

A breakthrough COVID-19 infection is defined as a positive SARS-CoV-2 specimen collected ≥ 14 days after completing the primary COVID-19 vaccine series of an FDA-authorized COVID-19 vaccine. Studies show that protection from COVID vaccination decreases over time; in response, the CDC has recommended booster doses for eligible populations to protect against waning immunity. As of 3/4/2022, Montana reports 41,439 cases of confirmed breakthrough disease, which includes 1,376 hospitalizations and 370 deaths. CDC data from December show that unvaccinated adults were more than 3 times more likely to become infected with COVID, compared to fully vaccinated adults with a booster dose. Additionally, unvaccinated adults had 41 times the risk of dying from COVID-19 compared to fully vaccinated adults with booster doses.¹

Hospitalizations and Deaths and Vaccination Status

COVID-19-related hospitalizations and deaths were analyzed between **April 1, 2021 and March 4, 2022** to review vaccination status. Since the beginning of April 2021, 80% of Montanans who were hospitalized and 77% of those who died were unvaccinated at the time of infection (Table 3). Of the 6,859 individuals who were hospitalized during this time period, 128 (2%) were <18 years old, 939 (14%) were 18 to 44 years old, 2,255 (33%) were 45 to 64 years old and 3,537 (52%) were ≥ 65 years old.

Additionally, COVID-19-related hospitalization and death data from **January 8 – March 4, 2022** (last 8 weeks) were analyzed to review vaccination status. Sixty-six percent of Montanans who were hospitalized and 70% of those who died had not received a COVID-19 vaccine (Table 4). Of the 1,147 individuals who were hospitalized during this time period, 38 (3%) were <18 years old, 122 (11%) were 18 to 44 years old, 289 (25%) were 45 to 64 years old and 698 (61%) were ≥ 65 years old.

Table 3. Vaccination status of COVID-19 hospitalizations and deaths – April 1 to March 4, 2022

	HOSPITALIZATIONS	DEATHS
TOTAL REPORTED	6,859	1,616
UNVACCINATED	5,491 (80%)	1,247 (77%)
VACCINATED (BREAKTHROUGH CASE)	1,368 (20%)	369 (23%)
UNVACCINATED AGE RANGE IN YEARS (MEDIAN AGE)	<1-102 (63)	23-103 (71)
VACCINATED AGE RANGE IN YEARS (MEDIAN AGE)	7-103 (73)	20-101 (81)

Table 4. Vaccination status of COVID-19 hospitalizations and deaths – January 8 to March 4, 2022

	HOSPITALIZATIONS	DEATHS
TOTAL REPORTED	1,147	217
UNVACCINATED	753 (66%)	151 (70%)
VACCINATED (BREAKTHROUGH CASE)	394 (34%)	66 (30%)
UNVACCINATED AGE RANGE IN YEARS (MEDIAN AGE)	<1-101 (68)	30-101 (74)
VACCINATED AGE RANGE IN YEARS (MEDIAN AGE)	7-103 (72)	48-100 (80)

¹ CDC – COVID Data Tracker – Rates of COVID-19 Cases and Deaths by Vaccination Status. <https://covid.cdc.gov/covid-data-tracker/#rates-by-vaccine-status>. March 1, 2022.

County name	Eligible population 5+	Dose 1	Dose 2	Dose 3	Fully Immunized	Total Doses Administered	Percent eligible with first dose (5+)	Percent Fully Vaccinated (5+)
BEAVERHEAD	9,091	5,477	4,398	2,573	5,094	12,448	60%	56%
BIG HORN	11,975	8,207	7,041	2,720	7,413	17,968	69%	62%
BLAINE	6,044	3,726	3,126	1,490	3,335	8,342	62%	55%
BROADWATER	6,092	2,372	1,735	934	1,977	5,041	39%	32%
CARBON	10,476	5,578	4,768	2,652	5,117	12,998	53%	49%
CARTER	1,141	376	331	180	353	887	33%	31%
CASCADE	76,124	42,734	33,938	17,390	37,997	94,062	56%	50%
CHOUTEAU	5,430	2,224	1,882	1,280	2,069	5,386	41%	38%
CUSTER	10,692	5,343	4,297	2,324	4,804	11,964	50%	45%
DANIELS	1,559	741	647	343	702	1,731	48%	45%
DAWSON	8,071	3,507	2,906	1,573	3,214	7,986	43%	40%
DEER LODGE	8,887	6,345	5,259	3,212	5,836	14,816	71%	66%
FALLON	2,646	1,082	948	466	998	2,496	41%	38%
FERGUS	10,495	5,473	4,738	2,733	5,137	12,944	52%	49%
FLATHEAD	99,993	51,930	40,573	22,020	44,856	114,523	52%	45%
GALLATIN	110,900	82,559	63,294	33,082	69,490	178,935	74%	63%
GARFIELD	1,188	319	253	103	296	675	27%	25%
GLACIER	12,447	10,460	7,269	3,151	7,827	20,880	84%	63%
GOLDEN VALLEY	788	389	328	158	360	875	49%	46%
GRANITE	3,218	1,448	1,155	607	1,262	3,210	45%	39%
HILL	14,914	9,873	7,657	4,041	9,040	21,571	66%	61%
JEFFERSON	11,819	6,716	5,692	3,212	6,104	15,620	57%	52%
JUDITH BASIN	1,880	794	686	383	747	1,863	42%	40%
LAKE	29,280	19,872	16,311	8,730	17,523	44,913	68%	60%
LEWIS & CLARK	66,257	45,012	36,719	21,213	39,589	102,944	68%	60%
LIBERTY	2,234	853	720	444	820	2,017	38%	37%
LINCOLN	19,480	9,426	7,614	4,172	8,321	21,212	48%	43%
MADISON	8,589	4,389	3,470	2,052	3,906	9,911	51%	45%
MCCONE	1,562	453	419	236	428	1,108	29%	27%
MEAGHER	1,726	1,006	869	496	953	2,371	58%	55%
MINERAL	4,302	2,619	1,893	1,180	2,360	5,692	61%	55%
MISSOULA	115,881	84,712	70,206	40,418	76,244	195,336	73%	66%
MUSSELSHELL	4,458	1,722	1,399	722	1,595	3,843	39%	36%
PARK	15,969	11,162	8,663	4,935	9,590	24,760	70%	60%
PETROLEUM	483	162	142	85	152	389	34%	31%
PHILLIPS	3,675	1,903	1,462	897	1,770	4,262	52%	48%
PONDERA	5,389	3,541	2,770	1,440	3,146	7,751	66%	58%
POWDER RIVER	1,588	499	401	203	458	1,103	31%	29%
POWELL	6,534	4,214	3,139	1,862	3,930	9,215	64%	60%
PRAIRIE	994	462	412	235	436	1,109	46%	44%
RAVALLI	42,972	24,432	19,586	11,811	21,968	55,829	57%	51%
RICHLAND	10,310	4,455	3,507	1,837	4,190	9,799	43%	41%
ROOSEVELT	9,918	5,649	4,226	2,021	4,975	11,896	57%	50%
ROSEBUD	8,160	5,426	4,306	2,155	4,829	11,887	66%	59%
SANDERS	11,641	5,017	4,159	2,287	4,457	11,463	43%	38%
SHERIDAN	3,075	1,931	1,706	977	1,839	4,614	63%	60%
SILVER BOW	33,267	23,754	20,285	11,160	21,630	55,199	71%	65%
STILLWATER	9,451	4,334	3,419	2,035	3,971	9,788	46%	42%
SWEET GRASS	3,523	1,700	1,321	789	1,546	3,810	48%	44%
TETON	5,819	3,109	2,190	1,237	2,631	6,536	53%	45%
TOOLE	4,391	2,325	1,763	812	2,171	4,900	53%	49%
TREASURE	623	425	295	141	318	861	68%	51%
VALLEY	6,931	3,364	2,719	1,668	3,175	7,751	49%	46%
WHEATLAND	2,035	803	697	397	752	1,897	39%	37%
WIBAUX	898	354	299	128	307	781	39%	34%
YELLOWSTONE	153,378	92,224	76,484	39,049	82,754	207,757	60%	54%
MONTANA	1,020,663	628,982	506,492	274,451	556,762	1,409,925	62%	55%