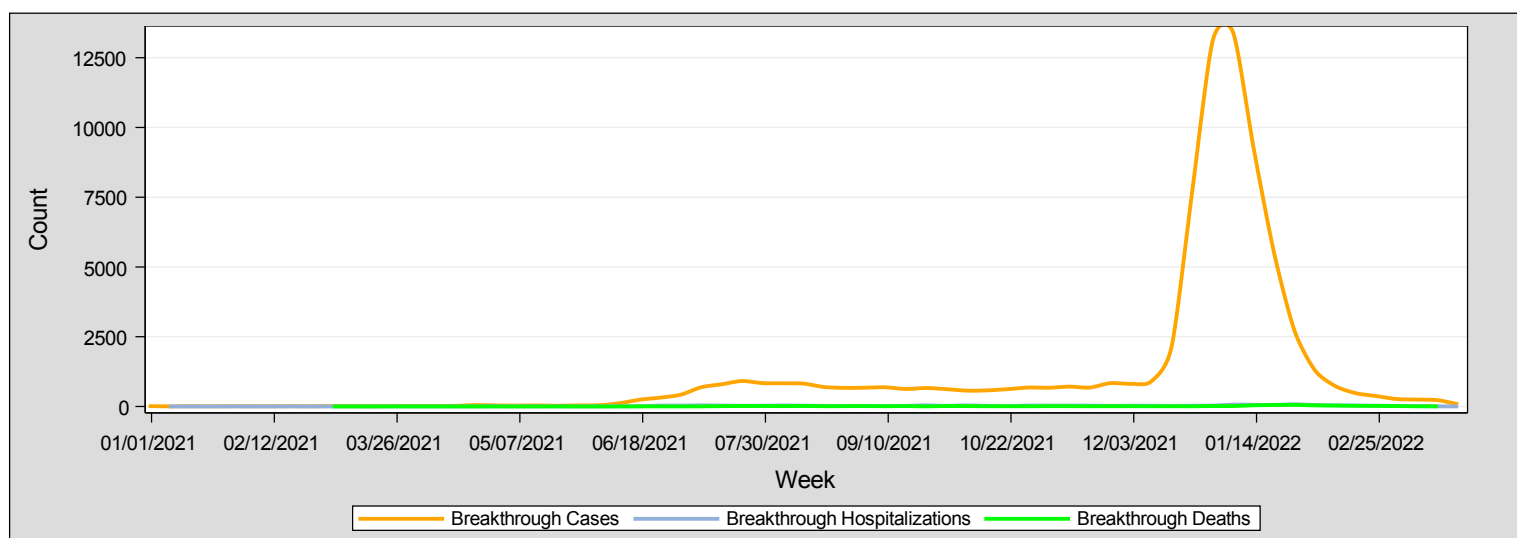


Figure 2: Percentage of Cases among 12 Years and Older By Vaccination Status

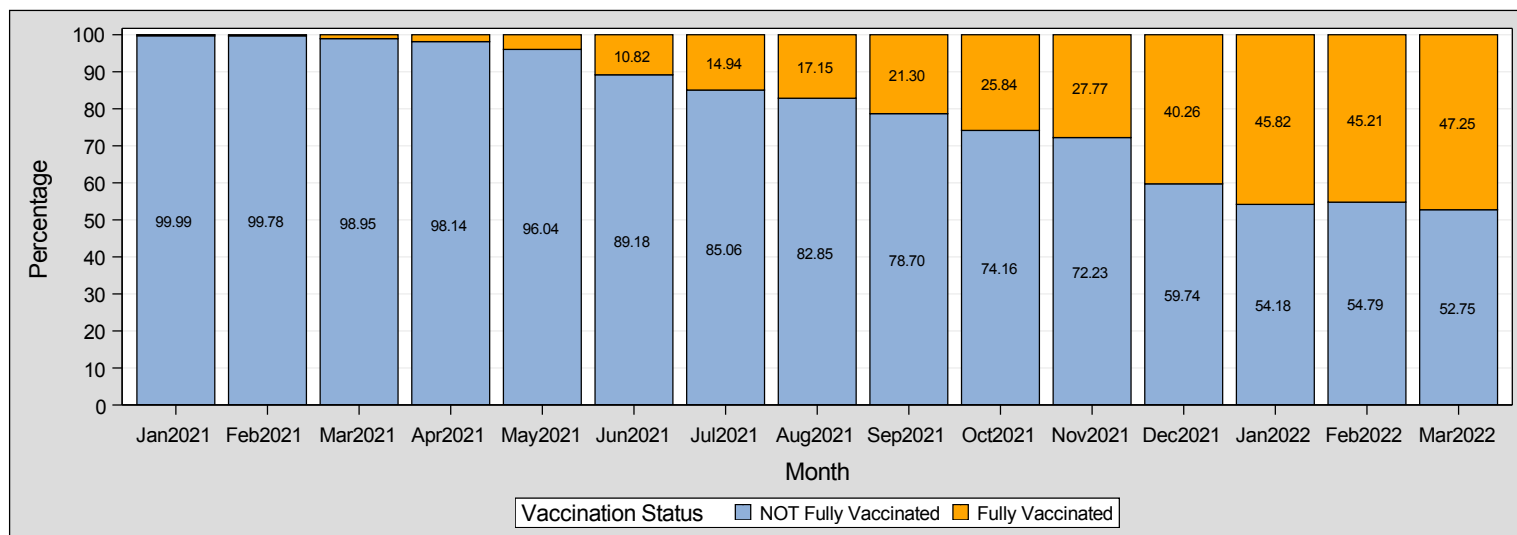


Table 1: Population Characteristics of COVID-19 Breakthrough Cases

	<i>Overall</i>	
	<i>N</i>	<i>%</i>
<i>All</i>	76487	100
Age (in years)		
.	4827	6
18-24	7332	10
25-49	35754	47
50-64	17256	23
65+	11318	15
Gender		
Male	33249	43
Female	42671	56
Unknown	567	1
Race/Ethnicity		
Hispanic	15989	21
White	23277	30
Black	5645	7
API	9238	12
AEA	61	0
Other	6619	9
Unknown	15658	20
Travel History		
Yes	2375	3
No	16439	21
Unknown	57673	75
Hospitalization		
Yes	1606	2
No	18228	24
Unknown	56653	74
Death		
Yes	628	1
No	4289	6
Unknown	71570	94
Vaccine Type		
Pfizer	50646	66
Unknown	570	1
Moderna	19876	26
Janssen	5395	7
Underlying Conditions		
Yes	8370	11
No	68117	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
1291479	76487	1026695	420167	5922	40924

* 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>	1606	100
Age (in years)		
.	7	0
18-24	16	1
25-49	170	11
50-64	284	18
65+	1129	70
Gender		
Male	893	56
Female	710	44
Unknown	3	0
Race/Ethnicity		
Hispanic	230	14
White	889	55
Black	182	11
API	151	9
AEA	4	0
Other	47	3
Unknown	103	6
Travel History		
Yes	61	4
No	820	51
Unknown	725	45
Death		
Yes	516	32
No	229	14
Unknown	861	54
Vaccine Type		
Pfizer	920	57
Unknown	42	3
Moderna	485	30
Janssen	159	10
Underlying Conditions		
Yes	1087	68
No	519	32

Table 4: Population Characteristics of COVID-19 Breakthrough Deaths

	<i>Overall</i>	
	<i>N</i>	<i>%</i>
<i>All</i>	628	100
Age (in years)		
25-49	21	3
50-64	87	14
65+	520	83
Gender		
Male	385	61
Female	242	39
Unknown	1	0
Race/Ethnicity		
Hispanic	79	13
White	392	62
Black	72	11
API	69	11
AEA	3	0
Other	4	1
Unknown	9	1
Hospitalization		
Yes	516	82
No	30	5
Unknown	82	13
Vaccine Type		
Pfizer	349	56
Unknown	16	3
Moderna	182	29
Janssen	81	13
Underlying Conditions		
Yes	353	56
No	275	44

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
1291479	628	1026695	7161	49	697

* 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	1087	68
	No	519	32
Hypertension	Yes	672	N/A
Immunocompromised	Yes	64	N/A
Chronic Heart Disease	Yes	342	N/A
Chronic Liver Disease	Yes	32	N/A
Chronic Kidney Disease	Yes	222	N/A
Diabetes	Yes	410	N/A
Neurologic/Neurodevelopmental	Yes	96	N/A
Chronic Lung Disease	Yes	299	N/A
Historically Healthy	Yes	151	N/A

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

Variable	Outcome	N	%
Underlying Medical Condition	Yes	353	56
	No	275	44
Hypertension	Yes	230	N/A
Immunocompromised	Yes	26	N/A
Chronic Heart Disease	Yes	128	N/A
Chronic Liver Disease	Yes	10	N/A
Chronic Kidney Disease	Yes	88	N/A
Diabetes	Yes	144	N/A
Neurologic/Neurodevelopmental	Yes	26	N/A
Chronic Lung Disease	Yes	100	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).