



**Department of  
Health**

# **OHIO CHRONIC DISEASE ATLAS 2025:**

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Maps of Chronic Disease Prevalence, Mortality,  
Risk Factors, and Non-Medical Health Factors by County

**August 2025**

# Table of Contents

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<b>Introduction .....</b>	<b>1</b>
<b>Key Findings .....</b>	<b>2</b>
<b>Data Sources &amp; Methodology .....</b>	<b>3</b>
<b>Chronic Disease Prevalence .....</b>	<b>5</b>
Prevalence of Arthritis Among Adults (18+), Ohio, 2022 .....	5
Prevalence of Current Asthma Among Adults (18+), Ohio, 2022 .....	6
Prevalence of Chronic Kidney Disease Among Adults (18+), Ohio, 2021 .....	7
Prevalence of Chronic Obstructive Pulmonary Disease (COPD) Among Adults (18+), Ohio, 2022 .....	8
Prevalence of Coronary Heart Disease Among Adults (18+), Ohio, 2022 .....	9
Prevalence of Depression Among Adults (18+), Ohio, 2022 .....	10
Prevalence of Diabetes Among Adults (18+), Ohio, 2022 .....	11
Prevalence of Disability Among Adults (18+), Ohio, 2022 .....	12
Prevalence of High Cholesterol Among Adults (18+), Ohio, 2021* .....	13
Prevalence of Hypertension Among Adults (18+), Ohio, 2021* .....	14
Prevalence of Obesity Among Adults (18+), Ohio, 2022 .....	15
Prevalence of Stroke Among Adults (18+), Ohio, 2022 .....	16
<b>Chronic Disease Mortality .....</b>	<b>17</b>
Age-Adjusted Rate of Deaths from Chronic Disease* per 100,000 Population (All Ages), Ohio, 2022 .....	17
Average Annual Age-Adjusted Rate of Deaths from Alzheimer's Disease per 100,000 Population (All Ages), Ohio, 2021-2022 .....	18
Age-Adjusted* Rate of Deaths from Cancer per 100,000 Population (All Ages), Ohio, 2022 .....	19
Average Annual Age-Adjusted Rate of Deaths from Chronic Kidney Disease (CKD) per 100,000 Population (All Ages), Ohio, 2021-2022 .....	20
Age-Adjusted Rate of Deaths from Chronic Lower Respiratory Disease (CLRD) per 100,000 Population (All Ages), Ohio, 2022 .....	21
Age-Adjusted Rate of Deaths from Diabetes per 100,000 Population (All Ages), Ohio, 2022 .....	22
Age-Adjusted Rate of Deaths from Heart Disease per 100,000 Population (All Ages), Ohio, 2022 .....	23
Average Annual Age-Adjusted Rate of Deaths from Parkinson's Disease per 100,000 Population (All Ages), Ohio, 2020-2022 .....	24
Age-Adjusted Rate of Deaths from Stroke per 100,000 Population (All Ages), Ohio, 2022 .....	25
<b>Clinical &amp; Behavioral Risk Factors .....</b>	<b>26</b>
Prevalence of Binge Drinking Among Adults (18+), Ohio, 2022 .....	26
Prevalence of Current Smoking Among Adults (18+), Ohio, 2022 .....	27
Prevalence of Having a Dental Visit in the Past Year Among Adults (18+), Ohio, 2022 .....	28
Prevalence of Having a Doctor Visit in the Past Year Among Adults (18+), Ohio, 2022 .....	29
Prevalence of Fair or Poor Health Among Adults (18+), Ohio, 2022 .....	30
Prevalence of Insufficient Sleep Among Adults (18+), Ohio, 2022 .....	31
Prevalence of Frequent Mental Distress Among Adults (18+), Ohio, 2022 .....	32
Prevalence of No Physical Activity (Past 30 Days) Among Adults (18+), Ohio, 2022 .....	33
Prevalence of No Health Insurance Among Adults (18+), Ohio, 2022 .....	34
<b>Non-Medical Health Factors .....</b>	<b>35</b>
Prevalence of Food Insecurity Among Adults (18+), Ohio, 2022 .....	35
Prevalence of Housing Insecurity Among Adults (18+), Ohio, 2022 .....	36
Prevalence of Lack of Social or Emotional Support Among Adults (18+), Ohio, 2022 .....	37
Prevalence of No High School Diploma Among Adults (25+), Ohio, 2022 .....	38
Prevalence of People Below 150% of the Federal Poverty Level, Ohio, 2022 .....	39
Prevalence of Social Isolation Among Adults (18+), Ohio, 2022 .....	40
Prevalence of Transportation Insecurity Among Adults (18+), Ohio, 2022 .....	41
Prevalence of Unemployment Among Adults (16+), Ohio, 2022 .....	42
Social Vulnerability Index by County, Ohio, 2022 .....	43

# Introduction

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According to the Centers for Disease Control and Prevention (CDC), “chronic diseases are defined broadly as conditions that last one year or more and require ongoing medical attention or limit activities of daily living or both.” These include conditions such as heart disease, cancer, and diabetes, among others. Chronic diseases are among the most common, costly, and preventable of all health problems in both the United States and Ohio. Chronic disease is associated with reduced quality of life, poor health outcomes, increased healthcare needs, and higher healthcare costs.

In 2022, 75,402 Ohioans died from chronic diseases (heart disease, cancer, diabetes, stroke, chronic kidney disease, and chronic lower respiratory disease), corresponding to a mortality rate of 483.8 per 100,000 population. Deaths from chronic disease accounted for more than half (54.6%) of all deaths in Ohio in 2022. Seven of the 10 leading causes of death in Ohio (including Alzheimer’s Disease) are chronic diseases.

Differences in health status and outcomes related to chronic disease are evident among people who live in different regions of Ohio. Regional differences are associated with numerous factors, including health behaviors, access to and utilization of healthcare services, socioeconomic status, and cultural norms and practices.

Chronic diseases are caused by a complex combination of many risk factors, both modifiable and non-modifiable. Genetics, age, sex, and race/ethnicity are all non-modifiable and can contribute to an individual’s risk for developing a chronic disease. Modifiable risk factors include health behaviors such as smoking, lack of physical activity, and inadequate sleep. Non-medical health factors including housing insecurity, poverty, lower education, and environmental factors such as lack of access to stores that sell nutritious food, social isolation, and transportation insecurity, all impact chronic disease morbidity and mortality within a community.

Ohio Chronic Disease Atlas 2025 was developed to examine county-level geographic patterns in the prevalence of chronic diseases and conditions, chronic disease mortality, clinical and behavioral risk factors, and non-medical health factors. Ohio is a geographically diverse state, and the burden of chronic disease is often based on where people live. The maps included in this atlas can be used by public health professionals, health systems, community organizations, and others to target chronic disease interventions and programs in locations that will have the greatest impact.





# Key Findings

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- A higher prevalence of multiple chronic diseases and conditions, including arthritis, asthma, chronic kidney disease (CKD), chronic obstructive pulmonary disease (COPD), coronary heart disease, depression, and disability, are concentrated heavily in the southern counties of the state. High mortality rates for all chronic diseases combined, Alzheimer's Disease, cancer, and chronic lower respiratory disease are also concentrated in southern counties.
- The 32-county Appalachian region along the eastern and southern borders of Ohio also has a higher prevalence of most of the chronic diseases and conditions examined: arthritis, CKD, COPD, coronary heart disease, diabetes, disability, high cholesterol, hypertension, obesity, and stroke. Cancer and diabetes mortality rates were also high in southeastern Appalachia.
- Rural, non-Appalachian counties were found to have a high prevalence of diabetes, high cholesterol, and obesity, and high mortality rates of CKD, heart disease, and Parkinson's Disease.
- Many of the clinical, behavioral, and non-medical health factors examined were highly concentrated in southern Ohio, including current smoking, no dental visit in the past year, fair or poor health, mental distress, physical inactivity, no health insurance, food insecurity, housing insecurity, less than a high school education, high poverty, and transportation insecurity.
- Appalachian and/or non-Appalachian rural counties also had a high prevalence of clinical, behavioral, and non-medical health factors such as current smoking, no dental visit in the past year, no doctor visit in the past year, fair or poor health, physical inactivity, no health insurance, food insecurity, high social vulnerability, and transportation insecurity.
- The prevalence of select chronic diseases and conditions in Ohio varied widely by county. For example, the prevalence of arthritis ranged from a low of 7.6% in Union County to a high of 30.9% in Adams County.
- Similarly, mortality rates for chronic diseases can range widely across counties in Ohio. In 2022, the chronic kidney disease death rate in the county with the highest rate (Vinton County; 42.0 per 100,000 population) was 8.6 times higher than in the county with the lowest rate (Putnam County; 4.9 per 100,000). Similarly, the diabetes death rate was 7.7 times higher in Vinton County (101.2 per 100,000) than Miami County (13.2 per 100,000).





# Data Sources & Methodology

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Due to the complexity of the data sources analyzed for this report, there is a delay between primary data collection and the time the data is ready for analysis. For CDC PLACES and Social Vulnerability Index (SVI) data, there is typically a two-year delay to complete the analytic process of small area estimation and computing the index. Finalized mortality data is typically available approximately 18 months after the end of the calendar year represented. More information on these data sources is provided below.

## CDC PLACES

CDC's PLACES: Local Data for Better Health dataset estimates chronic disease and other health metrics at several geographic levels across the United States using a small area estimation methodology. Estimates are based on Behavioral Risk Factor Surveillance System (BRFSS) data, census population data, and American Community Survey (ACS) data. The most recent PLACES dataset available at the time of this report (released December 2024) includes 2022 BRFSS data for most measures in this report, with the exception of high blood pressure and high cholesterol which are from the 2021 BRFSS.

PLACES uses a multilevel logistic regression and poststratification method to create estimates of each measure at the county level for adults 18 years and older. The multilevel logistic regression model includes some or all the following variables: person-level age, sex, race/ethnicity, and education level from CDC's BRFSS, county-level percentage of adults below 150% of the federal poverty level from the five-year ACS, and contextual effects that may impact health outcomes.

The model is applied to annual county-level census population estimates to compute a predicted probability. Validation studies, both internal and external, have shown strong or moderate correlation between PLACES estimates and direct survey estimates at each of the estimated geographic levels. It should be noted that prevalence estimates often vary widely in small counties due to smaller sample sizes that can fluctuate from year to year.

## Mortality

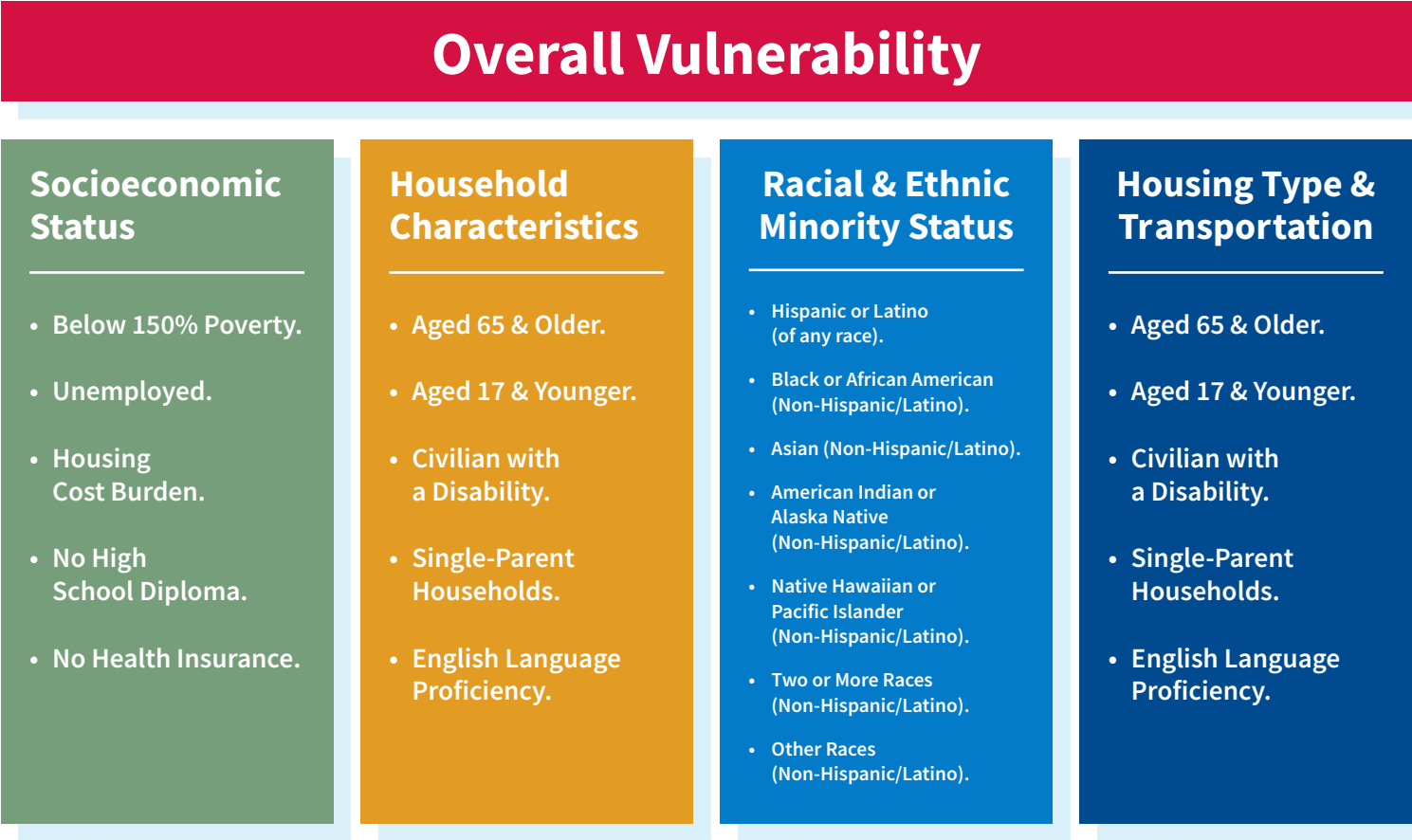
Ohio mortality data were provided by the Ohio Bureau of Vital Statistics at the Ohio Department of Health. Data represent the underlying cause of death and were coded using the International Statistical Classification of Diseases and Related Health Problems, version 10 (ICD-10). Ohio mortality data for 2022 was the most recent, non-preliminary dataset available at the time of this report.

Age-adjustment is a statistical method to modify rates to allow for fairer comparisons between groups with different age distributions. An age-adjusted rate is the weighted average of age-specific rates, where the weights represent the age distribution of a standard population. County-level rates of death presented in this report were age-adjusted using 11, 10-year age groups, except for cancer which utilized 19, five-year age groups. Rates were age-adjusted using the 2000 U.S. Standard Population.

Mortality rates often vary widely in small counties due to smaller death counts that can fluctuate from year to year. In addition, mortality rates are suppressed to protect individuals' confidentiality when counts are less than 10 for a given county. Two years of data were combined when five or more counties were suppressed (i.e., Alzheimer's Disease and chronic kidney disease). Three years of data were combined when 10 or more counties were suppressed (i.e., Parkinson's Disease).

# Social Vulnerability Index

The CDC Social Vulnerability Index (SVI) is a place-based index designed to identify and quantify communities experiencing social vulnerability (i.e., demographic and socioeconomic factors that adversely affect communities). The current SVI uses 16 U.S. Census variables from the five-year ACS to identify communities that experience vulnerability and may need support to address health outcomes. These variables are grouped into four themes and then combined into a single index of overall social vulnerability, ranging from 0.0 (low social vulnerability) to 1.0 (high social vulnerability). The most recent SVI dataset available at the time of this report (released May 2024) includes 2022 data.



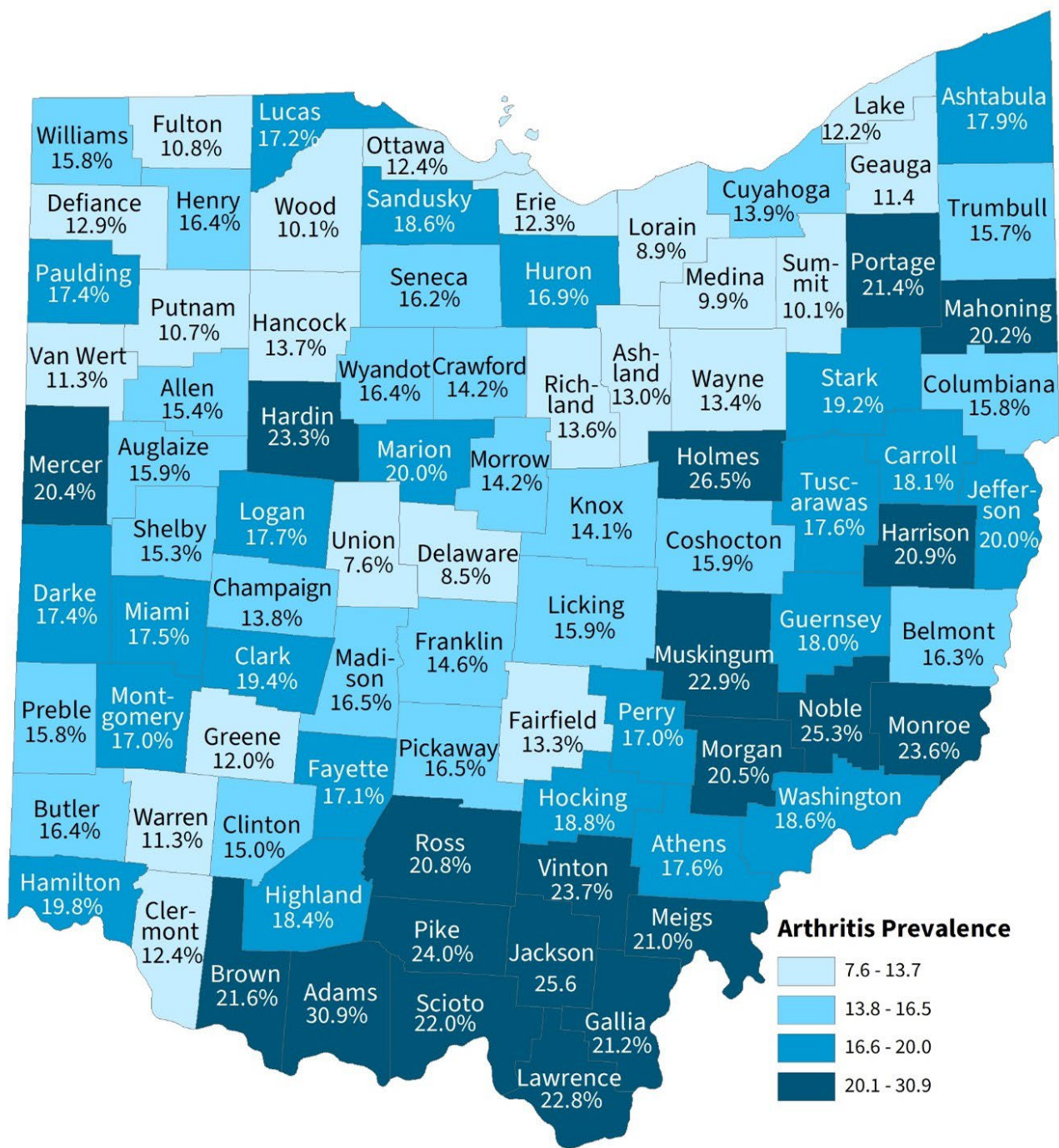
Source: Based off of the table from the Centers for Disease Control and Prevention and Agency for Toxic Substances and Disease Registry Social Vulnerability Index.

## Creation and Interpretation of Maps

Environmental Systems Research Institute’s (ESRI) ArcMap® version 10 software was used to produce the maps in this atlas. In general, maps show county rates or percentages divided into quartiles (four equal or nearly equal groups), with the highest rates or percentages in the darkest hue, allowing for comparisons between counties. The exceptions include maps showing the prevalence of a dental visit in the past year and a doctor visit in the past year, where counties with lower rates are indicated by darker hues.

# Chronic Disease Prevalence

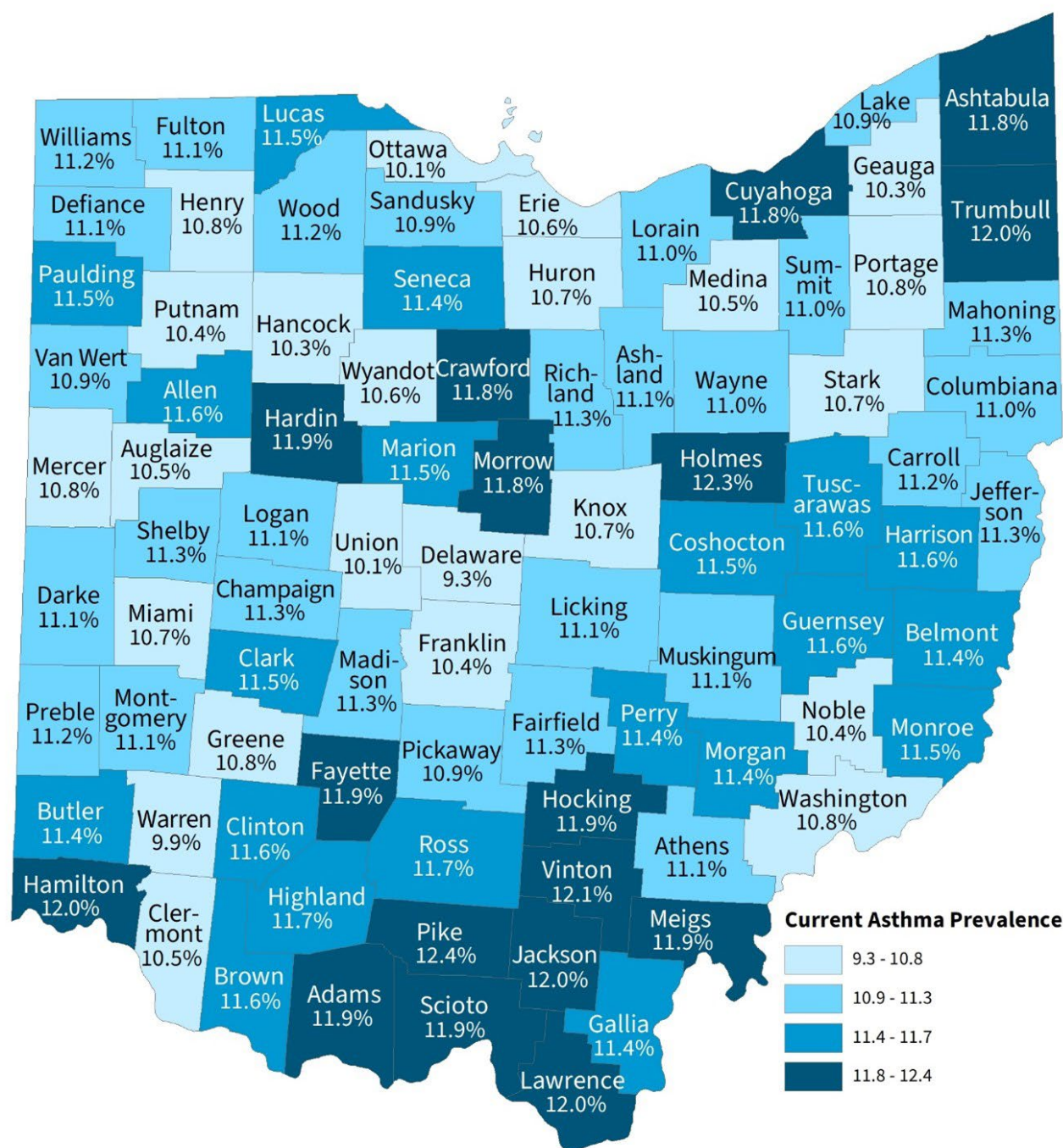
## Prevalence of Arthritis Among Adults (18+), Ohio, 2022



Source: Centers for Disease Control and Prevention. PLACES: Local Data for Better Health, 2024.

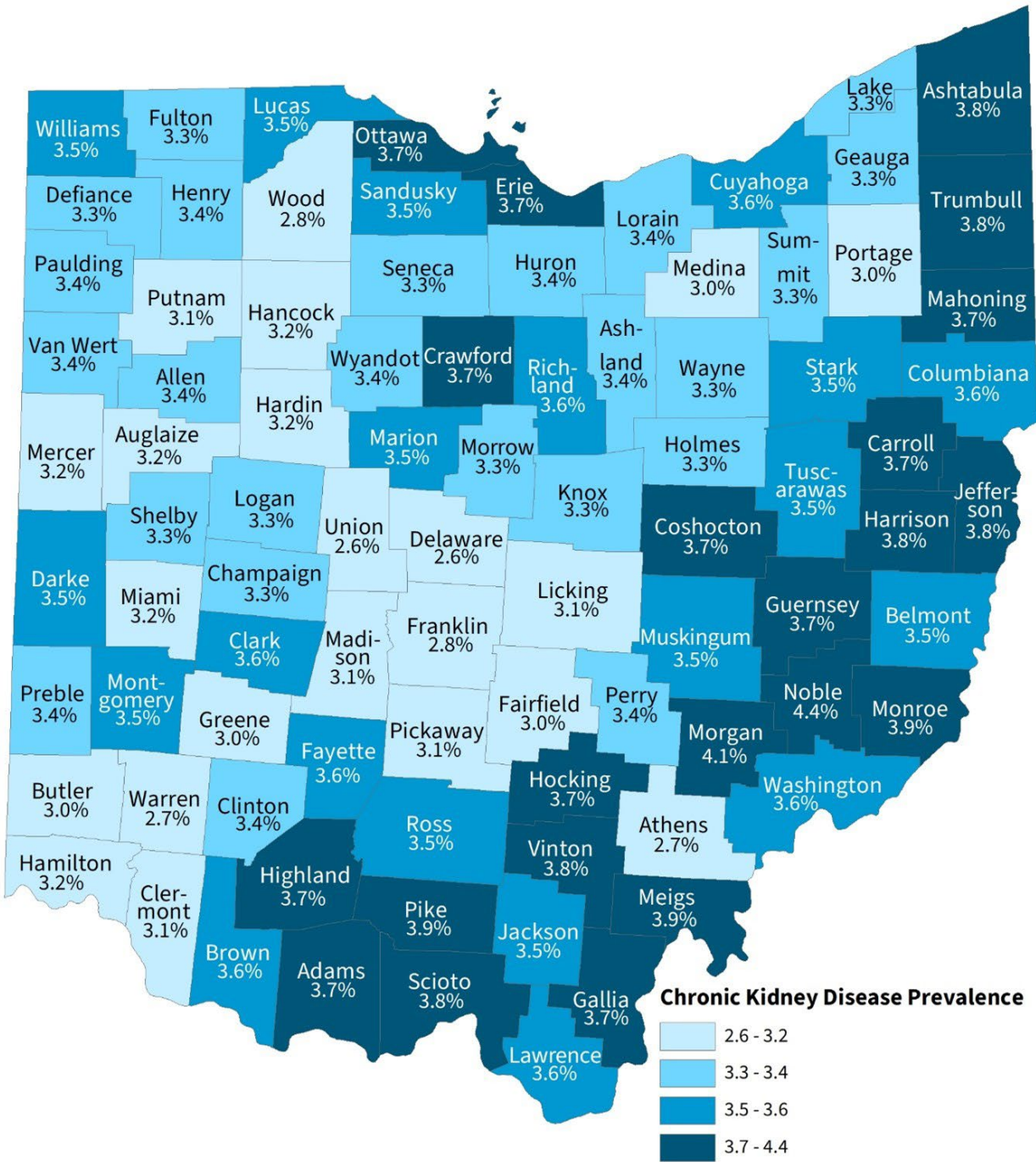


## Prevalence of Current Asthma Among Adults (18+), Ohio, 2022



Source: Centers for Disease Control and Prevention. PLACES: Local Data for Better Health, 2024.

Prevalence of Chronic Kidney Disease Among Adults (18+), Ohio, 2021

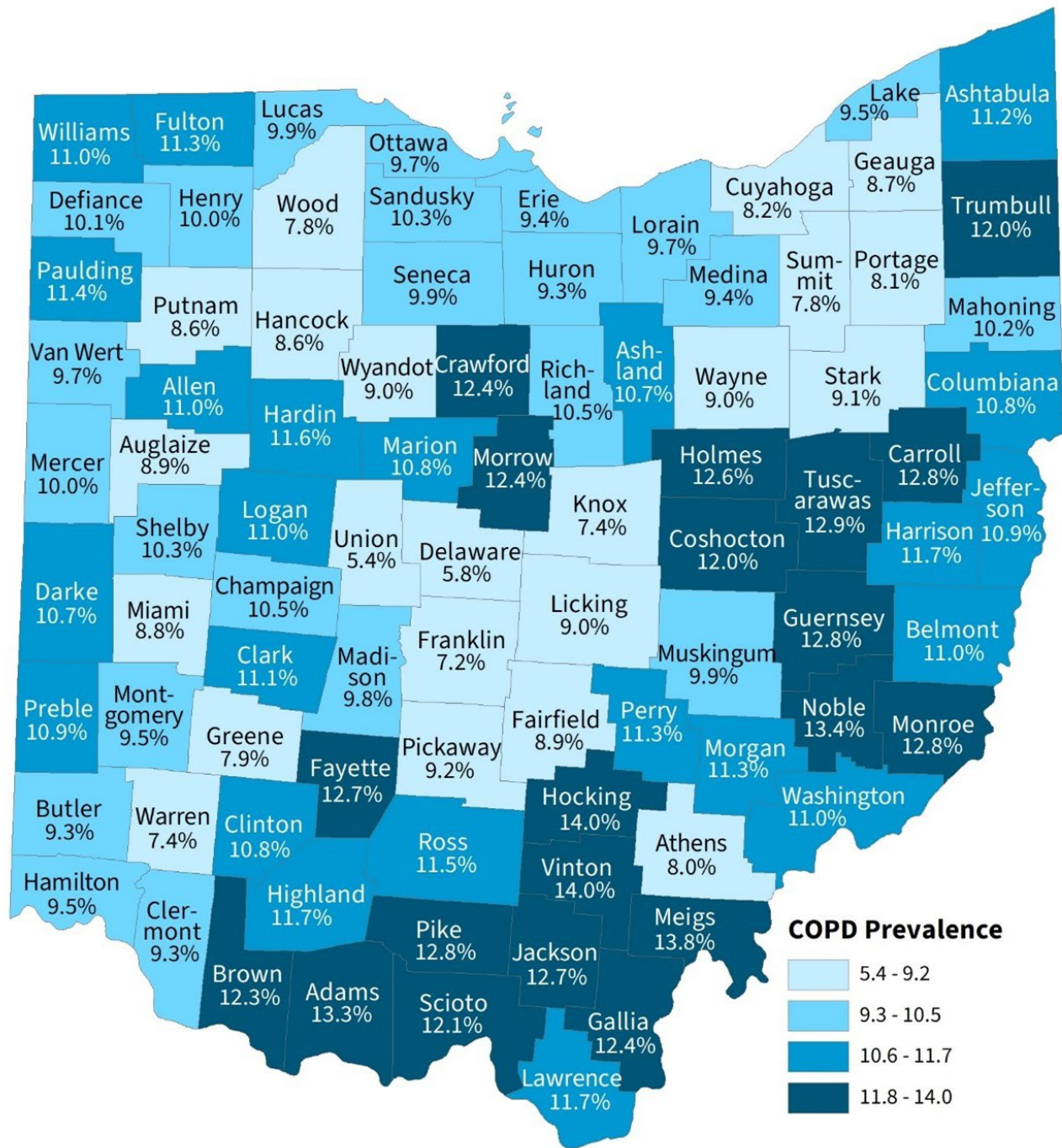


Source: Centers for Disease Control and Prevention. PLACES: Local Data for Better Health, 2023.

NOTE: This map represents data from the 2023 PLACES dataset as CKD prevalence was discontinued as a measure with the 2024 dataset.



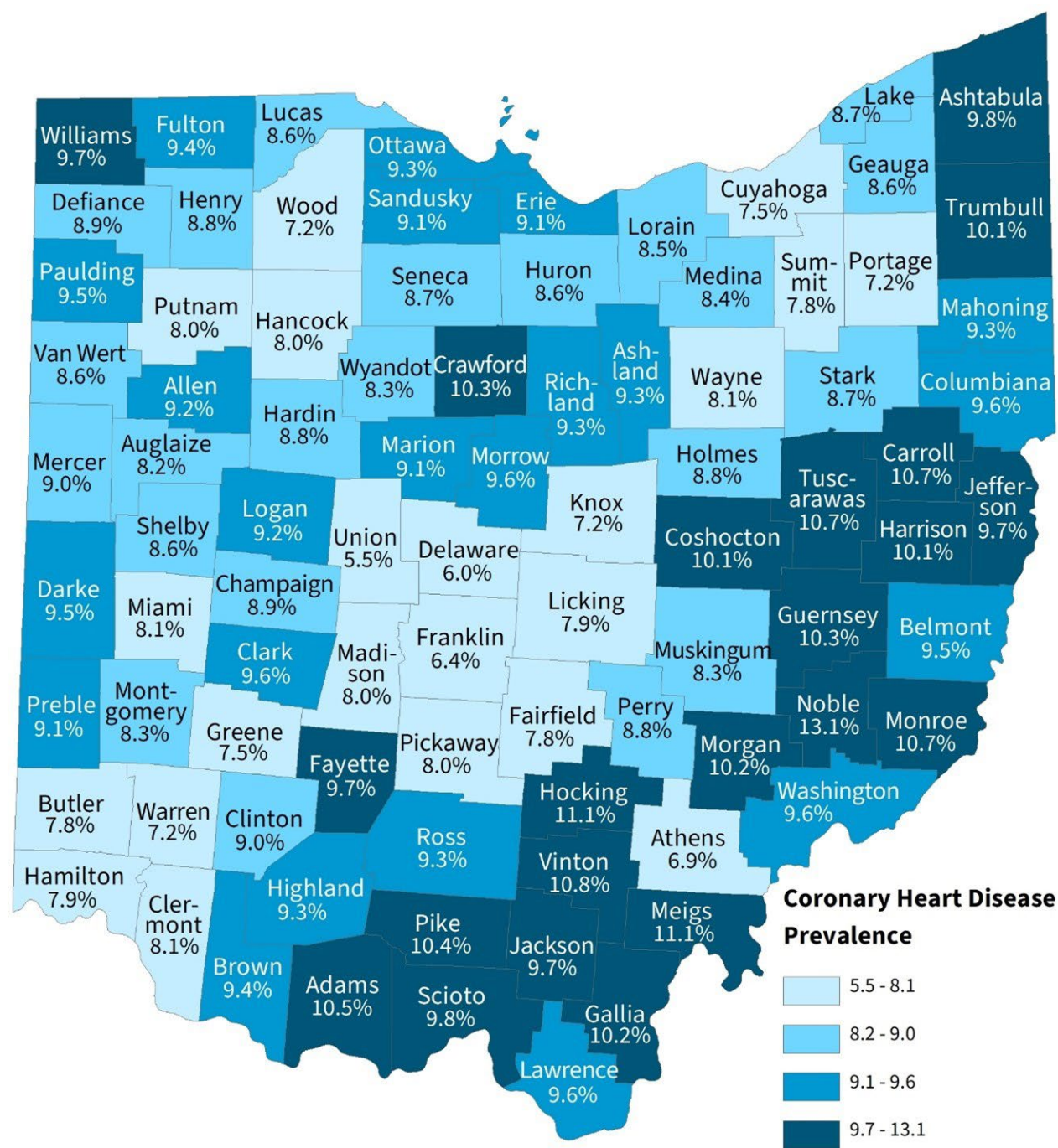
Prevalence of Chronic Obstructive Pulmonary Disease (COPD) Among Adults (18+),  
Ohio, 2022



Source: Centers for Disease Control and Prevention. PLACES: Local Data for Better Health, 2024.

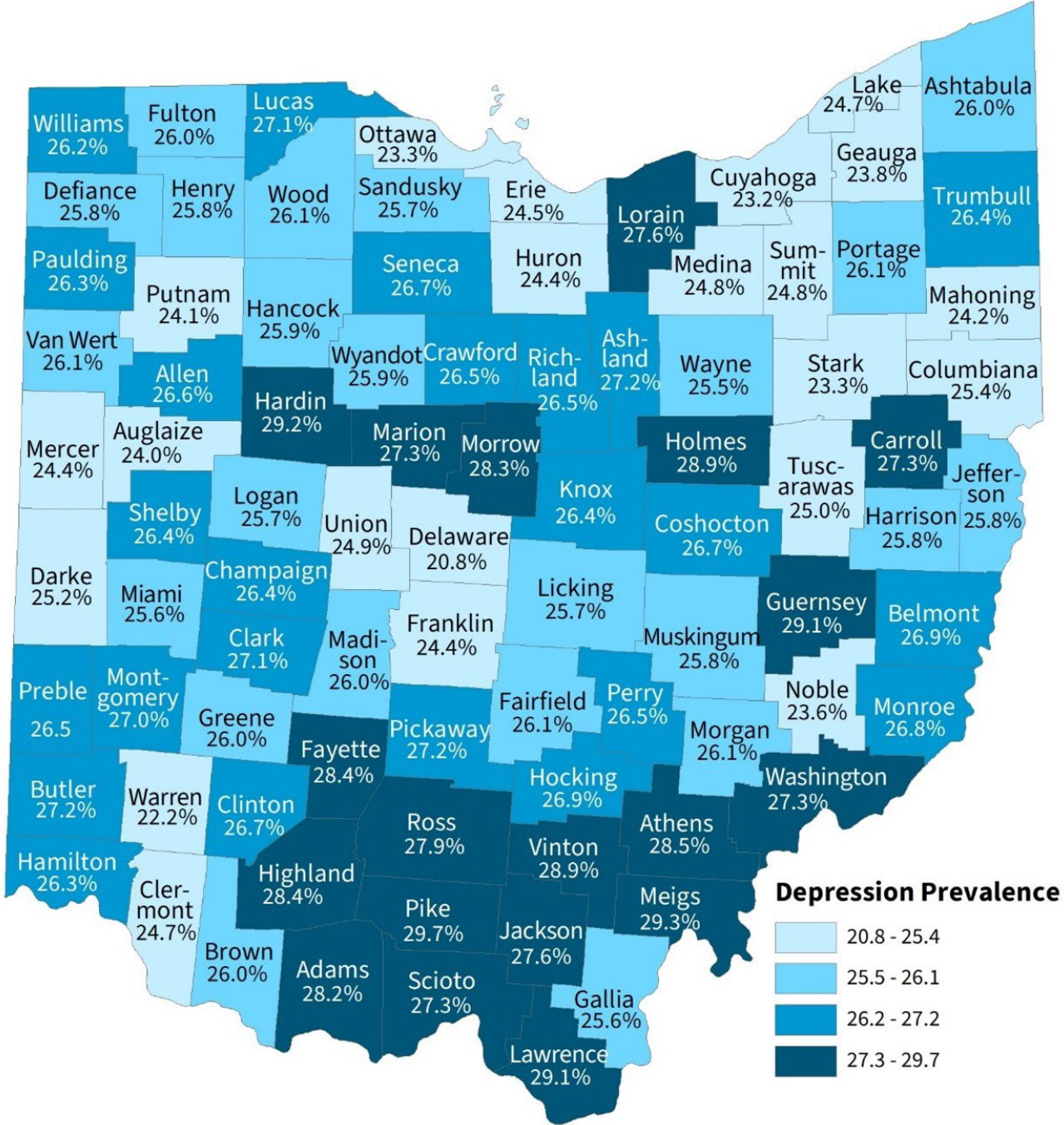


Prevalence of Coronary Heart Disease Among Adults (18+), Ohio, 2022



Source: Centers for Disease Control and Prevention. PLACES: Local Data for Better Health, 2024.

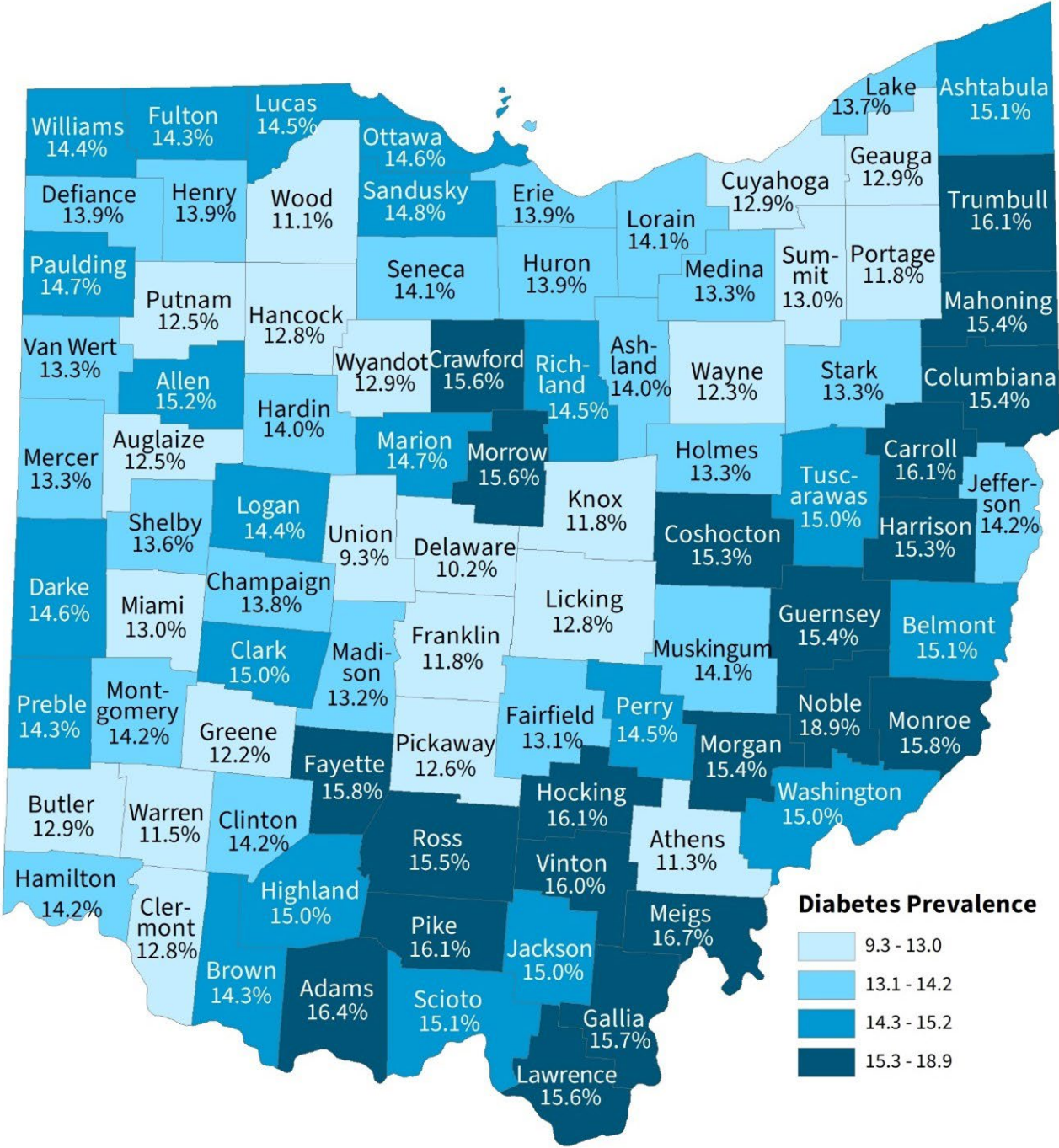
Prevalence of Depression Among Adults (18+), Ohio, 2022



Source: Centers for Disease Control and Prevention. PLACES: Local Data for Better Health, 2024.



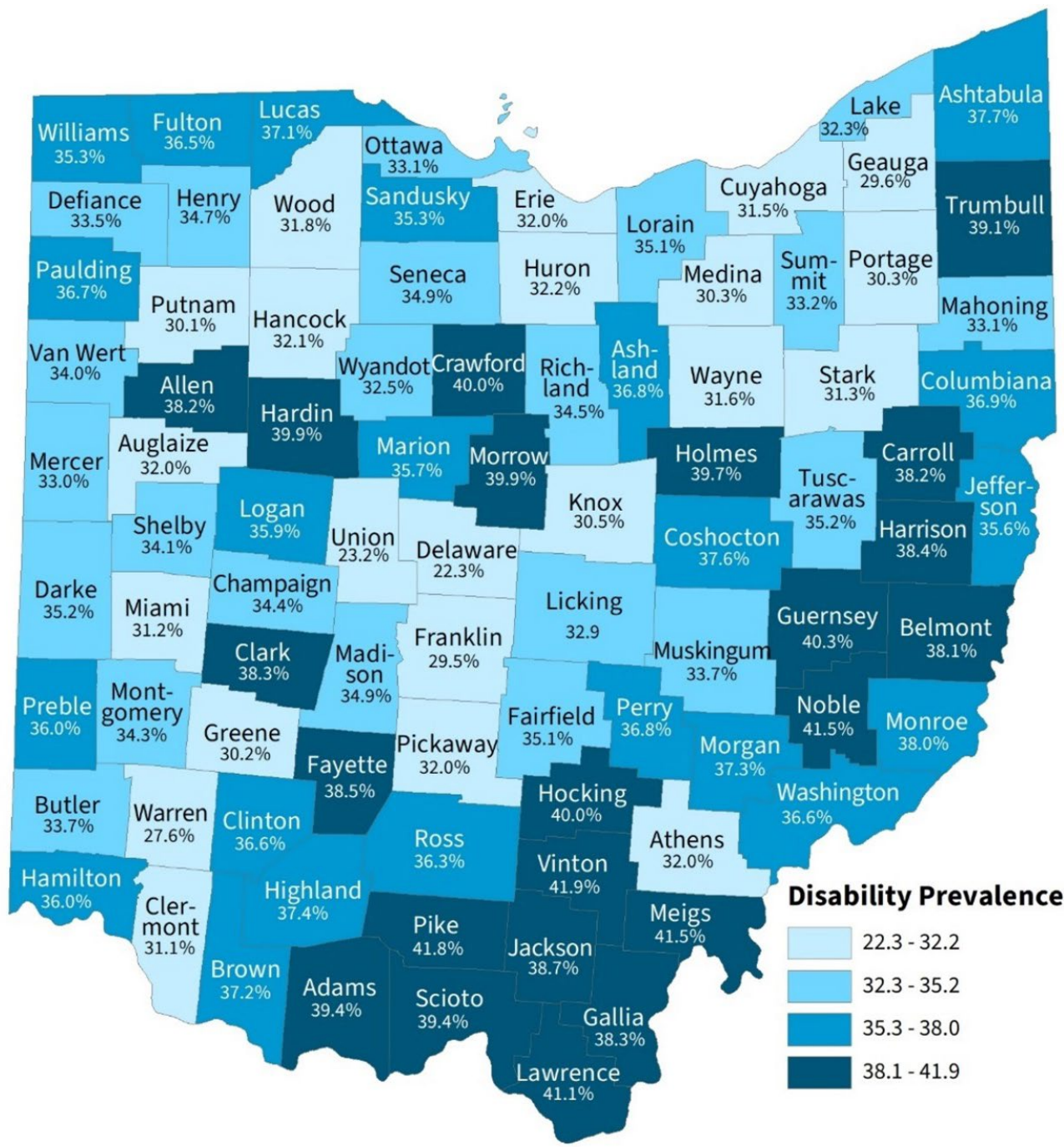
Prevalence of Diabetes Among Adults (18+), Ohio, 2022



Source: Centers for Disease Control and Prevention. PLACES: Local Data for Better Health, 2024.

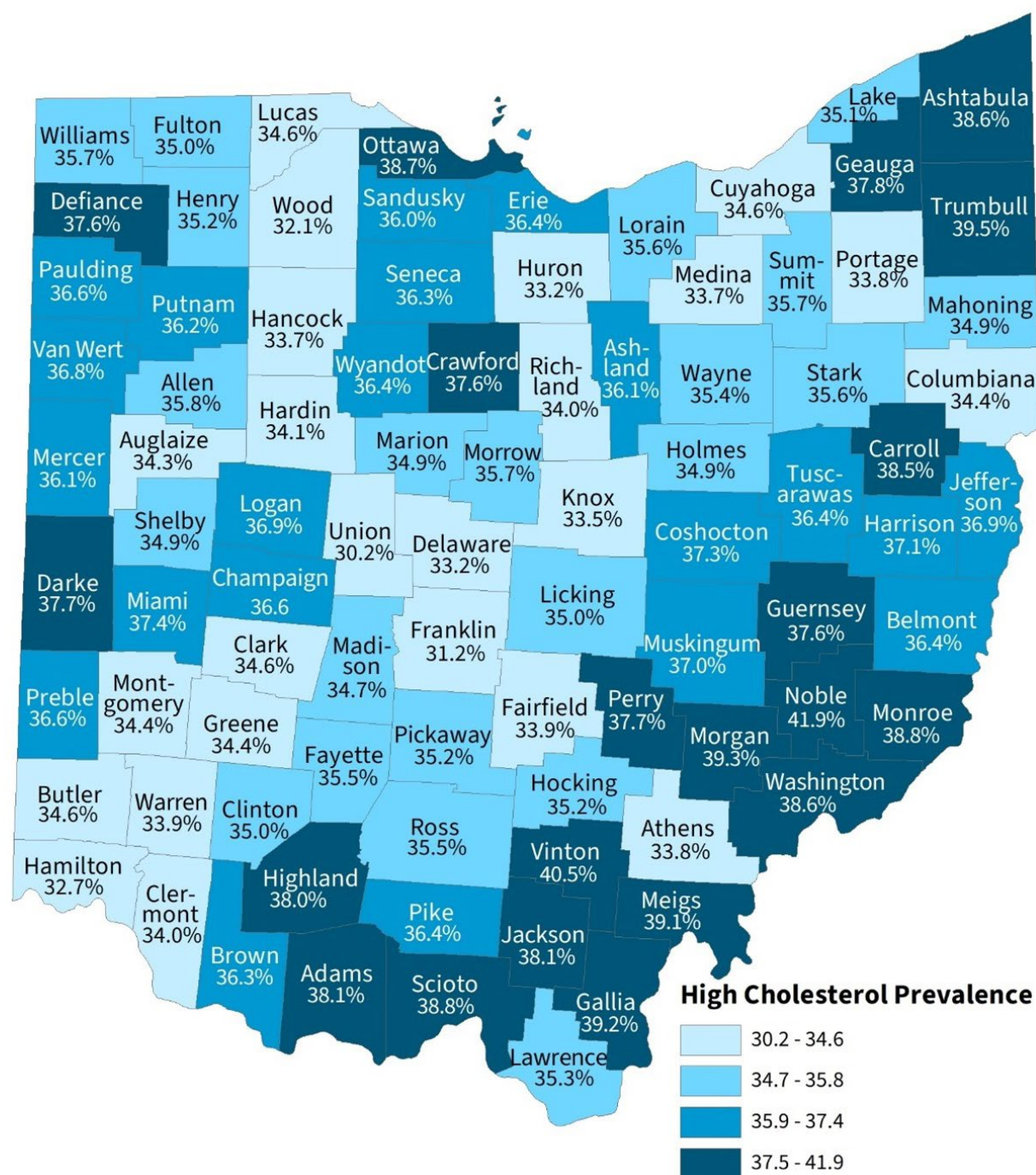


Prevalence of Disability Among Adults (18+), Ohio, 2022



Source: Centers for Disease Control and Prevention. PLACES: Local Data for Better Health, 2024.

## Prevalence of High Cholesterol Among Adults (18+), Ohio, 2021\*

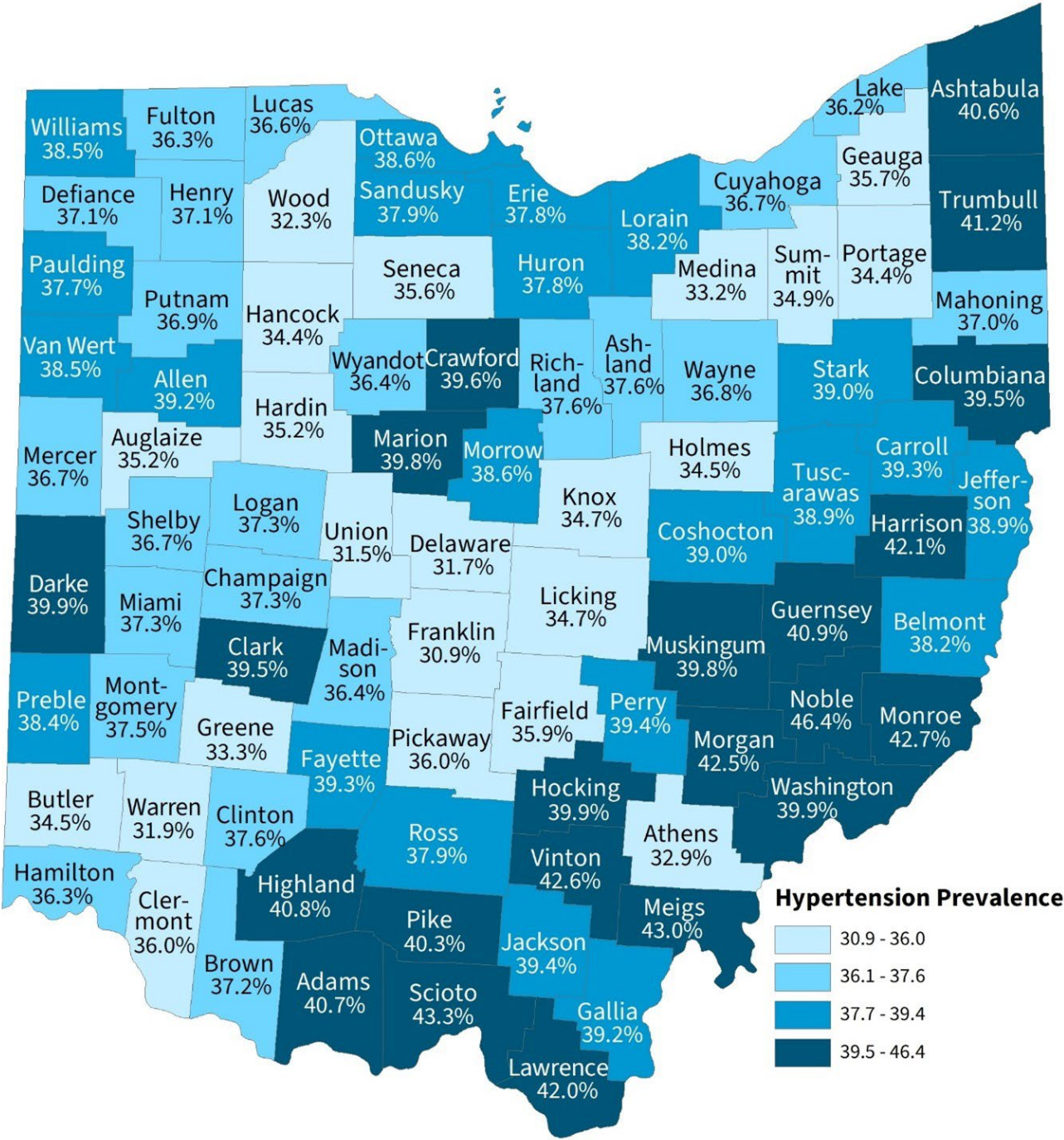


Source: Centers for Disease Control and Prevention. PLACES: Local Data for Better Health, 2024.

\*High cholesterol prevalence was not collected in 2022.



Prevalence of Hypertension Among Adults (18+), Ohio, 2021\*

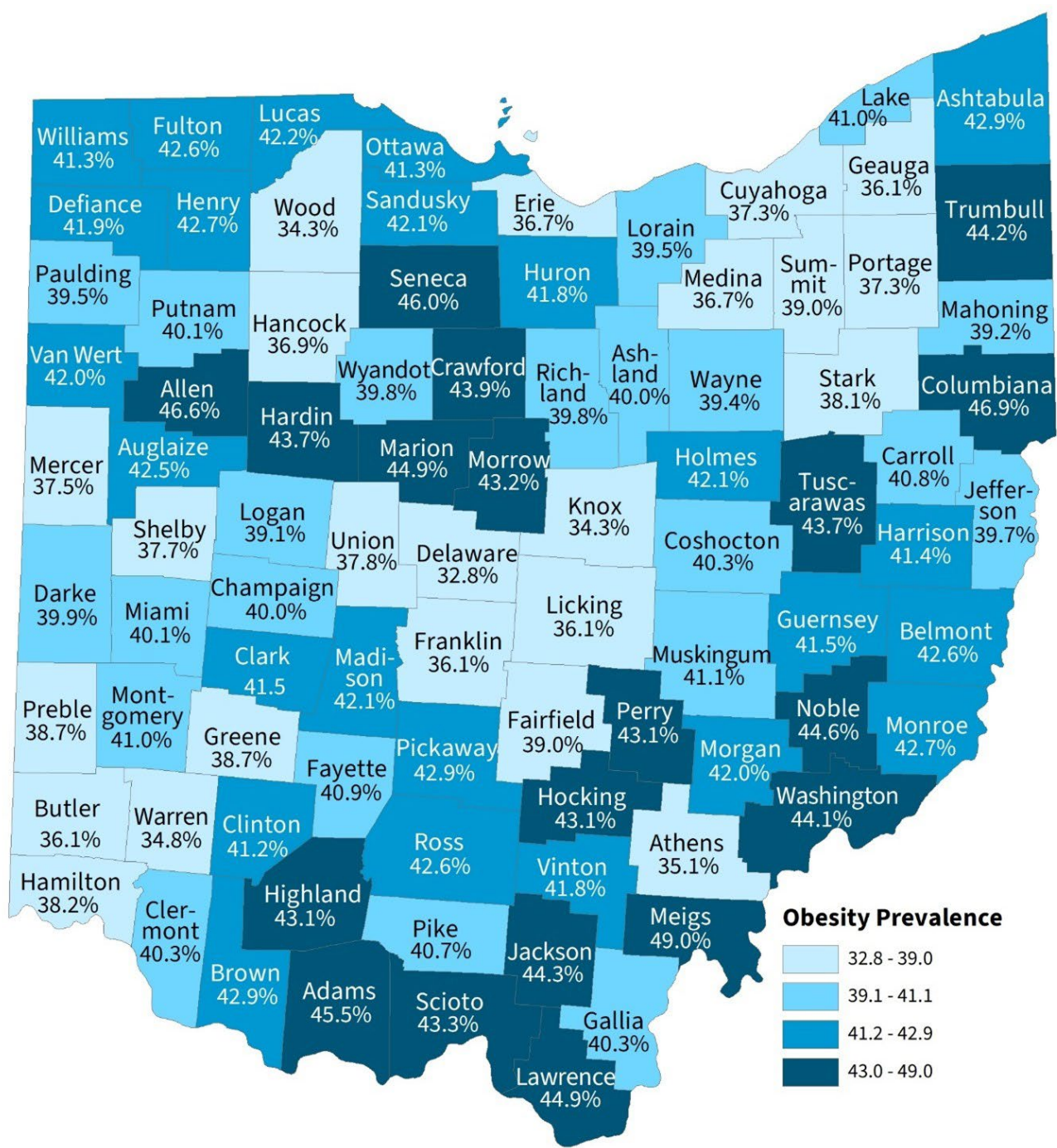


Source: Centers for Disease Control and Prevention. PLACES: Local Data for Better Health, 2024.

\*Hypertension prevalence was not collected in 2022.

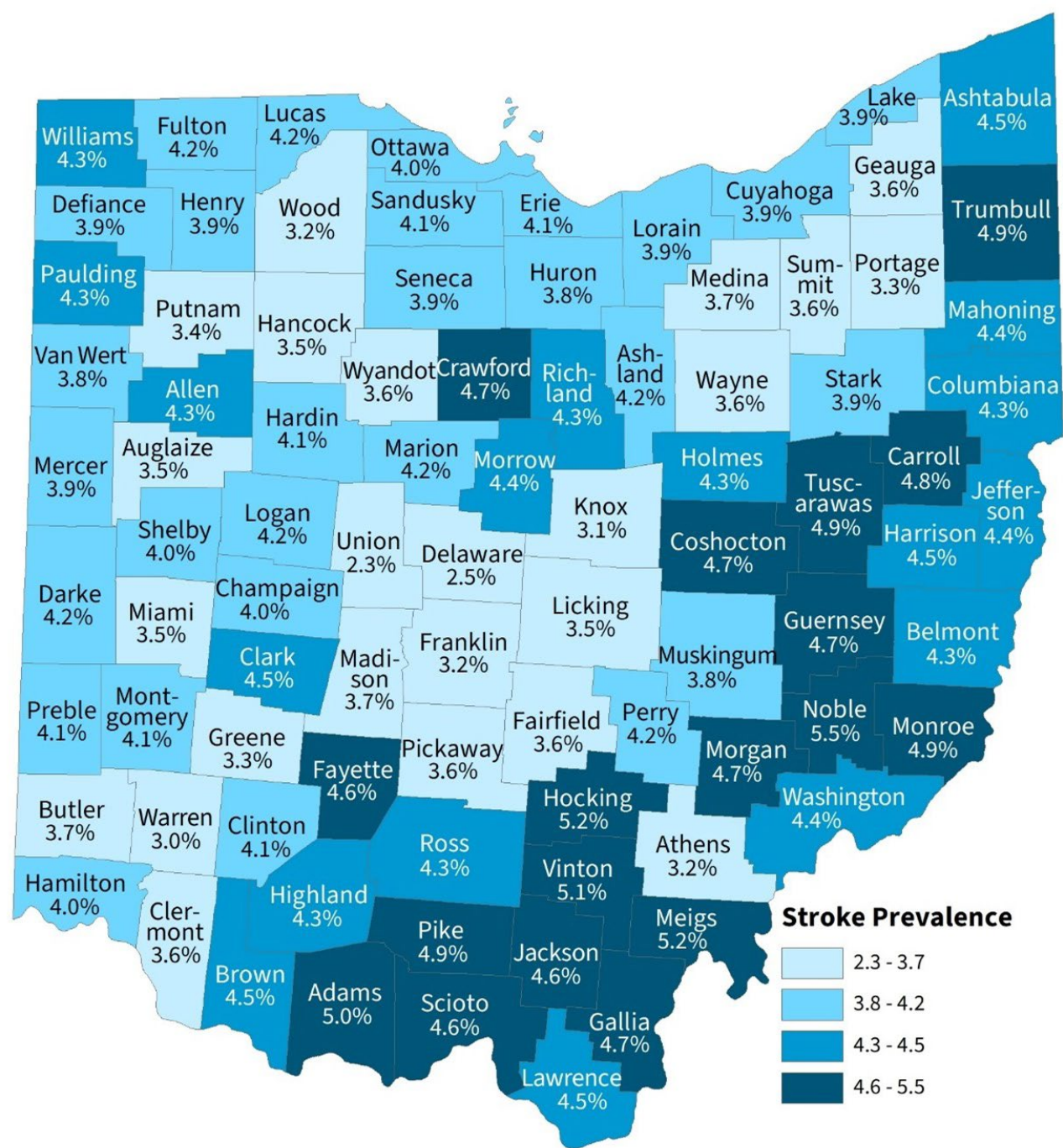


Prevalence of Obesity Among Adults (18+), Ohio, 2022



Source: Centers for Disease Control and Prevention. PLACES: Local Data for Better Health, 2024.

Prevalence of Stroke Among Adults (18+), Ohio, 2022

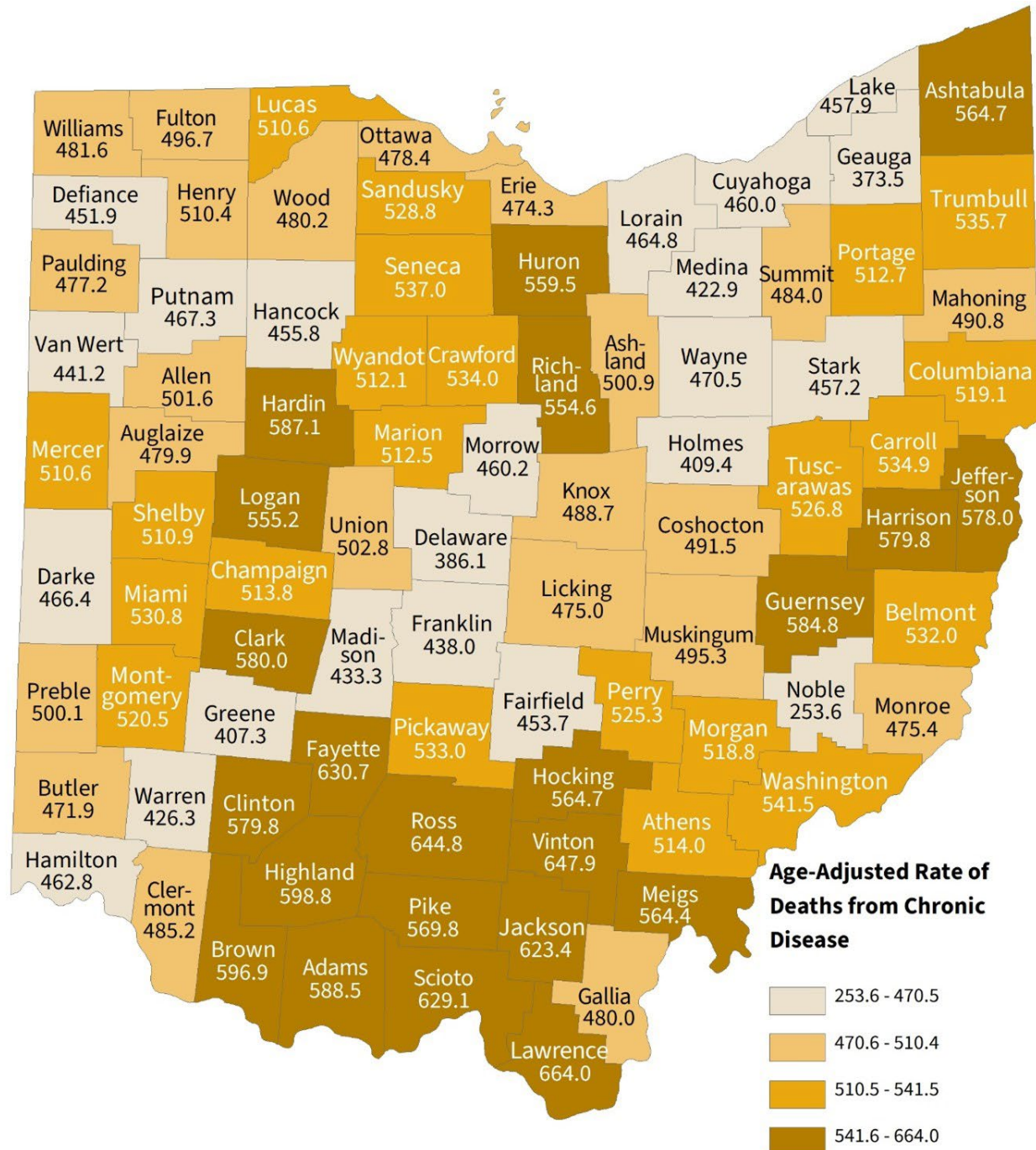


Source: Centers for Disease Control and Prevention. PLACES: Local Data for Better Health, 2024.



# Chronic Disease Mortality

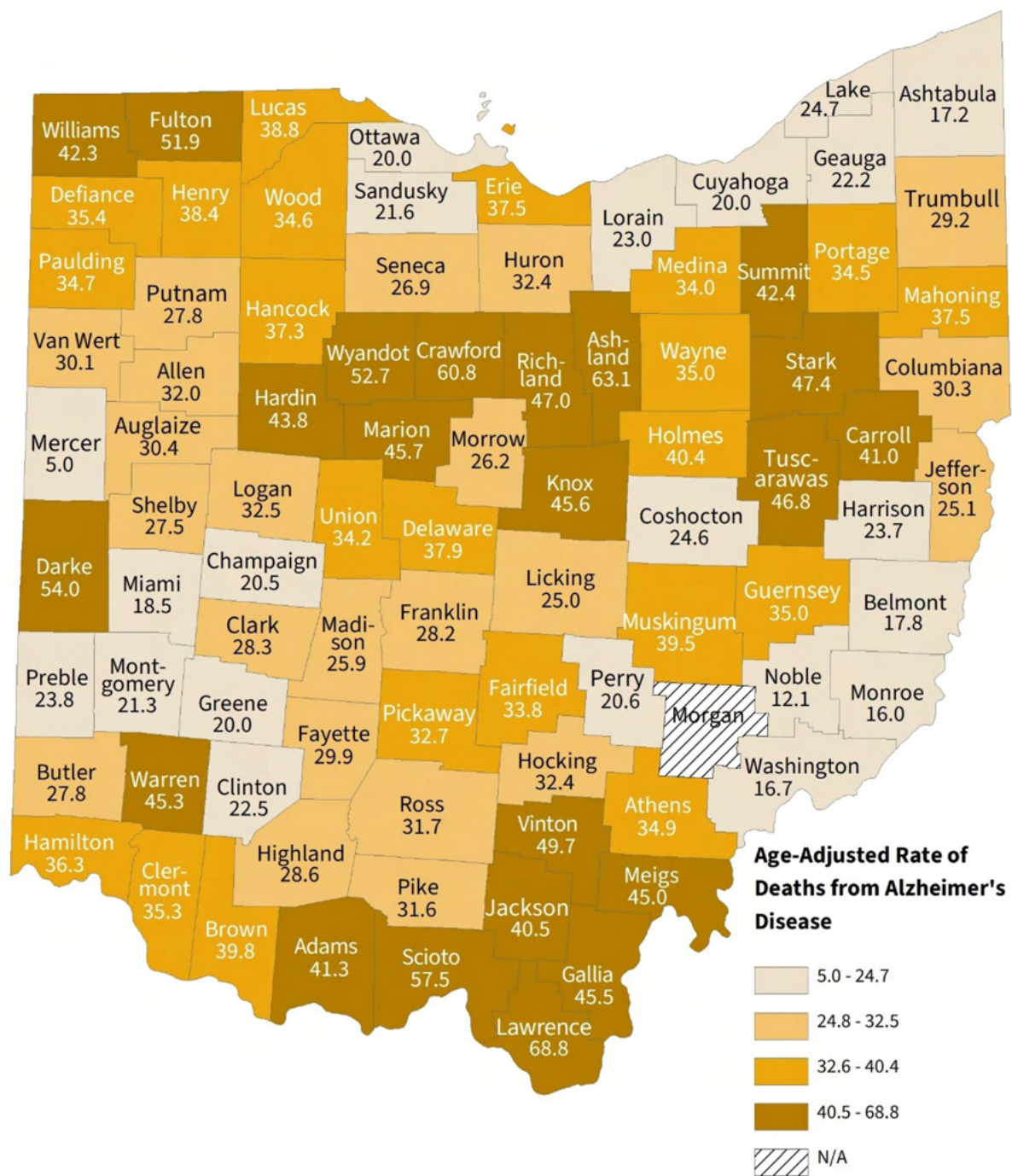
## Age-Adjusted Rate of Deaths from Chronic Disease\* per 100,000 Population (All Ages), Ohio, 2022



Source: Bureau of Vital Statistics, Ohio Department of Health, 2025.

\* For this map, chronic disease includes the following: heart disease, cancer, diabetes, stroke, chronic lower respiratory disease, and kidney disease.

Average Annual Age-Adjusted Rate of Deaths from Alzheimer’s Disease  
per 100,000 Population (All Ages), Ohio, 2021-2022

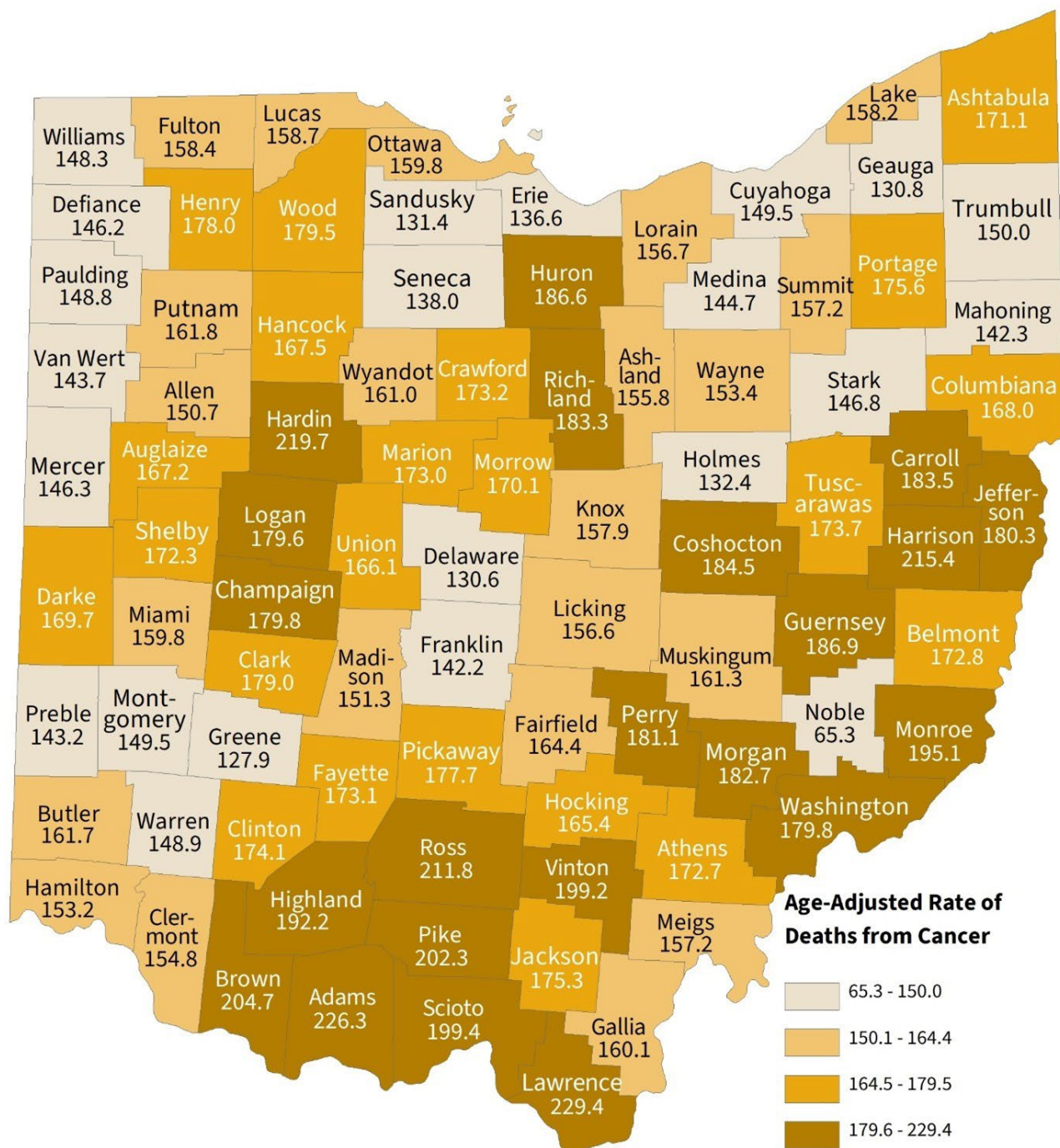


Source: Bureau of Vital Statistics, Ohio Department of Health, 2025.

N/A: Rate not calculated when the total number of deaths is less than 10.



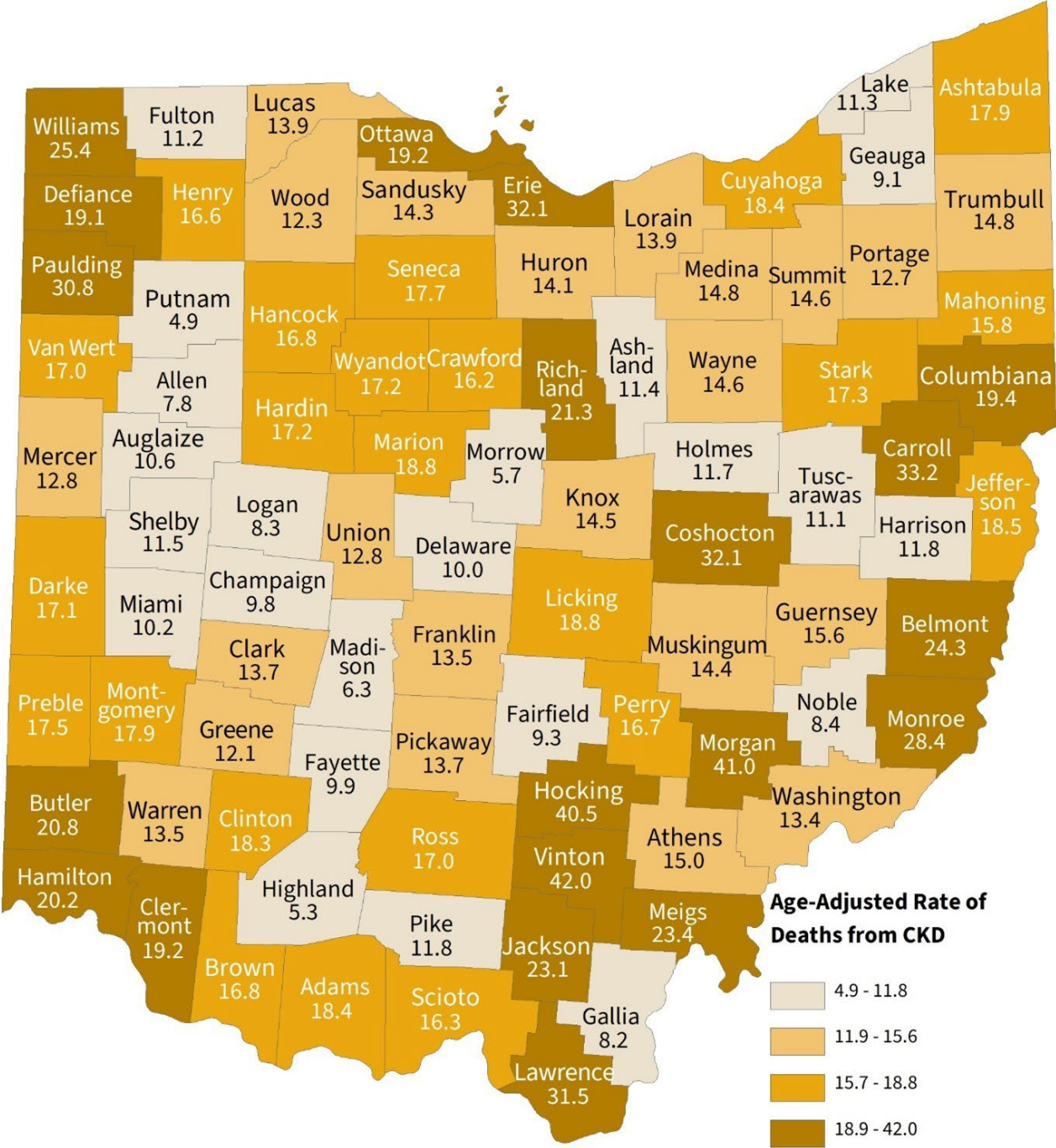
## Age-Adjusted\* Rate of Deaths from Cancer per 100,000 Population (All Ages), Ohio, 2022



Source: Bureau of Vital Statistics, Ohio Department of Health, 2025.

\* Age adjusted using 19, five-year age groups.

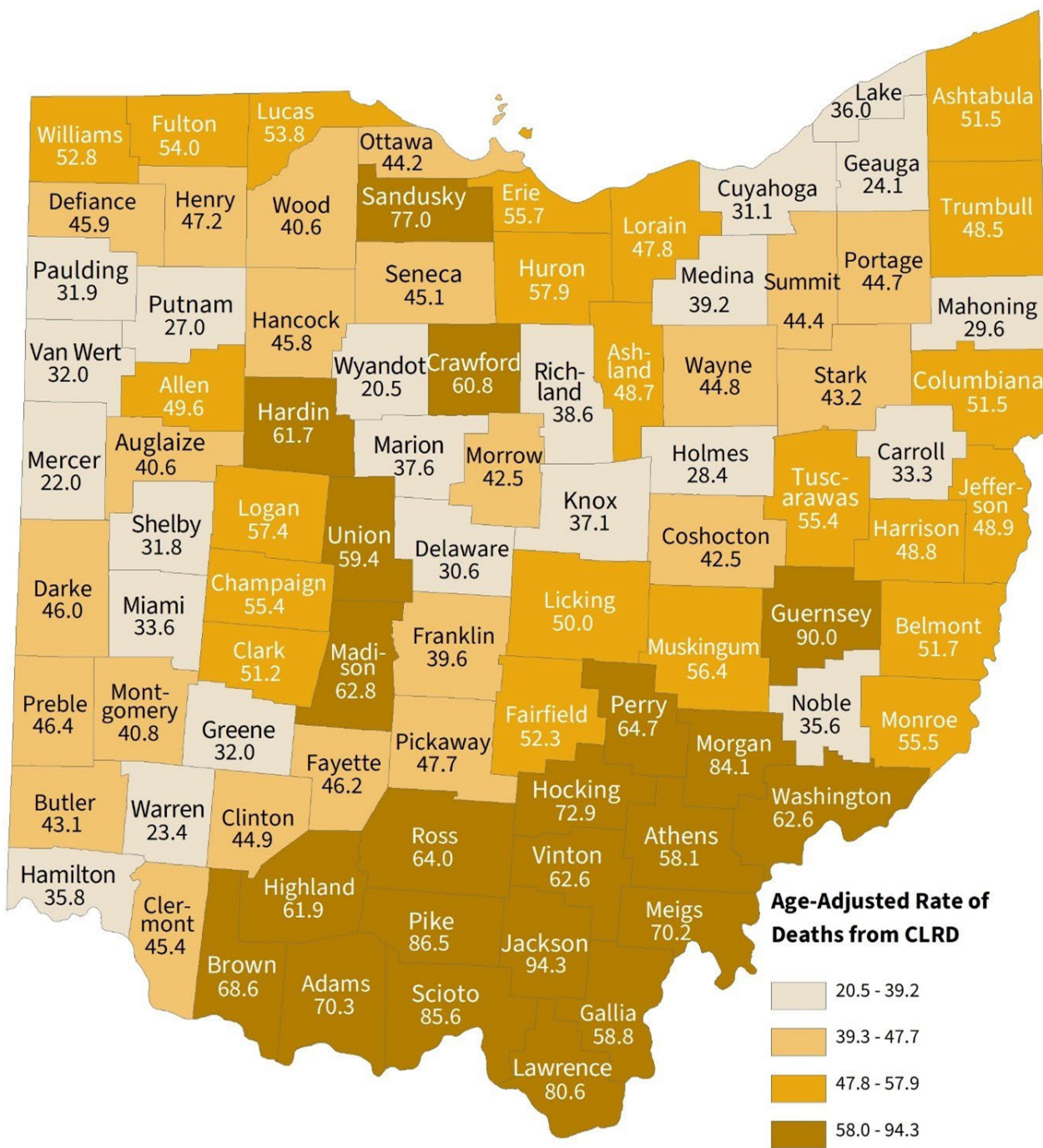
Average Annual Age-Adjusted Rate of Deaths from Chronic Kidney Disease (CKD) per 100,000 Population (All Ages), Ohio, 2021-2022



Source: Bureau of Vital Statistics, Ohio Department of Health, 2025.



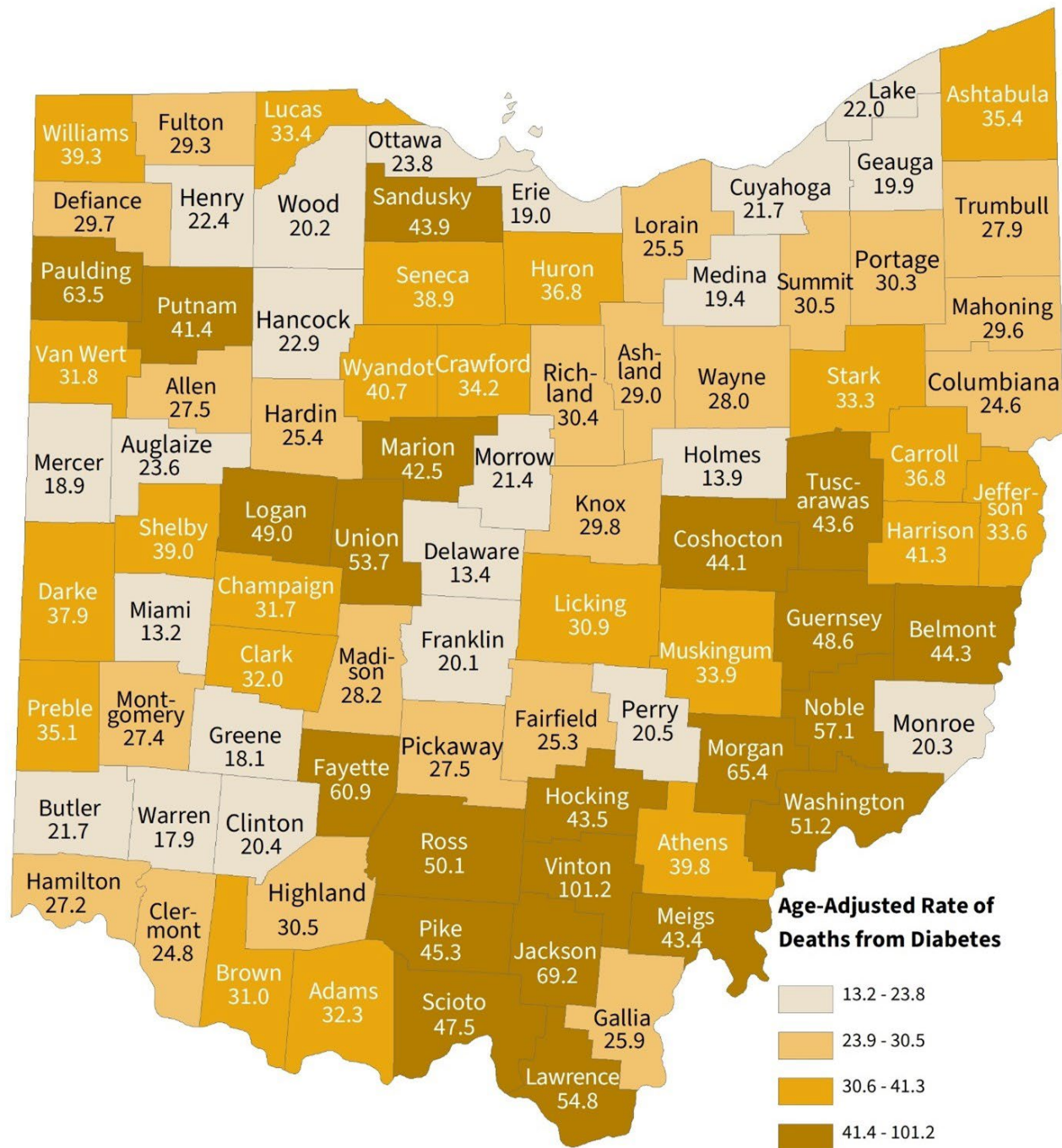
## Age-Adjusted Rate of Deaths from Chronic Lower Respiratory Disease (CLRD) per 100,000 Population (All Ages), Ohio, 2022



Source: Bureau of Vital Statistics, Ohio Department of Health, 2025.

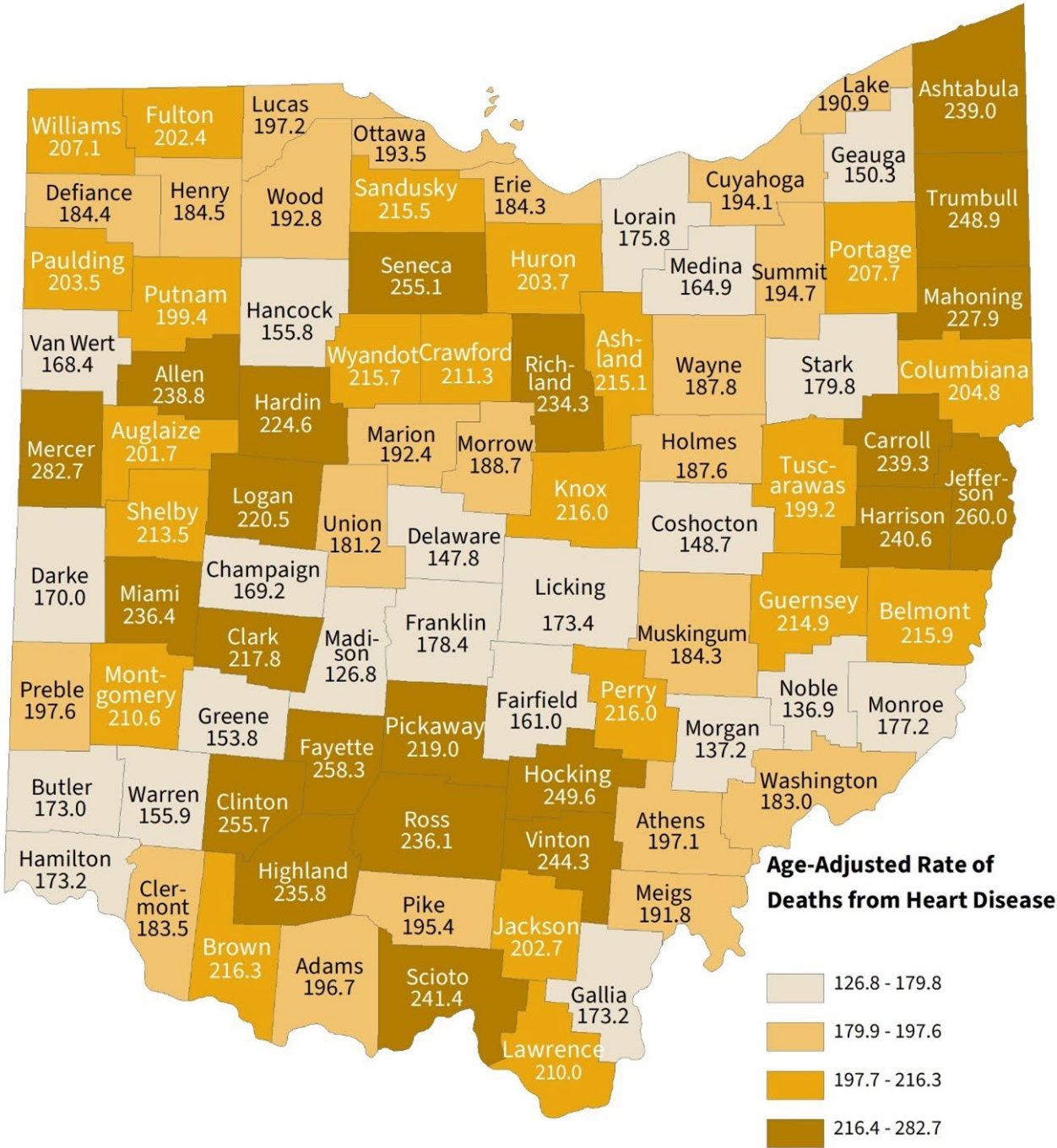


## Age-Adjusted Rate of Deaths from Diabetes per 100,000 Population (All Ages), Ohio, 2022



Source: Bureau of Vital Statistics, Ohio Department of Health, 2025.

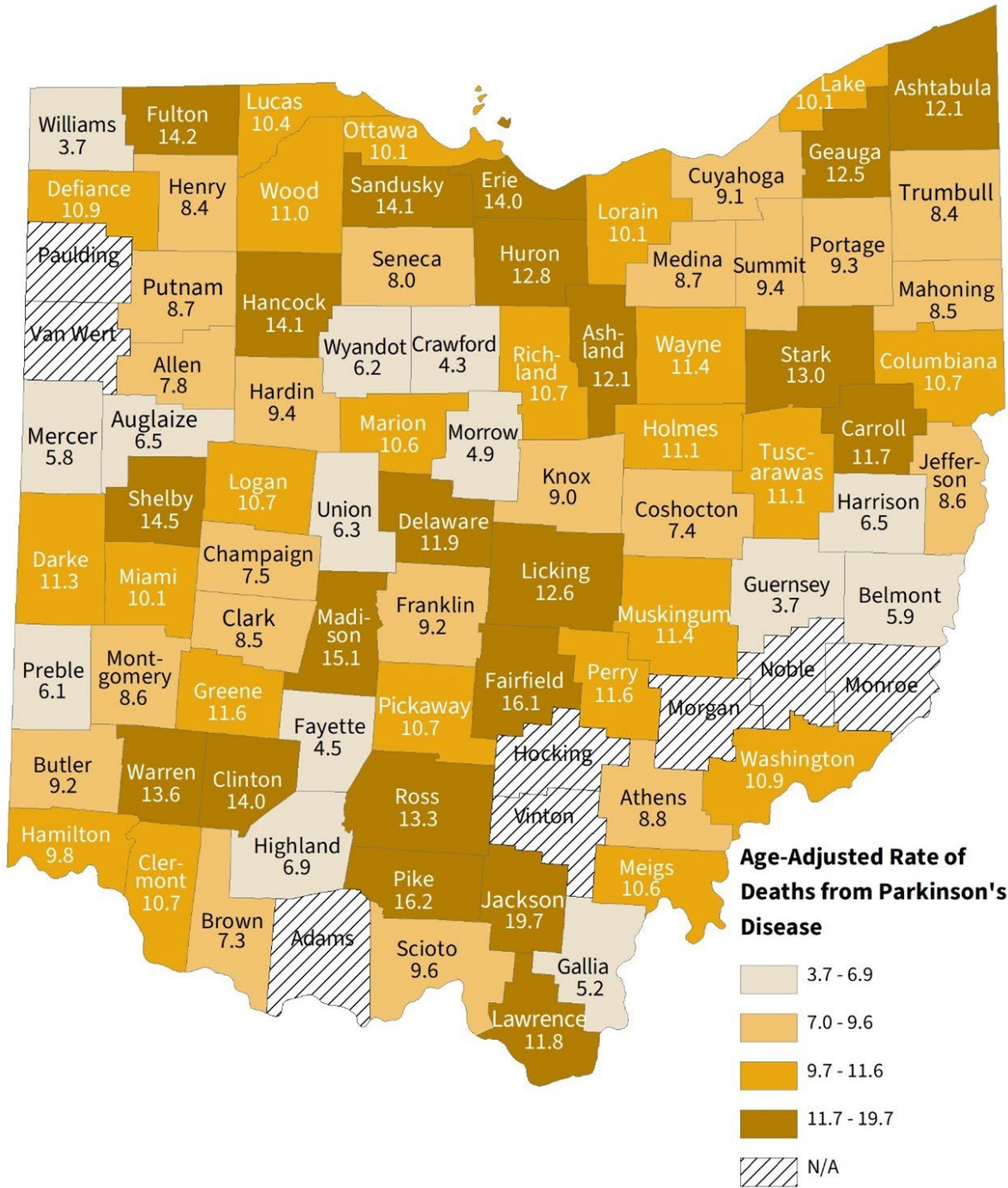
Age-Adjusted Rate of Deaths from Heart Disease per 100,000 Population (All Ages),  
Ohio, 2022



Source: Bureau of Vital Statistics, Ohio Department of Health, 2025.



Average Annual Age-Adjusted Rate of Deaths from Parkinson’s Disease per 100,000 Population (All Ages), Ohio, 2020-2022

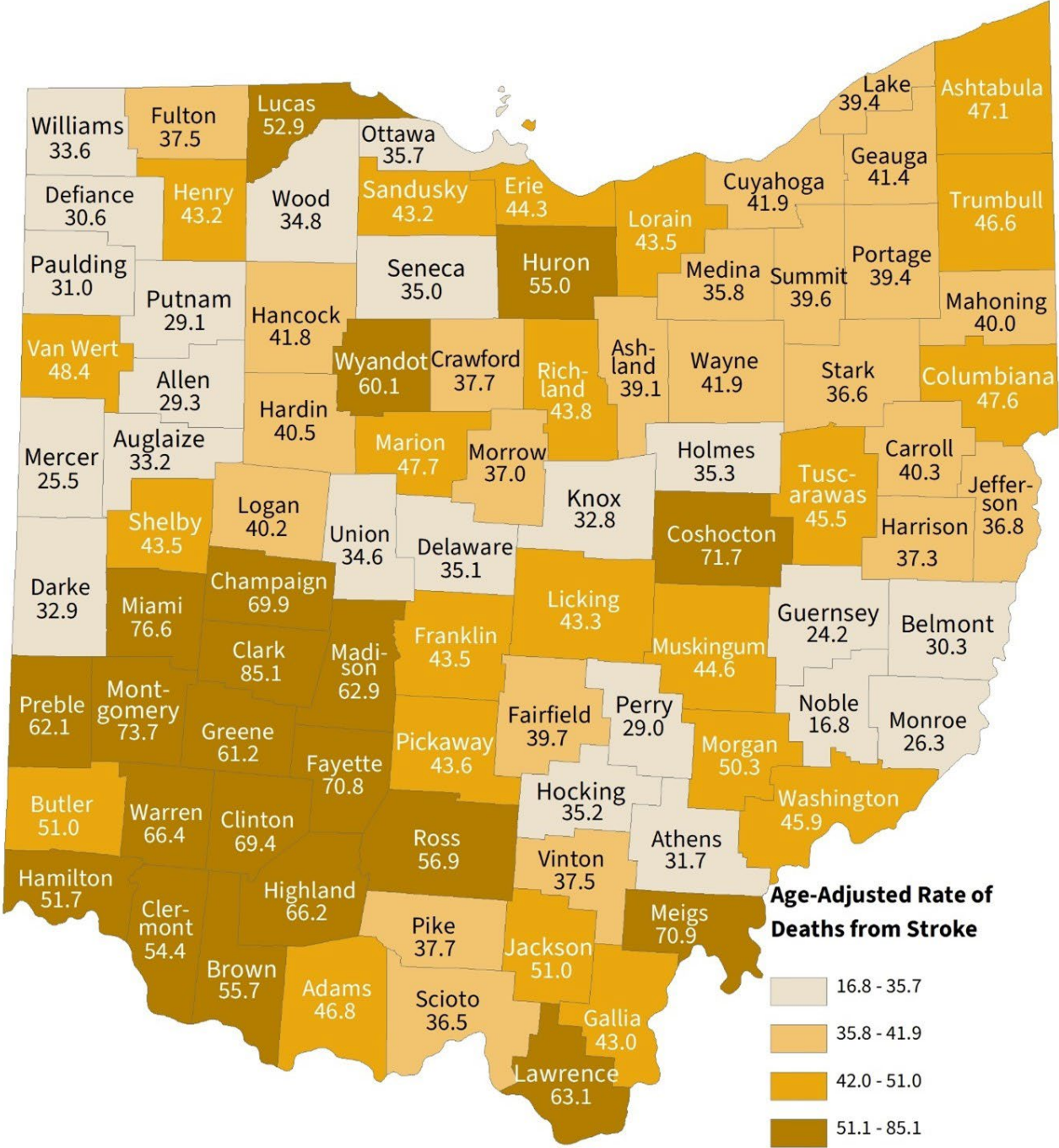


Source: Bureau of Vital Statistics, Ohio Department of Health, 2025.

N/A: Rate not calculated when the total number of deaths is less than 10.



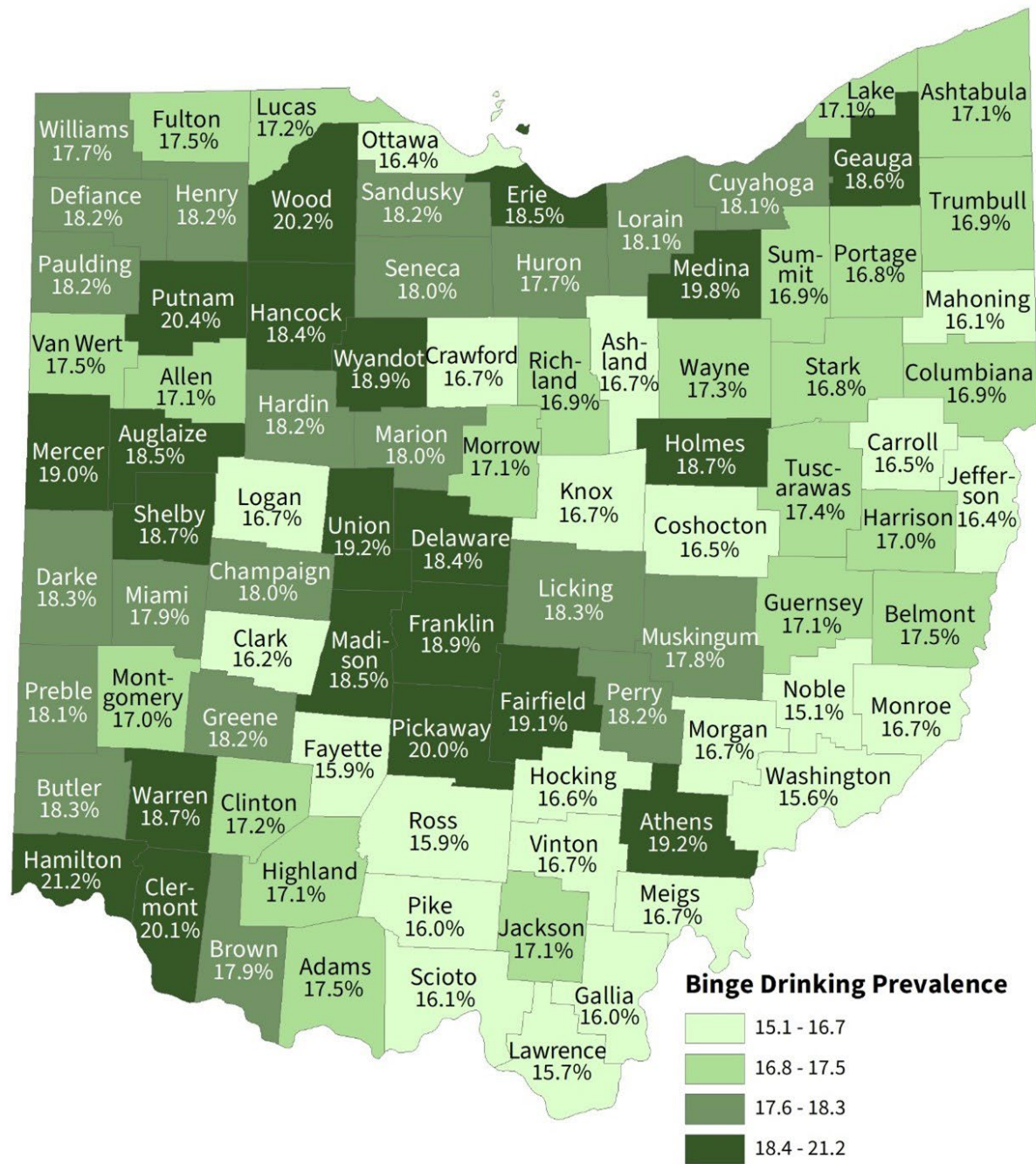
Age-Adjusted Rate of Deaths from Stroke per 100,000 Population (All Ages),  
Ohio, 2022



Source: Bureau of Vital Statistics, Ohio Department of Health, 2025.

# Clinical & Behavioral Risk Factors

## Prevalence of Binge Drinking Among Adults (18+), Ohio, 2022

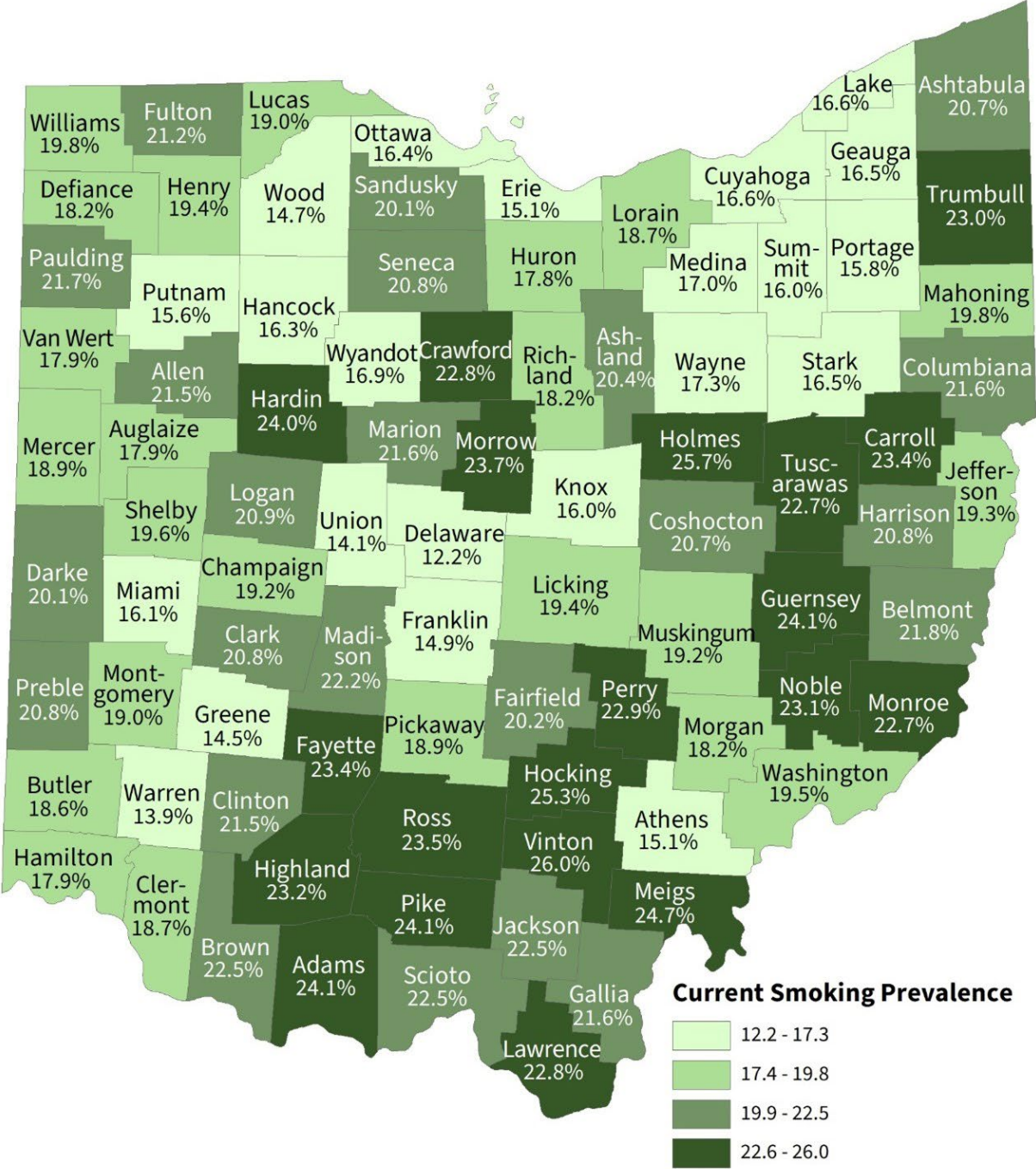


Source: Centers for Disease Control and Prevention. PLACES: Local Data for Better Health, 2024.

Binge drinking is defined as adults who report having five or more drinks (men) or four or more drinks (women) on one or more occasions during the previous 30 days.



Prevalence of Current Smoking Among Adults (18+), Ohio, 2022

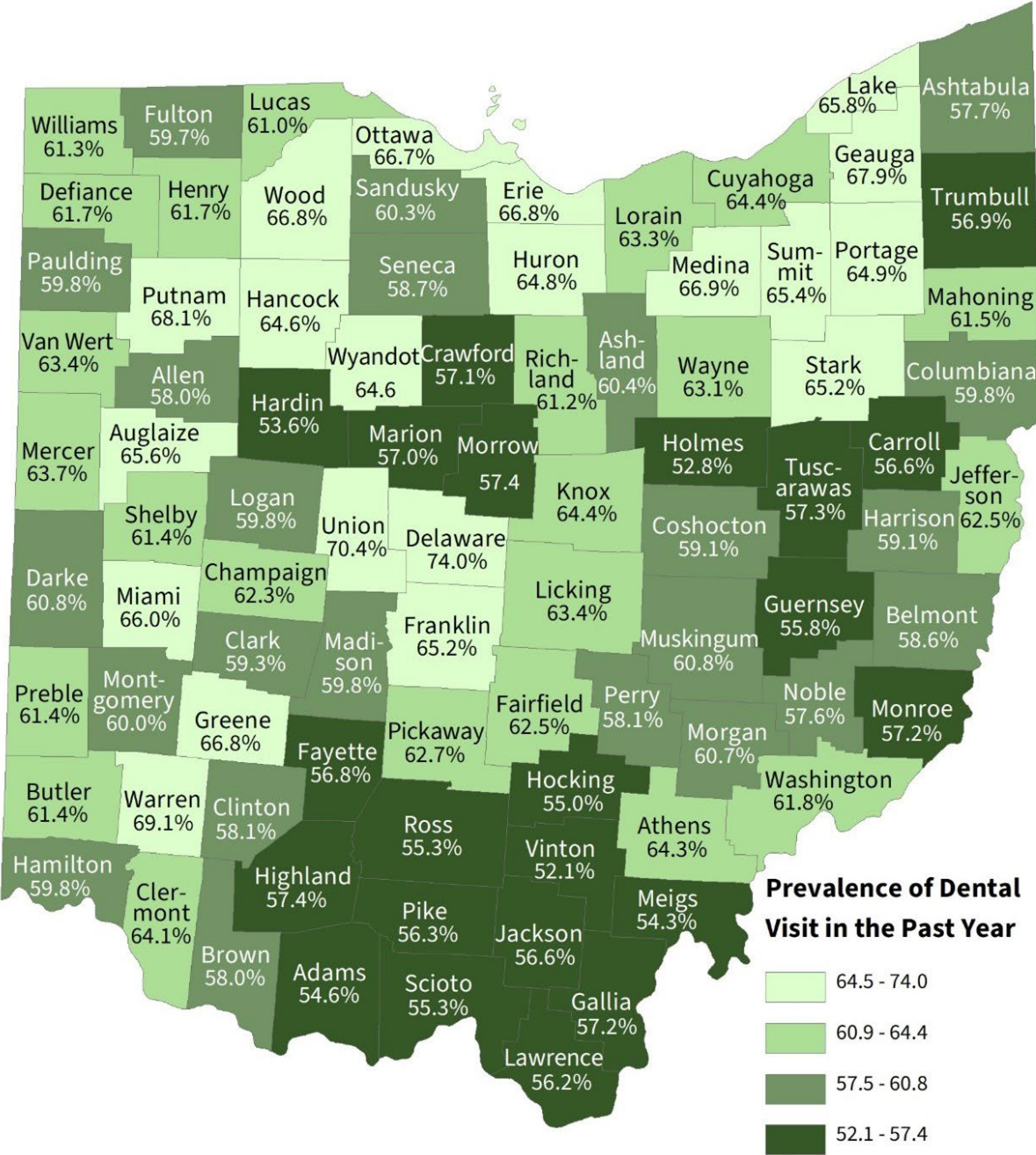


Source: Centers for Disease Control and Prevention. PLACES: Local Data for Better Health, 2024.

Current smoking is defined as adults who report having smoked 100 or more cigarettes in their lifetime and currently smoke every day or some days.



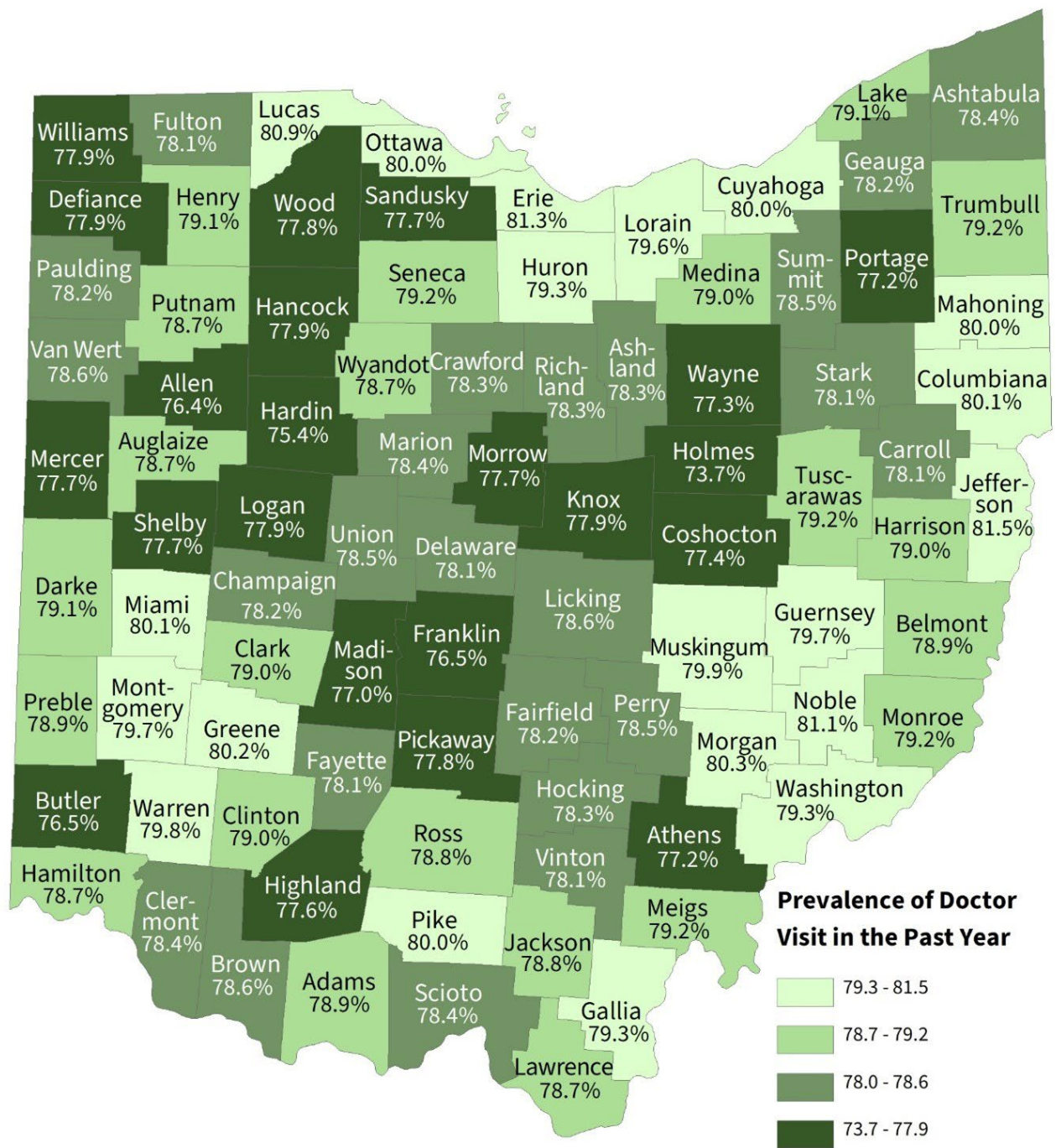
Prevalence of Having a Dental Visit in the Past Year Among Adults (18+), Ohio, 2022



Source: Centers for Disease Control and Prevention. PLACES: Local Data for Better Health, 2024.

Note: The lowest prevalence of having a dental visit in the past year is represented by the darkest shade.

Prevalence of Having a Doctor Visit in the Past Year Among Adults (18+), Ohio, 2022

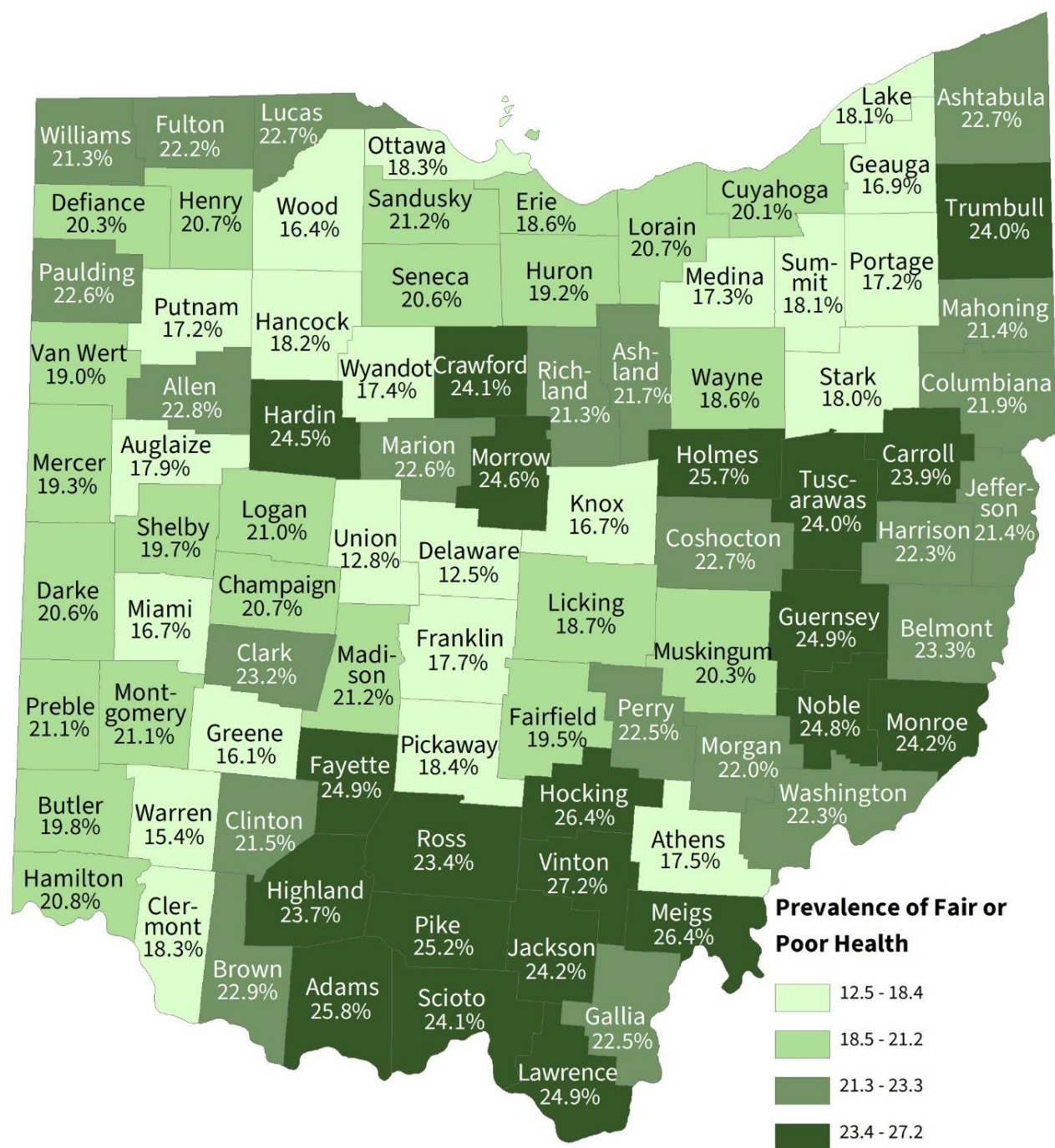


Source: Centers for Disease Control and Prevention. PLACES: Local Data for Better Health, 2024.

Note: The lowest prevalence of having a doctor visit in the past year is represented by the darkest shade.



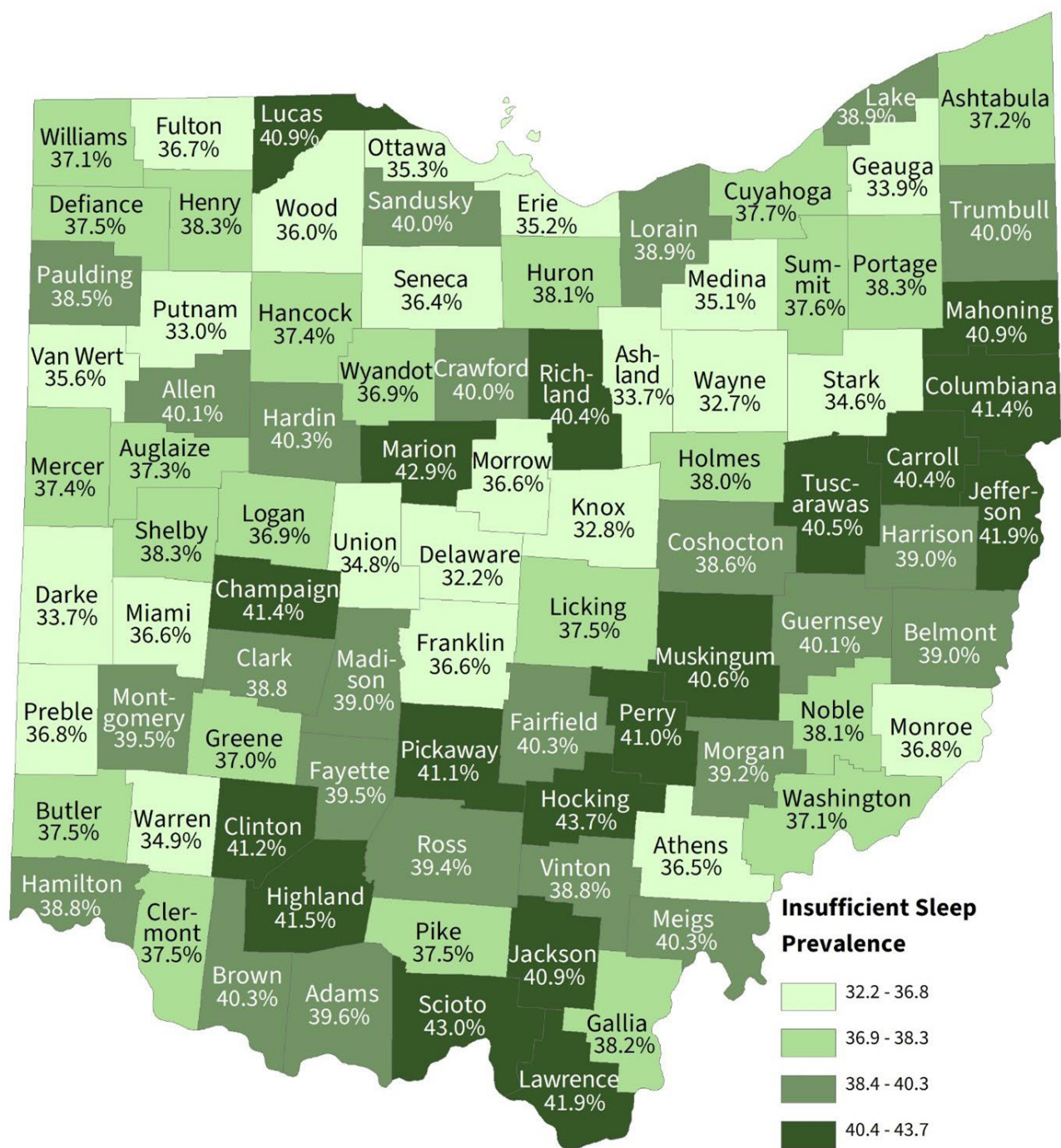
Prevalence of Fair or Poor Health Among Adults (18+), Ohio, 2022



Source: Centers for Disease Control and Prevention. PLACES: Local Data for Better Health, 2024.

Fair or poor health is defined as adults who report that their health, in general, is either fair or poor.

Prevalence of Insufficient Sleep Among Adults (18+), Ohio, 2022

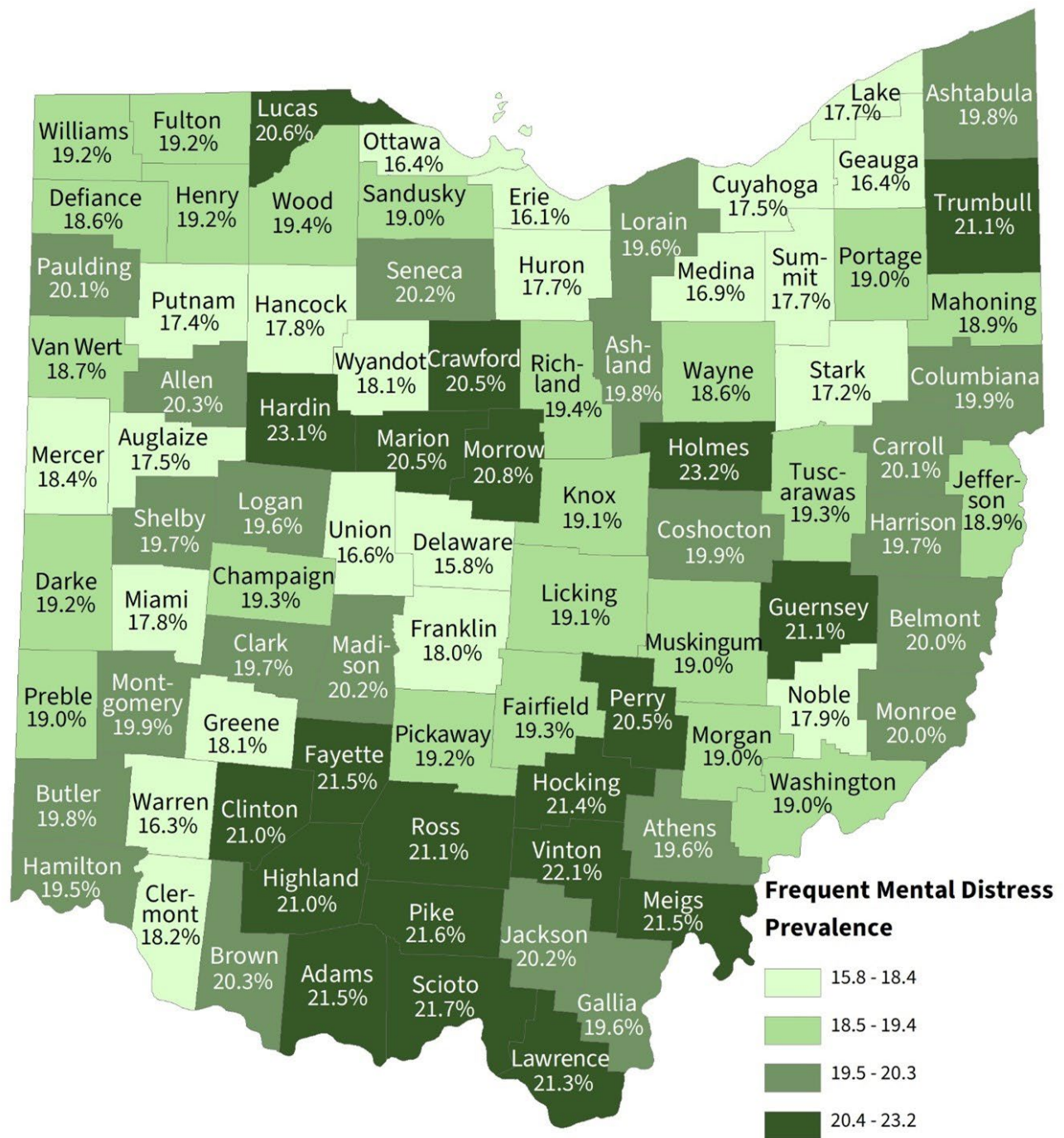


Source: Centers for Disease Control and Prevention. PLACES: Local Data for Better Health, 2024.

Insufficient sleep is defined as adults who report that they usually get insufficient sleep (less than seven hours, on average, during a 24-hour period).



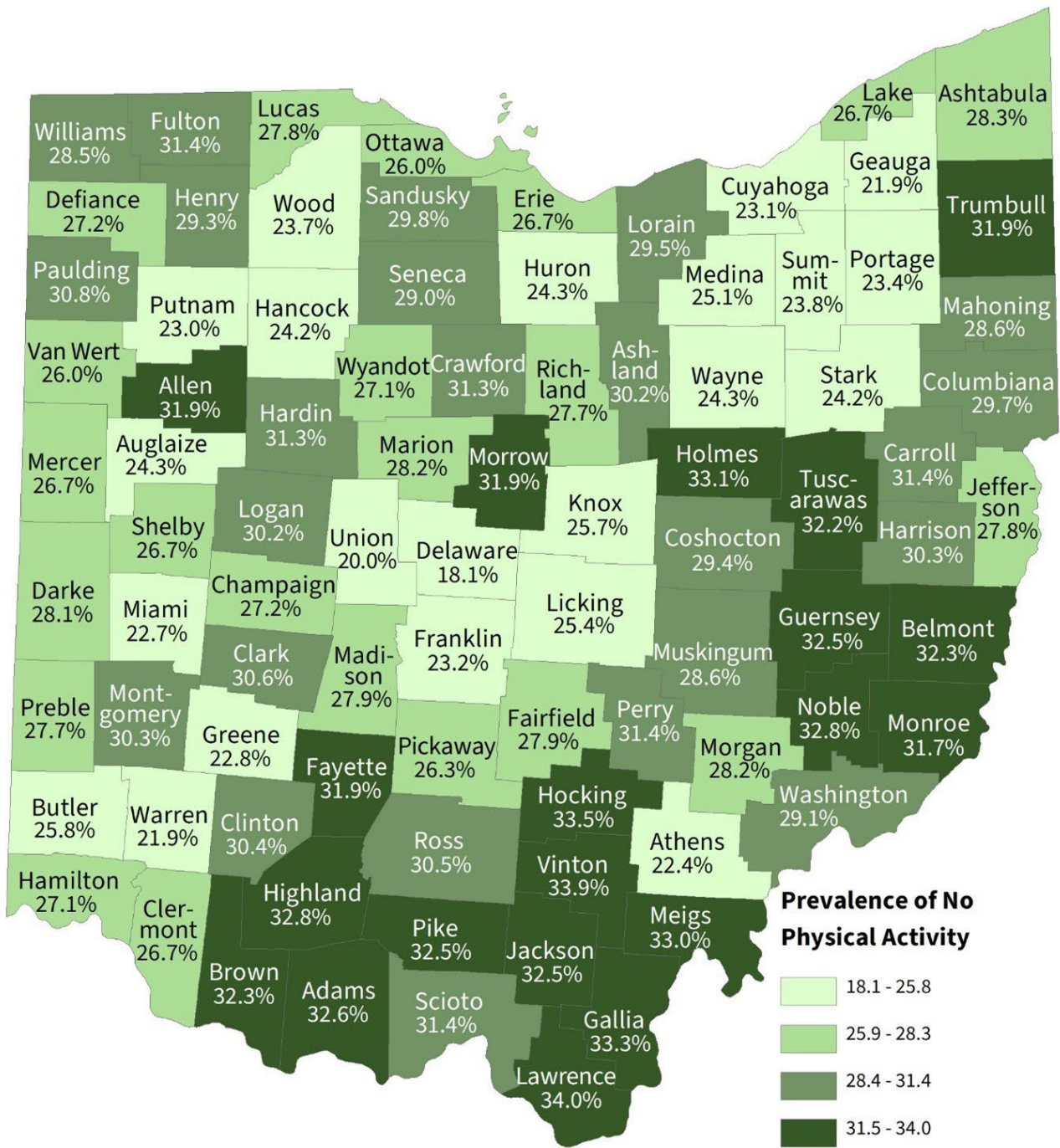
## Prevalence of Frequent Mental Distress Among Adults (18+), Ohio, 2022



Source: Centers for Disease Control and Prevention. PLACES: Local Data for Better Health, 2024.

Frequent mental distress is defined as adults who report that their mental health (including stress, depression, and problems with emotions) was not good for 14 or more days during the past 30 days.

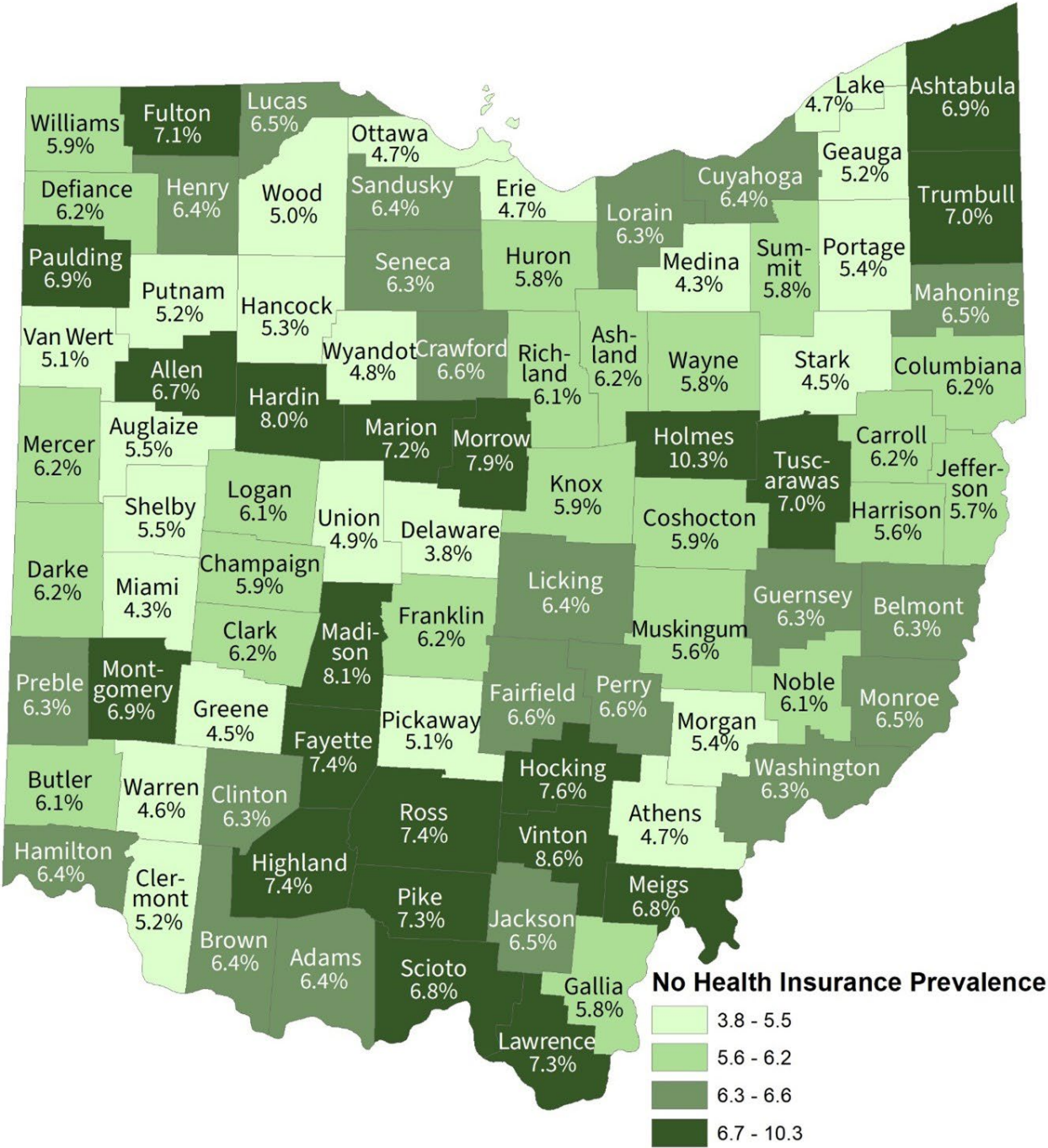
Prevalence of No Physical Activity (Past 30 Days) Among Adults (18+), Ohio, 2022



Source: Centers for Disease Control and Prevention. PLACES: Local Data for Better Health, 2024.



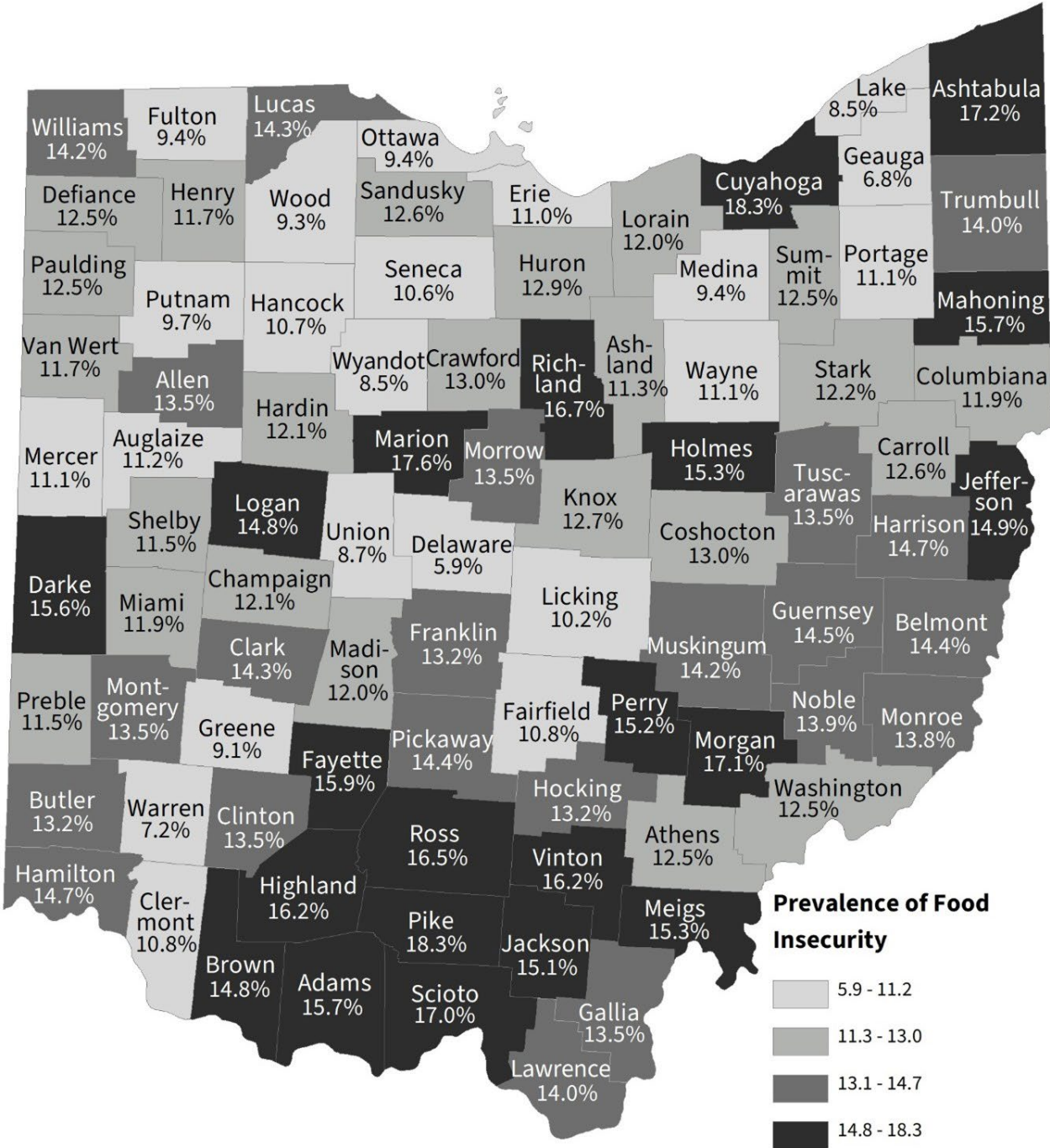
Prevalence of No Health Insurance Among Adults (18+), Ohio, 2022



Source: Centers for Disease Control and Prevention. PLACES: Local Data for Better Health, 2024.

# Non-Medical Health Factors

## Prevalence of Food Insecurity Among Adults (18+), Ohio, 2022

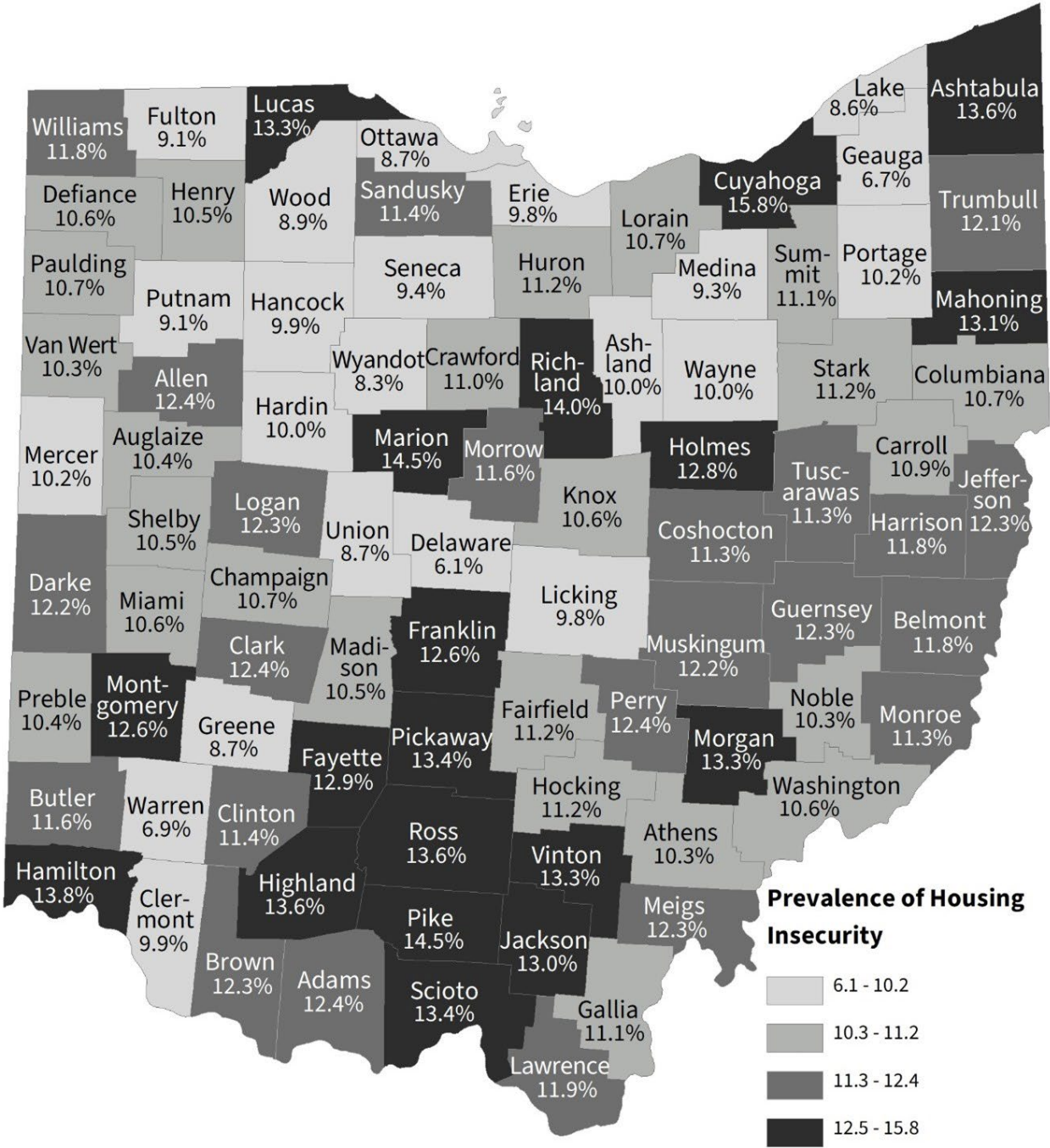


Source: Centers for Disease Control and Prevention. PLACES: Local Data for Better Health, 2024.

Food insecurity is defined as adults who report that the food that they bought always, usually, or sometimes did not last, and they didn't have money to get more, in the past 12 months.



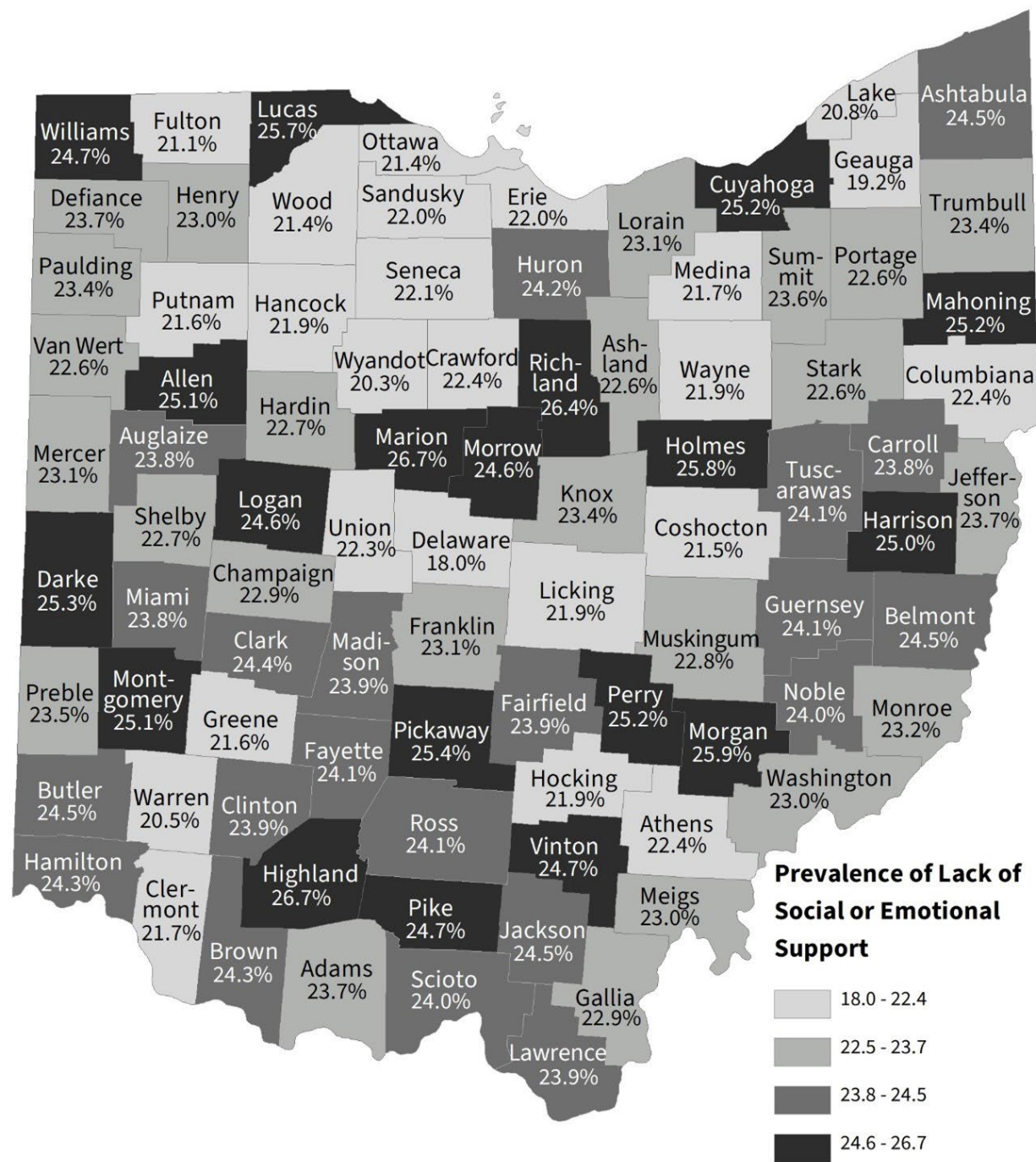
Prevalence of Housing Insecurity Among Adults (18+), Ohio, 2022



Source: Centers for Disease Control and Prevention. PLACES: Local Data for Better Health, 2024.

Housing insecurity is defined as adults who were not able to pay mortgage, rent, or utility bills in the past 12 months.

Prevalence of Lack of Social or Emotional Support Among Adults (18+), Ohio, 2022

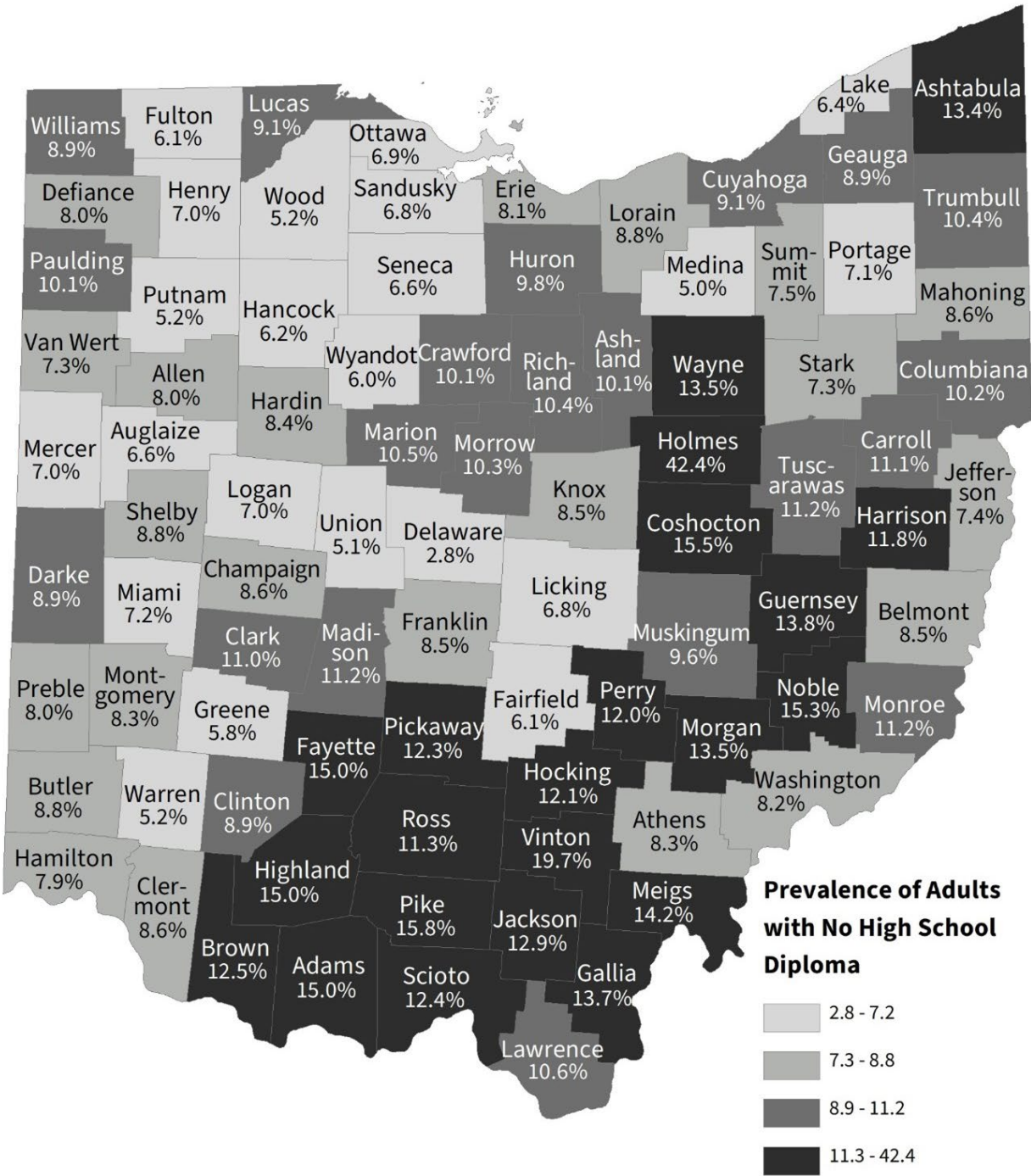


Source: Centers for Disease Control and Prevention. PLACES: Local Data for Better Health, 2024.

Lack of social and emotional support is defined as adults who report sometimes, rarely, or never getting the social and emotional support they need.

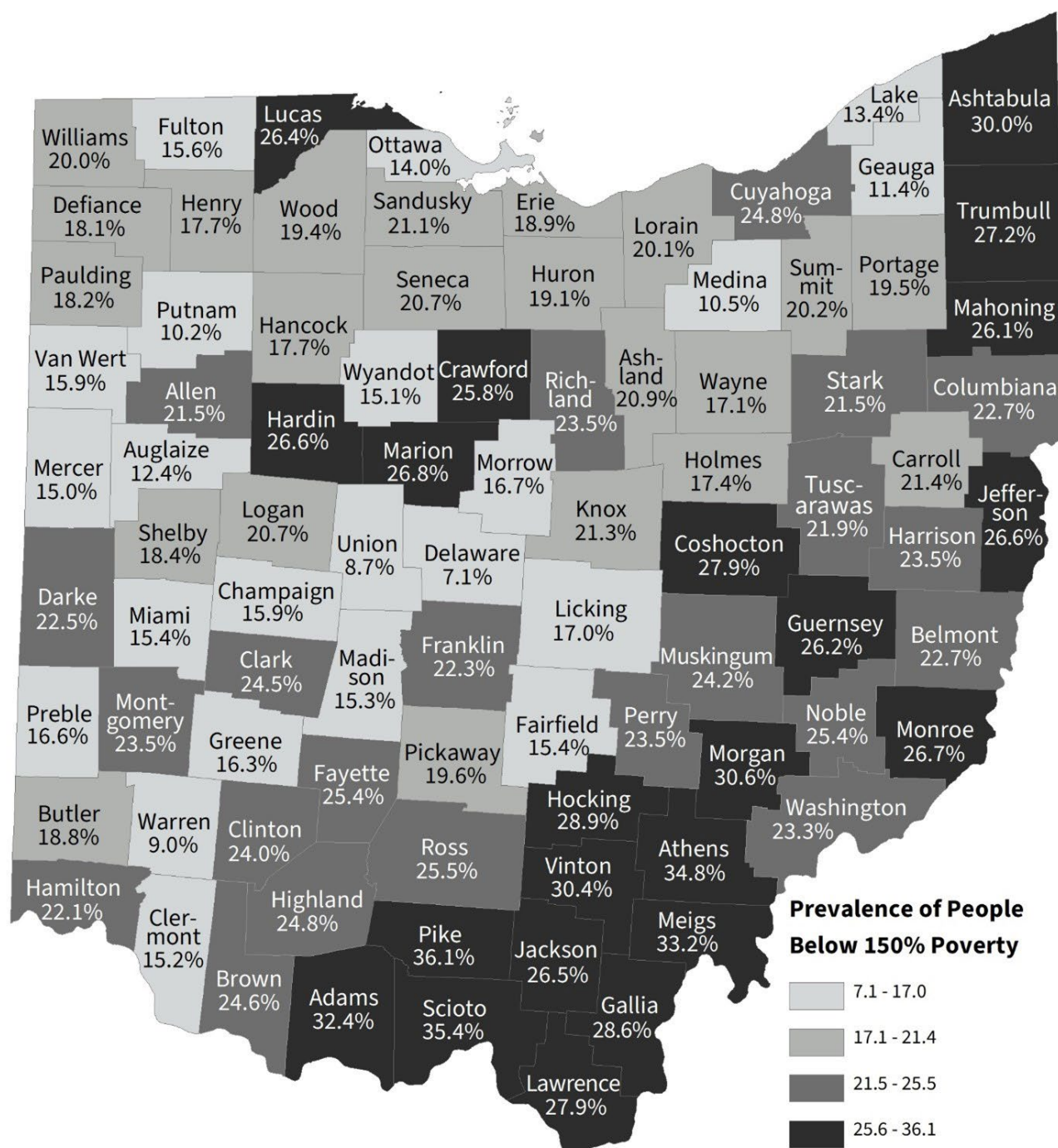


Prevalence of No High School Diploma Among Adults (25+), Ohio, 2022



Source: CDC Social Vulnerability Index, 2024.

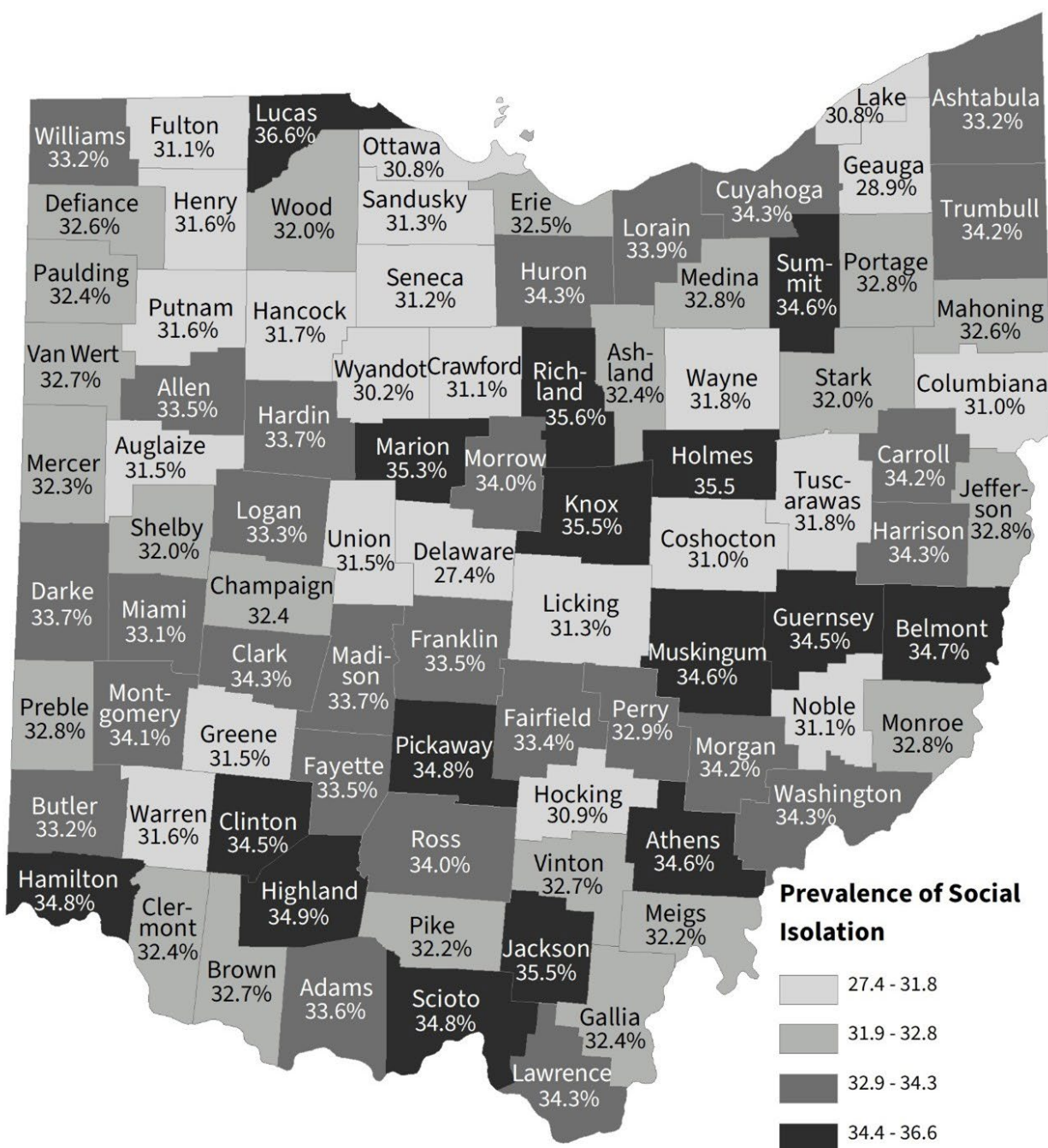
## Prevalence of People Below 150% of the Federal Poverty Level, Ohio, 2022



Source: CDC Social Vulnerability Index, 2024.



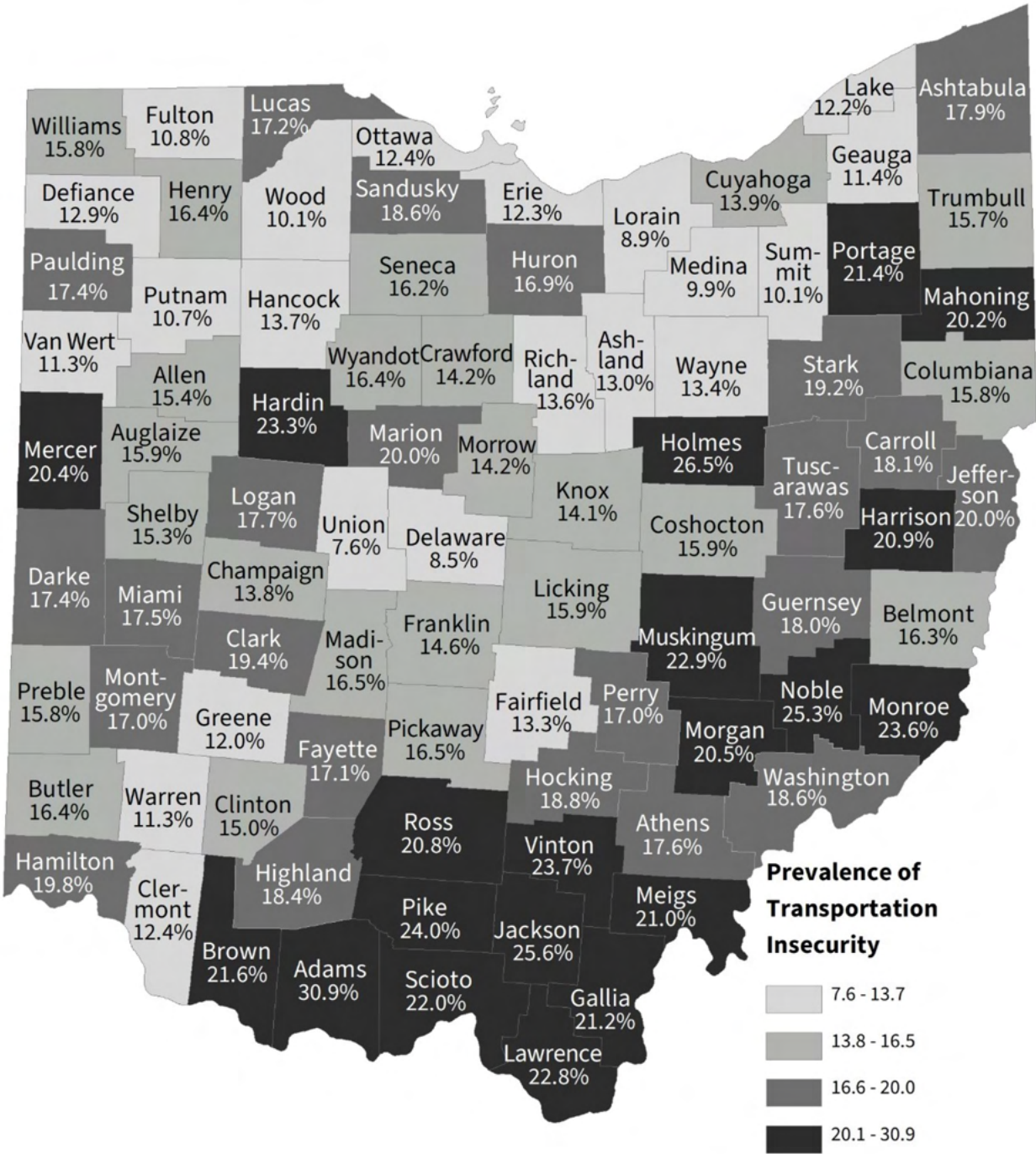
## Prevalence of Social Isolation Among Adults (18+), Ohio, 2022



Source: Centers for Disease Control and Prevention. PLACES: Local Data for Better Health, 2024.

Social isolation is defined as adults who report they always, usually, or sometimes feel socially isolated.

Prevalence of Transportation Insecurity Among Adults (18+), Ohio, 2022

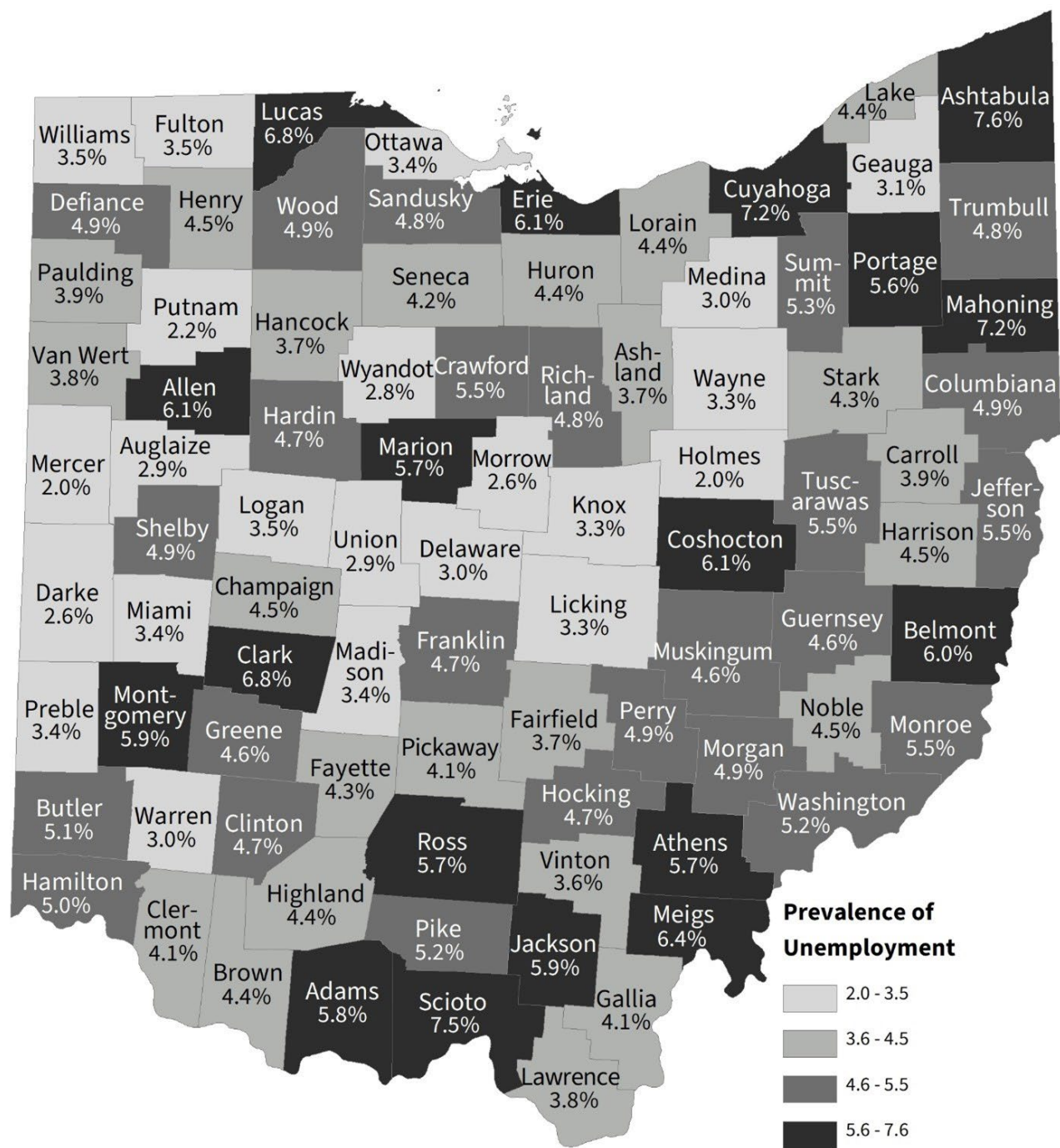


Source: Centers for Disease Control and Prevention. PLACES: Local Data for Better Health, 2024.

Transportation insecurity is defined as adults who report a lack of reliable transportation keeping them from medical appointments, meetings, work, or from getting things needed for daily living in the past 12 months.



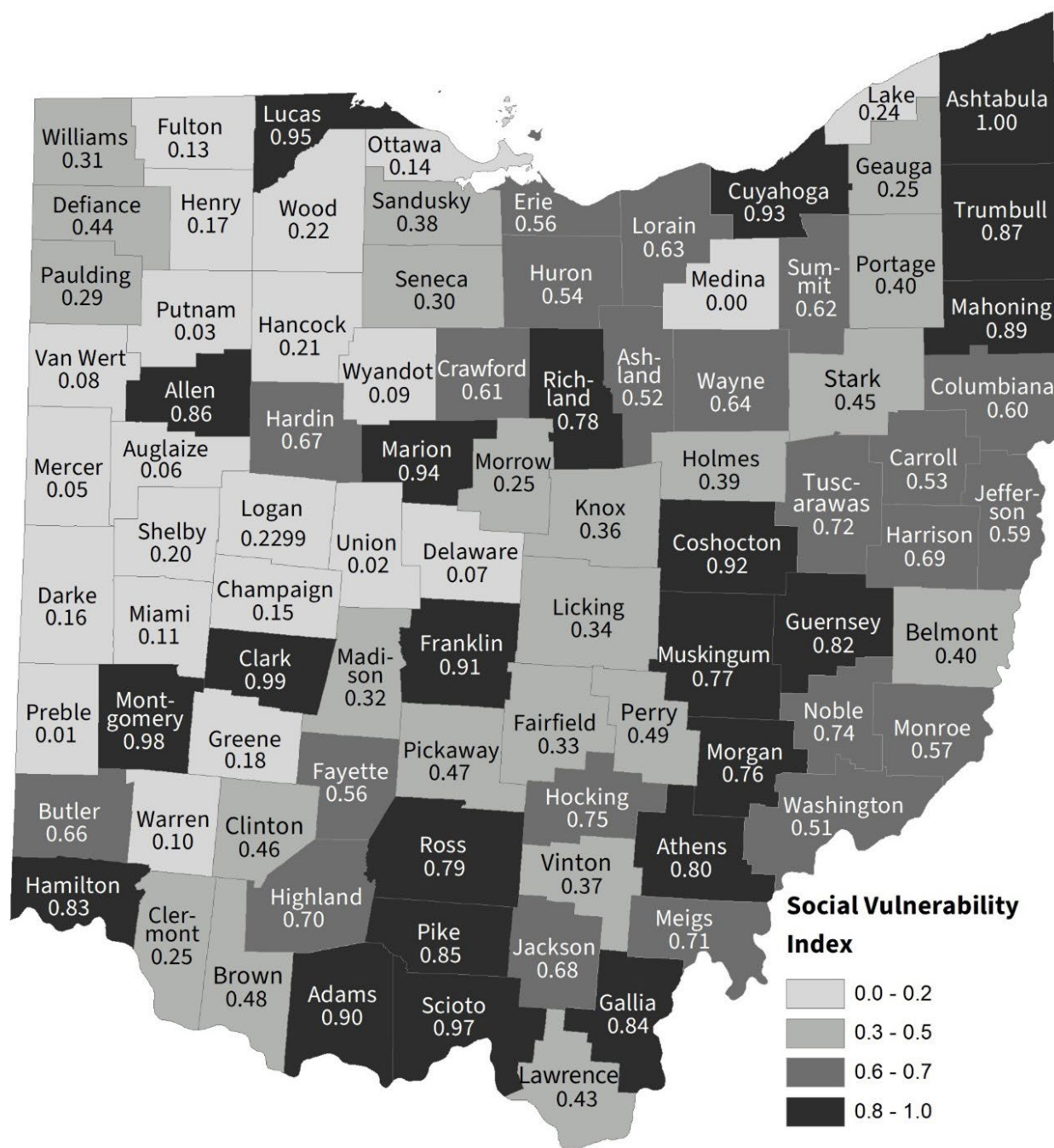
# Prevalence of Unemployment Among Adults (16+), Ohio, 2022



Source: Centers for Disease Control and Prevention. PLACES: Local Data for Better Health, 2024.

Unemployment is defined as a non-institutionalized civilian age 16 and older who is not employed, is available to work, and has actively looked for work in the previous four weeks.

## Social Vulnerability Index by County, Ohio, 2022



Source: CDC Social Vulnerability Index, 2024.



## For further information:

2022 Ohio Behavioral Risk Factor Surveillance System Annual Report: <https://odh.ohio.gov/know-our-programs/behavioral-risk-factor-surveillance-system/data-and-publications/ohio-2022-brfss-annual-report>.

Ohio Cancer Atlas 2023: Maps of Cancer Incidence, Mortality, Risk Factors, and Social Determinants of Health by County: <https://odh.ohio.gov/know-our-programs/ohio-cancer-incidence-surveillance-system/resources/ohio-cancer-atlas-2023>.

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## To address comments and information requests:

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