

Weekly COVID-19 Breakthrough Infections Report

Clark County, Nevada

Date: August 30, 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

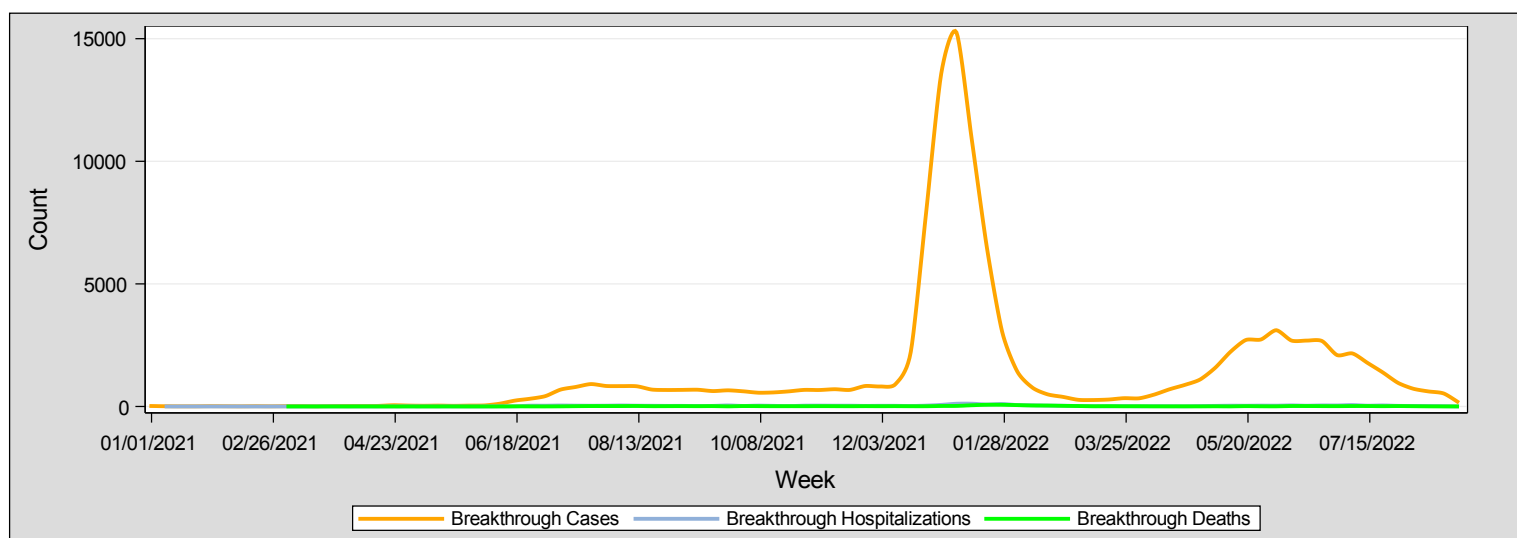


Figure 2: Percentage of Cases among 12 Years and Older By Vaccination Status

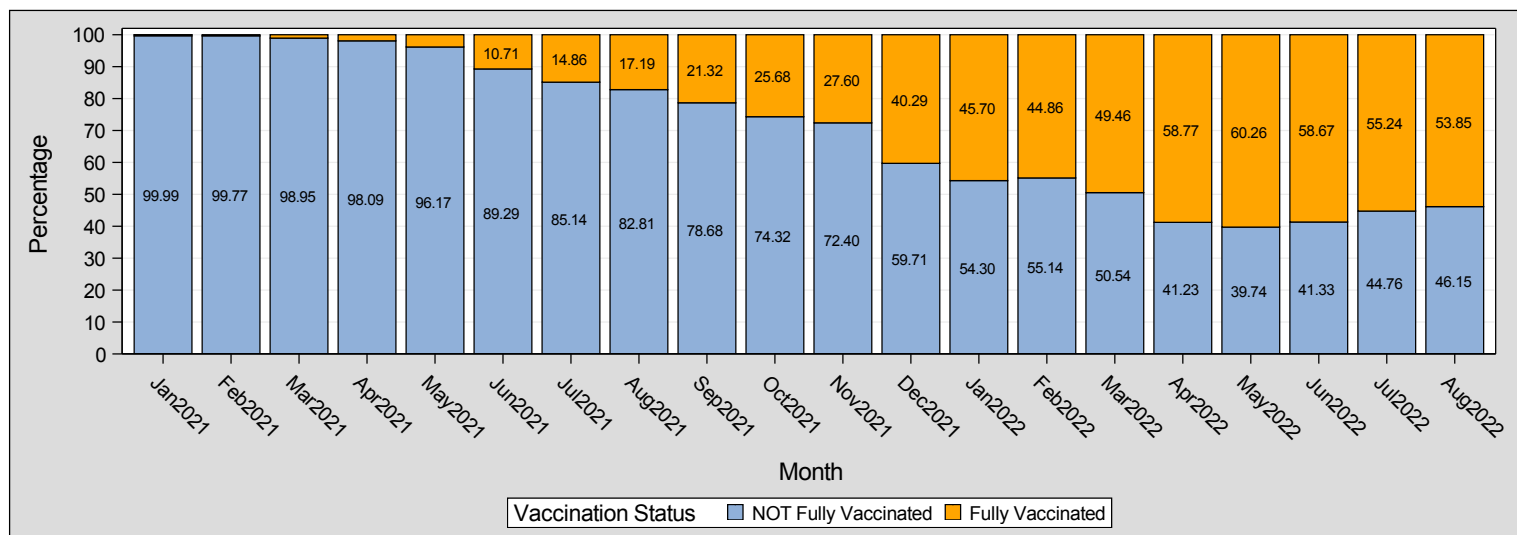


Table 1: Population Characteristics of COVID-19 Breakthrough Cases

	<i>Overall</i>	
	<i>N</i>	<i>%</i>
<i>All</i>	117488	100
Age (in years)		
<i>0-4</i>	2	0
<i>5-11</i>	1416	1
<i>12-17</i>	5619	5
<i>18-24</i>	10299	9
<i>25-49</i>	52589	45
<i>50-64</i>	27787	24
<i>65+</i>	19776	17
Gender		
<i>Male</i>	51183	44
<i>Female</i>	65492	56
<i>Unknown</i>	813	1
Race/Ethnicity		
<i>Hispanic</i>	23852	20
<i>White</i>	36240	31
<i>Black</i>	8874	8
<i>API</i>	14673	12
<i>AEA</i>	404	0
<i>Other</i>	8751	7
<i>Unknown</i>	24694	21
Travel History		
<i>Yes</i>	4448	4
<i>No</i>	27215	23
<i>Unknown</i>	85825	73
Hospitalization		
<i>Yes</i>	2639	2
<i>No</i>	30888	26
<i>Unknown</i>	83961	71
Death		
<i>Yes</i>	1005	1
<i>No</i>	7416	6
<i>Unknown</i>	109067	93
Vaccine Type		
<i>Pfizer</i>	77634	66
<i>Unknown</i>	946	1
<i>Moderna</i>	32119	27
<i>Janssen</i>	6788	6
<i>Emergen</i>	1	0
Underlying Conditions		
<i>Yes</i>	15210	13
<i>No</i>	102278	87

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
1315430	117488	1002744	457197	8932	45595

* 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>	2639	100
Age (in years)		
5-11	5	0
12-17	16	1
18-24	28	1
25-49	261	10
50-64	463	18
65+	1866	71
Gender		
Male	1418	54
Female	1217	46
Unknown	4	0
Race/Ethnicity		
Hispanic	329	12
White	1508	57
Black	312	12
API	258	10
AEA	12	0
Other	80	3
Unknown	140	5
Travel History		
Yes	102	4
No	1304	49
Unknown	1233	47
Death		
Yes	722	27
No	430	16
Unknown	1487	56
Vaccine Type		
Pfizer	1537	58
Unknown	58	2
Moderna	819	31
Janssen	225	9
Underlying Conditions		
Yes	1876	71
No	763	29

Table 4: Population Characteristics of COVID-19 Breakthrough Deaths

	<i>Overall</i>	
	<i>N</i>	<i>%</i>
<i>All</i>	1005	100
Age (in years)		
25-49	32	3
50-64	123	12
65+	850	85
Gender		
Male	597	59
Female	408	41
Race/Ethnicity		
Hispanic	113	11
White	664	66
Black	108	11
API	102	10
AEA	6	1
Other	9	1
Unknown	3	0
Hospitalization		
Yes	722	72
No	65	6
Unknown	218	22
Vaccine Type		
Pfizer	551	55
Unknown	24	2
Moderna	319	32
Janssen	111	11
Underlying Conditions		
Yes	594	59
No	411	41

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
1315430	1005	1002744	7912	76	789

* 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	1876	71
	No	763	29
Hypertension	Yes	1212	N/A
Immunocompromised	Yes	109	N/A
Chronic Heart Disease	Yes	571	N/A
Chronic Liver Disease	Yes	48	N/A
Chronic Kidney Disease	Yes	385	N/A
Diabetes	Yes	701	N/A
Neurologic/Neurodevelopmental	Yes	174	N/A
Chronic Lung Disease	Yes	504	N/A
Historically Healthy	Yes	222	N/A

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

Variable	Outcome	N	%
Underlying Medical Condition	Yes	594	59
	No	411	41
Hypertension	Yes	389	N/A
Immunocompromised	Yes	46	N/A
Chronic Heart Disease	Yes	214	N/A
Chronic Liver Disease	Yes	19	N/A
Chronic Kidney Disease	Yes	160	N/A
Diabetes	Yes	231	N/A
Neurologic/Neurodevelopmental	Yes	52	N/A
Chronic Lung Disease	Yes	175	N/A
Historically Healthy	Yes	23	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).