

## Unhealthy Differences: Regional Health Disparities in Ohio

### SUMMARY

In 2008, there were nearly 7.2 million adults (ages 18-64) dispersed among Ohio's Metropolitan, Suburban, Rural, and Appalachian counties. The Health Policy Institute of Ohio (HPIO), looking at data from the 2008 Ohio Family Health Survey (OFHS), found important health disparities associated with these demographic regions. This data brief more closely examines these disparities and the circumstances surrounding them.

### Key findings include:

- Adults in Appalachian counties were more likely than those in Metropolitan counties to live in poverty, lack a high school diploma, not be working, be uninsured, have unmet health needs, consider themselves in poor health, and have adverse health outcomes
- Rural adults were less likely than their Metropolitan peers to consider themselves in poor health, but more likely to have had a heart attack
- Adults in Suburban counties were less likely than those in Metropolitan counties to live in poverty, lack a high school diploma, not be working, consider themselves in poor health, and be uninsured

Results presented in this brief highlight key differences (or disparities) found in health behaviors, risk factors, family income, experiences with the health care system, and other key indicators based on regional location. Policymakers and other decision makers may look to these findings as they shape strategies to build health equity and improve the physical, mental, and social well-being of all populations in Ohio's communities.

### INTRODUCTION

Data from studies such as the National Health Interview Survey (NHIS) provides evidence of regional disparities (by state and geographic regions) in health care and health outcomes on a national level.<sup>1</sup> In order to examine to what extent such disparities exist within Ohio, the Health Policy Institute of Ohio analyzed data from the 2008 Ohio Family Health Survey. HPIO examined trends in health care, health outcomes, health behaviors, and socioeconomic factors in Ohio's working-age adults (ages 18-64) according to regional location. The sections that follow further break out the data and describe the findings in ways that provide additional tools for policymakers to make informed health policy decisions.

Ohio Family Health Survey data are divided into four regions: Metropolitan counties, Rural (non-Appalachian) counties, Suburban counties, and Appalachian counties.<sup>2</sup> Health disparities also exist among different races and ethnicities, genders, and age groups; these disparities are covered in accompanying briefs.

1 Data can be found at the website for the National Center for Health Statistics, Center for Disease Control at <http://www.cdc.gov/nchs/fastats/Default.htm>.

2 Because no region is homogeneous, disaggregation of communities within each region may reveal further complexity in health care negotiation. Regions have been aggregated for the sake of statistical strength.

### What is meant by “health disparities”

Many definitions of *health disparities* exist in the literature and in practice. Olivia Carter-Pokras and Claudia Baquet, two leading scholars in the field of social epidemiology, describe a disparity as a signpost or indicator of something problematic: “If a disparity is identified and described, then the health community, policymakers, and the public can become more aware of it.” (Carter-Pokras and Baquet, *What is a “health disparity”*, 2002)

*Inequity* and *inequality* are other words with distinct meanings closely related to *disparity*. Many definitions of each of these words also exist and are used to varying degrees by researchers and health policy analysts.

If a disparity is determined to be avoidable, unfair, and actionable, then Carter-Pokras and Baquet consider it to be an “inequity.” What is considered to be avoidable and unjust is a product of what is currently known, they add, and will depend on who is making that decision and how it is made. “Inequality,” by comparison, is considered to be a more observational term; it does not necessarily imply a value statement about the difference.

Briefs written by the Health Policy Institute of Ohio use these definitions because they are clear, concise, and because they fall in line with definitions used by the World Health Organization.

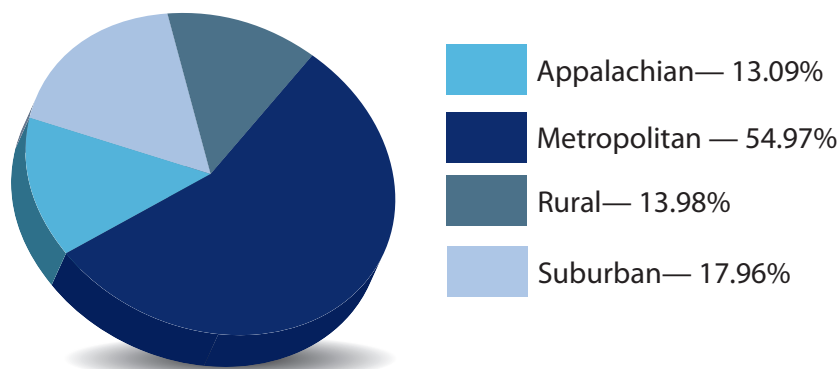
### Demographics

Before investigating to what extent health disparities exist on the basis of regional affiliation, it is useful to first identify how Ohio’s population is divided among these regions. Of approximately 7,164,300 adults aged 18-64 in Ohio in 2008, the majority – nearly 4 million people – lived in the Metropolitan counties of Allen, Butler, Cuyahoga, Franklin, Hamilton, Lorain, Lucas, Mahoning, Montgomery, Richland, Stark, and Summit. An additional 1.3 million adults lived in the state’s Suburban counties: Auglaize, Clark, Delaware, Fairfield, Fulton, Geauga, Greene, Lake, Licking, Madison, Medina, Miami, Pickaway, Portage, Trumbull, Union, and Wood. Rural counties (Ashland, Ashtabula, Champaign, Clinton, Crawford, Darke, Defiance, Erie, Fayette, Hancock, Hardin, Henry, Huron, Knox, Logan, Marion, Mercer, Morrow, Ottawa, Paulding, Preble, Putnam, Sandusky, Seneca, Shelby, Van Wert, Warren, Wayne, Williams, and Wyandot) accounted for just over one million adults; just under one million lived in Appalachian counties (Adams, Athens, Belmont, Brown, Carroll, Clermont, Columbiana, Coshocton, Gallia, Guernsey, Harrison, Highland, Hocking, Holmes, Jackson, Jefferson, Lawrence, Meigs, Monroe, Morgan, Muskingum, Noble, Perry, Pike, Ross, Scioto, Tuscarawas, Vinton, Washington).

Fig. 1

### Regional Breakdown of Ohio’s Population

(Adults 18-64: n=7.16 million)



Source: 2008 Ohio Family Health Survey

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### Health Care System

Regional disparities appear when looking at data pertaining to Ohioans' experiences with the health care system. The evidence suggests that in terms of their interaction with the health care system, Appalachian adults are worse off than their peers in other regions of the state.

In the 2008 OFHS, 17% of Ohio's adults — over 1.2 million people — reported that they did not have health insurance.<sup>3</sup> Appalachian adults were 30% more likely than Metropolitan adults to be **uninsured**; Suburban adults were 30% less likely. There was no significant difference in uninsured rates between adults in Rural and Metropolitan counties.

Respondents were asked to rate the **quality** of the health care that they received in the last year on a scale of zero to ten, with zero representing the worst quality, and ten the best. Nearly 4% of Ohio adults rated their health care quality as 'poor' — a value of zero through four. Compared to adults in Metropolitan counties, those in Appalachian counties were 30% more likely to rate their health care quality as 'poor', while adults in Rural and Suburban counties were respectively 20% and 50% less likely to do so. Adults in Appalachia were also more likely (10%) than those in Metropolitan counties to report having **unmet health needs** in the year prior to being surveyed. There was no statistical difference in reports of unmet health needs between adults in Rural or Suburban and Metropolitan counties; the statewide report of unmet health needs was 15.1%.

More than 675,000 adults (9.4%) were enrolled in the **Medicaid** program at the time of the 2008 OFHS. Compared to adults in Metropolitan counties, adults in Appalachian counties were 30% more likely to be enrolled in Medicaid; Rural and Suburban adults were respectively 20% and 40% less likely to be enrolled.

Table 1

### Health Care System Factors by Region

Adults 18-64

	Appalachian	Metropolitan	Rural	Suburban
Uninsured	21.91%*	17.43%	17.01%	12.34%*
Poor Health Care Quality	5.51%*	4.31%	3.28%*	2.21%*
Unmet Health Needs	16.87%*	15.25%	14.39%	13.98%
Medicaid Enrolled	12.66%*	10.07%	8.14%*	6.15%*

\*statistically significant

Source: 2008 Ohio Family Health Survey

### Health Behaviors and Risks

In population surveys such as the Ohio Family Health Survey, considerations such as health behaviors are typically treated as personal choices and are addressed on an individual level. The 2008 OFHS findings illustrate that there are significant differences in health behaviors and health risk factors among Ohio's demographic regions.

Nearly two million adults (27.7%) reported **smoking** at least one cigarette per day, most or everyday. More than one and a half million (21%) reported at least one incidence of **binge drinking** in the thirty days prior to being surveyed.<sup>4</sup> While there were no significant differences in binge drinking by region, adults in Appalachian and Rural counties were respectively 30% and 10% more likely to be smokers. There was no

3 This percentage refers to adults with general health insurance coverage; the reported figure is based on the response of insurance status in the week prior to being surveyed.

4 Respondent reported drinking at least five (men)/ four (women) alcoholic beverages in one sitting in the thirty days prior to being surveyed.

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significant difference between smoking rates of adults in Suburban and Metropolitan counties.

**Obesity** and **hypertension** are important predictors of adverse medical outcomes. Statewide, 29.2% of adults (more than two million) had a body mass index (BMI) of at least 30 kg/m<sup>2</sup> (qualifies as obese), and 27.1% (nearly two million) had been told s/he had high blood pressure (hypertension). Again, compared to adults in Metropolitan counties, those in Appalachian counties were 20% more likely to be obese and 10% more likely to have hypertension. There were no significant differences in hypertension or obesity between the other regions.

Table 2

### Health Risks by Region

Adults 18-64

	Appalachian	Metropolitan	Rural	Suburban
Current Smoker	34.03%*	26.71%	28.97%*	25.25%
Binge Drinker	20.23%	21.40%	20.35%	20.59%
Obese	32.67%*	27.89%	30.22%	29.76%
High Blood Pressure	29.03%*	26.85%	26.63%	26.89%

\*statistically significant

Source: 2008 Ohio Family Health Survey

An important, yet unmeasured variable that operates both as a risk factor and as an outcome is stress. While it is accepted that all individuals feel stress to some degree, and that stress can take a positive or a negative form, the lack of an appropriate measure prevents public health officials from being able to quantify stress as a population-level outcome. If stress can lead to serious mental, emotional, and physiological problems for an individual, so too may the chronic stress of being an ethnic minority adversely affect minority health. Consideration of stress as a health outcome is important in work on health disparities, as well as in public health in general.

### Health Outcomes

When asked to rate their own **health status** as *poor, fair, good, very good, or excellent*, 16.5% of Ohio's adults (nearly 1.2 million) considered themselves to be in only poor or fair health. The 2008 OFHS gathered data on a number of health outcomes that, for many people, may contribute to their self-perception of being unhealthy. Statewide, 3.3% of adults reported having ever had a **heart attack**, 2.2% reported having ever had a **stroke**, 6.2% reported having ever been diagnosed with **cancer**, 3.8% reported having ever been diagnosed with heart disease, and 9.6% reported having ever been diagnosed with **type 2 diabetes** (diabetes mellitus).<sup>5</sup>

When broken down by region, there were no significant differences by region for stroke or heart disease. However, Suburban adults were 10% less likely than those in Metropolitan counties to consider themselves to be in poor or fair health, and Rural adults were 30% more likely to have had a heart attack. Again, adults in Appalachia were statistically worse off than their peers in Metropolitan counties; they were 30% more likely to rate their health as poor or fair, 20% more likely to have diabetes mellitus, and 60% more likely to have had a heart attack. Suburban adults were 30% more likely than adults in Metropolitan counties to have ever been diagnosed with cancer.

5 Respondent had ever been told they had type 2 diabetes, borderline diabetes, or high blood sugars.

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Table 3

### Health Outcomes by Region

Adults 18-64

	Appalachian	Metropolitan	Rural	Suburban
Cancer	6.76%	5.84%	5.64%	7.41%*
Stroke	2.42%	2.13%	2.05%	2.27%
Diabetes Mellitus	11.13%*	9.12%	9.40%	9.91%
Heart Disease	4.44%	3.69%	4.02%	3.63%
Heart Attack	4.78%*	2.96%	3.71%*	2.71%
Fair-Poor Health Status	21.08%*	16.45%	15.46%	14.08%*

\*statistically significant

Source: 2008 Ohio Family Health Survey

### Socioeconomics

When examining the issues of health disparities, it is essential to keep in mind that there are structural and social factors that affect how individuals and populations manage their health and interact with the health care system. The circumstances in which people are born, grow, live, work and age, as well as how they interact with a very complex health care system, are referred to by researchers as *social determinants of health*.<sup>6</sup> The OFHS gathered data on one of the most influential social determinants of health – socioeconomic status.

Socioeconomic status (SES) is a complex concept. It includes factors that directly or indirectly relate to an individual's financial solvency, stability, and growth potential. Within the 2008 Ohio Family Health Survey, these factors included annual income, educational attainment, and employment. Although not measured by the 2008 OFHS, other SES components traditionally include wealth, assets, family size, parental occupation, home ownership, and group associations. Income, education, and employment are considered separately in the sections that follow.

### What is meant by “social determinants of health”

The World Health Organization defines health as “a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity,” (WHO Constitution, 1946) implying that characteristics outside of the biological realm impact human health.

To that end, the World Health Organization, its affiliates, and the CDC have recognized and adopted twelve contributing factors that describe “social determinants of health”:

Income and social status	Health services
Social support networks	Personal health practices and coping skills
Education and literacy	Healthy child development
Employment and working conditions	Biology and genetic endowment
Social environments	Culture
Physical environments	Gender

**Income** was evaluated by comparing federal poverty guidelines with 2008 OFHS data (which captured a survey respondent's annual gross income for calendar year 2007). The following table details 2007-2008 Federal Poverty Guidelines (FPL).<sup>7</sup>

6 Whitehead M. The concepts and principles of equity and health. Copenhagen: WHO/EURO; 1991.

7 For HPIO's analyses, the 200% FPL cutoff is used for three key reasons: 1) The US Census Bureau's most recent poverty threshold for the state of Ohio was identified as 200% FPL. 2) The Economic Policy Institute, a national economic think-tank, indexed the 2007 national family budget as \$48,778 for a family of four, a number more than twice the value of the federal poverty line. This family budget estimation includes funds for food, housing and utilities, non-recreational transportation, health care, child care, taxes and necessary household items. 3) At the time this analysis was conducted, the 200% FPL cutoff has been proposed as the new income level for adult Medicaid eligibility (it has since been amended to 133% FPL).

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### Federal Poverty Guidelines\*

Annual Gross Income as Percent of the Federal Poverty Line

Family Size	100% FPL	200% FPL	300% FPL
1	\$10,212	\$20,424	\$30,636
2	\$13,692	\$27,384	\$41,706
3	\$17,172	\$34,344	\$51,516
4	\$20,652	\$41,304	\$61,956

\*Federal Register, effective April 2007-2008

HPIO found that 34% or over 2.4 million adults were living at or below 200% of poverty. Compared to adults in Metropolitan counties:

- Adults in Appalachian counties were 30% more likely to live at or below 200% of poverty
- Adults in Suburban counties were 20% less likely to live at or below 200% of poverty
- There was no statistical difference between adults in Rural counties and those in Metropolitan counties

While the 2008 OFHS did not collect data on wealth and assets (two additional measures of SES), annual income is an easily quantified financial measure that provides insight into whether adults are covered by other government assistance programs (such as Medicaid, Food Stamps, and Welfare-to-Work) that may impact health status and health behaviors.

**Educational attainment** considered whether or not the respondent had received his/her high school diploma or equivalent at the time of the survey. Statewide, nearly 750,000 adults (10.4%) did not have a high school diploma, with significant differences in educational attainment by region. Compared to adults in Metropolitan counties, Appalachian and Rural adults were 70% more and 10% more likely, respectively, not to have a high school diploma; Suburban adults were 40% less likely not to have a diploma.

Official **unemployment** numbers, as compiled by the U.S. Bureau of Labor Statistics, are complex. They include information on length of time spent looking for work, type of work, and other details. The OFHS focused on factors associated with employment (income, insurance, etc.) rather than the reasons an individual may or may not be working. Therefore, employment was recorded by whether or not the respondent was working (full- or part-time) in the week prior to being surveyed. By this simple measure, 35% of adults (just over 2.5 million) were not working at the time of the 2008 OFHS. Appalachian adults were 20% more likely than Metropolitan adults not to be working, while Suburban adults were 10% less likely not to be working. There was no statistical difference between Rural and Metropolitan adults.

Fig. 5

### Socioeconomic Factors by Region

Adults 18-64

	Appalachian	Metropolitan	Rural	Suburban
At or below 200% FPL	43.71%*	34.25%	33.60%	26.48%*
No High School Diploma	17.34%*	10.05%	11.48%*	5.70%*
Not Working	40.76%*	34.78%	35.29%	31.52%*

\*statistically significant

Source: 2008 Ohio Family Health Survey



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### CONCLUSION

Data from the 2008 OFHS indicate that Ohio's adults varied by demographic region on many measures of individual health, health care coverage, access to health care, and use of health care. Compared to those in Metropolitan counties, adults in Appalachian counties were more likely to live in poverty, to lack a high school diploma, not to be working, to be enrolled in Medicaid, and to be uninsured. They were also more likely to be smokers, to be obese, to have high blood pressure, to have diabetes mellitus, and to have ever had a heart attack. These results provide evidence for community actors to shape their understanding of health and health care needs of different populations. Additionally, the data may inform strategies for reaching these populations in communities and improving their health. Concrete data on health disparities contributes to dialogue where policymakers and decision makers think meaningfully about healthy equity, equality, and social determinants of health.



## ABOUT HPIO

The Health Policy Institute of Ohio is an independent, nonpartisan organization that forecasts health trends, analyzes key health issues, and communicates current research to Ohio policymakers, legislators, and others. For additional copies of this publication visit [www.healthpolicyohio.org](http://www.healthpolicyohio.org) or call (614) 224-4950.

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## **Acknowledgements**

The author would like to thank Jill Huntley, Janet Goldberg and the rest of the HPIO staff for providing invaluable feedback throughout the development of this brief.