



## DISABILITY AMONG INDIANA'S RURAL POPULATION

### Introduction

According to the U.S. Census Bureau, on average, almost 1 in 5 people—or 20 percent—have a disability (US Census Bureau 2012). Moreover, the Department of Agriculture's Economic Research Service (ERS) announced that disability rates in rural areas are above the national average (ERS 2014). In this report, we take a closer look at disability prevalence in Indiana, paying special attention to disability in rural Indiana. Knowing where people with disabilities live and who they are is of paramount importance because people with disabilities often need special services and are more vulnerable. Coleman-Jensen and Nord (2013), for example, find that disability is a risk factor for food insecurity.

Specifically, we ask how disability rates vary in rural Indiana and across age groups. This is a very important question given the expected rapid aging of Indiana's rural population (Waldorf and McKendree 2013). We demonstrate that disability prevalence among Indiana's senior citizens is almost three times higher than among younger adults. Thus, the rising number of older people in rural Indiana will likely increase the demand for services. Services for disabled persons include not only health care but also transportation, meals-on-wheels, and help with routine daily activities such as bathing, shopping and managing medication. We begin the report by defining disability, distinguishing different types of disabilities, and by comparing disability rates in Indiana with disability rates in neighboring states.

### Definition and Types of Disabilities

The American Community Survey (ACS) includes several questions about the respondent's disability status (Brault 2012). For ACS questionnaires from 2008 onward, these questions are phrased as:

- Because of a physical, mental, or emotional condition, does this person have serious difficulty concentrating, remembering, or making decisions? (Cognitive difficulty)
- Does this person have serious difficulty walking or climbing stairs? (Ambulatory difficulty)
- Because of a physical, mental, or emotional condition, does this person have difficulty doing errands alone such as visiting a doctor's office or shopping? (Independent living difficulty)

*Professor Brigitte Waldorf  
and Assistant Professor Bhagyashree Katare  
Department of Agricultural Economics  
Purdue University*

### The Rural Indiana Issues Series

**Audience:** Local and state leaders who work with rural communities.

**Purpose:** To find data about issues of concern in rural communities and to interpret these data in meaningful ways to aid in decision-making.

**Method:** Data analyzed across the county groupings — rural, rural/mixed, urban.

**Potential Topics:** Demographic changes, business development, health, health care, local government, taxes, education, agriculture, natural resources, leadership development, etc.

**Outcome:** Better, more informed decisions by rural decision-makers.

- Does this person have difficulty dressing or bathing? (Self-care difficulty)
- Is this person deaf or does he/she have serious difficulty hearing? (Hearing difficulty)
- Is this person blind or does he/she have serious difficulty seeing even when wearing glasses? (Vision difficulty)

Survey respondents can answer yes or no to each question. In this report we define disability as answering yes to one or more of these questions. Applying this definition to the combined 2010 to 2014 ACS data for Indiana, we find that slightly more than 13 percent of Indiana's civilian non-institutionalized residents had a disability.

### Indiana's Disability Rate in Comparison

When compared to the disability rates of neighboring states, Indiana's takes a middle position. Table 1 (first column) shows that—compared to Indiana—Illinois has a lower disability rate of only 10.6 percent whereas Kentucky has a much higher rate of 17 percent. Michigan and Ohio have about the same disability rate as Indiana.

The difference between Indiana and its neighbors may be partly due to compositional differences. After all, Illinois is home to the large metropolitan area around Chicago. In the second and third column, therefore, we display the disability rates separately for the metropolitan and non-metropolitan populations in Indiana and its neighbor states. In all five states, the disability rates are smaller inside the metropolitan areas than outside the metropolitan areas. Note, however, that the differences between non-metro and metro disability rates are quite small in Indiana. Only Ohio has a smaller difference.

**Table 1. Disability Rates in Indiana and its Neighboring States 2014**

	Disability Rate (in %)			
	Overall	Non-metropolitan	Metropolitan	Rural-urban difference
Indiana	13.2	14.8	12.6	2.2
Illinois	10.6	14.7	10.1	4.6
Kentucky	17.0	20.8	14.2	6.6
Michigan	13.9	16.9	13.5	3.4
Ohio	13.5	15.0	13.1	1.9

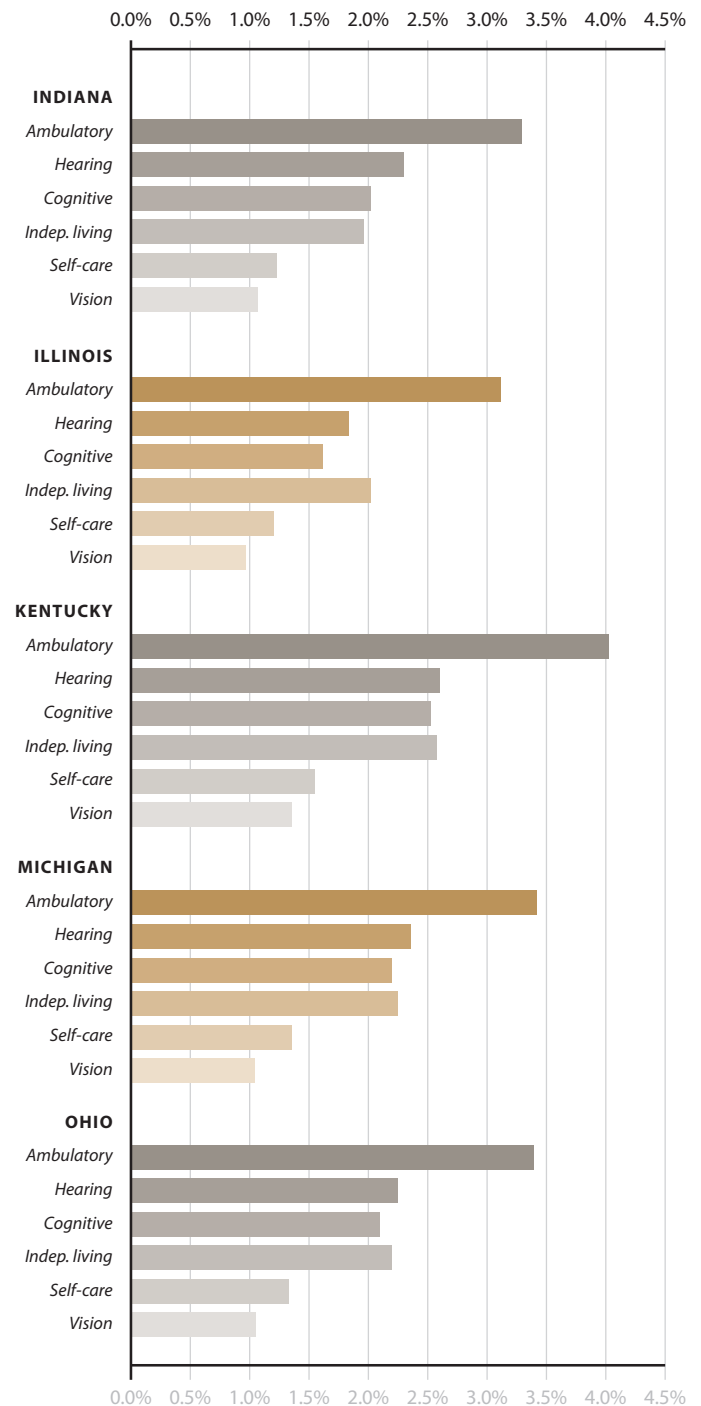
*Note:* Percentages refer to the civilian non-institutionalized population. The data are based on a sample and subject to sampling variability.

*Source:* US Census Bureau, ACS 2014, 5-year estimates.

When splitting the population by disability type, we find that difficulty walking and climbing stairs was the most prominent disability type in all five states (see Figure 1). In Indiana, about 3.3 percent of the population had an ambulatory difficulty, followed by 2.3 percent of the population with a hearing difficulty and 2 percent with a cognitive difficulty. The least

common disability type is a vision difficulty, affecting only 1.1 percent of Indiana residents. Independent living difficulties and self-care difficulties are present in almost 2 percent and 1.2 percent of Indiana's population, respectively.

**Figure 1. Disability by Type in Indiana and its Neighbor States, 2014**



*Notes:* The percentages are for the civilian non-institutionalized population. The data are based on a sample and are subject to sampling variability.

*Source:* U.S. Census Bureau, American Community Survey, 5-year estimates for 2014.



**Table 2. Percent of People with a Disability in Indiana Counties, 2014**

RURAL COUNTIES			RURAL / MIXED COUNTIES			URBAN COUNTIES		
County	Population	% with a disability	County	Population	% with a disability	County	Population	% with a disability
Blackford	12407	20.9	Fayette	23564	20.2	Madison	125748	17.9
Crawford	10568	20.3	Scott	23589	18.6	Delaware	115787	16.8
Sullivan	19067	18.4	Grant	68267	17.7	Vigo	103867	16.3
Greene	32681	17.9	Wayne	67247	17.5	Clark	110744	14.7
Benton	8715	17.8	Howard	81994	17.0	LaPorte	102575	13.8
Starke	23175	17.4	Miami	34452	17.0	Vanderburgh	178345	13.8
Clay	26479	17.3	DeKalb	41920	16.7	Lake	489533	13.7
Pike	12514	17.1	Henry	46030	16.6	Marion	909347	13.4
Washington	27735	17.0	Lawrence	45343	16.6	St. Joseph	264401	13.3
Pulaski	12946	16.9	Jefferson	31161	15.5	Elkhart	197213	13.1
Tipton	15503	16.9	Wabash	31498	15.5	Allen	357255	11.4
Warren	8328	16.9	Morgan	68723	14.7	Porter	164433	10.9
Orange	19502	16.8	Montgomery	37670	14.4	Monroe	140181	10.5
Vermillion	15719	16.7	Huntington	36475	14.0	Johnson	141660	9.9
Fountain	16827	16.6	Cass	37948	13.9	Tippecanoe	176460	9.7
Owen	21094	16.5	Clinton	32346	13.8	Hendricks	147887	9.6
Randolph	25462	16.4	Knox	37312	13.8	Hamilton	288189	7.1
Harrison	38877	16.2	Steuben	33905	13.6			
Jay	21059	16.2	Floyd	74444	13.5			
Fulton	20421	15.9	Decatur	25809	13.2			
Newton	13961	15.6	Daviess	31704	13.1			
Rush	16922	15.3	Noble	46757	13.1			
Jennings	27952	15.2	Marshall	46570	12.9			
White	24199	15.1	Shelby	43746	12.5			
Whitley	32889	15.0	Hancock	70254	12.4			
Putnam	34485	14.9	Bartholomew	77623	12.3			
Parke	15722	14.8	Jackson	42539	12.3			
Perry	17778	14.5	Kosciusko	77035	12.0			
Carroll	19940	14.1	Dearborn	49283	11.9			
Union	7302	14.0	Adams	34122	11.6			
Gibson	33078	13.9	Warrick	59826	10.7			
Switzerland	10411	13.8	Dubois	41423	9.8			
Ripley	28184	13.6	Boone	58687	8.6			
Spencer	20681	13.6						
Jasper	33076	13.4						
Franklin	22890	13.3						
Martin	10205	13.0						
Wells	27203	12.5						
Brown	14934	11.6						
Posey	25395	11.5						
Ohio	6014	11.4						
LaGrange	37596	10.4						

**Notes:** (1) the numbers and percentages are for the civilian non-institutionalized population; (2) the data are based on a sample and are subject to sampling variability.

**Source:** U.S. Census Bureau, American Community Survey, 5-year estimates for 2014.

### Disability Prevalence by Age

Disability prevalence in Indiana rises by age, from about 4.8 percent for children and adolescents (under 18) to about 37.3 percent for elderly residents (65 and older). This trend is repeated in rural, rural/mixed and urban Indiana. However, there are important differences among the three county groups, especially between the rural and urban groups (see Table 3).

First, the rural disability prevalence exceeds the urban disability prevalence in all age groups. The rural-urban difference in disability prevalence is very small among children and adolescents: 5.1 percent in rural versus 4.9 percent in urban counties. It is also small for seniors: 37.9 percent in rural versus 37 percent in urban counties. The rural-urban difference is, however, quite substantial for the 18- to 64-year-old adults: 13.4 percent in rural versus only 10.8 percent in urban counties.

Second, senior citizens are overrepresented in rural counties. The same is true for disabled citizens. Table 3 shows that the share of disabled elderly in the rural counties is 6 percent, compared to only 4.5 percent in urban counties. This also means that rural counties have a comparatively smaller supply of able-bodied residents who can provide the caregiving. In fact, adults under the age of 65 without a disability—that is, those most responsible for the caregiving—are underrepresented in Indiana’s rural areas.

**Table 3. Disability Prevalence by Age and County Type, 2014**

Age Group	Disability Prevalence (in %)			
	Indiana	Rural Counties	Rural/Mixed Counties	Urban Counties
Children and adolescents (under 18)	4.8	5.1	4.4	4.9
Young and middle-aged adults (18 to 64)	11.5	13.4	12.2	10.8
Seniors (65 and older)	37.3	37.9	37.5	37.0
All ages	13.2	15.2	14.0	12.5
Share of disabled senior as a % of the total population	4.9	6.0	5.5	4.5
Caregiver Ratio (able-bodied 18-64-year olds / disabled seniors)	11.1	8.7	9.7	12.5

*Note: The percentages are calculated using data from the U.S. Census Bureau, American Community Survey, 5-year estimates for 2014.*

Taken together, these numbers suggest that compared to urban Indiana, rural Indiana faces a wider gap between older Hoosiers’ need for care and able-bodied younger Hoosiers providing the care. The last row of Table 3 shows that the caregiver ratio is less favorable in rural than in urban Indiana. Rural Indiana has only 8.7 able-bodied adults under the age of 65 for every disabled elderly, compared to 12.5 in urban Indiana. The rural/mixed portion of Indiana takes on a middle position with 9.7 potential caregivers per disabled older Hoosier.

Issues surrounding the caregiving supply for the nation’s elderly residents is addressed in a recent article by Scommegna (2016). She reports that family members, mostly women, provide more than 95 percent of the informal care for older Americans who are not living in nursing homes. Delayed childbearing, longer life expectancy and women’s rising labor force participation, she argues, may reduce the supply of caregivers.

In rural Indiana, selective out-migration also added to the caregiving supply problem. As Waldorf and McKendree showed, young adults leaving for employment and education contributed to the unfavorable age composition of rural Indiana. As more and more baby boomers retire and as young people keep leaving rural Indiana, its older population will grow rapidly. Even if disability rates remain stable, the sheer size of the older population in rural Indiana and the declining share of able-bodied younger adults signal unmet caregiving need in rural Indiana.

### Summary and Policy Implications

Because Indiana’s rural population is aging quite rapidly, a growing segment of the population will be in need of caregiving. This report suggests that rural Indiana, more so than urban Indiana, is vulnerable to a growing gap between care availability and care needs.

Summarizing the wealth of statistics on disability prevalence in Indiana, we want to highlight the following points:

- Indiana’s disability prevalence among the civil, non-institutionalized population is 13.2 percent. This level is about average when compared to Indiana’s neighbors.
- In rural Indiana, 15.2 percent of the residents reports one or more disabilities. In urban Indiana, only 12.5 percent report a disability.
- Disability prevalence is above the state average in most rural and rural/mixed counties.
- More than a third of Hoosiers age 65 or older report one or more disability.
- Rural Indiana is more at risk of a caregiver shortage than urban Indiana. Its caregiver ratio is much smaller than in urban Indiana.

The changing demographics and health status of the rural population pose a number of challenges for policy makers in rural Indiana. The discussion and plans to address the needs of the older and disabled population should emphasize two elements. One is a focus on creating age-friendly and accessible living environments. This includes the provision of services such as transportation and meals-on-wheels. The other is a focus on how to facilitate family care provided by children living out of town. A key component is broadband access so that family members can stay in frequent contact via social media and affordable message/phone connections. Many caregiving tasks, from medication reminders to providing emotional support and daily activities such as grocery ordering, can be handled digitally.



## References

- Ayres, J., B. Waldorf, M. McKendree and L. Hoelscher 2012. *Defining Rural Indiana — The First Step*. Purdue Center for Rural Development. EC-766-W.
- Brault, M.W. 2012. Disability Among the Working Age population: 2008 and 2009. American Community Survey Briefs. U.S. Census Bureau ACSBR/09-12
- Coleman-Jensen, A. and M. Nord 2013. Food Insecurity Among Households with Working-Age Adults with Disabilities. USDA, Economic Research Service. Economic Research Report #144. [http://www.ers.usda.gov/media/980690/err\\_144.pdf](http://www.ers.usda.gov/media/980690/err_144.pdf)
- Economic Research Service 2014. Higher Disability Rates Reported in Rural Areas and the South. ERS Charts of Note Collection. <http://www.ers.usda.gov/data-products/chart-gallery/detail.aspx?chartId=49362&ref=collection>
- Scommenga, P. 2016. Family Caregiving. Population Reference Bureau Today's Research on Aging 33, February 2016. <http://www.prb.org/Publications/Reports/2016/todays-research-aging-caregiving.aspx>
- U.S. Census Bureau 2012. Nearly 1 in 5 People have a Disability in the U.S., Census Bureau Reports. Newsroom Release: July 12, 2012.
- Waldorf, B. and M. McKendree 2013. The Aging of Rural Indiana's Population. *Rural Indiana Issues* # 4, EC-769-W. <https://www.extension.purdue.edu/extmedia/EC/EC-769-W.pdf>

## About the Authors

*Brigitte Waldorf is a professor in the Department of Agricultural Economics at Purdue University. Her expertise is in demography, and she has written about a variety of population issues in Indiana, including immigration, educational attainment, and poverty. Bhagyashree Katare is an Assistant Professor in the Department of Agricultural Economics at Purdue University. Bhagyashree's work focuses on consumer and health behavior. For further information, contact Brigitte Waldorf at [bwaldorf@purdue.edu](mailto:bwaldorf@purdue.edu) or Bhagyashree Katare at [bkatare@purdue.edu](mailto:bkatare@purdue.edu).*

September, 2016

It is the policy of the Purdue University Cooperative Extension Service that all persons have equal opportunity and access to its educational programs, services, activities, and facilities without regard to race, religion, color, sex, age, national origin or ancestry, marital status, parental status, sexual orientation, disability or status as a veteran.

Purdue University is an Affirmative Action institution. This material may be available in alternative formats.