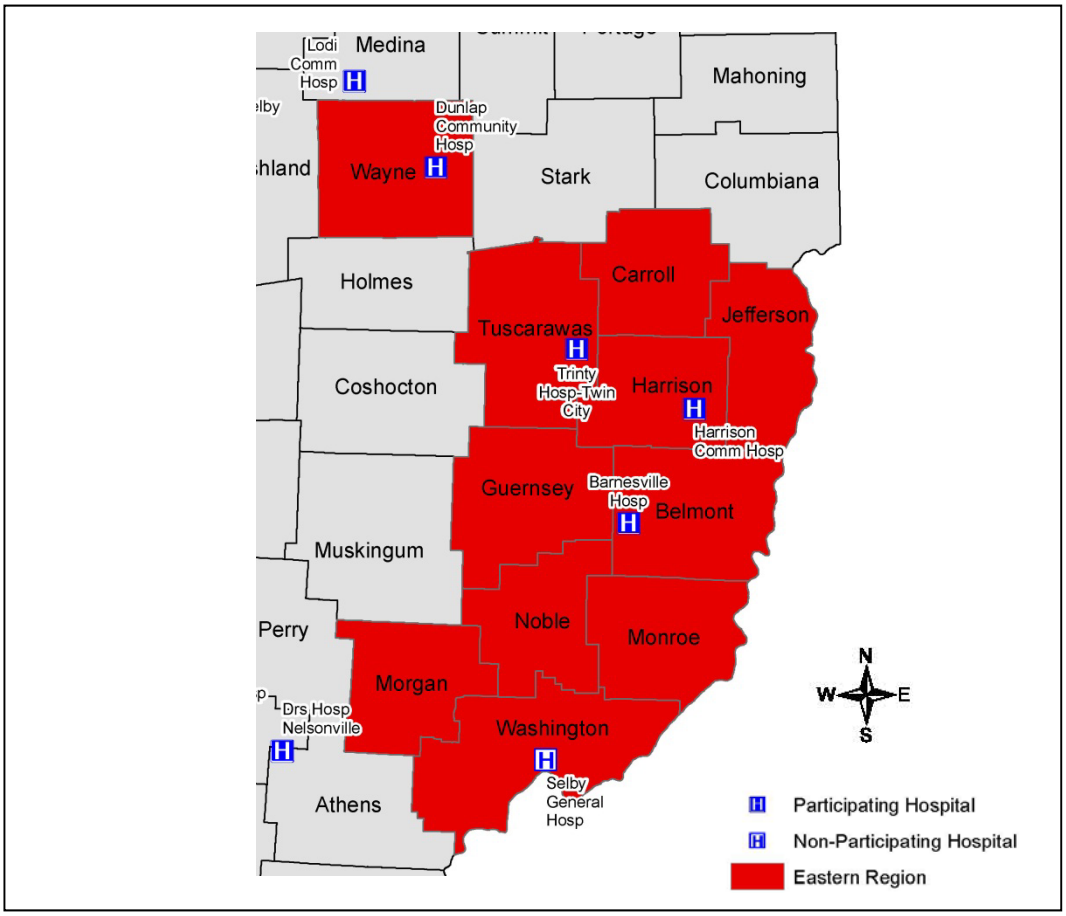
Regional Health Needs Assessment Project
Eastern Ohio Profile
February 2012

Introduction

The following data presentation is designed to help guide the next steps in the community health assessment process for critical access hospitals – identifying the health concerns in the region. The data are drawn from state and national sources and provide measures and indicators of the health and wellbeing of the population in the region. Where available, regional data are compared to state and national figures. Data labeled "estimates" have been calculated using methodologies recommended by the U. S. Department of Health and Human Services. Specific information on data sources and methodology can be found at the end of the report.

The Eastern region is comprised of eleven Ohio counties, as designated by the critical access hospitals in November 2011. As seen in Figure 1, five critical access hospitals serve predominately rural populations in the region.

Figure 1. Needs assessment region



Project funded by the Ohio Department of Health's FLEX program

Race and Ethnicity

The total population of the eleven county region in 2010 was 538,117 individuals. Ninety-five percent of the population in the region is white and only 1.1 percent of residents identify themselves as Hispanic or Latino (see Tables 1 and 2). Consequently, linguistic and ethnic diversity considerations generally are not as notable in this region as in other areas.

Table 1. Population by race, 2010

Race and Ethnicity	Region		U.S. Percent
	Number	Percent	
White Only	513,182	95.4%	72.4%
Black Only	11,728	2.2%	12.6%
American Indian and Alaska Native Only	1,038	0.2%	0.9%
Asian Only	2,293	0.4%	4.8%
Native Hawaiian and Other Pacific Islander Only	248	0.0%	0.2%
One Other Race Only	1,808	0.3%	6.2%
Two or more races	7,820	1.5%	2.9%
Total	**538,117**	**100.0%**	**100.0%**

Table 2. Hispanic or Latino ethnicity, 2010

Ethnicity	Region		U.S. Percent
	Number	Percent	
Hispanic or Latino	6,104	1.1%	16.3%

Project funded by the Ohio Department of Health's FLEX program

Population Age

Health needs may vary by age, with younger populations requiring more pediatric and primary care services and older populations requiring more frequent treatment for chronic conditions.

Table 3. Population by age and gender, 2010

Age Group	Region				U.S. Percent
	Female	Male	Total	Percent	
Under 5	15,168	16,161	31,329	5.8%	6.5%
5 to 19	50,633	53,550	104,183	19.4%	20.4%
20 to 39	59,769	61,463	121,232	22.5%	26.8%
40 to 59	77,952	77,522	155,474	28.9%	27.7%
60 to 79	51,854	48,517	100,371	18.7%	14.9%
80 and older	16,368	9,160	25,528	4.7%	3.6%
Total	**271,744**	**266,373**	**538,117**	**100.0%**	**100.0%**

- More than 135,000 residents are less than 19 years of age and may require pediatric care.
- Adolescents may need reproductive health education, and prevention and treatment of injuries from athletics and risky behaviors.
- Almost 60,000 women in the region are between the ages of 20 and 39 and may require women's health care, reproductive health and family planning services, and prenatal care.
- More than 155,000 area residents are between the ages of 40 and 59 and should have routine screenings for breast or prostate cancer, diabetes, obesity and hypertension to prevent disability and premature death from cancer, diabetes, and heart disease.
- Nearly 126,000 area residents are age 60 or older. This age group typically has multiple chronic conditions and accesses services at higher rates than younger populations.

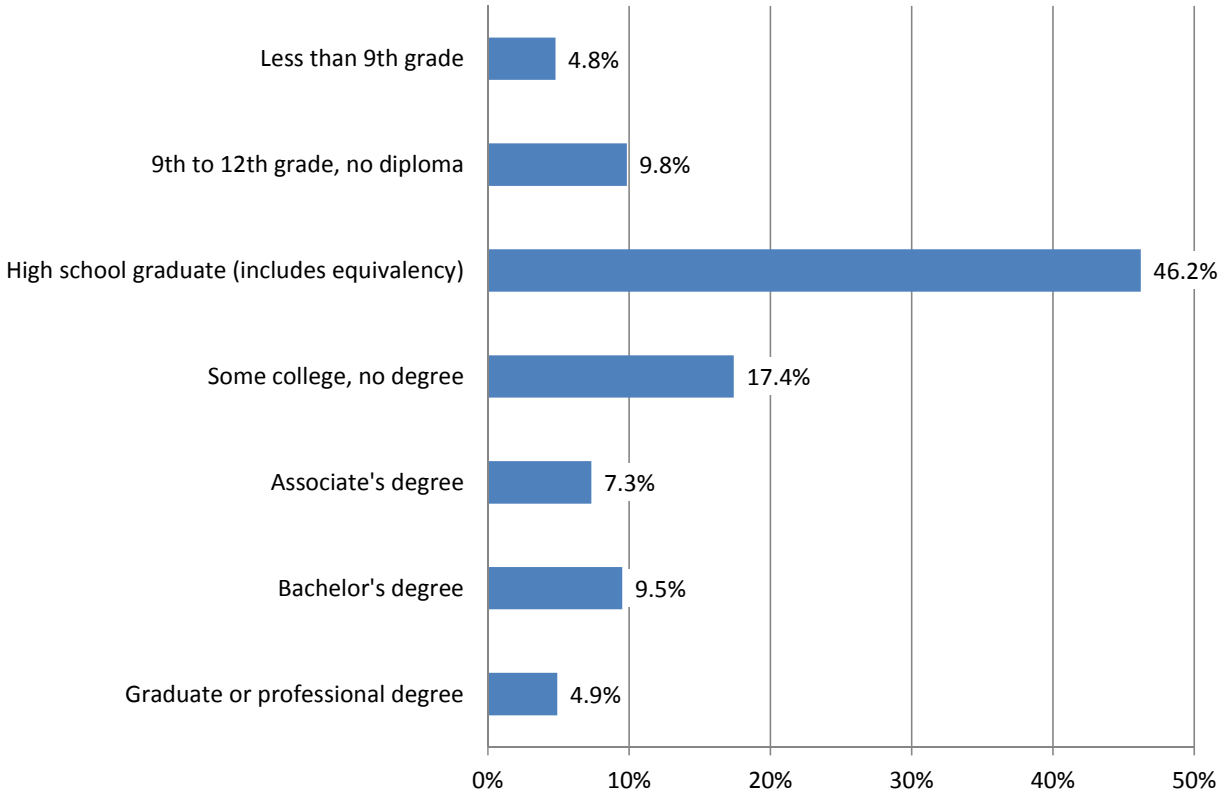
Educational Attainment

Almost 18,000 residents age 25 and older do not have a 9th grade education. An additional 36,409 have not graduated high school or obtained a GED. Among these individuals, low literacy may be a barrier to the understanding and use of health education and informational materials, and may prevent or minimize patient adherence to medical advice.

Table 4. Educational attainment of the population age 25 and older, 2006 to 2010

Attainment Level	Region		U.S. Percent
	Number	Percent	
Less than 9th grade	17,697	4.8%	6.2%
9th to 12th grade, no diploma	36,409	9.8%	8.7%
High school graduate (includes equivalency)	171,188	46.2%	29.0%
Some college, no degree	64,481	17.4%	20.6%
Associate's degree	27,138	7.3%	7.5%
Bachelor's degree	35,237	9.5%	17.6%
Graduate or professional degree	18,213	4.9%	10.3%

Figure 2. Educational attainment of the population age 25 and older in the region, 2010



Income, Poverty and Payer Mix

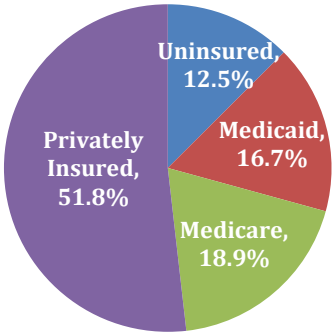
Nearly 50 percent of area residents have incomes below 200 percent of the poverty threshold and 29 percent of residents are uninsured or covered through Medicaid. High rates of poverty combined with the region's payer mix may be an obstacle to both patients and health care providers.

Table 5. Income and poverty, 2006 to 2010

Income and Poverty	Region		U.S. Percent
	Number	Percent	
Below 100% of poverty	74,324	14.2%	13.8%
Between 100 and 199% of poverty (low-income)	185,607	35.5%	18.2%
Total with incomes below 200% of poverty	**259,931**	**49.8%**	**32.0%**

Table 6 and Figure 3. Regional payer mix

Payer Source	Number	Percent
Uninsured	67,423	12.5%
Medicaid	89,993	16.7%
Medicare	101,926	18.9%
Privately Insured	278,775	51.8%
Total	**538,117**	**100.0%**



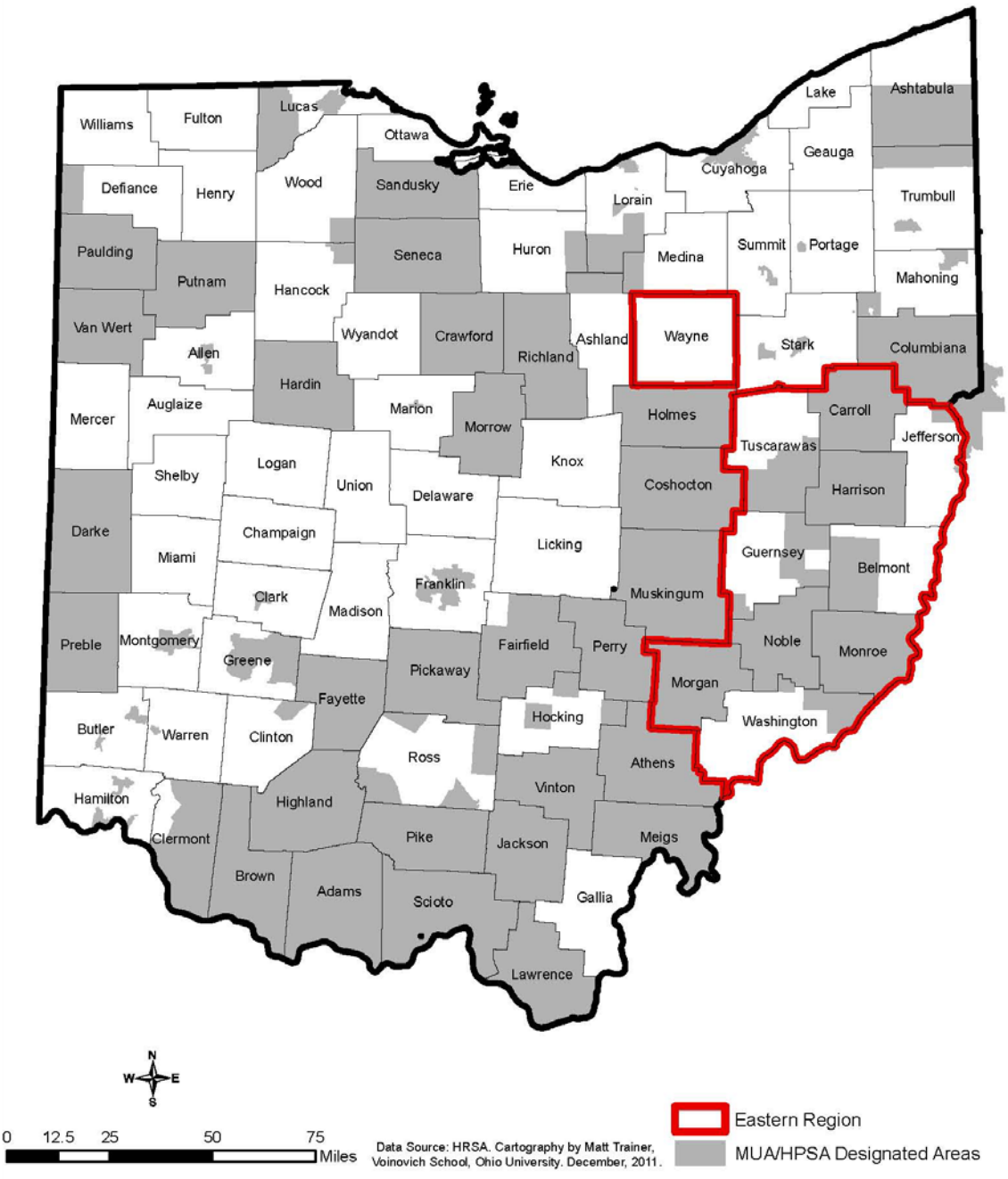
Below are some examples of the way in which poverty and payer mix may affect access, availability and utilization of health care services.

- Low-income households may not seek preventative care or treatment due to lack of insurance or co-pay requirements.
- Uninsured or underinsured households may be less likely to fully adhere to costly treatment plans, including prescription medication and other expenses.
- Populations with limited financial access to health care may have "pent-up," untreated, and complex health issues.
- The recruitment of healthcare providers in the region may be difficult due to low reimbursement rates and potentially high levels of charity care.
- Charity and other uncompensated care may be a significant financial burden on existing health care providers.

Primary Care Health Professional Shortage and Medically Underserved Areas

A large portion of the region has been designated a primary care Health Professional Shortage Area or Medically Underserved Area (see Figure 4). Residents in these areas may lack access to primary care. Inadequate access to primary care has been linked to poorer health outcomes and complications from untreated conditions and greater reliance on emergency departments for urgent health care needs.

Figure 4. Medical primary care health professional shortage and medically underserved areas, 2010

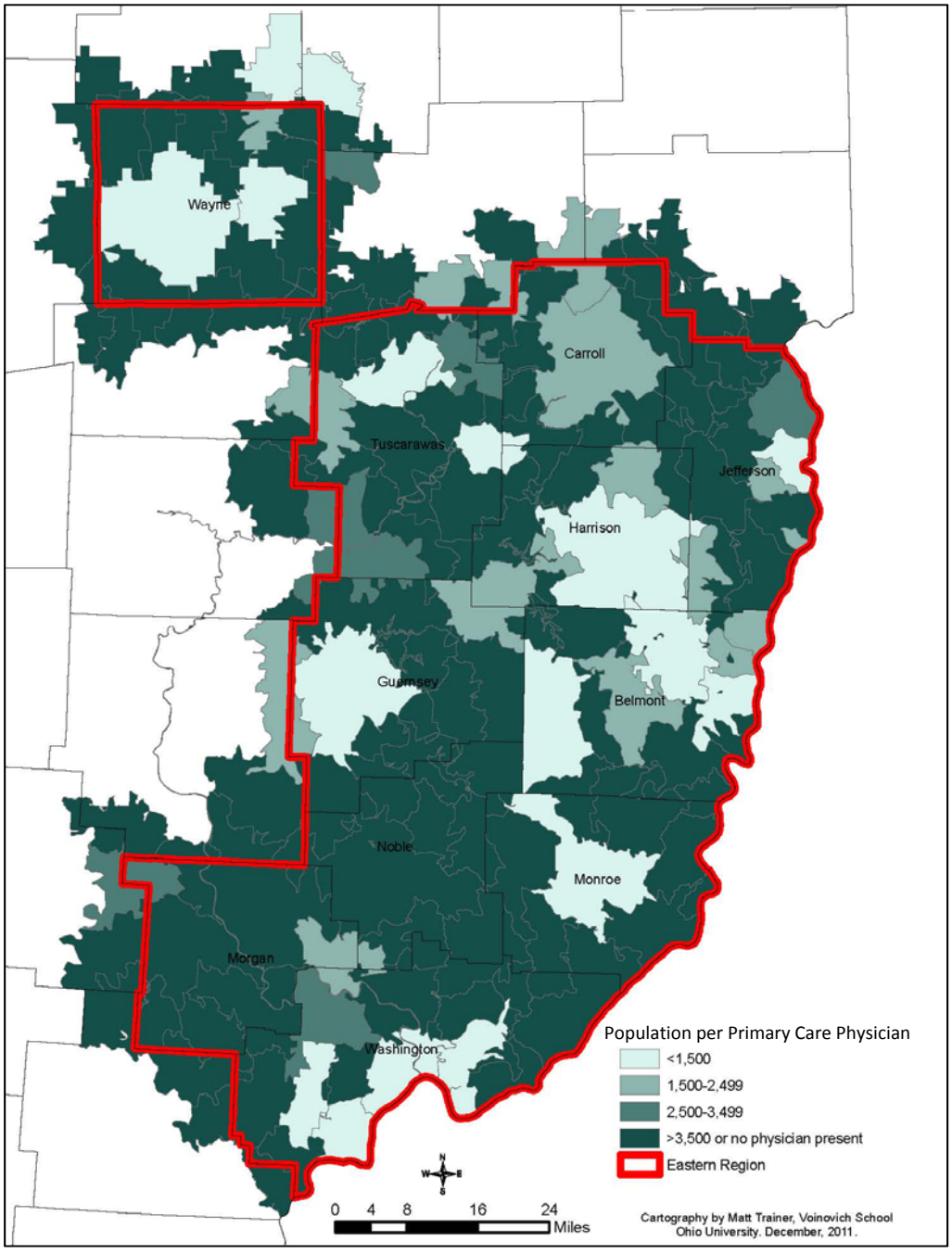


Project funded by the Ohio Department of Health's FLEX program

Population to Physician Ratios

The map below displays population to physician ratios by zip code. The darker the color, the fewer primary care physicians there are relative to the number of residents. As can be seen, physicians tend to be concentrated in only certain areas of the region. Residents residing outside these areas may have difficulty accessing care.

Figure 5. Population to physician ratio, 2007



Leading Causes of Death

Table 7 below presents an overview of the leading causes of death in the region between 2006 and 2008. Many of these causes of death may be preventable or postponed with improved prevention and chronic disease management.

Table 7. Leading causes of mortality, 2006 to 2008

Cause of Death	Region			Ohio Rate per 100,000
	Rank	Number of Deaths	Rate per 100,000	
Heart Disease	1	4,873	305.8	238.1
Cancer	2	3,903	244.9	217.9
Chronic Lower Respiratory Diseases	3	1,136	71.3	56.3
Cerebrovascular Disease (stroke)	4	883	55.4	50.2
Diabetes Mellitus	5	774	48.6	32.0
Accidents and Unintentional Injuries	6	731	45.9	42.5
Alzheimer's Disease	7	459	28.8	33.4
Influenza and Pneumonia	8	395	24.8	16.8
Kidney Disease	9	286	17.9	15.4
Infections of the Blood	10	239	15.0	11.4
Total (includes leading & other causes of death)		**17,384**	**1,090.8**	**936.2**

The following sections focus on the most notable and preventable causes of death, along with high risk behaviors and conditions that may become life-threatening. Each of these sections may be suggestive of strategies that could be taken to prevent or postpone death and disability.

Health Risk Factors

Health risk factors and risky behavior play a role in determining the leading causes of death outlined in the previous table. Obesity, smoking, and heavy alcohol use are all linked to higher rates of diabetes, heart disease, stroke, certain cancers, and chronic respiratory conditions. Addressing these risk factors could significantly improve health outcomes for area residents.

Table 8. Risk factor prevalence estimates, 2010

Risk Factors	Region		Ohio/U.S. Percent
	Number	Percent	
Overweight non-obese children ages 10 to 17	9,666	17.0%	17.0% (OH)
Obese children, ages 10 to 17	10,875	19.1%	19.1% (OH)
Overweight non-obese adults	151,422	36.3%	36.2% (U.S.)
Obese adults	125,637	30.1%	27.5% (U.S.)
Current smokers, adults	91,026	21.8%	17.3% (U.S.)
Heavy drinkers, adults (men >2 drinks/day, women >1 drink/day)	22,926	5.5%	5.0% (U.S.)
Health status reported as fair or poor, adults	66,376	15.9%	14.7% (U.S.)

- Approximately 26 percent of children and 66 percent of adults in the region are estimated to be overweight or obese.
- Over 91,000 adults in the region smoke and nearly 23,000 are heavy drinkers.

Heart Disease and Stroke

Heart disease was the number one cause of death in the region; nearly 4,900 residents died from heart disease between 2006 and 2008 (see Table 9). An additional 883 residents died from a stroke during this time-period, making it the number four cause of death in the region. Both of these causes of death are preventable or postpone-able with improved chronic condition management and reduced risk factors.

Table 9. Mortality due to heart disease and stroke, 2006 to 2008

Primary Cause of Death	Region		Ohio
	Number of Deaths	Rate per 100,000	Rate per 100,000
Heart Disease	4,873	305.8	238.1
Cerebrovascular Disease (stroke)	883	55.4	50.2

Three of every 10 individuals in the region are estimated to have been told by a health professional that they have high blood pressure, while almost four of every 10 tested adults have been told they have high cholesterol.

Table 10. Cardiovascular and cerebrovascular health estimates

Cardiovascular Health Risk Indicators	Region		U.S.
	Number	Percent	Percent
Blood cholesterol not checked within the last 5 years, adults	86,150	20.7%	23.0%
Blood cholesterol never checked, adults	70,372	16.9%	19.3%
Adults ever told they have high cholesterol, of those tested	164,178	39.4%	37.5%
Adults ever told they have high blood pressure	140,288	33.6%	28.7%
Adults ever told they have angina or coronary heart disease	20,579	4.9%	4.1%
Adults ever told they had a stroke	13,692	3.3%	2.7%
Adults ever told they had a heart attack	20,348	4.9%	4.2%

Cancer

Cancer was the second most common cause of death in the region. The table below shows the most common forms of cancer in the region.

Table 11. Cancer mortality by type/site, 2006 to 2008

Type/Site of Cancer	Region		Ohio Rate per 100,000
	Number	Rate per 100,000	
Lung, Trachea and Bronchus	1,142	71.7	64.6
Colon, Rectum and Anus	420	26.4	21.1
Breast (female)	254	31.4	31.4
Pancreas	218	13.7	12.9
Prostate	185	23.6	21.5
Leukemia	161	10.1	8.3
Non-Hodgkins Lymphoma	134	8.4	8.0
Esophagus	106	6.7	5.8
Bladder	95	6.0	5.6
Kidney	92	5.8	5.0
Other	1,092	68.5	59.9

In addition to healthy lifestyle choices including diet, exercise, not smoking, and limited alcohol consumption, early detection is key to preventing deaths from some of the leading forms of cancer.

Table 12. Cancer screening estimates, 2010

Cancer Screenings	Region		U.S. Percent
	Number	Percent	
Women (18+) with no pap test in the past 3 years	46,366	21.8%	18.9%
Women (40+) with no mammogram in the last 2 years	37,546	25.7%	24.4%
Women (50+) with no mammogram in the last 2 years	25,396	23.1%	22.1%
Adults (50+) with no blood stool test in the past 2 years	169,871	81.4%	82.7%
Adults (50+) who have never had a colonoscopy	73,283	35.1%	34.7%
Men (40+) who have not had a PSA test within the past 2 years	58,577	43.3%	46.7%

Respiratory Disease

Cancer of the lungs, trachea, and bronchus accounted for 1,142 deaths in the region between 2006 and 2008. Chronic lower respiratory diseases (emphysema, asthma, and chronic bronchitis), accounted for an additional 1,136 deaths during this period, making this the third leading cause of death. Also during the period, 395 deaths were attributed to influenza and pneumonia, making it the eight leading cause of death in the region.

Table 13. Leading respiratory-related causes of death, 2006 to 2008

Cause of Death	Region		Ohio Rate per 100,000
	Number of Deaths	Rate per 100,000	
Lung, Trachea, and Bronchus Cancer	1,142	71.7	64.6
Chronic Lower Respiratory Diseases	1,136	71.3	56.3
Influenza and Pneumonia	395	24.8	16.8

As a group, respiratory conditions leading to death may be acute or chronic. The chronic conditions may be caused by high risk behaviors (e.g. tobacco use), inherited traits (e.g. some asthma) or environmental exposure to toxic substances. More acute causes (influenza and pneumonia) derive from infectious sources, but may be prevented with appropriate immunization.

Table 14. Respiratory health estimates

Respiratory Health Prevalence and Risk Indicators	Region		Ohio/U.S. Percent
	Number	Percent	
Children 6-17 ever diagnosed with asthma	14,282	17.1%	17.1% (OH)
Adults currently diagnosed with asthma	38,071	9.1%	9.1% (U.S.)
Adults ever diagnosed with asthma	54,968	13.2%	13.8% (U.S.)
Adults 65+ who have not had a flu shot in the past year	30,501	33.7%	32.5% (U.S.)
Adults 65+ who have never had a pneumonia vaccination	28,079	31.1%	31.2% (U.S.)

Diabetes

Diabetes has been increasing as a cause of death over recent decades, becoming the fifth leading cause of death in the region. Diabetes also is often a contributing or underlying cause of death from heart and kidney disease.

Table 15. Mortality due to diabetes, 2006 to 2008

Cause of Death	Region		Ohio
	Number of Deaths	Rate per 100,000	Rate per 100,000
Diabetes Mellitus	774	48.6	32.0

Table 16. Diabetes prevalence estimates

Diabetes Prevalence	Region		Ohio/U.S. Percent
	Number	Percent	
Children 6-17 currently diagnosed with diabetes	NR	NR	0.5% (OH)
Adults ever diagnosed with diabetes	42,820	10.3%	8.7% (U.S.)

NR: Not reported due to the small number of cases.

Oral Health

Oral health status is linked to general physical health, educational performance, and employability. In addition to the impact of poor oral health and tooth loss on digestion and nutrition, research has established potential links between oral health in adults and heart disease. Children experiencing pain from oral infections perform more poorly in school. Adults with cosmetic damage from missing or infected teeth have difficulty gaining and maintaining employment, especially in positions requiring public interaction (e.g. sales, restaurant service, reception).

Table 17. Dental care, 2010

Oral Health	Region		Ohio/U.S. Percent
	Number	Percent	
Adults without a dental visit in the past year	116,929	28.0%	29.9% (U.S.)
Adults 18-64 needing dental care but could not secure, past 12 months	53,786	16.5%	16.7% (OH)
Adults that have had permanent teeth extracted	193,213	46.3%	43.6% (U.S.)

Perinatal and Early Childhood Health

Perinatal concerns are both health-related and social. Babies with low weights at birth are at higher risk of many costly and disabling conditions, including chronic respiratory problems and cognitive delays. Many low weight births are preventable by reducing risky behaviors during pregnancy (e.g. tobacco, drug, and alcohol use), ensuring the mother is healthy during pregnancy (e.g. having normal weight, blood pressure, and blood sugar), and adequate medical monitoring throughout the pregnancy.

Toxic blood levels of lead in young children were a significant health issue in urban areas during the era of lead additives in gasoline. Today, childhood lead exposure is primarily found in older, poorly maintained housing stocks. There remains a sizeable supply of housing stock in the region that is old, having been built before 1950. Unknown numbers of these structures continue to contain old paint and other contaminants that expose young children to toxic levels of lead. Testing for lead, especially among children at risk of living in older, unimproved homes, is key to identifying and mitigating environmental risks that affect cognitive development in school-age children.

Table 18. Prenatal and child health, 2006 to 2008

Prenatal and Child Health	Region		Ohio Rate
	Number	Rate	
Infant mortality (per 1,000 live births)	203	6.4	7.8
Low-weight births (per 100 live births)	1,471	7.7	8.7
Live births with late entry into prenatal care (per 100 live births)	4,954	30.1	29.0
Births to teens age 17 and younger (per 1,000 females)	499	6.2	8.1
Children < 72 months not tested for blood lead levels (per 100 children)*	31,676	84.4	80.8

*Data from 2007 only.

Mental Health and Substance Abuse

Substance abuse and mental health issues can further contribute to and complicate the treatment of chronic conditions. The Ohio Department of Health and the Ohio Department of Alcohol and Drug Addiction Services have recently released a number of reports which provide in-depth information about the rise of substance abuse and use of opioids in Ohio.[1] The tables below provide a brief regional snap-shot of mental health and substance abuse mortality and treatment in the region.

Table 19. Mental health and unintentional drug mortality

Cause of Death	Region		Ohio Rate per 100,000
	Number	Rate per 100,000	
Unintentional drug or medication mortality (2005 - 2009)	220	8.3	11.3
Suicide (2006 to 2008)	169	10.6	11.6

Table 20. Major affective disorder and substance abuse treatment, 2010

Mental Health and Substance Abuse	Number of Children	Number of Adults
Individuals with a primary diagnosis of major affective disorder who received treatment through Medicaid or other public funds	1,157	8,639
Individuals with a primary diagnosis of substance abuse who receive treatment through Medicaid or other public funds	287	4,728

Note: Data are reported by the Ohio Department of Mental Health at the Board level and may therefore include individuals residing outside the region. Due to the nature of the data, rates cannot be calculated.

[1] The Burden of Poisoning in Ohio, Ohio Department of Health: http://www.healthyohioprogram.org/ASSETS/0E9B51A79D3E4654BD0E01779E14667E/Burden.pdf
Unintentional Drug Overdose Death Rates by County, Ohio Department of Health: http://www.healthyohioprogram.org/ASSETS/2A9C2B99A15F44839F3E9125DD0B40B4/countypoisondeaths04to09.pdf
Ohio's Opiate Epidemic, Ohio Department of Alcohol and Drug Addition Services, July 2011: http://www.odadas.state.oh.us/public/OpenFile.aspx?DocumentID=e934f58b-74cf-4e1c-b2a0-52eca5f6c271

Data Sources

The data for this report came from multiple sources as identified below. The sources for the tables are listed first, followed by the sources for the figures. All regional values were obtained by aggregating county-level data unless otherwise noted. All rates contained in this report represent crude rates and are not age adjusted.

Table 1. Population by race and ethnicity. U.S. Census Bureau, 2010 Census.

Table 2. Hispanic or Latino ethnicity. U.S. Census Bureau, 2010 Census.

Table 3. Population age and gender. U.S. Census Bureau, 2010 Census.

Table 4. Educational attainment of the population age 25 and older. U.S. Census Bureau, 2006 to 2010 American Community Survey**.**

Table 5. Income and poverty. U.S. Census Bureau, 2006 to 2010 American Community Survey.

Table 6. Regional payer mix. Multiple sources of data were utilized:

- *Medicare* coverage is based on enrollment as of July 1, 2010, as reported by the Centers for Medicare and Medicaid Services https://www.cms.gov/MedicareEnrpts/
- *Medicaid* coverage is based on enrollment as of January, 2010 for the population less than 65 years of age as reported by the Ohio Department of Job and Family Services. http://jfs.ohio.gov/OHP/reports/data/MedDataTotalElig.stm.
- *Uninsured* rates for the population less than 65 years of age were obtained from the U.S. Census Bureau's Model-Based Small Area Health Insurance Estimates (SAHIE) for Counties and States (http://www.census.gov/did/www/sahie/data/2009/dataset.html). The Census Bureau does not produce SAHIE estimates for the population age 65 and older. To adjust for differences in reporting year between the 2009 SAHIE and the 2010 Medicare and Medicaid enrollment values, the 2009 SAHIE uninsured rates were applied to the 2010 Census population counts to estimate the number of individuals in the region that were uninsured.
- The remainder of the population (those not covered through Medicare or Medicaid or identified as uninsured) were classified as being covered by private insurance. Note: some individuals may not have been covered by private insurance for the entire period and many of these individuals may have been underinsured.

Table 7. Leading causes of mortality. Ohio Department of Health's Data Warehouse, 2006 to 2008.

Table 8. Risk factor prevalence estimates. Data from the Ohio Behavioral Risk Factor Surveillance System and the Ohio Family Health Survey were used to generate synthetic estimates for the region by applying age-, gender- and/or race-specific Ohio rates to the respective regional 2010 population totals.

- *Overweight non-obese children ages 10 to 17*. Ohio Family Health Survey, 2010. Children with a BMI score greater than or equal to the 85th percentile but less than the 95th percentile were classified as overweight.
- *Obese children ages 10 to 17*. Ohio Family Health Survey, 2010. Children with a BMI score greater than or equal to the 95th percentile were classified as obese.
- *Overweight non-obese adults*. Behavioral Risk Factor Surveillance System, 2010.
- *Obese adults*. Behavioral Risk Factor Surveillance System, 2010.
- *Current smokers, adults*. Behavioral Risk Factor Surveillance System, 2010
- *Heavy drinkers, adults (men > 2 drinks/day, women >1 drink/day)*. Behavioral Risk Factor Surveillance System, 2010

Table 9. Mortality due to heart disease and stroke. Ohio Department of Health's Data Warehouse, 2006 to 2008.

Table 10. Cardiovascular and cerebrovascular health estimates. Data from the Ohio Behavioral Risk Factor Surveillance System and the Ohio Family Health Survey were used to generate synthetic estimates for the region by applying age-, gender- and/or race-specific Ohio rates to the respective regional 2010 population totals.

- *Blood cholesterol not checked within the last 5 years*. Behavioral Risk Factor Surveillance System, 2009. Note: individuals who have never had their cholesterol checked are included in the reported rates and counts.
- *Blood cholesterol never checked*. Behavioral Risk Factor Surveillance System, 2009.
- *Adults ever told they have high cholesterol, of those tested*. Behavioral Risk Factor Surveillance System, 2009. Note: Only individuals who reported previously having undergone a blood cholesterol test were included in the calculation of this rate.
- *Adults ever told they have high blood pressure*. Behavioral Risk Factor Surveillance System, 2009.
- *Adults ever told they have angina or coronary heart disease*. Behavioral Risk Factor Surveillance System, 2010.
- *Adults ever told they had a stroke.* Behavioral Risk Factor Surveillance System, 2010.
- *Adults ever told they had a heart attack.* Behavioral Risk Factor Surveillance System, 2010.

Table 11. Cancer mortality by types/site. Ohio Department of Health's Data Warehouse, 2006 to 2008. Note: Prostate cancer and female breast cancer and mortality rates were calculated using gender-specific population totals.

Table 12. Cancer screening estimates. Data from the 2010 Ohio Behavioral Risk Factor Surveillance System were used to generate synthetic estimates for the region by applying age-, gender- and/or race-specific Ohio rates to the respective regional 2010 population totals.

Table 13. Leading respiratory-related causes of death. Ohio Department of Health's Data Warehouse, 2006 to 2008.

Table 14. Respiratory health estimates. Data from the Ohio Behavioral Risk Factor Surveillance System and the Ohio Family Health Survey were used to generate synthetic estimates for the region by applying age-, gender- and/or race-specific Ohio rates to their respective regional 2010 population totals.

- *Children 6 to 17 ever diagnosed with asthma.* Ohio Family Health Survey, 2008.
- *Adults currently diagnosed with asthma.* Behavioral Risk Factor Surveillance System, 2010.
- *Adults ever diagnosed with asthma*. Behavioral Risk Factor Surveillance System, 2010.
- *Adults 65+ who have not had a flu shot in the past year.* Behavioral Risk Factor Surveillance System, 2010.
- *Adults 65+ who have never had a pneumonia vaccination.* Behavioral Risk Factor Surveillance System, 2010.

Table 15. Mortality due to diabetes. Ohio Department of Health's Data Warehouse, 2006 to 2008.

Table 16. Diabetes prevalence estimates. Data from the Ohio Behavioral Risk Factor Surveillance System and the Ohio Family Health Survey were used to generate synthetic estimates for the region by applying age-, gender- and/or race-specific Ohio rates to the respective regional 2010 population totals.

- *Children 6 to 17 currently diagnosed with diabetes.* Ohio Family Health Survey, 2008.
- *Adults ever diagnosed with diabetes.* Behavioral Risk Factor Surveillance System, 2010.

Table 17. Dental care. Data from the Ohio Behavioral Risk Factor Surveillance System and the Ohio Family Health Survey were used to generate synthetic estimates for the region by applying age-, gender- and/or race-specific Ohio rates to the respective regional 2010 population totals.

- *Adults without a dental visit in the past year.* Behavioral Risk Factor Surveillance System, 2010.
- *Adults 18 to 64 needing dental care but could not secure, past 12 months*. Ohio Family Health Survey, 2010.
- *Adults that have had permanent teeth extracted.* Behavioral Risk Factor Surveillance System, 2010.

Table 18. Prenatal and child health. Data on, infant mortality, low-weight births, live births with late entry into prenatal care and births to teens age 17 and younger were obtained from the Ohio Department of Health's Data Warehouse and represent a 3-year period ending in 2008. Data on children not tested for blood lead levels were obtained from the Centers for Disease Control and Prevention and are for the year 2007.

Table 19. Mental health and unintentional drug mortality. Data on unintentional drug and medication mortality for 2005 to 2009 were obtained from the following report produced by the Ohio Department of Health: Unintentional Drug Overdose Death Rates by County, Ohio Department of Health. http://www.healthyohioprogram.org/ASSETS/2A9C2B99A15F44839F3E9125DD0B40B4/countypoisondeaths04to09.pdf. Data on suicides for 2006 to 2008 were obtained from the Ohio Department of Health's data warehouse.

Table 20. Major affective disorder and substance abuse treatment. Board-level data were obtained from the Ohio Department of Mental Health's MACSIS datamart for the year 2010. Because data are reported at the Board level, the reported values may include individuals residing outside the region. Only those individuals receiving treatment paid for through Medicaid or other public funds are included.

Figure 1. Needs assessment region. The counties comprising the region as shown in Figure 1 were selected by critical access hospitals in November 2011.

Figure 2. Educational attainment of the population age 25 and older. Data were obtained from the 2006 to 2010 American Community Survey**.**

Figure 3. Regional payer mix. Multiple sources of data were utilized. Refer to the Table 6 documentation for additional information.

Figure 4. Medial primary care health professional shortage and medically underserved areas, 2010. Data were downloaded from the US Department of Health and Human Services Health Resources and Services Administration (HRSA) website on Oct 24, 2011.

Figure 5. Population to physician ratio, 2007. Data were obtained from the Dartmouth Atlas of Health Care and are derived from the 2007 HRSA American Medical Association physician master files.