Disability and Health Data System (DHDS): 2019 Data Update

Qi Cheng, PhD, MPH
Health Scientist

Disability Science and Program Team (DSAP)
Disability and Health Promotion Branch (DHPB)

AUCD Webinar, July 19th, 2021
Overview of Disability and Health Data System (DHDS)

- A web portal providing vital information to better understand the health needs of adults with disabilities using Behavioral Risk Factor Surveillance System (BRFSS) data
  - Monitors the health of people with disabilities
  - Supports health program planning
  - Supports research on disabilities
Defining Disability
Defining Disability: Multiple Models

- **WHO International Classification of Functioning (ICF) model**
  - Disability refers to the interaction between individuals with a health condition (e.g. cerebral palsy, Down syndrome, depression) and personal and environmental factors (e.g. negative attitudes, inaccessible transportation and public buildings, and limited social supports).

- Others include functional, medical, and social models
Functional Disability Measurement in the Behavioral Risk Factor Surveillance System (BRFSS)

- American Community Survey – Disability Questions (ACS-6)*:
  - The disability question set included in BRFSS

Behavioral Risk Factor Surveillance System (BRFSS)

The BRFSS is

- A self-reported survey by state-based telephone interview
- A variety of health topics – health risks and behaviors and chronic conditions
- Each state/territory administers the BRFSS
- Disability questions are asked in core section 8 – Demographics

More information at [www.cdc.gov/brfss](http://www.cdc.gov/brfss)
Disability and Health Data System (DHDS)
Defining Disability Status and Types in DHDS

- **Disability questions in BRFSS**
  - **Hearing**: Are you deaf or do you have serious difficulty hearing?
  - **Vision**: Are you blind or do you have serious difficulty seeing, even when wearing glasses?
  - **Cognition**: Because of a physical, mental, or emotional condition, do you have serious difficulty concentrating, remembering, or making decisions?
  - **Mobility**: Do you have serious difficulty walking or climbing stairs?
  - **Self-Care**: Do you have difficulty dressing or bathing?
  - **Independent Living**: 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)

  *Response categories: 1) Yes; 2) No.*

- **Disability status**: Having any one or more of six types of disabilities

https://dhds.cdc.gov
Demographics in DHDS

- Disability status and type by demographic subgroups:

  Age, sex, race/ethnicity, veteran status, income level, education level, marital status, and employment status

https://dhds.cdc.gov
Health Indicators in DHDS

- Estimates of health indicators by disability status and types
- Total 26 health indicators reported in 2019 DHDS

- Health Risks & Behaviors
- General Health Conditions
- Prevention & Screenings
- Chronic Conditions
- Barriers & Costs of Healthcare
- Mental & Emotional Health
DHDS  Data Use and Action
DHDS Data Use
- Questions that DHDS can answer

- What is the percentage of adults with a disability in my state?
- How does this population vary by age, sex, and race/ethnicity?
- How does my state compare with other states and the nation?
- How does the percentage of depression, diabetes, obesity, or smoking vary among people with select disability types?
View of DHDS Data
– Explore by Indicators

[Map of the United States showing prevalence of a condition by state, with color coding representing different prevalence rates.]

Age-adjusted Prevalence (%)

US = 26.7

- 20.1 - 22.8
- 22.9 - 25.3
- 25.4 - 27.7
- 27.8 - 30.6
- 30.7 - 41.8

Data suppressed unavailable

Quantile

Legend settings

Link

https://dhds.cdc.gov
View of DHDS Data
– Explore by Location

United States, DC & Territories

Year
- All available years
- 2019

View by
- Overall

Response
- All

United States, DC & Territories - 2019
Disability status and types among adults 18 years of age or older

View by: Overall
Response: All

Age-adjusted Prevalence (%)
### View of DHDS Data – Comparison Report

**Location:** United States, DC & Territories

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Data Type</th>
<th>Response</th>
<th>2019 Remove</th>
<th>2018 Remove</th>
<th>2017 Remove</th>
<th>2016 Remove</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any Disability</td>
<td>Overall</td>
<td></td>
<td>26.7 (26.5 - 27.0)</td>
<td>26.0 (25.7 - 26.3)</td>
<td>25.6 (25.3 - 25.9)</td>
<td>24.6 (24.4 - 24.9)</td>
</tr>
<tr>
<td>Cognitive Disability</td>
<td>Overall</td>
<td></td>
<td>12.0 (11.8 - 12.3)</td>
<td>11.5 (11.3 - 11.7)</td>
<td>11.4 (11.2 - 11.6)</td>
<td>10.8 (10.6 - 10.9)</td>
</tr>
</tbody>
</table>

[Link](https://dhds.cdc.gov)
View of DHDS Data – Customized data

Customized DHDS Data

Create your own DHDS dataset, customize visualizations, download data, and more.

DHDS Data Portal »

Link

https://dhds.cdc.gov
Estimates of Disability Status, United States, DHDS, 2019

- 127,138 reported having any disability among 418,268 adults (≥18 years).

- Age-adjusted prevalence of having any disability (≥18 years): 26.7% (95% CI: 26.5% - 27.0%).
### Estimates of Disability Types in United States, DHDS, 2019

<table>
<thead>
<tr>
<th>Disability Type</th>
<th>Age-adjusted Prevalence* (95% CI**)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognition</td>
<td>12.0 (11.8 – 12.3)</td>
</tr>
<tr>
<td>Hearing</td>
<td>5.9 (5.8 – 6.1)</td>
</tr>
<tr>
<td>Vision</td>
<td>5.0 (4.9 – 5.2)</td>
</tr>
<tr>
<td>Mobility</td>
<td>12.8 (12.6 – 13.0)</td>
</tr>
<tr>
<td>Self-care</td>
<td>3.8 (3.7-3.9)</td>
</tr>
<tr>
<td>Independent Living</td>
<td>7.0 (6.9 – 7.2)</td>
</tr>
</tbody>
</table>

* Adults aged 18 years and older  
**Confidence interval
2019 Snapshot: Depression and Disability: Prevalence of depression by disability status

- Age-adjusted prevalence of depression among U.S. adults with any disability was three times higher compared to those without (41.8% vs. 12.1%)
  - 8 jurisdictions (WA, OR, MT, UT, WI, WV, NH, ME): >47.8%
  - 10 jurisdictions (NV, CA, TX, MS, FL, AZ, ND, NE, IA, GA): <41.1%
2019 Snapshot: Depression and Disability (Continued)
Prevalence of depression by selected disability types

<table>
<thead>
<tr>
<th>Disability Type</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vision</td>
<td>62.1</td>
<td>37.9</td>
</tr>
<tr>
<td>Hearing</td>
<td>66.6</td>
<td>33.4</td>
</tr>
<tr>
<td>Cognition</td>
<td>57.5</td>
<td>42.5</td>
</tr>
<tr>
<td>Mobility</td>
<td>56</td>
<td>44</td>
</tr>
</tbody>
</table>

Ever had depression among adults with a cognitive disability
2019 Snapshot: Depression and Disability (Continued)

Trends in prevalence of depression among adults with a cognitive disability, selected states, DHDS, 2016-2019

%
DHDS Data Use - State Health Profile

Everyone can play a role in supporting more inclusive state programs, communities, and health care to help people with, or at risk for, disabilities be well and active in their communities. Join CDC and its partners as we work together to improve the health of people with disabilities.

822,145 adults in Arkansas have a disability
This is equal to 35% or 1 in 3 adults in Arkansas

Percentage of adults in Arkansas with select functional disability types:
- Mobility: 17%
- Vision: 5%
- Self-care: 7%
- Communication: 12%
- Seizure disorder: 5%
- Ambulation: 16%
- Hearing: 7%
- Ambulation with a cane: 9%
- Seizure disorder: 5%
- Communication: 12%
- Seizure disorder: 5%

Disability Types:
- Mobility: Serious difficulty walking or climbing stairs
- Communication: Serious difficulty communicating, remembering, or making decisions
- Independent living: Serious difficulty doing routine tasks, such as eating or doing a doctor’s office
- Hearing: Difficulty or serious difficulty hearing
- Vision: Blind or serious difficulty seeing, even when wearing glasses
- Self-care: Difficulty dressing or bathing

Adults with disabilities in Arkansas experience health disparities and are more likely to...

- Have Obesity: 40% vs. 35%
- Smoke: 35% vs. 15%
- Have Diabetes: 35% vs. 15%
- Have Heart Disease: 7% vs. 5%

Visit dhds.cdc.gov for more disability and health data across the United States.

Disability Healthcare Costs in Arkansas:
- About $9.8 billion per year, or up to 41% of the state’s healthcare spending
- About $33,555 per person with a disability

Learn more: CDC and state programs support people with disabilities at www.cdc.gov/nraldd/disability/health/programs.html

Note: Data are estimates of the number of people who have these functional limitations in Arkansas. The data may not be representative of all state-level health care expenditures associated with disability. 2021 Public Health AW

Link
Additional Considerations for DHDS

- Interpretation of DHDS prevalence estimates are subject to the limitations of the BFRSS survey.
- Disability prevalence estimates are based on survey methods, depended on the survey sources (e.g., BFRSS, ACS, NHIS), and disability questions.
Acknowledgements

- **All states and territories** for works and administration of BRFSS
- Colleagues at **CDC/NCCDPHP/Division of Population Health (DPH)** for their continuous support on disability questions in BRFSS
- **Members of DHDS group, Disability Science and Program Team (DSAP), Disability and Health Promotion Branch (DHPB)**
  - Joseph Holbrook PhD, NaTasha Hollis PhD, Robyn Cree PhD, Qing Zhang PhD, Christina Kilgo MA, and Catherine Rice PhD
Thank you

Q&A

Qi Cheng (ycx6@cdc.gov)

For more information, contact CDC
1-800-CDC-INFO (232-4636)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.
Health Indicators

Health Risks & Behaviors
- Binge Drinking; BMI; Aerobic Physical Activity;
- Physical Activity Guidelines (Odd years)
- Smoking Status; Attempted to Quit Smoking

Prevention & Screenings
- Mammogram (Even years); Routine Check-up
- Dental visit; Flu vaccine (Odds years);
- Cervical cancer screening (Odds years)

Barriers & Costs of Healthcare
- Could Not See a Doctor Due to Cost; Have a
  Personal Doctor; Have Health Care Coverage

General Health Conditions
- Fallen (Odds years); Fair or Poor Self-Rated Health;
- Physically Unhealthy Days; Ever Had Heart Disease;
- Ever Had High Blood Pressure (Even years);
- Taking Medicine for High Blood Pressure (Even years);
- Ever Had High Cholesterol (Even years);
- Hours of Sleep (Odds years)

Chronic Conditions
- Ever Had Arthritis; Currently Have Asthma;
- Ever Had Cancer; Ever Had Diabetes;
- Ever Had Chronic Obstructive Pulmonary Disease;
- Ever Had a Stroke

Mental & Emotional Health
- Ever Had Depression; Mentally Unhealthy Days

https://dhds.cdc.gov
Disability and Health Data System: How to Make Disabilities Count

David Ellsworth, MPH, CHES
Health Policy Specialist
Ohio Disability and Health Program
Learning Objective:

USING THE DISABILITY AND HEALTH DATA SYSTEM TO EFFECT CHANGE
Why data matters

• Good public health data is needed to
  – Raise awareness of problems using alarming statistics (e.g., 1 in 4 people in Ohio report having a disability).
  – Support quality planning
  – Implement population-based interventions
  – Improve community health
Make the invisible visible

• Including disability indicators is needed to
  – Document health needs of people with disabilities
  – Advocate for policies and programs to address these needs
  – Evaluate impact of policies and programs on people with disabilities
For example

• Suppose you are a health policy specialist working with local public health offices. You would like them to consider people with disabilities in their planning.

• The local health official is not aware of any people with disabilities in her region and assumes they are not her responsibility.
How to effect change?

- Data.
- Share relevant and actionable data with the people who manage budgets, make policies, and plan programs.
- Show how this data can be used to improve population health.
- Frame discussion around relevant data.
Seeing is Believing

Disability Status and Types

Ohio

Year
All available years 2019

View by
Overall

Response
All

Ohio - 2019
Disability status and types among adults 18 years of age or older
View by: Overall
Response: All

Mobility Disability
14.0%
95% CI (13.1 - 14.6)
Weighted No.: 1,389,310

Any Disability
Cognitive Disability
Hearing Disability
Mobility Disability
Vision Disability
Self-care Disability
Independent Living Disability
No Disability
Intuitive Data

Smoking Status

Ohio

Year: 2019

View by: Disability Status

Response: All

Ohio - 2019
Smoking status among adults 18 years of age or older

View by: Disability Status
Response: All

Disability Status
- Any Disability
- No Disability

Current Smoker
- Any Disability: 32.6%
- 95% CI (29.6-35.7)
- Weighted No.: 735,261

Former Smoker

Never Smoker

Nisonger Center
At Your Fingertips

Attempted to Quit Smoking in Past 12 Months

Ohio

Year

View by
Disability Status
All
Select one
Response
All

Ohio - 2019
Attempted to quit smoking in the past 12 months among adults 18 years of age or older who are current every day smokers
View by: Disability Status
Response: All

Age-adjusted Prevalence (%)

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any Disability</td>
<td>50</td>
<td>60</td>
</tr>
<tr>
<td>No Disability</td>
<td>70</td>
<td>80</td>
</tr>
</tbody>
</table>

Disability Status
- Any Disability
- No Disability
Uses in Ohio

• Educate LEND Trainees
• Quickly Update Disability and Health Fact Sheets and Products
• State-level RFP Review Process to Reduce Health Inequities
• Inform State Health Improvement Plan Priorities
Using the Disability and Health Data System to Prevent Chronic Disease Among Persons with Disabilities

Bryan Russell
Manager, Disability and Health Program
Disability and Health Data System Presentation
July 19, 2021
Using Data to Prevent Chronic Disease among Persons with Disabilities

Overview

• Disability Prevalence and Chronic Disease
• Florida Disability and Health Program
• Chronic Disease Impact on Persons with Disabilities
• Strategies to Prevent Chronic Disease in Persons with Disabilities
• Resources
Using Data to Prevent Chronic Disease among Persons with Disabilities

Terms and Acronyms

- ASL: American Sign Language
- BRFSS: Behavioral Risk Factor Surveillance System
- CIL: Center for Independent Living
- DHP: Florida Disability and Health Program
- IDD: Intellectual or Developmental Disability
- PWD: Persons with Disabilities
- PWoD: Persons without Disabilities
Using Data to Prevent Chronic Disease among Persons with Disabilities

The Florida Disability and Health Program is funded by the National Center on Birth Defects and Developmental Disability, Centers for Disease Control and Prevention (CDC), Atlanta, Georgia (Cooperative Agreement Number: 1NU27DD000012).

The contents of this presentation are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention or the Department of Health and Human Services.
Disability Prevalence and Chronic Disease

Top 10 Florida Counties by Disability Prevalence

- Statewide: 13.4%
- Calhoun: 23.7%
- Hamilton: 23.7%
- Liberty: 23.5%
- Holmes: 23.4%
- Dixie: 23.3%
- Charlotte: 23.5%
- Franklin: 22.5%
- Citrus: 21.7%
- Gilchrist: 21.2%
- Taylor: 21.0%

Source: U.S. Census, 2020; disabilitycompendium.org
Disability Prevalence and Chronic Disease

Top Four Disability Types in Florida, 2018

- Deaf or Hard of Hearing: 6.0%
- Cognitive or Intellectual Disability: 13.0%
- Blind or Visually Impaired: 5.7%
- Mobility Disability: 13.3%

Source: Florida Behavioral Risk Factor Surveillance System (BRFSS) 2018
Disability Prevalence and Chronic Disease

<table>
<thead>
<tr>
<th>Condition</th>
<th>PWD</th>
<th>PWoD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart Disease</td>
<td>11.8%</td>
<td>4.7%</td>
</tr>
<tr>
<td>High Cholesterol</td>
<td>40.5%</td>
<td>28.3%</td>
</tr>
<tr>
<td>High Blood Pressure</td>
<td>41.2%</td>
<td>25.5%</td>
</tr>
<tr>
<td>Obesity</td>
<td>39.0%</td>
<td>27.0%</td>
</tr>
</tbody>
</table>

Source: Florida BRFSS, 2018
Disability Prevalence and Chronic Disease

Source: Florida BRFSS, 2018

- Diabetes: 17.9%
- Stroke: 6.8%
- Asthma: 15.4%
- Depression: 37.9%
- Other: 8.9%

Percent of population

PWD
PWoD
Florida Disability and Health Program

Improve the health and quality of life among people with mobility limitations (ML) and/or intellectual or developmental disabilities (IDD) through adaptation and implementation of evidence-based strategies.
Using Data to Prevent Chronic Disease among Persons with Disabilities

- Partner with the University of Florida to improve access to adapted physical activity for students with disabilities in mainstream and exceptional student education schools
- Reduce the prevalence of diabetes among PWD by implementing the adapted Diabetes Prevention Program “Prevent T2 for All” through program sites statewide
- Increase the accessibility, availability, and use of health promotion resources, tools and inclusion strategies among PWD
- Improve access to care and treatment of PWD by providing disability competency training to healthcare professionals and providers
- Collaborate with partner agencies to improve the inclusion of PWD in emergency preparedness, response and recovery efforts
Barriers to Care:
A. Access to transportation
B. Health equity and discrimination
C. Access to prevention or self-management programs
   1. Length of program (i.e., diabetes prevention)
   2. Materials not accessible
      a) Plain language
      b) Certified American Sign Language (ASL) use
      c) Braille or large font
Questions?

Bryan Russell
Manager, Disability and Health Program
Bureau of Chronic Disease Prevention
Florida Department of Health
Bryan.Russell@flhealth.gov
(850) 901-6620