







A breakthrough COVID-19 infection is defined as a positive SARS-CoV-2 specimen collected  $\geq 14$  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 2/25/2022, Montana reports 39,864 cases of confirmed breakthrough disease, which includes 1,341 hospitalizations and 364 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.<sup>1</sup>

### Hospitalizations and Deaths and Vaccination Status

COVID-19-related hospitalizations and deaths were analyzed between **April 1, 2021 and February 25, 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 6,766 individuals who were hospitalized during this time period, 129 (2%) were <18 years old, 926 (14%) were 18 to 44 years old, 2,228 (33%) were 45 to 64 years old and 3,483 (51%) were  $\geq 65$  years old.

Additionally, COVID-19-related hospitalization and death data from **January 1 – February 25, 2022** (last 8 weeks) were analyzed to review vaccination status. Sixty-six percent of Montanans who were hospitalized and 71% of those who died had not received a COVID-19 vaccine (Table 4). Of the 1,153 individuals who were hospitalized during this time period, 37 (3%) were <18 years old, 119 (10%) were 18 to 44 years old, 284 (25%) were 45 to 64 years old and 713 (62%) were  $\geq 65$  years old.

**Table 3. Vaccination status of COVID-19 hospitalizations and deaths – April 1 to February 25, 2022**

	HOSPITALIZATIONS	DEATHS
TOTAL REPORTED	<b>6,766</b>	<b>1,591</b>
UNVACCINATED	5,433 (80%)	1,231 (77%)
VACCINATED (BREAKTHROUGH CASE)	1,333 (20%)	360 (23%)
UNVACCINATED AGE RANGE IN YEARS (MEDIAN AGE)	<b>&lt;1-102 (63)</b>	<b>23-103 (71)</b>
VACCINATED AGE RANGE IN YEARS (MEDIAN AGE)	<b>7-103 (74)</b>	<b>20-101 (81)</b>

**Table 4. Vaccination status of COVID-19 hospitalizations and deaths – January 1 to February 25, 2022**

	HOSPITALIZATIONS	DEATHS
TOTAL REPORTED	<b>1,153</b>	<b>213</b>
UNVACCINATED	758 (66%)	151 (71%)
VACCINATED (BREAKTHROUGH CASE)	395 (34%)	62 (29%)
UNVACCINATED AGE RANGE IN YEARS (MEDIAN AGE)	<b>&lt;1-101 (68)</b>	<b>30-101 (73)</b>
VACCINATED AGE RANGE IN YEARS (MEDIAN AGE)	<b>7-103 (73)</b>	<b>48-95 (78)</b>

<sup>1</sup> 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	5,464	4,390	2,552	5,085	12,406	60%	56%
BIG HORN	11,975	8,196	7,018	2,698	7,389	17,912	68%	62%
BLAINE	6,044	3,726	3,124	1,479	3,332	8,329	62%	55%
BROADWATER	6,092	2,361	1,730	926	1,969	5,017	39%	32%
CARBON	10,476	5,573	4,758	2,646	5,107	12,977	53%	49%
CARTER	1,141	377	332	177	354	886	33%	31%
CASCADE	76,124	42,706	33,878	17,272	37,931	93,856	56%	50%
CHOUTEAU	5,430	2,221	1,873	1,278	2,060	5,372	41%	38%
CUSTER	10,692	5,335	4,285	2,309	4,791	11,929	50%	45%
DANIELS	1,559	740	643	342	698	1,725	47%	45%
DAWSON	8,071	3,505	2,900	1,560	3,208	7,965	43%	40%
DEER LODGE	8,887	6,341	5,234	3,189	5,811	14,764	71%	65%
FALLON	2,646	1,083	947	465	997	2,495	41%	38%
FERGUS	10,495	5,475	4,734	2,724	5,135	12,933	52%	49%
FLATHEAD	99,993	51,875	40,486	21,875	44,767	114,236	52%	45%
GALLATIN	110,900	82,412	63,155	32,858	69,330	178,425	74%	63%
GARFIELD	1,188	319	253	103	296	675	27%	25%
GLACIER	12,447	10,443	7,248	3,122	7,805	20,813	84%	63%
GOLDEN VALLEY	788	387	326	158	358	871	49%	45%
GRANITE	3,218	1,448	1,156	606	1,263	3,210	45%	39%
HILL	14,914	9,860	7,633	4,000	9,014	21,493	66%	60%
JEFFERSON	11,819	6,694	5,679	3,190	6,087	15,563	57%	52%
JUDITH BASIN	1,880	792	685	382	746	1,859	42%	40%
LAKE	29,280	19,832	16,266	8,673	17,472	44,771	68%	60%
LEWIS & CLARK	66,257	44,948	36,673	21,091	39,540	102,712	68%	60%
LIBERTY	2,234	852	719	444	819	2,015	38%	37%
LINCOLN	19,480	9,427	7,604	4,147	8,311	21,178	48%	43%
MADISON	8,589	4,388	3,466	2,043	3,902	9,897	51%	45%
MCCONE	1,562	452	419	236	428	1,107	29%	27%
MEAGHER	1,726	1,006	869	493	952	2,368	58%	55%
MINERAL	4,302	2,620	1,887	1,164	2,358	5,671	61%	55%
MISSOULA	115,881	84,610	70,088	40,166	76,117	194,864	73%	66%
MUSSELSHELL	4,458	1,720	1,396	715	1,591	3,831	39%	36%
PARK	15,969	11,143	8,648	4,894	9,573	24,685	70%	60%
PETROLEUM	483	162	142	85	152	389	34%	31%
PHILLIPS	3,675	1,898	1,461	891	1,768	4,250	52%	48%
PONDERA	5,389	3,543	2,769	1,434	3,144	7,746	66%	58%
POWDER RIVER	1,588	500	402	202	459	1,104	31%	29%
POWELL	6,534	4,208	3,125	1,811	3,916	9,144	64%	60%
PRAIRIE	994	462	412	234	436	1,108	46%	44%
RAVALLI	42,972	24,401	19,537	11,752	21,915	55,690	57%	51%
RICHLAND	10,310	4,450	3,503	1,823	4,185	9,776	43%	41%
ROOSEVELT	9,918	5,639	4,197	2,005	4,941	11,841	57%	50%
ROSEBUD	8,160	5,420	4,300	2,138	4,823	11,858	66%	59%
SANDERS	11,641	5,006	4,147	2,273	4,440	11,426	43%	38%
SHERIDAN	3,075	1,932	1,706	975	1,840	4,613	63%	60%
SILVER BOW	33,267	23,728	20,254	11,107	21,597	55,089	71%	65%
STILLWATER	9,451	4,330	3,416	2,028	3,968	9,774	46%	42%
SWEET GRASS	3,523	1,698	1,320	787	1,545	3,805	48%	44%
TETON	5,819	3,101	2,186	1,218	2,626	6,505	53%	45%
TOOLE	4,391	2,320	1,755	763	2,162	4,838	53%	49%
TREASURE	623	425	295	141	318	861	68%	51%
VALLEY	6,931	3,360	2,715	1,663	3,171	7,738	48%	46%
WHEATLAND	2,035	802	695	395	750	1,892	39%	37%
WIBAUX	898	354	298	128	306	780	39%	34%
YELLOWSTONE	153,378	92,075	76,274	38,775	82,536	207,124	60%	54%
<b>MONTANA</b>	<b>1,020,663</b>	<b>628,145</b>	<b>505,411</b>	<b>272,605</b>	<b>555,594</b>	<b>1,406,161</b>	<b>62%</b>	<b>54%</b>