



DISABILITY AND CHRONIC DISEASE IN MONTANA - 2019 UPDATE

Quick Facts

Disability occurred in **31%** of Montana adults in 2019.

Prevalence of chronic disease in adults with disability was **1.7 times higher** than in adults with no disability.

Forty-seven percent of adults with disability had two or more chronic diseases.

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Having a disability does not mean an individual is not healthy or cannot be healthy. However, people with disabilities experience higher rates of chronic disease and other health disparities compared to those without disabilities. By identifying these disparities, health care programs can be tailored to inform healthy choices and prevent illness among this population.

This report examines disability and chronic disease in Montana, utilizing the Behavioral Risk Factor Surveillance System (BRFSS) data from 2019. BRFSS is an annual telephone survey assessing the health of non-institutional adults in Montana and nationally. Six yes/no questions were used to determine disability status. Respondents answering yes to at least one of the questions were considered to have a disability. The six questions were: (Disability type)

- 1) *Are you blind or do you have serious difficulty seeing, even when wearing glasses? (Vision)*
- 2) *Are you deaf or do you have serious difficulty hearing? (Hearing)*
- 3) *Because of a physical, mental, or emotional condition, do you have serious difficulty concentrating, remembering, or making decisions? (Cognition)*
- 4) *Do you have serious difficulty walking or climbing stairs? (Mobility)*
- 5) *Do you have difficulty dressing or bathing? (Self-care)*
- 6) *Because of a physical, mental, or emotional condition, do you have difficulty doing errands alone such as visiting a doctor's office or shopping? (Independent living)*

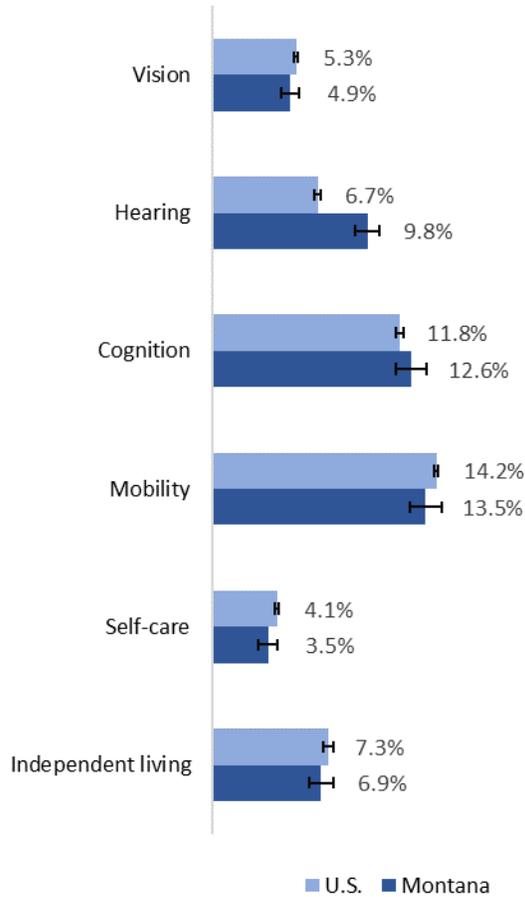
Eleven questions on chronic disease conditions were used in the analysis. Each question began with the prologue - *Has a doctor, nurse, or other health professional ever told you that you have the following:*

- 1) *a heart attack, also called myocardial infarction?*
- 2) *angina or coronary heart disease?*
- 3) *a stroke?*
- 4) *asthma?*
- 5) *skin cancer?*
- 6) *any other types of cancer?*
- 7) *chronic obstructive pulmonary disease, C.O.P.D., emphysema or chronic bronchitis?*
- 8) *Any form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia?*
- 9) *a depressive disorder (including depression, major depression, dysthymia, or minor depression)?*
- 10) *kidney disease?*
- 11) *diabetes?*

Prevalence of Disability

Having any type of Disability was reported by 30.7% of Montana adults in 2019. The percent of adults who were deaf or hard-of-hearing was significantly higher in Montana compared to the U.S., at 9.8% vs. 6.7%, respectively. (Figure 1).

Figure 1. Percent (weighted) disability by type in Montana compared to U.S., 2019.



There was a significant difference in the prevalence of disability for men and women in four of the six disability types. The percent of men who were deaf or hard-of-hearing was twice that of women, 13.1% vs. 6.5%, respectively. Woman had significantly higher rates of cognition, mobility, and independent living disability types. (Figure 2). The percent of adults with a hearing or mobility disability tended to increase with age, whereas the percent with a cognitive disability was similar across age groups (Figure 3).



Figure 2. Percent (weighted) disability for males compared to females, Montana 2019.

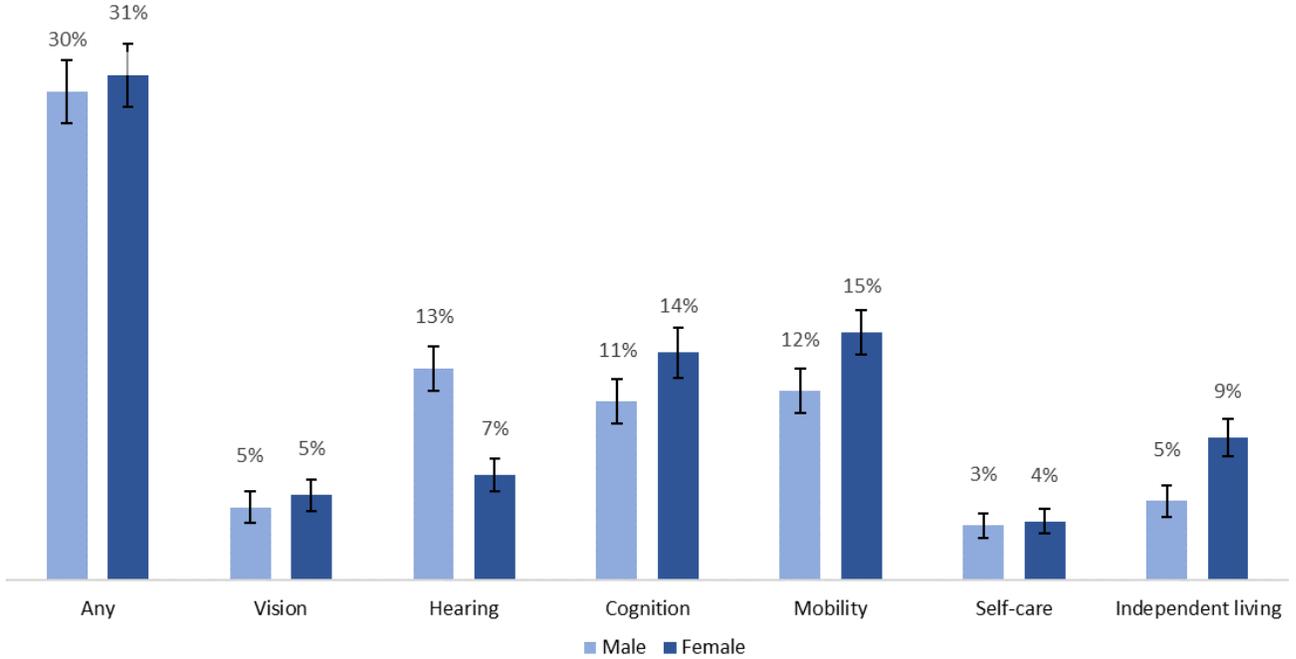
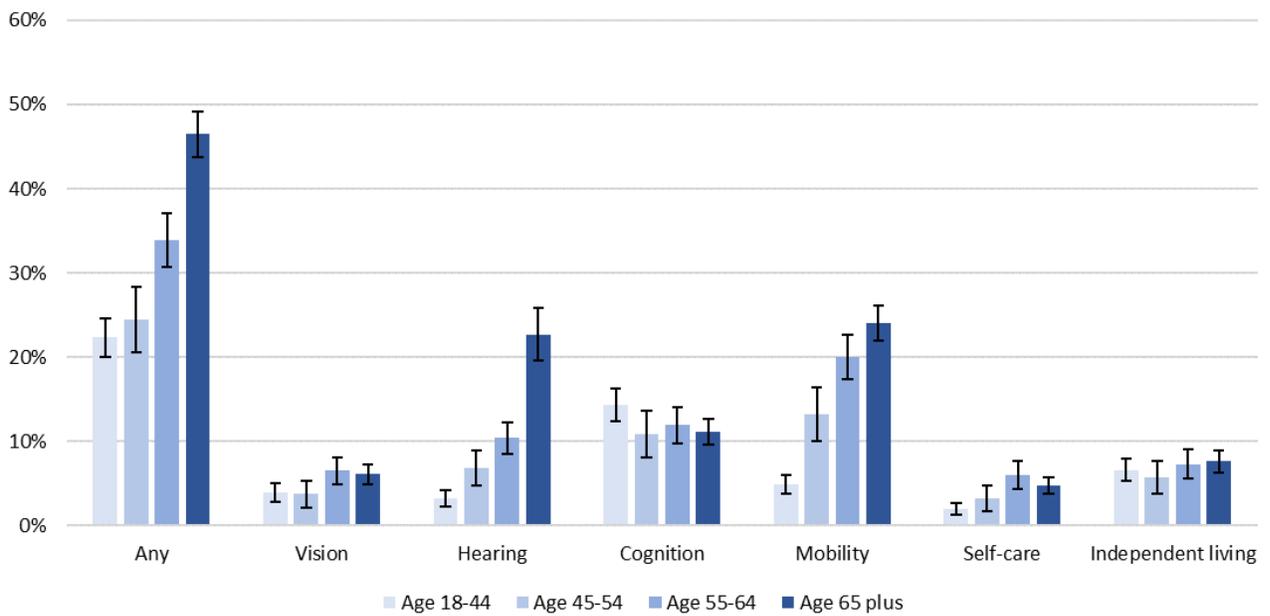


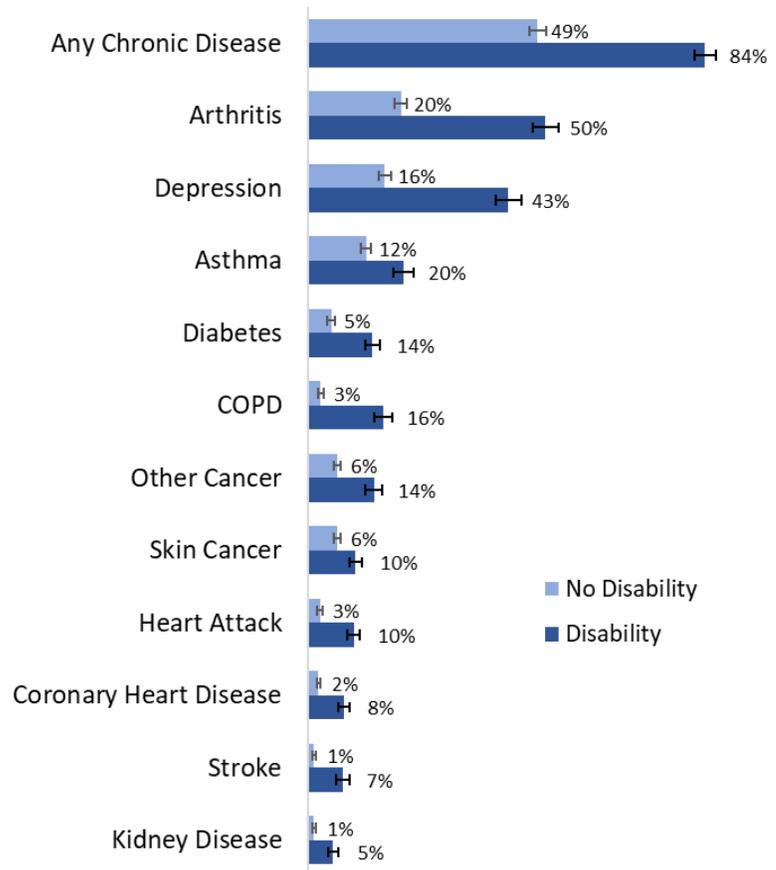
Figure 3. Percent (weighted) disability by age group, Montana 2019.



Chronic Diseases

The prevalence of chronic disease is extremely high in adults with disability. Eighty-four percent of adults with disability had at least one chronic disease (Figure 4). Adults with disability had higher rates of each chronic disease surveyed in BRFSS. Fifty percent of adults with a disability had arthritis, whereas only twenty percent with no disability had arthritis. Forty-three percent of adults with a disability had depression, whereas only sixteen percent with no disability had depression (Figure 4).

Figure 4. Percent (weighted) chronic diseases, disability and no disability, Montana, 2019.



The prevalence of chronic disease followed a similar pattern for adults with and without disability across age groups. Prevalence increased with increasing age groups, consistently higher among adults with disability versus adults without disability in all age groups. The two exceptions to this pattern were asthma and depression, where the youngest age group (18-44 years old) had significantly higher prevalence than the oldest age group (65+) (Table).

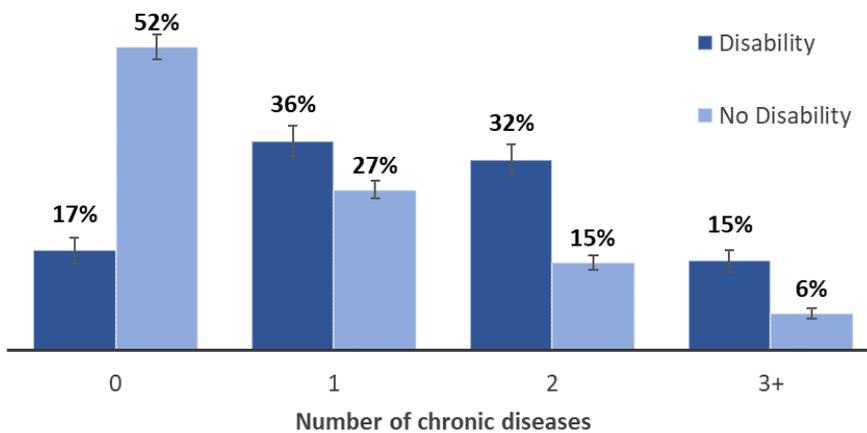
Males with and without disability had a significantly higher history of heart attack than females with and without disability. Females with and without disability had significantly higher rates of depression than males of corresponding disability status. Females with disability had significantly higher arthritis rates than males with disability (Table).

Table. Weighted percent of respondents with chronic disease by age group or gender and disability status, Montana BRFSS, 2019.

	18-44 % (95% CI)	45-54 % (95% CI)	55-64 % (95% CI)	65 plus % (95% CI)	Female % (95% CI)	Male % (95% CI)
Any Chronic Disease						
Disability	76.6 (70.8-82.4)	85.8 (76.1-95.5)	88.7 (83.7-93.7)	88.3 (84.7-91.9)	87.4 (83.4-91.3)	81.3 (77.2-85.5)
No Disability	36.9(34.0-39.8)	44.4 (39.7-49.2)	59.2 (55.1-63.3)	72.7 (69.4-76.0)	53.3 (50.6-56.0)	44.3 (41.8-46.8)
Heart Attack						
Disability	DSU*	9.2 (4.0-14.5)	10.2 (6.7-13.6)	15.6 (13.1-18.2)	7.1 (5.4-8.8)	12.5 (10.2-14.8)
No Disability	DSU	DSU	3.0 (1.8-4.2)	7.4 (5.7-9.1)	1.7 (1.0-2.3)	3.3 (2.6-4.1)
Coronary Heart Disease						
Disability	DSU	DSU	7.3 (4.6-10.0)	12.9 (10.6-15.2)	5.7 (4.3-7.2)	9.7 (7.6-11.9)
No Disability	DSU	DSU	2.3 (1.2-3.3)	7.3 (5.7-8.9)	1.6 (1.0-2.2)	2.9 (2.3-3.6)
Stroke						
Disability	DSU	DSU	7.2 (4.5-10.0)	11.3 (8.8-13.9)	6.1 (4.5-7.7)	8.7 (6.4-11.0)
No Disability	DSU	DSU	DSU	3.2 (2.1-4.3)	1.6 (0.9-2.3)	0.9 (0.6-1.3)
Asthma						
Disability	25.1 (20.0-30.3)	22.8 (15.3-30.3)	22.4 (17.7-27.1)	14.0 (11.5-16.6)	23.4 (20.2-26.7)	17.0 (13.9-20.5)
No Disability	14.7 (12.6-16.7)	12.2 (9.0-15.4)	9.8 (7.5-12.0)	9.0 (7.3-10.8)	12.4 (10.7-14.1)	12.2 (10.5-14.0)
Skin Cancer						
Disability	DSU	DSU	7.6 (4.8-10.5)	19.9 (17.1-22.7)	8.9 (7.2-10.6)	11.4 (9.3-13.5)
No Disability	1.2 (0.5-1.9)	2.9 (1.5-4.4)	10.0 (7.8-12.3)	17.8 (15.4-20.2)	5.9 (4.9-7.0)	6.5 (5.5-7.5)
Other Cancer						
Disability	6.2 (3.5-8.9)	9.5 (4.9-14.2)	12.3 (8.9-15.7)	22.8 (19.4-26.1)	15.4 (12.9-17.9)	12.5 (10.1-14.9)
No Disability	1.6 (0.9-2.4)	3.1 (1.4-4.7)	8.7 (6.5-10.9)	15.8 (13.6-18.1)	7.1 (5.9-8.2)	4.7 (3.8-5.6)
Chronic Obstructive Pulmonary Disease						
Disability	9.8 (6.3-13.2)	13.4 (7.8-19.0)	21.0 (16.3-25.7)	19.6 (16.7-22.4)	18.3 (15.5-21.1)	13.7 (11.0-16.3)
No Disability	1.1 (0.5-1.7)	DSU	4.0 (2.5-5.5)	6.6 (4.9-8.3)	3.0 (2.2-3.9)	2.4 (1.7-3.1)
Arthritis						
Disability	25.6 (20.9-30.3)	58.2 (47.8-68.6)	66.4 (60.4-72.4)	61.0 (57.0-65.0)	53.5 (49.8-57.2)	47.2 (43.2-51.2)
No Disability	6.8 (5.4-8.2)	21.1 (17.2-25.0)	29.7 (26.1-33.3)	42.4 (39.2-45.7)	21.4 (19.6-23.2)	18.1 (16.3-19.9)
Depression						
Disability	61.4 (55.1-67.7)	50.9 (40.4-61.5)	38.3 (32.6-43.9)	26.6 (23.5-29.6)	51.9 (47.4-56.4)	32.7 (28.6-36.9)
No Disability	17.8 (15.5-20.1)	14.5 (11.2-17.7)	18.0 (14.9-21.0)	12.8 (10.7-14.8)	23.2 (20.9-25.5)	9.5 (8.0-11.0)
Kidney Disease						
Disability	DSU	DSU	5.5 (3.1-7.9)	8.2 (6.3-10.0)	5.6 (4.1-7.1)	5.1 (3.5-6.7)
No Disability	DSU	DSU	DSU	2.3 (1.5-3.1)	0.9 (0.5-1.3)	1.6 (0.9-2.2)
Diabetes						
Disability	2.9 (1.3-4.6)	16.0 (9.4-22.6)	17.5 (13.6-21.5)	19.9 (17.1-22.8)	12.9 (10.8-15.1)	14.5 (12.1-17.0)
No Disability	DSU	5.8 (3.5-8.0)	9.0 (6.8-11.2)	10.5 (8.5-12.5)	5.2 (4.2-6.3)	4.6 (3.7-5.6)

*DSU - Data suppressed (Relative standard Error (RSE) > 30%).

Figure 5. Percent (weighted) of chronic diseases by disability status, Montana, 2019.



Over twice as many adults with disability had two or more chronic diseases, compared to adults with no disability. Fifteen percent (12.3%-18.0%) of adults with disability had three or more chronic diseases, versus only 6% (5.0%-7.5%) with no disability (Figure 5).

Conclusion

Chronic diseases occur at significantly higher prevalence among adults with disability than adults without disability in Montana. More adults with disability had a chronic disease and more had multiple chronic diseases compared to those without disability. The association between chronic disease and disability does not imply direction of causation. Disability may place one at increased risk for chronic disease and having a chronic disease may place one at risk for acquiring disability.

To decrease chronic disease among people with disabilities, inclusive and evidence-based practices should be implemented. These practices include: universal design, which makes products, communications and the physical environment more usable; reasonable accommodations, which allows for alterations to be made to items, procedures, or systems that enable a person with a disability to use them; and positive attitudinal changes among the community, which promotes people with disabilities as healthy and capable of staying active. In conclusion, inclusive health promotion opportunities and chronic disease management opportunities are needed to improve the health and participation of Montanans with disability.

Data sources:

Montana Behavioral Risk Factor Surveillance System, 2019, Behavioral Risk Factor Surveillance System Office, Montana Department of Public Health and Human Services.
Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2019.