

# Prevalence of Disability Status Report

## Summary:

- From 2016 to 2022, the largest relative increase occurred in Cognitive Disability (+30.55%), followed by Visual Disability (+21.21%) and ‘Any Disability’ (+17.03%). ‘No Disability’ and ‘Mobility Disability’ were the only categories that decreased.
- Puerto Rico consistently has the highest prevalence rates in multiple disability categories, including ‘Any Disability,’ ‘Mobility,’ and ‘Vision.’
- West Virginia stands out for having the largest increases in ‘Any Disability,’ ‘Cognitive Disability,’ ‘Independent Living Disability,’ and ‘Mobility Disability’ over the past five years.
- Alaska showed the most significant decreases in almost all disability indicators over the past five years.
- There is a very high positive correlation between almost all types of disability (e.g., ‘Any Disability’ with “Cognitive” is 0.93). Conversely, there is a strong negative correlation between ‘No Disability’ and the other indicators.

## Conclusions:

In conclusion, the prevalence of disability has generally increased from 2016 to 2022, with cognitive and vision disabilities showing the most significant relative growth. The prevalence varies significantly by location, with Puerto Rico consistently showing the highest percentages of disability across most categories and the lowest proportion of people without disabilities. West Virginia also stands out for its high prevalence of multiple disabilities. The analysis of changes over time shows that West Virginia had the largest increases across multiple indicators, while Alaska had the most significant decreases. The strong correlations between most disability types suggest a common underlying factor, although hearing disability appears to be more independent.

## Detailed Analysis:

### 1. How do the values (data\_value) of each indicator change over the years (year)?

The largest relative increase was in Cognitive Disability (+30.55%), followed by Vision Disability (+21.21%) and Any Disability (+17.03%).

No Disability and Mobility Disability were the only categories that decreased.

Response	2016	2022	Cambio absoluto	Cambio %
Any Disability	24.66	28.86	+4.20	+17.03%

Response	2016	2022	Cambio absoluto	Cambio %
Cognitive Disability	10.77	14.06	<b>+3.29</b>	<b>+30.55%</b>
Hearing Disability	5.71	6.47	<b>+0.76</b>	<b>+13.31%</b>
Independent Living Disability	6.56	7.62	<b>+1.06</b>	<b>+16.16%</b>
Mobility Disability	12.32	12.15	<b>-0.17</b>	<b>-1.38%</b>
No Disability	75.34	71.14	<b>-4.20</b>	<b>-5.57%</b>
Self-care Disability	3.35	3.50	<b>+0.15</b>	<b>+4.48%</b>
Vision Disability	4.48	5.43	<b>+0.95</b>	<b>+21.21%</b>

**2. Which locationdesc has the highest and lowest values for each indicator?  
General disability (“Any Disability”):**

Puerto Rico tends to have the highest percentages (38–42%), while states such as Colorado, Hawaii, and the District of Columbia have the lowest values (18–21%).

Prevalence remains relatively stable over time with minor fluctuations.

**Specific types of disability:**

**Cognitive:** Higher prevalence in West Virginia and Arkansas (16–20%). The lowest levels are observed in states such as Hawaii and North Dakota (6–9%).

**Hearing:** West Virginia leads with 11–12%, while the lowest values are around 3% (U.S. Virgin Islands, District of Columbia).

**Mobility:** Puerto Rico again has the highest levels (18–21%), with states such as Colorado and Vermont in the lowest range (7–9%).

**Independent living:** Puerto Rico and West Virginia are the most affected, while states such as Alaska, Iowa, and South Dakota have the lowest levels.

**Self-care:** Puerto Rico and the U.S. Virgin Islands have the highest levels, with some states such as Hawaii and Iowa around 2%.

**Vision:** Puerto Rico has the highest percentages (15–19%), with the lowest values in North Dakota, Minnesota, and South Dakota (2–3%).

**No disability:**

Colorado, Hawaii, and the District of Columbia have the highest percentages of people without disabilities ( $\approx 80\%$ ), while Puerto Rico has the lowest ( $\approx 58\text{--}61\%$ ).

**General trends:**

Puerto Rico stands out for having the highest prevalence of disability in several categories.

Some states consistently have the lowest values, especially for cognitive, mobility, and vision disabilities.

No drastic changes are observed from year to year; variations tend to be moderate.

"year"	"response"	"location_highest"	"value_highest"	"location_lowest"	"value_lowest"
2016	"Any Disability"	"Puerto Rico"	38.5	"Colorado"	18.7
2016	"Cognitive Disability"	"West Virginia"	16.4	"South Dakota"	6.9
2016	"Hearing Disability"	"West Virginia"	11.5	"U.S. Virgin Islands"	3.1
2016	"Independent Living Disability"	"Puerto Rico"	11.6	"Alaska"	4.3
2016	"Mobility Disability"	"Puerto Rico"	20.3	"Colorado"	8.2
2016	"No Disability"	"Colorado"	81.3	"Puerto Rico"	61.5
2016	"Self-care Disability"	"Puerto Rico"	7.2	"U.S. Virgin Islands"	1.9
2016	"Vision Disability"	"Puerto Rico"	15.7	"North Dakota"	2.4
2017	"Any Disability"	"West Virginia"	39.2	"Hawaii"	20.2
2017	"Cognitive Disability"	"West Virginia"	19.1	"North Dakota"	7.8
2017	"Hearing Disability"	"West Virginia"	11.9	"Illinois"	3.2

2017	"Independent Living Disability"	"Puerto Rico"	12.8	"Utah"	4.8
2017	"Mobility Disability"	"Puerto Rico"	21.8	"North Dakota"	8.8
2017	"No Disability"	"Hawaii"	79.8	"West Virginia"	60.8
2017	"Self-care Disability"	"Puerto Rico"	7	"North Dakota"	2
2017	"Vision Disability"	"Puerto Rico"	16.6	"Maine"	2.5
2018	"Any Disability"	"Puerto Rico"	42.2	"Colorado"	19.1
2018	"Cognitive Disability"	"Puerto Rico"	18.7	"Colorado"	7.9
2018	"Hearing Disability"	"West Virginia"	12.4	"District of Columbia"	3.4
2018	"Independent Living Disability"	"West Virginia"	11.2	"Iowa"	4.8
2018	"Mobility Disability"	"West Virginia"	19.7	"Colorado"	8.1
2018	"No Disability"	"Colorado"	80.9	"Puerto Rico"	57.8
2018	"Self-care Disability"	"Mississippi"	6.1	"Hawaii"	1.9
2018	"Vision Disability"	"Puerto Rico"	17.3	"North Dakota"	2.7
2019	"Any Disability"	"Puerto Rico"	41.8	"Colorado"	20.1
2019	"Cognitive Disability"	"West Virginia"	19.6	"Nebraska"	8.9
2019	"Hearing Disability"	"West Virginia"	11	"District of Columbia"	3.7
2019	"Independent Living Disability"	"West Virginia"	12.6	"Iowa"	4.9
2019	"Mobility Disability"	"Puerto Rico"	21.2	"Minnesota"	8.4
2019	"No Disability"	"Colorado"	79.9	"Puerto Rico"	58.2
2019	"Self-care Disability"	"Puerto Rico"	7.4	"Vermont"	2
2019	"Vision Disability"	"Puerto Rico"	16.9	"Colorado"	2.8
2020	"Any Disability"	"Puerto Rico"	40.2	"Hawaii"	18.7

2020	"Cognitive Disability"	"Puerto Rico"	17	"Hawaii"	7
2020	"Hearing Disability"	"Oklahoma"	9.1	"District of Columbia"	3.5
2020	"Independent Living Disability"	"Puerto Rico"	10.2	"South Dakota"	4.1
2020	"Mobility Disability"	"Puerto Rico"	17.8	"Colorado"	7.2
2020	"No Disability"	"Hawaii"	81.3	"Puerto Rico"	59.8
2020	"Self-care Disability"	"Guam"		"Hawaii"	1.8
2020	"Vision Disability"	"Puerto Rico"	19.1	"Iowa"	2.6
2021	"Any Disability"	"Puerto Rico"	39.1	"Hawaii"	20.6
2021	"Cognitive Disability"	"West Virginia"	18.4	"Hawaii"	8
2021	"Hearing Disability"	"Kentucky"	10	"U.S. Virgin Islands"	3.7
2021	"Independent Living Disability"	"West Virginia"	11.4	"U.S. Virgin Islands"	3.7
2021	"Mobility Disability"	"Puerto Rico"	18.9	"Hawaii"	8.3
2021	"No Disability"	"Hawaii"	79.4	"Puerto Rico"	60.9
2021	"Self-care Disability"	"Guam"		"Iowa"	2.1
2021	"Vision Disability"	"Puerto Rico"	16	"Minnesota"	2.5
2022	"Any Disability"	"Puerto Rico"	41.5	"District of Columbia"	21.1
2022	"Cognitive Disability"	"Arkansas"	19.9	"Hawaii"	9.2
2022	"Hearing Disability"	"Oklahoma"	10.7	"U.S. Virgin Islands"	3.1
2022	"Independent Living Disability"	"U.S. Virgin Islands"		"South Dakota"	4.7
2022	"Mobility Disability"	"Puerto Rico"	20.3	"Vermont"	8.8
2022	"No Disability"	"District of Columbia"	78.9	"Puerto Rico"	58.5
2022	"Self-care Disability"	"U.S. Virgin Islands"		"Hawaii"	2

2022	"Vision Disability"	"Puerto Rico"	16.7	"South Dakota"	3.2
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### 3. Which indicators have the widest confidence intervals (high\_confidence\_limit - low\_confidence\_limit), and in which locations?

#### Conclusion:

U.S. Virgin Islands and Guam have the widest range of confident in the majority of categories.

#### Any disability:

U.S. Virgin Islands present the widest confidence interval with **11,4 absolute value, 66.67%** bigger than the second widest range (Guam with 6.7)

#### Cognitive disability:

U.S. Virgin Islands present the widest confidence interval with **9.5 absolute value, 98.74%** bigger than the second widest range (Guam with 4.78)

#### Hearing disability:

Guam present the widest confidence interval with **4.5 absolute value, 21.25%** bigger than the second widest range (U.S. Virgin Islands with 3.34)

#### Independent Living disability:

Guam present the widest confidence interval with **4.57 absolute value, 5%** bigger than the second widest range (U.S. Virgin Islands with 4.35)

### 4. Are there any locations with extremely high or low data\_value values compared to the national average?

**Puerto Rico stands out for having extremely high values in several disability categories:**

**Vision Disability:** 16.9 ( $z \approx 5.89$ ) → Extremely High

**Any Disability:** 40.2 ( $z \approx 3.12$ ) → Extremely High

**Self-care Disability:** 6.47 ( $z \approx 3.10$ ) → Extremely High

**Mobility Disability:** 19.84 ( $z \approx 2.71$ ) → Extremely High

**Independent Living Disability:** 11.06 ( $z \approx 2.56$ ) → Extremely High

**Cognitive Disability:** 17.11 ( $z \approx 2.04$ ) → Extremely High

In addition, it has extremely low values for No Disability: 59.8 ( $z \approx -3.12$ ), indicating a lower than average national population without disabilities.

**West Virginia also shows multiple high values:**

**Hearing Disability:** 10.13 ( $z \approx 2.75$ )

**Independent Living Disability:** 11.24 ( $z \approx 2.68$ )

**Cognitive Disability:** 18.0 ( $z \approx 2.40$ )

**Any Disability:** 36.94 ( $z \approx 2.38$ )

**Mobility Disability:** 18.73 ( $z \approx 2.31$ )

**Self-care Disability:** 5.47 ( $z \approx 2.06$ )

**It also has No Disability with an extremely low value: 63.06 ( $z \approx -2.38$ ).**

Other places with notable extremes:

Mississippi: Self-care 5.70 and Mobility 18.3 → Extreme High

Kentucky: Mobility 17.91 → Extreme High

Oklahoma: Hearing 9.51 → Extreme High

U.S. Virgin Islands: Hearing 3.3 → Extremely Low

## **Conclusion**

Puerto Rico leads in the highest prevalence of several disabilities and the lowest proportion of people without disabilities.

West Virginia also has multiple high values for disabilities, reflecting a regional pattern.

Some small or less populated locations (such as the U.S. Virgin Islands) show extremely low values.

### **5. Which states have had the largest increase or decrease in data\_value over the last 5 years for each indicator?**

**West Virginia** showed the most significant increases across multiple disability indicators, including "Any Disability," "Cognitive Disability," "Independent Living Disability," and "Mobility Disability." This suggests a notable rise in the percentage of the population reporting these specific disabilities in the state.

**Alaska** showed the most significant decreases across nearly all disability indicators, which suggests a considerable drop in the percentage of the population reporting disabilities.

**"No Disability"** is inversely correlated with the other indicators. The state with the largest increase in "No Disability" (Minnesota) will naturally have larger decreases in other disability categories, and vice versa.

### **6. Is there a correlation between the values of different indicators in the same locations and years?**

**There are very high and positive correlations between almost all types of disability.**

Some examples:

**any\_disability with cognitive** (0.93)

**mobility with self\_care** (0.93)

**independent\_living with self\_care** (0.89)

There are **strongly negative correlations between no\_disability** and all other indicators ( $\approx -0.9$  or  $-1$ ), which makes sense: more people with disabilities  $\rightarrow$  fewer people without disabilities.

**hearing seems to be the indicator least correlated** with other types of disability (values from 0.45 to 0.72), suggesting that it varies somewhat more independently.