

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 3/11/2022, Montana reports 41,834 cases of confirmed breakthrough disease, which includes 1,391 hospitalizations and 376 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 11, 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 6,926 individuals who were hospitalized during this time period, 131 (2%) were <18 years old, 940 (14%) were 18 to 44 years old, 2,275 (33%) were 45 to 64 years old and 3,580 (52%) were ≥ 65 years old.

Additionally, COVID-19-related hospitalization and death data from **January 15– March 11, 2022** (last 8 weeks) were analyzed to review vaccination status. 66% of Montanans who were hospitalized and 68% of those who died had not received a COVID-19 vaccine (Table 4). Of the 1,079 individuals who were hospitalized during this time period, 37 (3%) were <18 years old, 110 (10%) were 18 to 44 years old, 272 (25%) were 45 to 64 years old and 660 (61%) were ≥ 65 years old.

Table 3. Vaccination status of COVID-19 hospitalizations and deaths – April 1, 2021 to March 11, 2022

	HOSPITALIZATIONS	DEATHS
TOTAL REPORTED	6,926	1,632
UNVACCINATED	5,543 (80%)	1,257 (77%)
VACCINATED (BREAKTHROUGH CASE)	1,383 (20%)	375 (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 15 to March 11, 2022

	HOSPITALIZATIONS	DEATHS
TOTAL REPORTED	1,079	203
UNVACCINATED	709 (66%)	139 (68%)
VACCINATED (BREAKTHROUGH CASE)	370 (34%)	64 (32%)
UNVACCINATED AGE RANGE IN YEARS (MEDIAN AGE)	<1-101 (68)	40-101 (75)
VACCINATED AGE RANGE IN YEARS (MEDIAN AGE)	7-103 (72)	48-100 (79)

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 15, 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	5,484	4,400	2,590	5,098	12,474	60%	56%
BIG HORN	11,975	8,227	7,057	2,751	7,431	18,035	69%	62%
BLAINE	6,044	3,729	3,130	1,499	3,339	8,358	62%	55%
BROADWATER	6,092	2,376	1,740	937	1,981	5,053	39%	33%
CARBON	10,476	5,583	4,773	2,663	5,122	13,019	53%	49%
CARTER	1,141	376	331	181	353	888	33%	31%
CASCADE	76,124	42,782	34,005	17,534	38,068	94,321	56%	50%
CHOUTEAU	5,430	2,226	1,885	1,285	2,072	5,396	41%	38%
CUSTER	10,692	5,349	4,305	2,333	4,815	11,987	50%	45%
DANIELS	1,559	742	650	343	705	1,735	48%	45%
DAWSON	8,071	3,519	2,911	1,596	3,220	8,026	44%	40%
DEER LODGE	8,887	6,352	5,266	3,219	5,842	14,837	71%	66%
FALLON	2,646	1,083	952	468	1,002	2,503	41%	38%
FERGUS	10,495	5,477	4,751	2,753	5,149	12,981	52%	49%
FLATHEAD	99,993	51,992	40,649	22,109	44,939	114,750	52%	45%
GALLATIN	110,900	82,651	63,394	33,280	69,597	179,325	75%	63%
GARFIELD	1,188	319	253	104	296	676	27%	25%
GLACIER	12,447	10,461	7,282	3,159	7,840	20,902	84%	63%
GOLDEN VALLEY	788	387	326	158	358	871	49%	45%
GRANITE	3,218	1,447	1,157	607	1,264	3,211	45%	39%
HILL	14,914	9,895	7,680	4,057	9,067	21,632	66%	61%
JEFFERSON	11,819	6,730	5,702	3,255	6,115	15,687	57%	52%
JUDITH BASIN	1,880	797	688	385	750	1,870	42%	40%
LAKE	29,280	19,882	16,336	8,758	17,551	44,976	68%	60%
LEWIS & CLARK	66,257	45,053	36,767	21,278	39,642	103,098	68%	60%
LIBERTY	2,234	856	721	444	821	2,021	38%	37%
LINCOLN	19,480	9,432	7,622	4,189	8,330	21,243	48%	43%
MADISON	8,589	4,395	3,478	2,059	3,915	9,932	51%	46%
MCCONE	1,562	453	420	237	429	1,110	29%	27%
MEAGHER	1,726	1,005	869	495	953	2,369	58%	55%
MINERAL	4,302	2,626	1,895	1,182	2,364	5,703	61%	55%
MISSOULA	115,881	84,793	70,299	40,592	76,344	195,684	73%	66%
MUSSELSHELL	4,458	1,725	1,403	722	1,599	3,850	39%	36%
PARK	15,969	11,162	8,667	4,949	9,594	24,778	70%	60%
PETROLEUM	483	163	142	85	153	390	34%	32%
PHILLIPS	3,675	1,902	1,464	902	1,771	4,268	52%	48%
PONDERA	5,389	3,545	2,773	1,441	3,150	7,759	66%	58%
POWDER RIVER	1,588	499	401	203	458	1,103	31%	29%
POWELL	6,534	4,215	3,144	1,889	3,934	9,248	65%	60%
PRAIRIE	994	465	414	242	438	1,121	47%	44%
RAVALLI	42,972	24,444	19,618	11,856	22,001	55,918	57%	51%
RICHLAND	10,310	4,459	3,534	1,843	4,217	9,836	43%	41%
ROOSEVELT	9,918	5,676	4,263	2,109	5,015	12,048	57%	51%
ROSEBUD	8,160	5,436	4,311	2,171	4,836	11,918	67%	59%
SANDERS	11,641	5,029	4,160	2,311	4,461	11,500	43%	38%
SHERIDAN	3,075	1,929	1,704	977	1,837	4,610	63%	60%
SILVER BOW	33,267	23,769	20,306	11,216	21,656	55,291	71%	65%
STILLWATER	9,451	4,335	3,425	2,038	3,977	9,798	46%	42%
SWEET GRASS	3,523	1,699	1,322	790	1,547	3,811	48%	44%
TETON	5,819	3,109	2,193	1,243	2,634	6,545	53%	45%
TOOLE	4,391	2,335	1,769	831	2,183	4,935	53%	50%
TREASURE	623	425	295	141	318	861	68%	51%
VALLEY	6,931	3,372	2,727	1,678	3,185	7,777	49%	46%
WHEATLAND	2,035	805	698	398	753	1,901	40%	37%
WIBAUX	898	355	299	128	307	782	40%	34%
YELLOWSTONE	153,378	92,322	76,661	39,223	82,936	208,206	60%	54%
MONTANA	1,020,663	629,654	507,387	275,886	557,732	1,412,927	62%	55%