2017 Social Determinants of Health Addendum

Warren County Health District

Public Health
Prevent. Promote. Protect.

A report prepared to supplement the 2016 Warren County Community Health Assessment
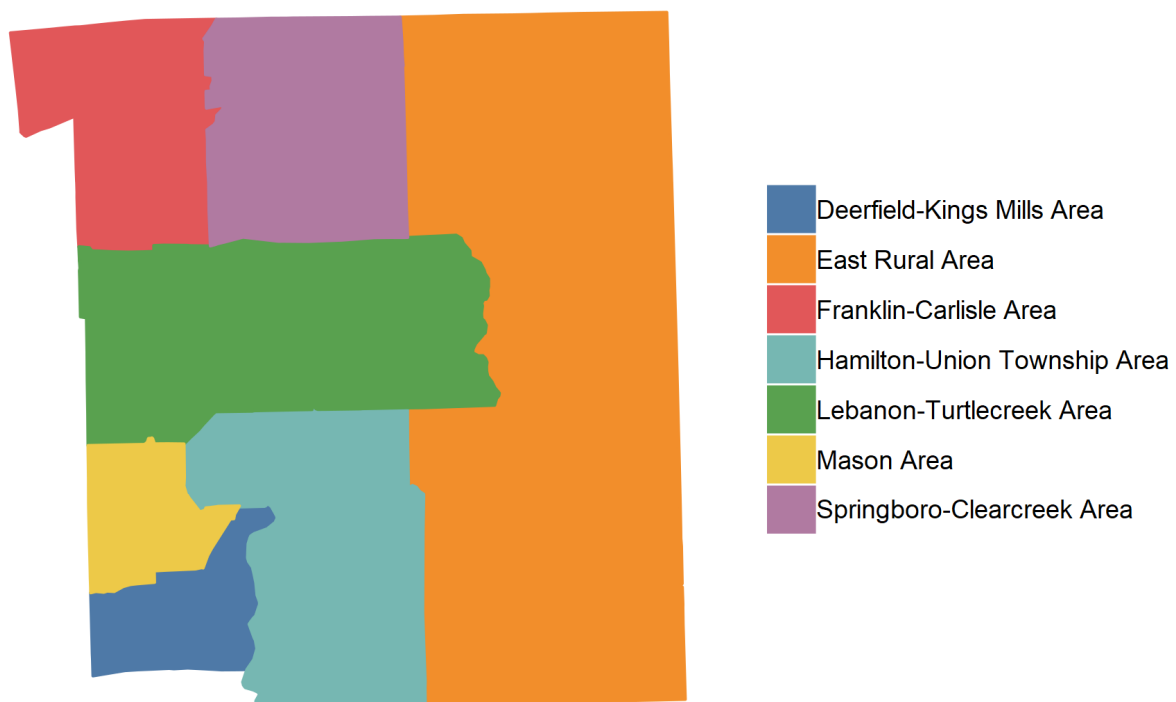
Introduction

Social Determinants of Health are the conditions that affect quality of life, health, functioning, and risks in a community. social Determinants of Health impact where people live, work, and play, even if people are not aware of their influence.[1]

The annual update to the *Warren County Community Health Assessment 2016* utilizes data to describe how the environment in Warren County has changed over the last year and how areas of the county have changed in relation to one another. This report will describe the five categories of the social determinants of health as described in Healthy People 2020. These categories are Social and Community Context, Economic Stability, Health and Health Care, Education, and Neighborhood and Built Environment.

Intracounty Comparisons

The social determinants of health are evaluated at the intracounty level to draw comparisons between the differing areas of Warren County. Census Tract-level data is used for mapping to see how areas compare to one another. In order to generate tables that can be understood, census tracts have been combined into a series of geographical areas that are similar to one another. The result is 7 different areas that are similar in culture and population size.

Geographical Areas in Warren County,OH

Deerfield-Kings Mills Area
East Rural Area
Franklin-Carlisle Area
Hamilton-Union Township Area
Lebanon-Turtlecreek Area
Mason Area
Springboro-Clearcreek Area

Methods

This report is generated using a series of datasets from various public and non-public datasets. These data have been accessed in the most raw version of data that is available or the data was retrieved from a web API. This ensures that analyses that are conducted are being done on the original data and are not calculations based on the calculations of others.

All of the code for the generation of these reports is developed using the R Statistical Programming Language[2] and the R Studio IDE[3]. The code used for the development of this report is available on GɪᴛHᴜʙ. A copy of this report will be maintained on the Warren County Health District ᴡᴇʙꜱɪᴛᴇ.

Data Analysis

The data that has been compiled is analyzed using multiple methodologies. Data is first assessed to identify what information can be found in the raw information. The data then goes through the following process[4] :
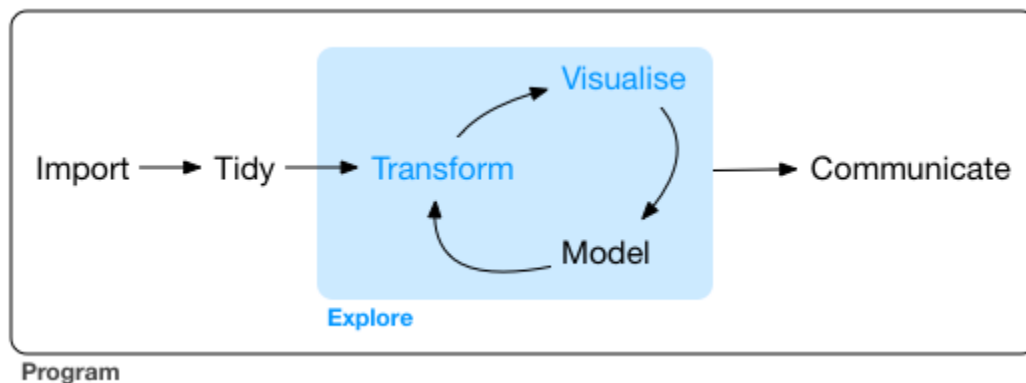
Data is summarily analyzed at the inter-county and intra-county level to identify differences. These type of analysis allow an exploration of the county for sub-county data and identify areas that are more likely to have health disparities.

Data Sets

The following data sets have been used to develop this analysis:

- 2015 American Community Survey[5]
- 2015 Area Health Resources Files[6]
- 1960 - 2015 Uniform Crime Reporting Program Data[7]

Social and Community Context

Social and community context includes the social settings in which people live and act. It includes social relationships and the social, religious, cultural, and occupational institutions with which they interact. An important aspect of an individual's social context is the sense of cohesion and interpersonal trust among community members and an individual's sense that they belong and are supported in their community. Social cohesion is strongly influenced by racial discrimination and inequality.[1]

Population

Understanding the populations of the different areas of the county allows one to understand where populations are distributed throughout the county. These data provide context for the locations where the population resides in the county.
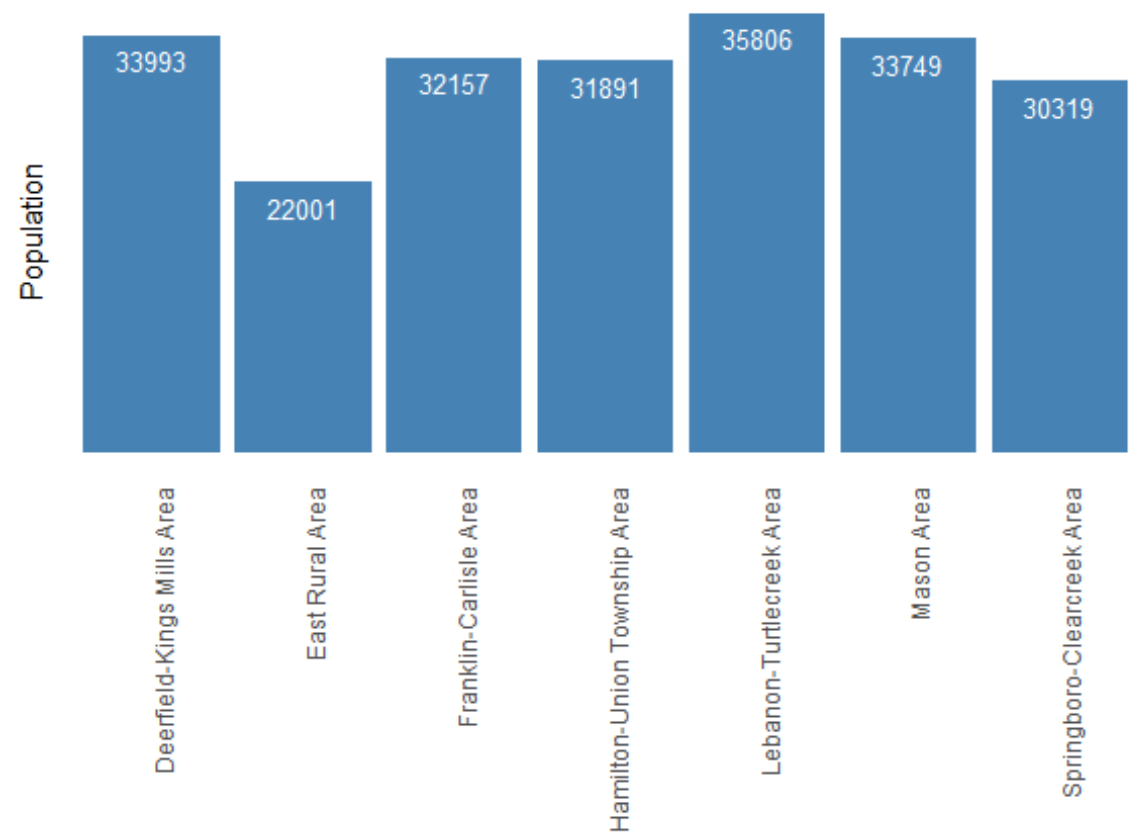
Map

Percentage of Population by Census Tract
Warren County, OH 2015
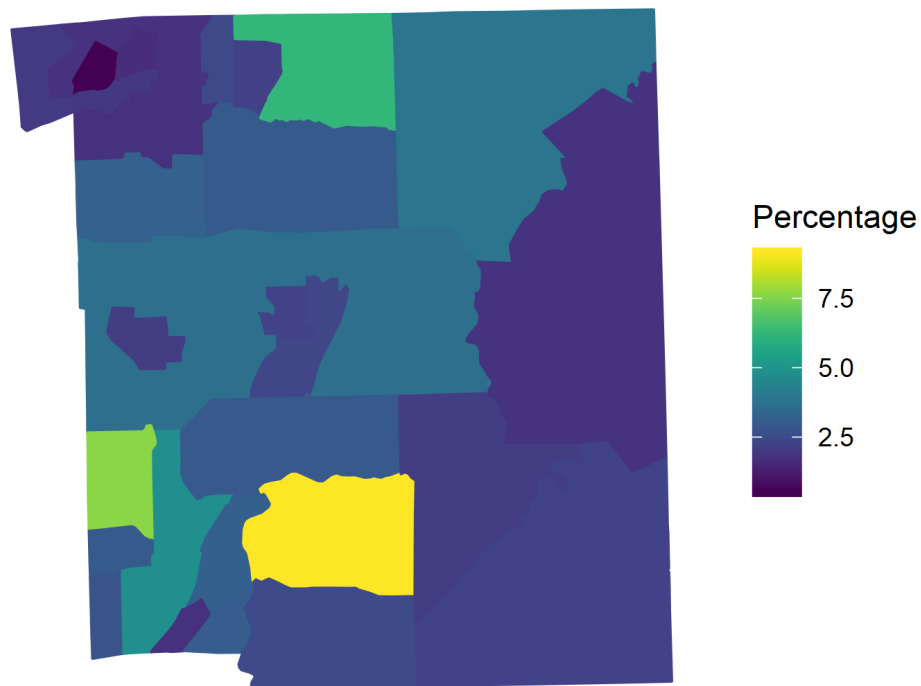
Source: 2015 American Community Survey, U.S. Census Bureau

Chart

Table

Table 1.1 Population in Warren County, OH in 2015 by County Area

Area	Population	Percentage
Deerfield-Kings Mills Area	33993	15.5
East Rural Area	22001	10.0
Franklin-Carlisle Area	32157	14.6
Hamilton-Union Township Area	31891	14.5
Lebanon-Turtlecreek Area	35806	16.3
Mason Area	33749	15.3
Springboro-Clearcreek Area	30319	13.8

Race and Ethnicity

Some racial and ethnic minority populations experience health disparities and problems at disproportionately higher rates than majority populations. Understanding the geographical and proportional distribution of minority populations allows services and programs to be targeted in a manner that is culturally and linguistically appropriate.

Map

Population Density by Race by Census Tract
Warren County, OH 2015

Source: 2015 American Community Survey, U.S. Census Bureau

Table

**Table 1.2 Population by Race in Warren County, OH in 2015 by County Area**

Race	Count	Percentage
Hispanic, Any Race	5379	2.48
Non-Hispanic, American Indian & Alaskan Native	159	0.07
Non-Hispanic, Asian	9922	4.58
Non-Hispanic, Black or African American	7356	3.39
Non-Hispanic, Multiple or Other Race	870	0.40
Non-Hispanic, Native Hawaiian or Pacific Islander	38	0.02
Non-Hispanic, White	193119	89.06

Gini Coefficient of Income Inequality

The Gini coefficient is a measure of statistical dispersion that can be used to represent the wealth distribution of a population. Most commonly this measurement is used to identify areas of inequality. A Gini coefficient of 1 is complete income inequality, where one person has all of the income and everyone else has none. A Gini coefficient of 0 is complete equality where everyone has the same income.

Map

Gini Coefficient of Income Inequality by Census Tract
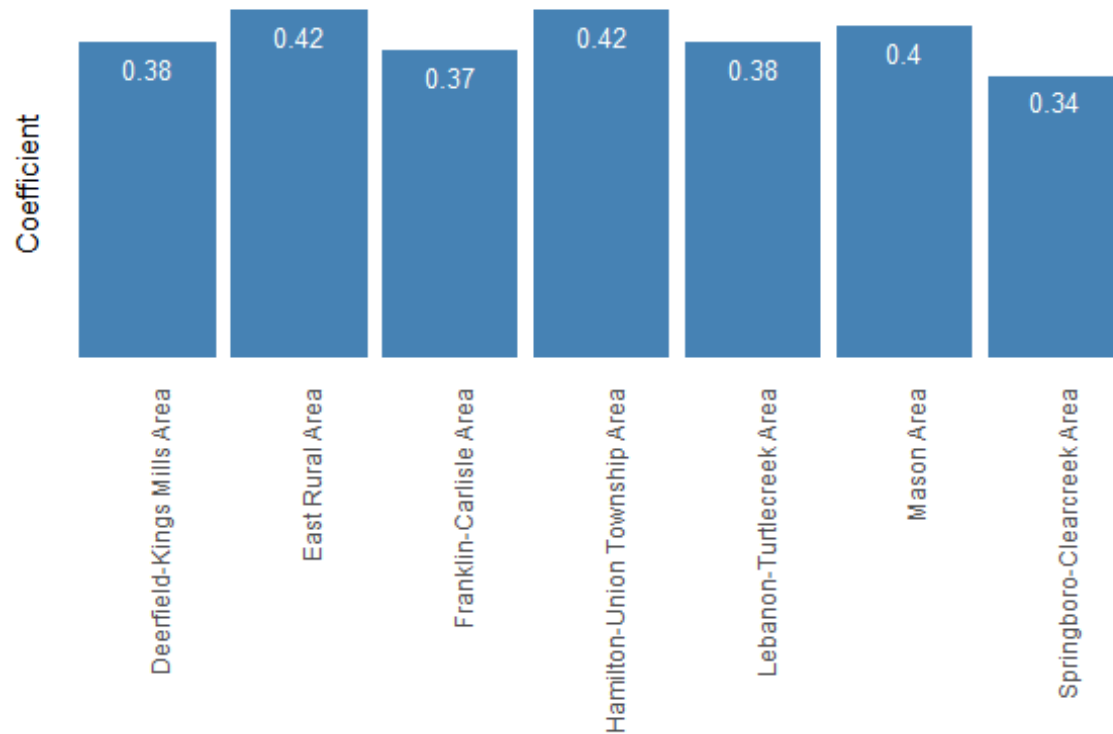Warren County, OH 2015
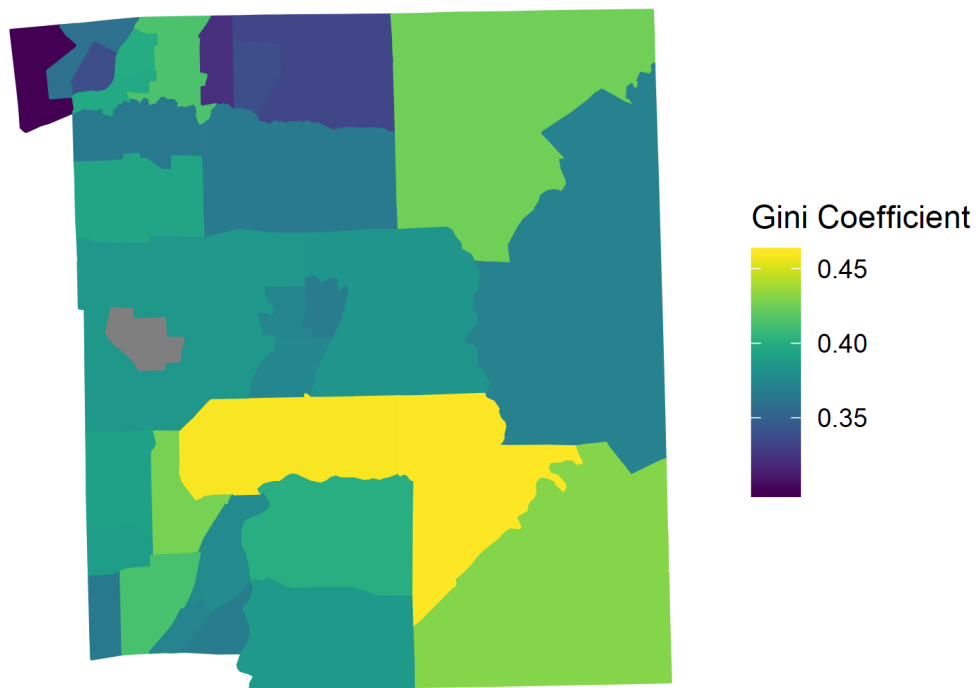
Source: 2015 American Community Survey, U.S. Census Bureau

Chart

Gini Coefficient of Income Inequality by County Area
Warren County, OH 2015

	Coefficient
Deerfield-Kings Mills Area	0.38
East Rural Area	0.42
Franklin-Carlisle Area	0.37
Hamilton-Union Township Area	0.42
Lebanon-Turtlecreek Area	0.38
Mason Area	0.4
Springboro-Clearcreek Area	0.34

Table

Table 1.3 Gini Coefficeint of Income Inequality by County Area Warren County, OH in 2015 by County Area

| Area	Coefficient
Deerfield-Kings Mills Area	0.380
East Rural Area	0.420
Franklin-Carlisle Area	0.370
Hamilton-Union Township Area	0.420
Lebanon-Turtlecreek Area	0.380
Mason Area	0.400
Springboro-Clearcreek Area	0.340

Economic Stability

Economic stability is the state or condition of having adequate money, goods, and means of support. Economic stability includes measures such as poverty, employment status, food security and housing stability.[1]

Median Income

Median income is the amount that divides the income distribution into equal amounts. Half of all incomes are below the median, and half are above the median. Median family income is the income of the householder and all other individuals older than 15 who are related to the householder. Median family income is usually higher than median household income because many households consist of only one person. Median family income is an indicator of the general socioeconomic status of a community.

Map

Median Income in USD by Census Tract
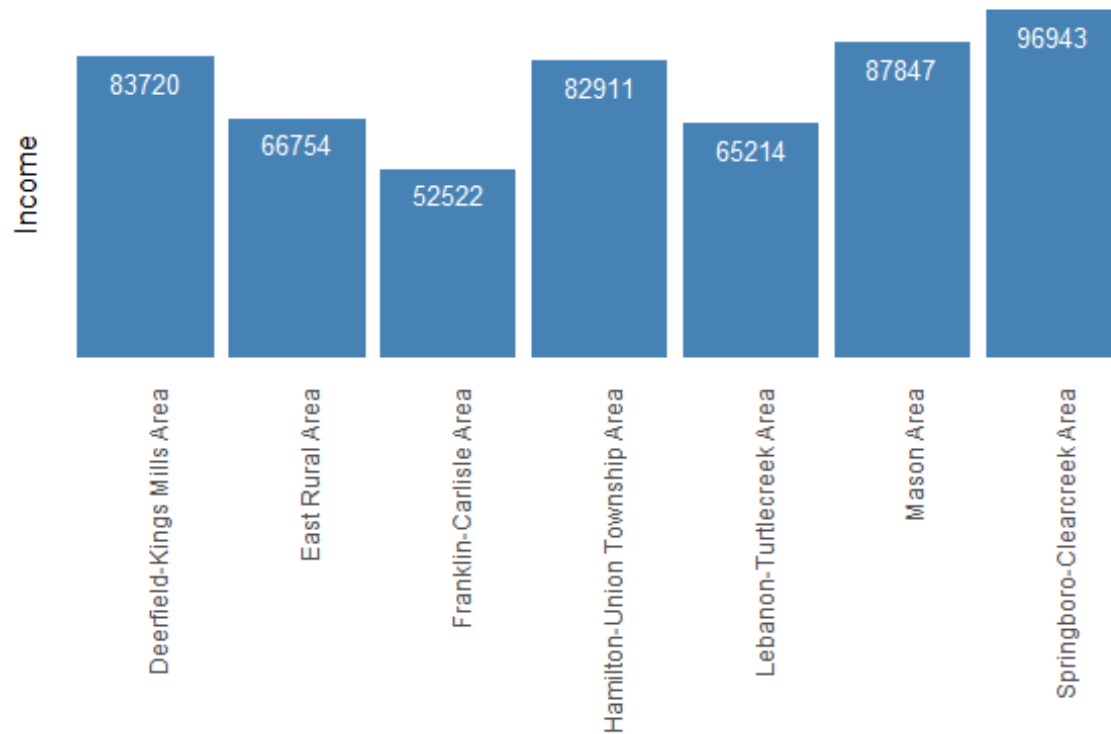Warren County, OH 2015
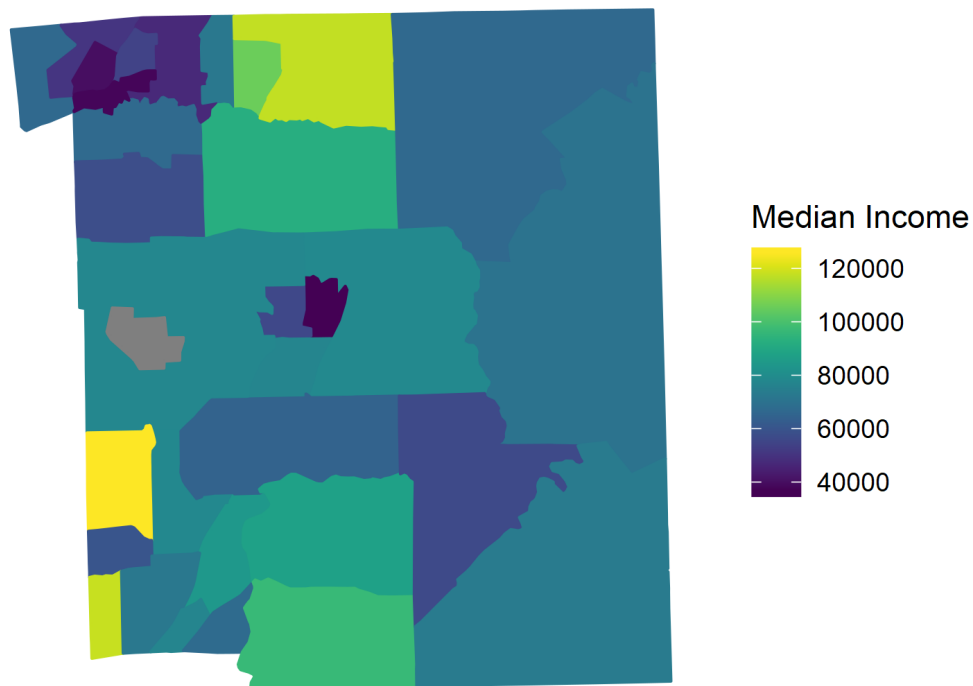
Source: 2015 American Community Survey, U.S. Census Bureau

Chart

Average Median Income by County Area
Warren County, OH 2015

Table

Table 2.1 Population in Warren County, OH in 2015 by County Area

| Area	Income
Deerfield-Kings Mills Area	83720
East Rural Area	66754
Franklin-Carlisle Area	52522
Hamilton-Union Township Area	82911
Lebanon-Turtlecreek Area	65214
Mason Area	87847
Springboro-Clearcreek Area	96943

Poverty

Poverty has a close association with health. Individuals with low incomes are more likely to have limitations with routine activities due to chronic illness, are more likely to be obese, and have elevated blood lead levels. The income to poverty ratio is the proportion of people and families whose incomes fall below a poverty threshold, adjusted for family size. If income is half of the threshold, the family is at 50% poverty. Poverty is one of the social determinants of health and interacts with health in a number of ways. A community's income to poverty ratio is one way to assess its overall level of health.

Map

Percentage of Population Living in Poverty by Census Tract
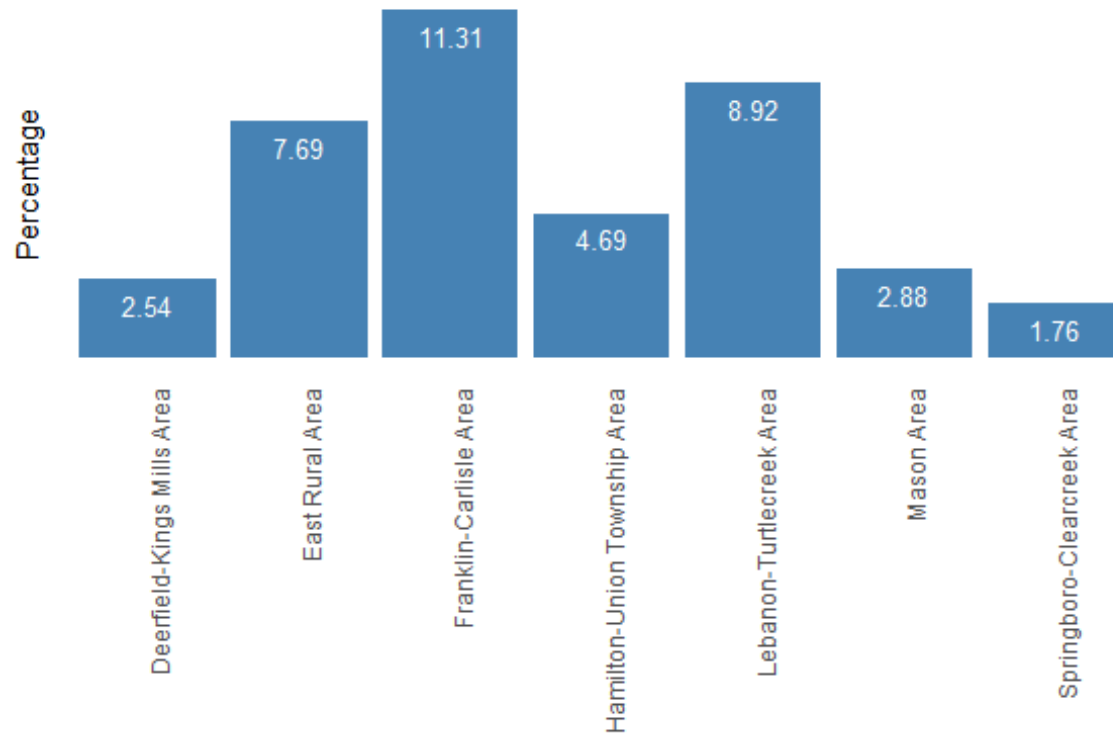Warren County, OH 2015
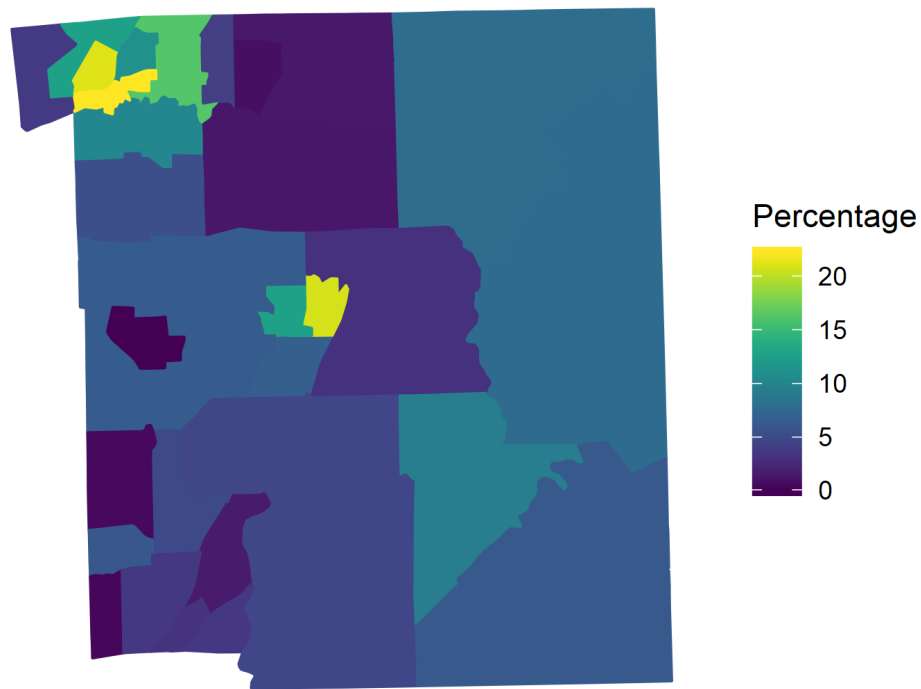
Source: 2015 American Community Survey, U.S. Census Bureau

Chart

Percentage of Population Living in Poverty by County Area
Warren County, OH 2015

Table

Table 2.2 Poverty by County Area in Warren County, OH in 2015 by County Area

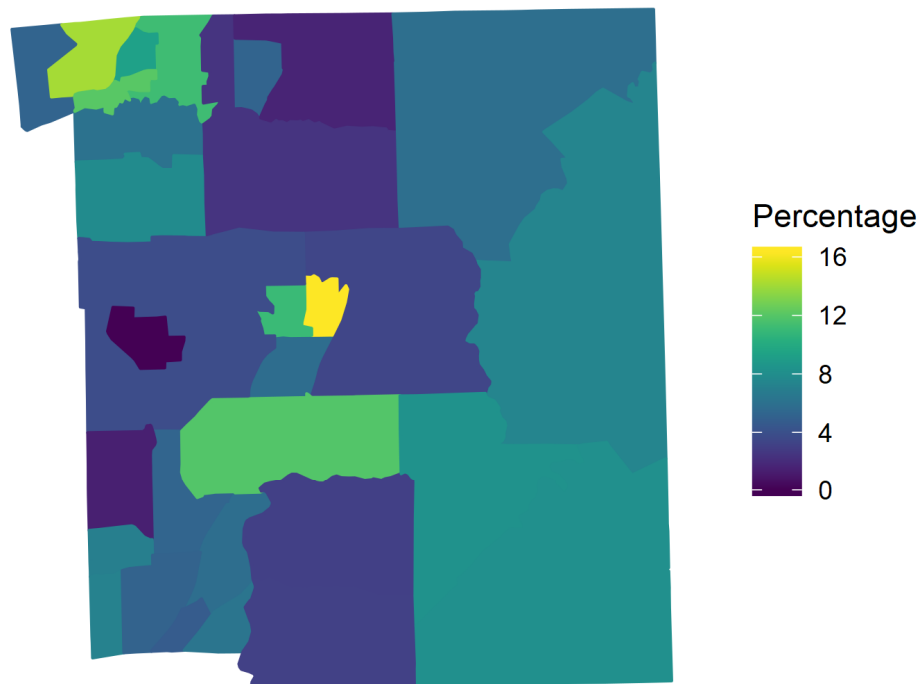| Area	Count	Population	Percentage
Deerfield-Kings Mills Area	863	33960	2.54
East Rural Area	1680	21848	7.69
Franklin-Carlisle Area	3618	31976	11.31
Hamilton-Union Township Area	1491	31791	4.69
Lebanon-Turtlecreek Area	2735	30669	8.92
Mason Area	968	33654	2.88
Springboro-Clearcreek Area	530	30033	1.76

Health and Healthcare

Most people need medical care at some time in their lives. Access to affordable, quality health care is important to physical, social, and mental health. Health insurance helps individuals and families access needed primary care, specialists, and emergency care, but does not ensure access on its own-it is also necessary for providers to offer affordable care, be available to treat patients, and be in relatively close proximity to patients.[1]

Insurance

Access to health care coverage is impacted by medical insurance coverage. Lack of insurance can lead to not getting needed preventive care, or not seeking care in a timely manner. Healthy People 2020 objective AHS-1 calls for 100% health care coverage.
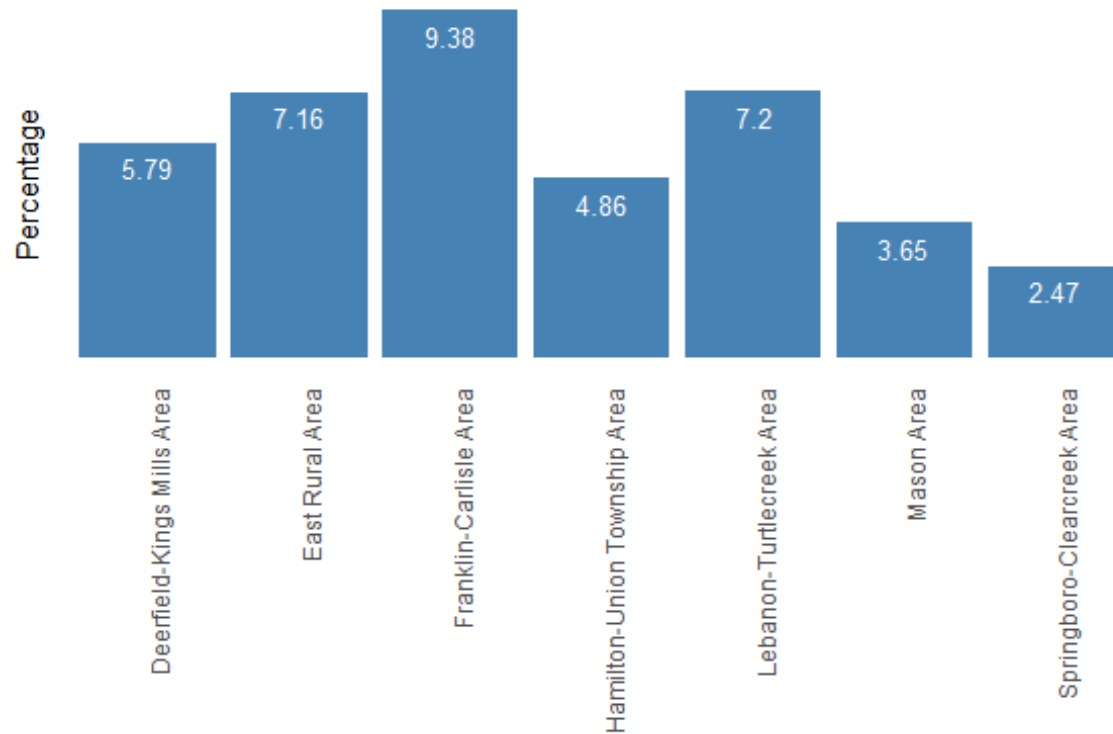
Map

Percentage of Individuals with No Insurance by Census Tract
Warren County, OH 2015

Source: 2015 American Community Survey, U.S. Census Bureau

Chart

Percentage of Population with No Health Insurance by County Area
Warren County, OH 2015

Area	Percentage
Deerfield-Kings Mills Area	5.79
East Rural Area	7.16
Franklin-Carlisle Area	9.38
Hamilton-Union Township Area	4.86
Lebanon-Turtlecreek Area	7.2
Mason Area	3.65
Springboro-Clearcreek Area	2.47

Percentage (y-axis)

Table

Table 3.1 Percentage of Uninsused by County Area in Warren County, OH in 2015 by County Area

Area	Count	Population	Percentage
Deerfield-Kings Mills Area	1967	33960	5.79
East Rural Area	1564	21848	7.16
Franklin-Carlisle Area	3000	31976	9.38
Hamilton-Union Township Area	1545	31791	4.86
Lebanon-Turtlecreek Area	2207	30669	7.20
Mason Area	1228	33654	3.65
Springboro-Clearcreek Area	742	30033	2.47

![Icon of buildings on a hill]

Neighborhood and Built Environment

Neighborhood and built environments have health impacts for the people who live there. Aspects of neighborhood environments include walkability, land use mix and urbanity, retail, recreational areas, restaurants, fast food outlets, cultural and education institutions, and pollution, such as from traffic or waste sites. Healthy People 2020 classifies neighborhood and built environment factors into these four categories.[1]

Owner-Occupied Housing

People who own their own home are more likely to be in a stable housing arrangement. Home ownership is associated with educational achievement, civic participation, greater levels of well-being, and less likelihood of being a victim of crime.

Map

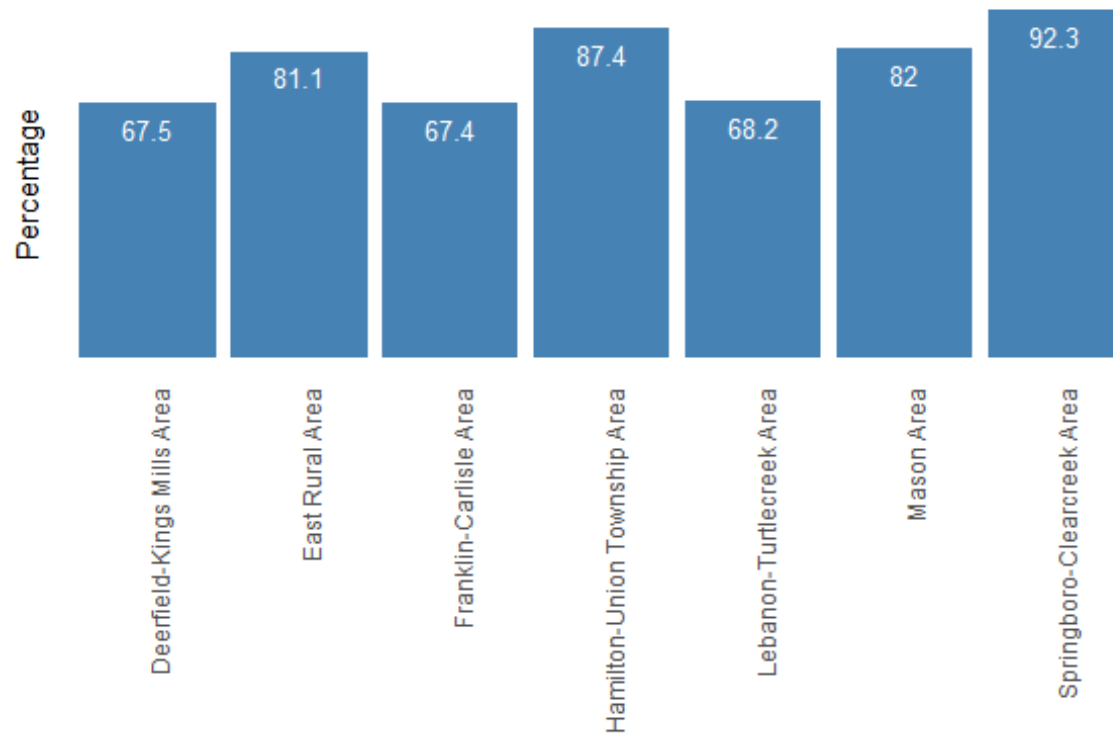Percentage of Owner-Occupied Housing Units by Census Tract
Warren County, OH 2015
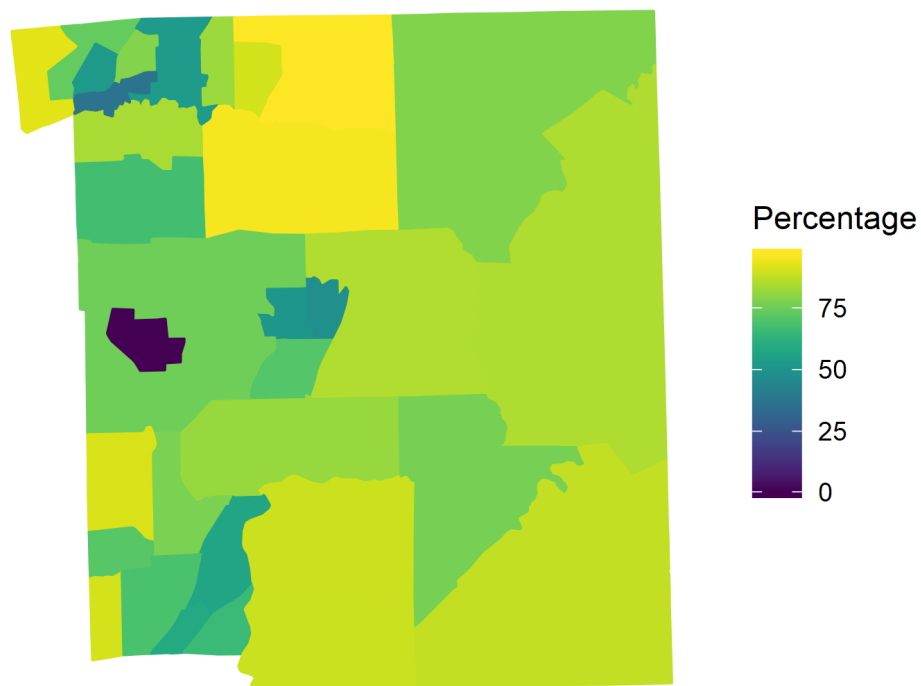
Source: 2015 American Community Survey, U.S. Census Bureau

Chart

Percentage of Owner-Occupied Housing Units by County Area
Warren County, OH 2015

Table

Table 4.1 Percentage of Owner-Occupied Housing Units in Warren County, OH in 2015 by County Area

Area	Owner-Occupied Houses	Total Houses	Percetage
Deerfield-Kings Mills Area	8851	13121	67.50
East Rural Area	6784	8364	81.10
Franklin-Carlisle Area	8467	12555	67.40
Hamilton-Union Township Area	9492	10855	87.40
Lebanon-Turtlecreek Area	7755	11379	68.20
Mason Area	9737	11872	82.00
Springboro-Clearcreek Area	9425	10213	92.30

New Houses

Newer housing stock indicates development in an area and a greater likelihood that the houses are made with safer materials and are less likely to contain harmful chemicals. Houses that are 15 years or older are more likely to need costly repairs.

Map

Number of New Housing Units by Census Tract
Warren County, OH 2015

Source: 2015 American Community Survey, U.S. Census Bureau

Chart

Count of New Housing Units by County Area
Warren County, OH 2015

Count

Year
- Built 2010 to 2013
- Built 2014 or Later

Deerfield-Kings Mills Area
East Rural Area
Franklin-Carlisle Area
Hamilton-Union Township Area
Lebanon-Turtlecreek Area
Mason Area
Springboro-Clearcreek Area

Table

Table 4.2 Age of Housing Units in Warren County, OH in 2015 by County Area

Area	Built 2014 or Later	Built 2010 to 2013	Built 2000 to 2009	Built Before 2000
Deerfield-Kings Mills Area	0	595	3170	10029
East Rural Area	24	114	1701	6920
Franklin-Carlisle Area	0	151	2160	11122
Hamilton-Union Township Area	113	637	5450	5214
Lebanon-Turtlecreek Area	0	421	2850	9252
Mason Area	36	56	3951	8315
Springboro-Clearcreek Area	0	339	3214	7088

Crime

Crime and violence are aspects of the neighborhood and built environments that impact overall health. A sense of security and well-being is an important social determinant of health.

Table 4.3 Crime in Warren County, OH in 2015

Geography	Population	# of Property Crimes	Property Crime Rate	# of Violent Crimes	Violent Crime Rate
Ohio	11631272	273206	2348.9	156014	1341.3
Warren County	224542	2753	1226.1	977	435.1
Medina County	183334	1474	804.0	614	334.9
Delaware County	172369	2161	1253.7	719	417.1

Property Crime

Property crime includes household burglary, motor vehicle and property theft.

Property Crime Rates(per 100,000 people)
2010 to 2015

Source: FBI Uniform Crime Reporting Program

Violent Crime

Violent crime involves force or the threat of force and includes murder, rape and sexual assault, robbery, aggravated assault, and assault.

Violent Crime Rates(per 100,000 people)
2010 to 2015
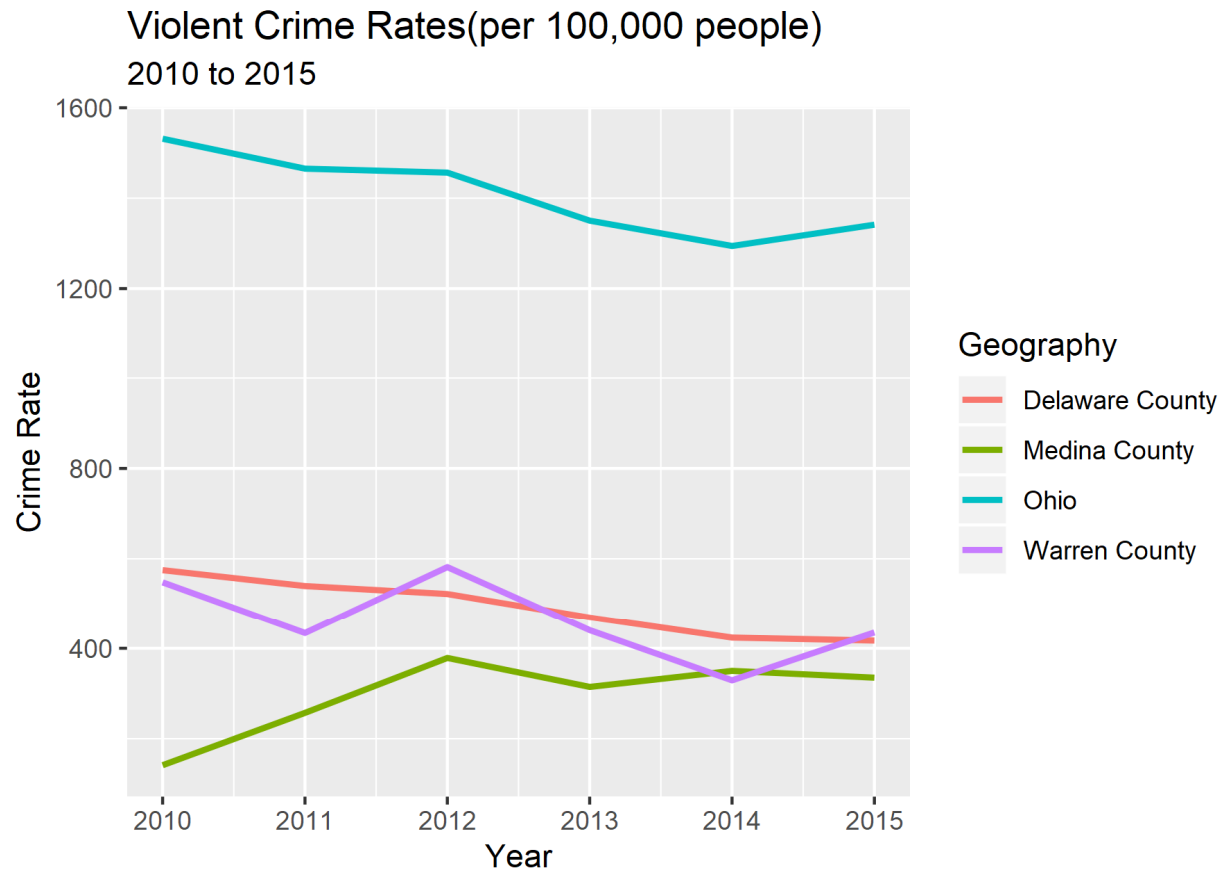
Source: FBI Uniform Crime Reporting Program

Education

The amount of education a person has is often called "educational attainment" in academic literature. Just as education and educational attainment can effect health outcomes, a person's health can affect the amount of education that he or she is able to attain. The CDC reports that "Health-related factors such as hunger, physical and emotional abuse, and chronic illness can lead to poor school performance".[1,8]

Educational Attainment

Higher educational attainment is associated with better health outcomes. Education impacts health literacy, knowledge, and behaviors, improves income and work conditions, and contributes to social support and a sense of control.
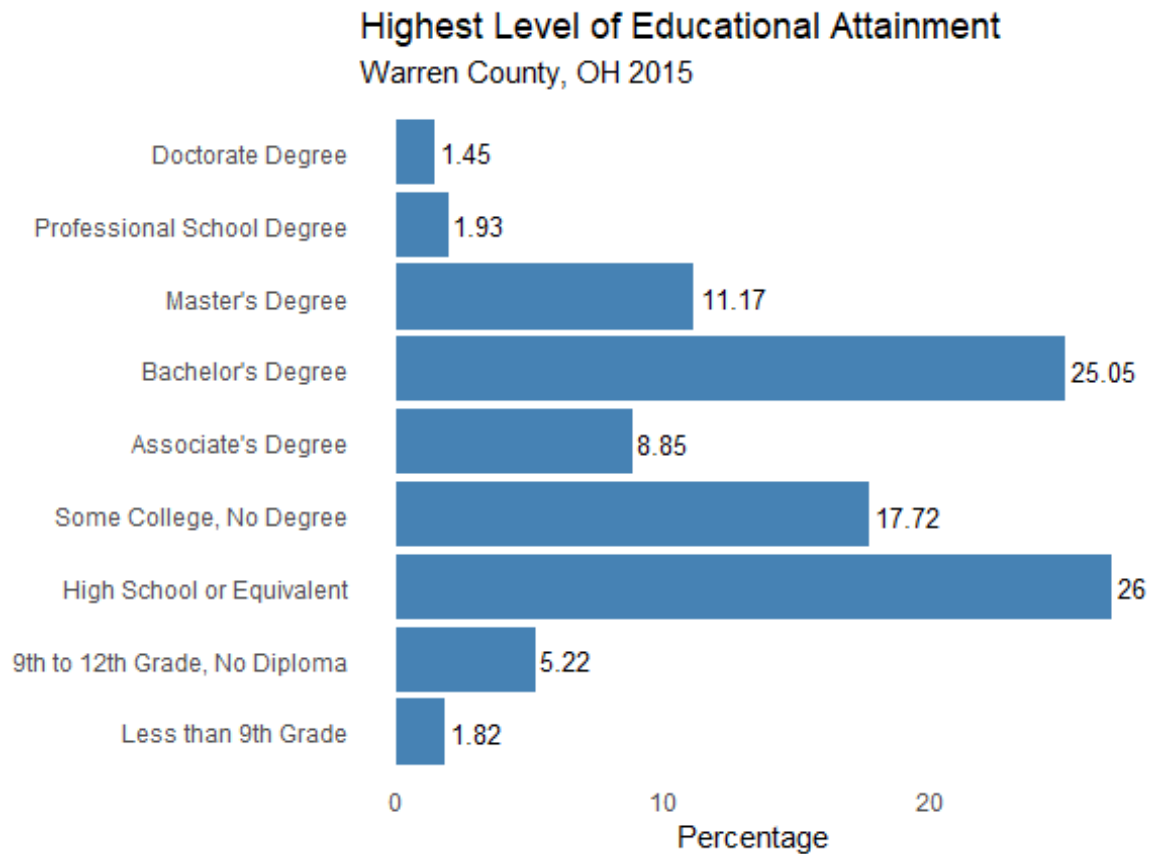
Map

Highest Level of Educational Attainment by Census Tract
Warren County, OH 2015

Source: 2015 American Community Survey, U.S. Census Bureau

Chart

Highest Level of Educational Attainment
Warren County, OH 2015

Education	Percentage
Doctorate Degree	1.45
Professional School Degree	1.93
Master's Degree	11.17
Bachelor's Degree	25.05
Associate's Degree	8.85
Some College, No Degree	17.72
High School or Equivalent	26
9th to 12th Grade, No Diploma	5.22
Less than 9th Grade	1.82

Percentage

Table

Table 5.1 Educational Attainment in Warren County, OH in 2015 by County Area

Education	Count	Percentage
Less than 9th Grade	2653	1.82
9th to 12th Grade, No Diploma	7622	5.22
High School or Equivalent	39117	26.79
Some College, No Degree	25865	17.72
Associate's Degree	12925	8.85
Bachelor's Degree	36576	25.05
Master's Degree	16308	11.17
Professional School Degree	2818	1.93
Doctorate Degree	2120	1.45

References

1. *Healthy People 2020*. U.S. Department of Health; Human Services, Office of Disease Prevention; Health Promotion; 2010.

2. R Core Team. *R: A Language and Environment for Statistical Computing*. Vienna, Austria: R Foundation for Statistical Computing; 2014. HTTP://WWW.R-PROJECT.ORG/.

3. RStudio Team. *RStudio: Integrated Development Environment for R*. Boston, MA: RStudio, Inc.; 2015. HTTP://WWW.RSTUDIO.COM/.

4. Wickham H, Grolemund G. *R for Data Science: Import, Tidy, Transform, Visualize, and Model Data*. 1st ed. O'Reilly Media, Inc.; 2017.

5. Bureau USC. American community survey. 2015.

6. Services Administration HR &. Area health resources files. 2015.

7. Investigation USFB of. Uniform crime reporting program data, offenses known and clearances by arrest.

8. *Issue Brief 6: Education and Health*. Robert Wood Johnson Foundation; 2009.