

Table of Contents

- Figures 2
- Introduction..... 3
 - How to Read This Report and How Data were obtained 3
 - Definition of the Community Served 4
 - Consulting Persons and Organizations 4
- Demographics of the Community..... 5
 - Characteristics of the Population 5
- Health Care Facilities and Resources within the Community 7
 - Hospital..... 8
 - Clinics..... 9
 - Mental Health Care Capacity 10
 - Access to Care..... 11
- Health Needs of the Community 13
 - County Health Rankings Data 13
 - Maternal and Infant Health 14
 - Behavioral Risk Factors 17
 - Mental Health and Wellness 19
 - Clinical & Preventative Services..... 21
 - Disease..... 22
 - Leading Causes of Death..... 26
- Process for Identifying and Prioritizing Community Health Needs..... 27
- Methodology and Information Gaps 28

Figures

Figure 1: Population Trends, 2010-2040 5

Figure 2: Age, 2011 5

Figure 3: Race, 2011 5

Figure 4: Household Type 5

Figure 5: Senior Population Projections 5

Figure 6: Occupied Housing Units..... 5

Figure 7: Educational Attainment for the Population 25 Years of Age & Older, 2011 6

Figure 8: Mean & Per Capita Income, 2011..... 6

Figure 9: Percentage of the Population below the Poverty, 2011..... 6

Figure 10: Medical Insurance Coverage for the Population 18 Years of Age and Older, 2009-2011..... 11

Figure 11: Comparison of Insurance Coverage for Adults (18 Years of Age or Older) by Age Cohort, 2009-2011..... 12

Figure 12: Teen Birth Rate 14

Figure 13: Births to Unwed Mothers 14

Figure 14: Percent of Mothers Not Receiving First Trimester Prenatal Care..... 15

Figure 15: Births to Mothers Who Smoke 15

Figure 16: Percentage of Low Birth Weight Babies 16

Figure 17: Infant Mortality Rate 16

Figure 18: Chlamydia Cases, 2000-2012 18

Figure 19: Gonorrhea Cases, 2000-2012 18

Figure 20: Mental Disorders - Primary/Secondary Emergency Discharge Diagnoses for the Adult Population, 2004-2012 20

Figure 21: Mental Disorders - Primary & Secondary Inpatient Discharge Diagnoses for the Adult Population, 2004-2012 20

Figure 22: Cancer Rates, 2000-2011 23

Figure 23: Emergency Department Discharge Diagnoses for the Adult Population, 2004-2012..... 24

Figure 24: Hospital Inpatient Discharge Diagnoses for the Adult population, 2004-2012 25

Figure 25: Top Six Leading Causes of Death, 2000-2012 26

Introduction

Atrium Medical Center is partnering with member hospitals of the Greater Dayton Area Hospital Association and Wright State University to prepare our Community Health Needs Assessment. Each partner has invested resources and significant time in gathering information to form this Community Health Needs Assessment.

After describing the service area, this report provides a demographic and socioeconomic status analysis as a backdrop for the analysis of

community health needs. It concludes with a presentation of priority health concerns. The report also addresses the methodologies used and the data limitations.

A community health needs assessment engages community members and partners to collect and analyze health-related data from many sources. The findings of the assessment inform community decision-making, the prioritization of health problems, and implementation strategies.

How to Read This Report and How Data were obtained

Data in this report are organized into topical areas, which can be located by referring to the table of contents. The report begins with a description of the Atrium Medical Center's service area, providing a basic overview of the Medical Center's geographic location as well as its socio-economic makeup. The assessment defines the term "health" broadly to include health care access, maternal and infant health, behavioral health, clinical care, diseases, mental and behavioral health, and substance abuse.

This report compiles secondary data from multiple sources to paint a detailed picture of the Atrium Service Area. Secondary data is reprocessing and reusing information that has already been collected such as institutional records from sources such as hospitals and the Ohio Department of Health. The report presents previously gathered data from the AIM for Better, *Health Care Access Now. (2012).*

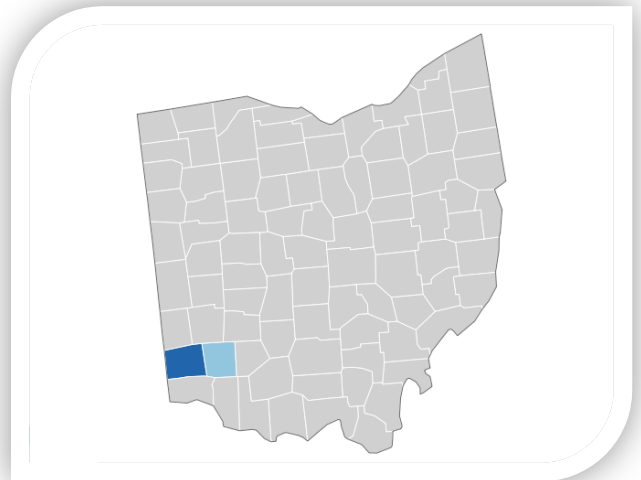
Community Health Needs Assessment. Aggregate hospital ICD-9 emergency department and hospital inpatient discharge diagnoses data were obtained from the Ohio Hospital Association via the Greater Dayton Area Hospital Association. Cancer data and vital statistics were obtained from the Ohio Department of Health. Other data were obtained from national sources such as the Health Resources and Services Administration (HRSA), the Bureau of the Census, and the Robert Wood Johnson Foundation; and other state sources such as the Ohio Development Services Agency. The framework for the report was based on key areas of need. The report, in some cases, compares the service area's status to state and/or national data where possible, drawing out critical areas of concern. Narrative and graphics are used to highlight key findings. The report culminates in the presentation of priority needs for the Atrium Medical Center's service area.

Definition of the Community Served

The population for the Atrium Medical Center service area is 580,823 and is expected to be 669,420 by 2040 according to the Ohio Development Services Agency. The total number of jobs in this area is 288,400 with a forecasted job growth rate of 18% to the year 2023, far outpacing the growth rate for Ohio and the nation (9.2% and 13.1%, respectively). The service area is comprised of Butler and Warren counties, two of the fastest growing counties in Ohio. The characteristics of the counties are generally a younger population (the median age in Butler County is 36 and in Warren is 37), more highly educated, with higher incomes, especially in Warren County. Yet each county has its pockets of poverty. The Greater Cincinnati Community Health Status Survey estimates the percentage of the White Appalachian population, and estimates that population to be 29% in the Butler/Clinton/Warren county area. Economic Modeling Specialists, Inc. estimates the White Hispanic/Latino population in the service area to be 19,529 and growing to 24,337 by 2023, a growth rate of 25%.

The industry that employs the most people in this service area is the retail industry with the

manufacturing industry being a close second (31,523 and 31,039, respectively), while the health care industry employs 30,307. The ten-year forecast provided by Economic Modeling Specialists, Inc., is for the health care industry in this service area to grow at a faster pace than the other large industries, resulting in the health care industry being the top employer by 2023 with an expected 41,247 jobs while annual health care job openings are expected to be about 1,200 a year.



Consulting Persons and Organizations

Partners in the data review process and in the process for identifying and prioritizing community health needs and services are the Board of Trustees and executive leadership of Atrium Medical Center, community health collaboratives featuring community, health, and business stakeholders/advocates organized by both Atrium Medical Center, and the Greater Dayton Area Hospital Association with its member hospitals.

Demographics of the Community

Characteristics of the Population

Figure 1: Population Trends, 2010-2040

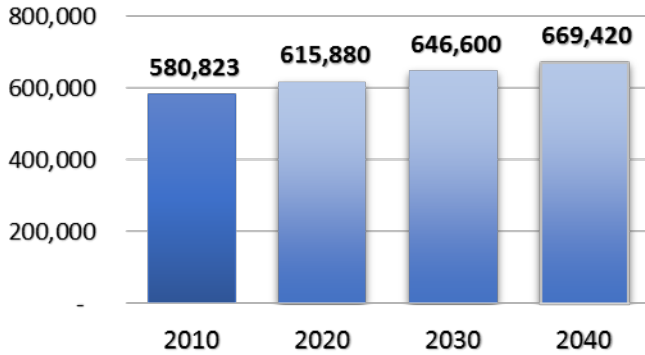


Figure 2: Age, 2011

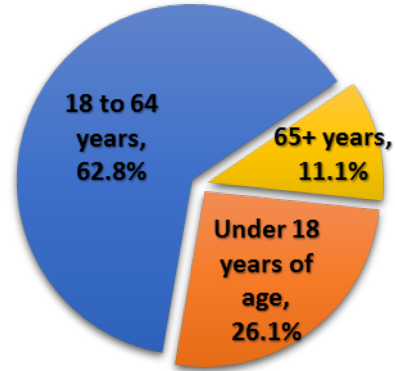
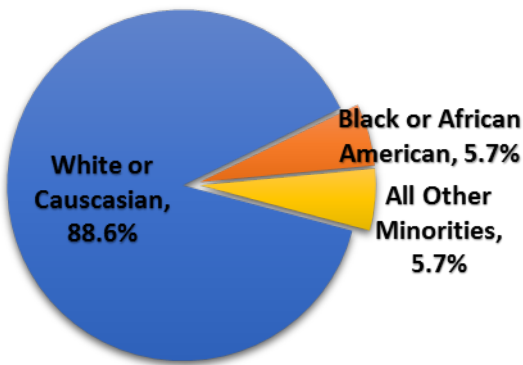


Figure 3: Race, 2011



The population in this two-county region of West Central Ohio is projected to increase 15.3% through the year 2040. Warren County continues to be the second fastest growing county in Ohio and Butler County is the 9th. The racial composition of the region is mainly White or Caucasian (29% are White Appalachian*), with African Americans and other minorities comprising nearly 6%, each, of the population. Four percent (13,758) of Butler County’s population is Hispanic/Latino, and 2% (4,661) of Warren County’s is. In 2011, the senior population was estimated as one of every nine individuals – by 2040, the senior population is expected to increase to one of every six, indicating the population is aging in place. (*Greater Cincinnati Community Health Status Survey)

Source: U.S. Census Bureau, 2007-2011 American Community Survey

Figure 4: Household Type

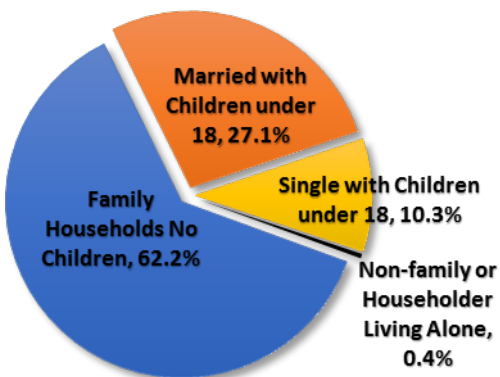


Figure 5: Senior Population Projections

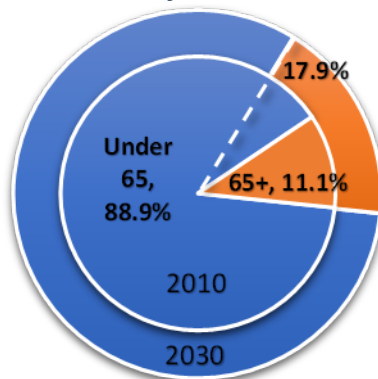


Figure 6: Occupied Housing Units

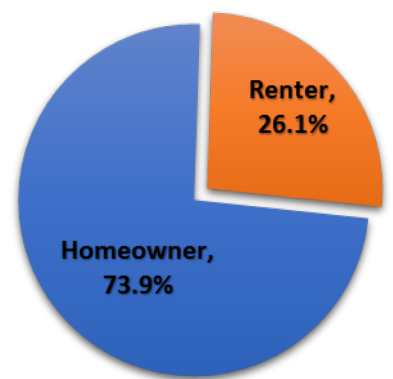


Figure 7: Educational Attainment for the Population 25 Years of Age & Older, 2011

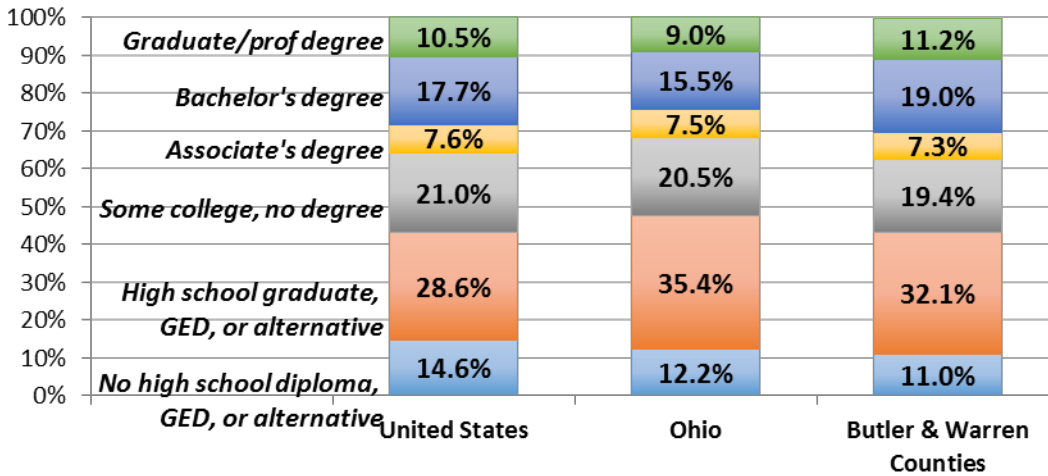


Figure 8: Mean & Per Capita Income, 2011

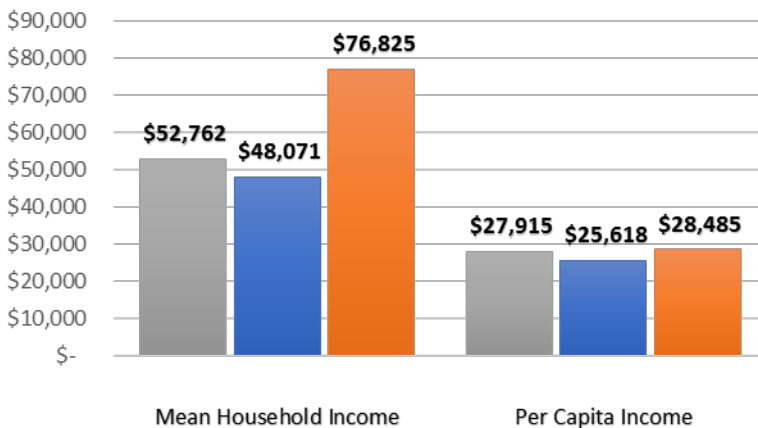
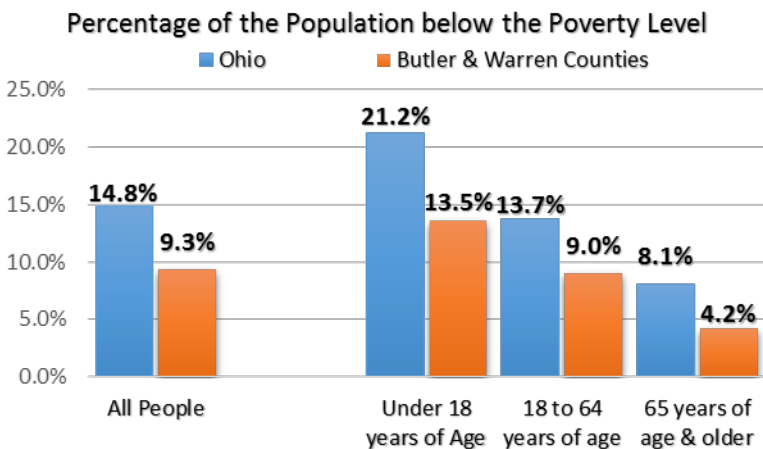


Figure 9: Percentage of the Population below the Poverty, 2011



The percentage of the age 25 and over population with a higher education degree in this service area is 37.5%, which is almost two percentage points higher than the U.S. and 5.5% more than the State rate. According to CEO for Cities, every 1% increase in college educational attainment results in a "talent dividend" of about \$1 billion per year. Higher income is correlated with better health status. There is higher income and substantially less poverty in this service area compared to State and national averages. It should be noted that in terms of median household income, Butler County's is 77% of Warren County's.

Source: U.S. Census Bureau, 2007-2011 American Community Survey

Health Care Facilities and Resources within the Community

This service area’s health care infrastructure is comprised of 10 hospitals of which seven are short-term general hospitals (one of the 7 is a children’s medical center), 38 state licensed nursing homes, 29 state licensed residential care facilities, four hospice centers, six state licensed ambulatory surgery facilities, 13 state licensed dialysis centers, and four birthing centers, per the Ohio Department of Health. There are county level and city level health departments in Butler County: Butler County Health Department, Middletown Health Department, and Hamilton City Health Department. In Warren County, there is the Combined Health District (covering the county and its cities). These Health agencies offer services such as environmental health services, nursing/clinics (including vaccinations, lead level tests and TB program), vital statistics, among other services. The chart below presents information about the health care and hospital capacity per the Health Resources and Services Administration and the Ohio Department of Health.

Primary Care Physicians	372
PCP Physicians/100K Pop	64
General/Family Practice	159
General/Family/100K Pop	27
Internal Medicine	121
Internal Medicine/100K Pop	21
Pediatricians	92
Pediatricians/100K Pop	55
Obstetricians/Gynecologists	43
OB/GYN /100K Pop	15
General Surgeons	27
General Surgeons/100K Pop	5

Source: Health Resources and Services Administration, Health Resources Comparison Tool, <http://arf.hrsa.gov/arfdashboard/HRCT.aspx>, last accessed

11/12/2013 (except where noted)

Psychiatrists	29
Psychiatrists/100K Pop	5
Dentists	259
Dentist/100K Pop	45
Hospitals	10
Total Hospital Beds	1,123
Short-Term General Hospitals + Children’s Medical Center	7
Short-Term General Hospital Beds	1,065
*Source: Ohio Department of Health, Health Care Provider Report & Information Extract, last accessed 11/30/2013	
Health Centers	
Community Health Centers	7
Federally Qualified Health Centers	2

According to the Health Resources and Services Administration, Butler County is a Health Professional Shortage Area (HPSA) for primary medical care, dental care, and mental health care. The HPSA designation for primary and mental health care pertains to the comprehensive health center called “Primary Health Solutions,” which is an FQHC. The Dental HPSA includes the FQHC as well as low income areas in East Hamilton and in Middletown. Warren County’s HPSAs are in the Warren and Lebanon correctional facilities.

Hospital

This service area is served by 10 hospitals of which seven are short-term general hospitals. One of the seven short-term hospitals is Children’s Hospital Medical Center (Liberty Campus) with 12 pediatric general beds. There is also a psychiatric hospital and the Cincinnati Children’s Hospital Medical Center is classified as a Children’s Psychiatric facility and it has 16 psychiatric beds. One other facility called University Pointe Surgical Hospital is not classified as a “general” hospital; it has 8 medical/surgical beds.

One of the short-term care general hospitals is Atrium Medical Center, a 328-bed medical center where 33% of this service area’s medical/surgical hospital beds and newborn care beds are located. A member of Premier Health Partners, Atrium is located on the Premier Health Campus which includes 10 facilities offering specialized services. Atrium offers advanced imaging technology, including digital mammography, an Emergency Trauma Center that can accommodate up to 80,000 patients per year with four specialized care areas, a comprehensive Cancer Center that offers radiation and medical oncology services, and a full complement of heart services. Atrium offers inpatient and outpatient behavioral health programs for adults and seniors. This one-story facility is attached to Atrium but maintains a private entrance.

Besides the Behavioral Health Pavilion, the Premier Health Campus includes the Bidwell Surgery Center (Outpatient Surgery), the Compton Center (cancer center), Dayton Children's Specialty Care Center, Greentree Health Science Academy (collaborative effort to offer high school and college health care education), Professional Building (housing Atrium’s pharmacy, several heart center services, the women’s center, and more), Otterbein Skilled Nursing & Rehab Neighborhood, Atrium Family YMCA (including a wellness center, Atrium’s Sports Medicine and Physical Therapy team), and the Market Avenue Building (non-clinical departments).

Short-term Care General Hospitals		
	Registered Beds	Atrium Medical Center
Special Care:	100	17
Medical/Surgical-Gen	659	217
Psychiatric	82	30
Physical rehabilitation	15	15
OB Level I	9	
OB Level II	68	16
Subtotal	933	295
Other Beds:		
Hospice	4	4
Newborn Care:		
Newborn Care Level I	91	22
Newborn Care level II	21	7
Pediatric-General	16	
Subtotal	128	29
Total	1,065	328

Source: Ohio Department of Health, Health Care Provider Report & Information Extract, http://publicapps.odh.ohio.gov/eid/reports/EID_Report_Criteria.aspx, last accessed 11/12/2013.

Clinics

Primary Health Solutions is a full Federally Qualified Health Center (FQHC) in Butler County. It is a non-profit, safety-net healthcare provider with three health centers located in Hamilton and Middletown. A dental center is located at the Middletown site. In 2009 Primary Health Solutions had over 21,746 office visits. In 2011 the estimate number of office visits was 34,703. In 2009 over 72% of patients had income at or below the Federal Poverty Level (\$20,560/year for a family of 4). This center offers bilingual primary care. Services include:

- Family Medicine
- Internal Medicine
- Pediatrics
- Expanded Dental Center
- Expanded Pharmacy services
- Lab services
- X-ray services
- Behavioral Health services
- Pharmacy services
- Pre-natal care
- WIC (Women, Infants & Children) services
- After-hours care

The Warren County Combined Health District provides the following clinics in Lebanon and Franklin. Selected details are presented below.

- Adult Clinic—operates two half-days per week. Eligibility is based on not having Medicare or any other Private Medical Insurance, must be a Warren County resident, and between the ages of 21-64. There is a co-pay of at least \$10. Charges and balances are figured on a sliding scale according to household income.
- Child Health Clinic—Open M-F 7:30AM to 4:00PM for acute care and physical exams, immunizations, TB skin test, lead testing, etc.
- Family Planning Clinic—Women's Health Services to ensure affordable comprehensive healthcare services to Warren County and the surrounding counties. Sliding fee scale determined by income for the uninsured or the underinsured Medicaid. Managed Care accepted: Medicaid; Molina; Amerigroup and Care Source.
- Flu Clinic
- HIV Testing Clinic
- International Travel Clinic
- Prenatal Clinic—Comprehensive prenatal and postpartum care for women regardless of age or income without private insurance, M-F. Charges are based on a sliding scale fee based on household size and income for clients without Medicaid. Medicaid and managed care providers such as Caresource, Molina and Amerigroup are accepted.
- Sexually Transmitted Disease Clinic (STD)-- Thursday mornings at 7:30 a.m., by appointment only. (No fee.)
- Tuberculosis Program

Mental Health Care Capacity

As stated earlier, Cincinnati Children's Hospital Medical Center is classified as a Children's Psychiatric facility and it has 16 psychiatric beds. There are another 82 short-term acute care psychiatric beds in the Service Area.

The Butler County Mental Health Board contracts with 12 certified mental health agencies to provide a variety of mental health services to all citizens of Butler County such as outpatient counseling and psychotherapy for children, adults, and families. It also provides for a 24-Hour crisis intervention/information and referral hotline.

The 12 agencies served 7,863 people in the first quarter of fiscal year 2014. The website presents the wait times for services for each of these 12 agencies. The longest wait time is for forensic and mental health services, with an average 71-day wait time. The second longest wait time is for child mental health assessments, with an average wait time of 43 days, which is three times as long as an adult mental health assessment wait time.¹

Mental Health Recovery Services of Warren & Clinton Counties (MHRS) is the local ADAMHS board that plans, funds, monitors and evaluates services and programs for residents with serious mental and emotional disorders and/or substance addictions. To do that, Ohio law authorizes these boards to contract with nonprofit agencies and other organizations that provide services and programs promoting recovery. The provider network in Warren County includes seven agencies. Solutions Counseling, in the provider network, offers a 24-hour crisis hot line, crisis stabilization, pre-hospital screening, ambulatory detox, and short-term crisis counseling for mental health or chemical dependency. Funding to pay contract agencies for services comes from federal and state subsidies, as well as grants and entitlements. A local levy also helps MHRS to meet needs within the community.

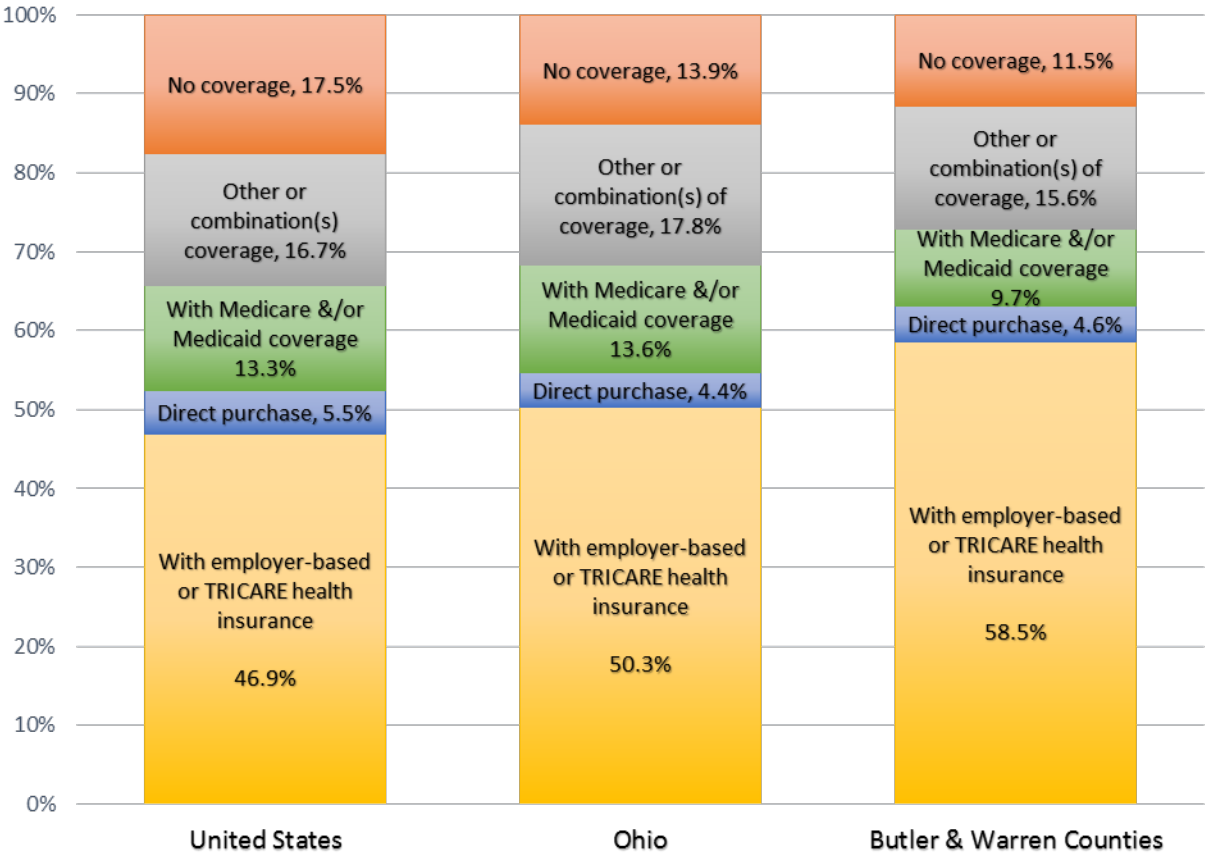
¹ http://www.bcmhb.org/index.php?option=com_content&view=article&id=35&Itemid=36

Access to Care

The distribution of health insurance coverage in the service area is substantially different than the State’s and the nation’s (see the figure below). A higher percentage of adults are covered by employer-based or TRICARE health insurance in the service area. Wright-Patterson Air Force Base, located in West Central Ohio, is one of the largest bases in the Air Force; TRICARE® is the health care program serving Uniformed Service members, retirees and their families. A smaller percentage of the service area population is covered by Medicare and/or Medicaid coverage. The service area has a much smaller percentage of adults with no health coverage as compared to the State and the nation.

Figure 10: Medical Insurance Coverage for the Population 18 Years of Age and Older, 2009-2011

Medical Insurance Coverage for the Population over the Age of 18, 2009-2011



Source: American Community Survey, 2009-2011

According to the Greater Cincinnati Community Health Status Survey (GCCHSS), 83% of Butler County residents have an appropriate, regular source of health care. About 70% of adults have dental coverage and 62% have vision coverage (per the Ohio Family Health Survey of 2008). Those who lack coverage delay dental care (26%), medical care (16%), prescription drug purchases (12%), and have problems paying medical bills (21%) per the 2010 GCCHSS. In Warren County 81% of residents have an appropriate regular source of health care. About 73% of adults have dental coverage and 67% have vision coverage.

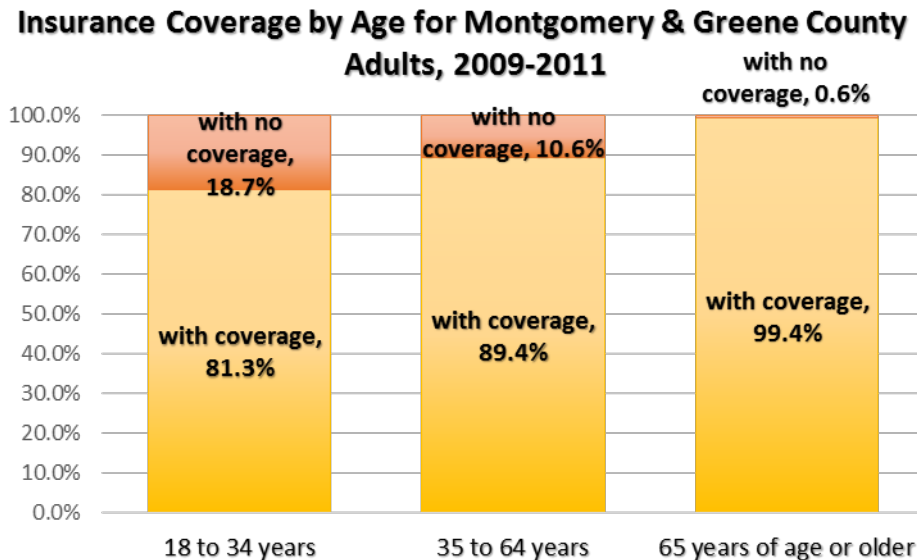
In 2012, Wright State University conducted a door to door survey in one of the most impoverished areas of Warren County. Health care access issues are summarized below.

Health Care Access Issues	Prevalence
Have a medical home	90.2%
Doctor's office	63.4%
Clinic	7.7%
ER/Hospital	13.2%
ER/Hospital is medical home for households not fully covered by health insurance	17.1%
Urgent Care	8.1%
Length of time since last routine doctor visit	14.8% said "years"
Use of ER because they could not get a needed appointment w/health care provider	23.9%
Could not see a doctor because of cost	30.1%
Could not pay for prescriptions because of cost	26.6%
Distance to health provider—average time in minutes	16 minutes
Distance to health provider not including those who use the ER and/or Hospital	17 minutes

Source: Wright State University/CUPA, 2012

The figure below presents the distribution of health care coverage across different age cohorts for the service area. About 19% of the service area's young adult population (18-34 years old) has no health insurance coverage. Nearly 11% of those ages 35-64 have no health insurance coverage.

Figure 11: Comparison of Insurance Coverage for Adults (18 Years of Age or Older) by Age Cohort, 2009-2011



Source: American Community Survey, 2009-2011

Health Needs of the Community

County Health Rankings Data

The county rankings in the table below underscore the differences across this service area.

	Butler County	Warren County	Ohio	National Benchmark	Rank of 88, Butler	Rank of 88, Warren
HEALTH OUTCOMES					36	8
Maternal and Infant Health						
Teen Pregnancy (per 1,000)	37	27	38			
Low Birth Weight	7.9%	6.8%	8.6%	6.0%		
Percentage of pregnant mothers who smoked	16.6%		17.8%	1.4%		
Percent of Mothers without 1 st trimester care	58.3%		43.6%	22.1%		
Behavioral Risk Factors					41	5
Adult smoking	23%	17%	22%	13%		
Adult obesity	32%	27%	30%	25%		
Physical inactivity	26%	22%	27%	21%		
Excessive drinking	19%	21%	18%	7%		
Motor vehicle crash death rate	10	7	11	10		
Chlamydia Rate	301.8		461.7	10% reduction		
Gonorrhea Rate	68.1		143.5	10% reduction		
Clinical Care					37	2
Uninsured	13%	10%	14%	11%		
Primary care physicians	2,027:1	1,233:1	1,348:1	1,067:1		
Dentists	2,499:1	3,178:1	1,928:1	1,516:1		
Mental health providers	3,323:1	3,004:1	2,553:1	Not available		
Preventable hospital stays	83	62	79	47		
Diabetic screening	85%	86%	83%	90%		
Mammography screening	59%	68%	63%	73%		
Disease					33	2
Poor or fair health	16%	12%	15%	10%		
Poor physical health days	4.1	2.8	3.6	2.6		
High blood pressure*	33.8%		31.7%			
Blood cholesterol*	27.6%		33.9%			
Angina/Coronary heart disease*	8.7%		4.3%			
Leading Causes of Death					37	6
Premature age-adjusted mortality	369	299	378			

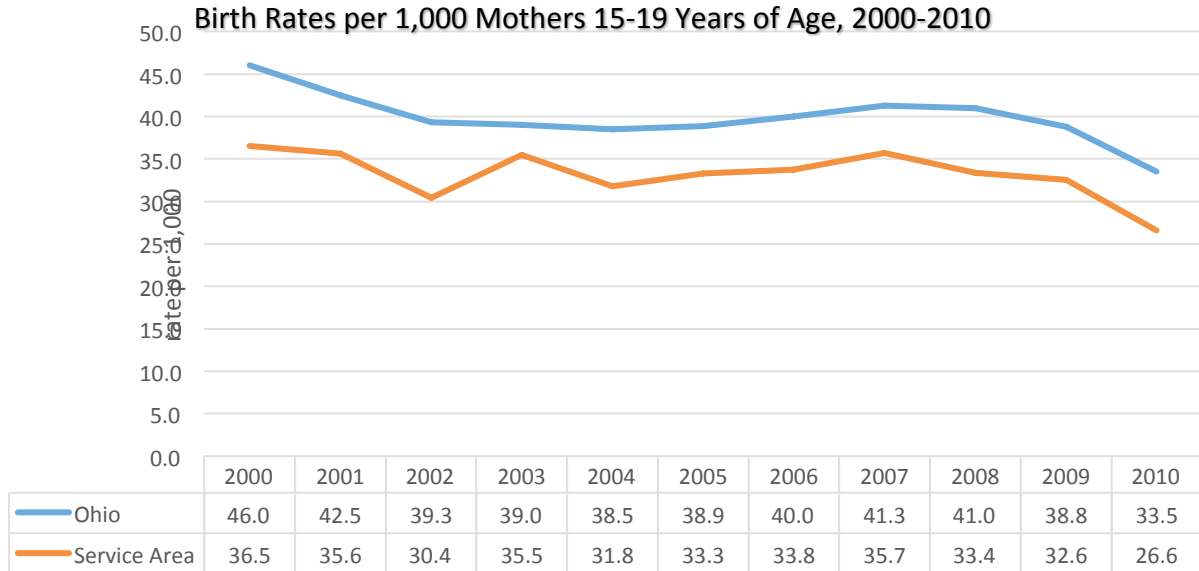
*Greater Cincinnati Community Health Status Survey, 2010

Maternal and Infant Health

Teen Birth Rates

Consistent with the State’s trend, the service area’s teen birth rate is on the decline. The rate is substantially below the State rate.

Figure 12: Teen Birth Rate

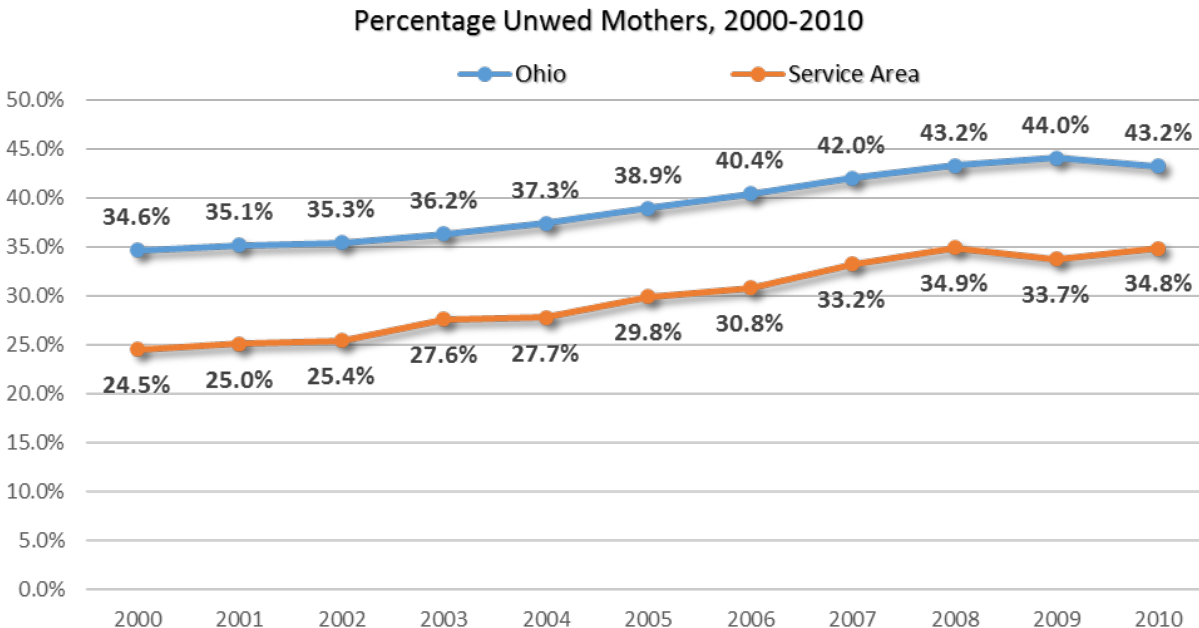


Source: 2000-2010, Ohio Department of Health, Vital statistics annual birth summaries. Last updated 05/24/2013.

Births to Unwed Mothers

The percentage of births to unwed mothers also follows the State trend and has risen over the past ten years. However, the service area’s percentage still remains lower than that of the State.

Figure 13: Births to Unwed Mothers

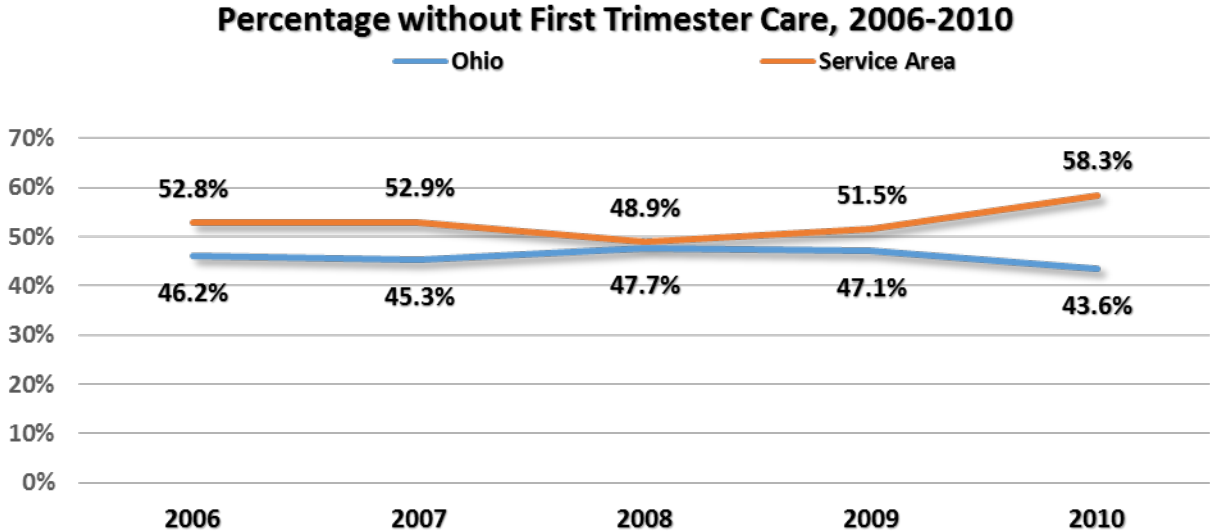


Source: 2000-2010, Ohio Department of Health, Vital statistics annual birth summaries. Last updated 05/24/2013.

First Trimester Prenatal Care

The service area’s percentage of mothers not receiving first trimester prenatal care is increasing and surpasses the State’s percentage.

Figure 14: Percent of Mothers Not Receiving First Trimester Prenatal Care

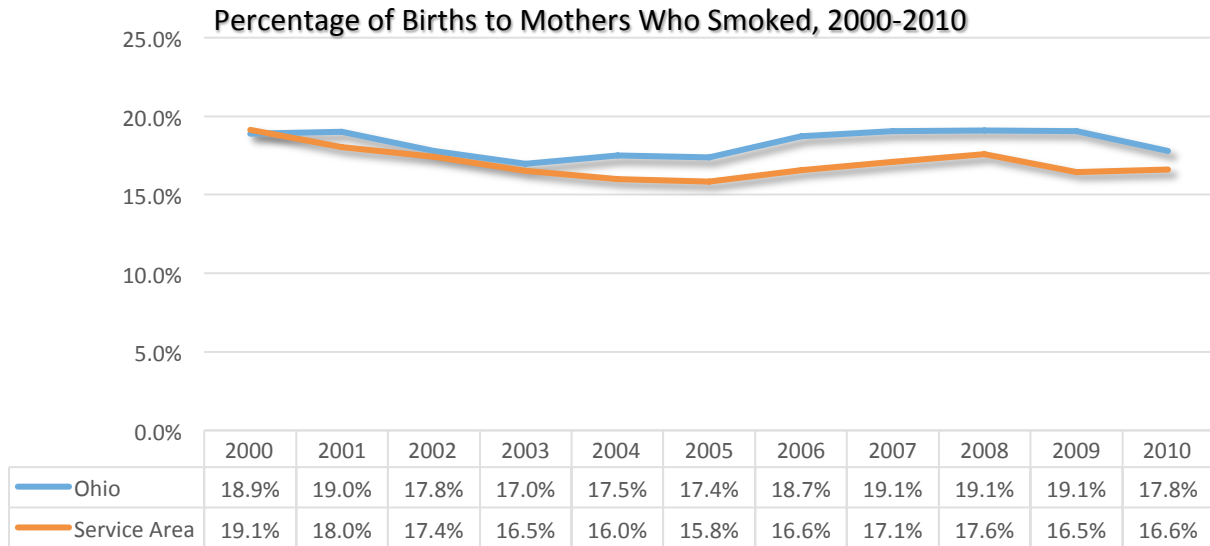


Source: 2000-2010, Ohio Department of Health, Vital statistics annual birth summaries. Last updated 05/24/2013.

Births to Mothers Who Smoke

The percentage of mothers who smoked while pregnant was lower or relatively consistent with that of the State through 2003, when the percentage of mothers in the service area who smoked decreased and remained lower than the State. The Healthy People 2020 goal is to reduce the percentage to 1.4%.

Figure 15: Births to Mothers Who Smoke

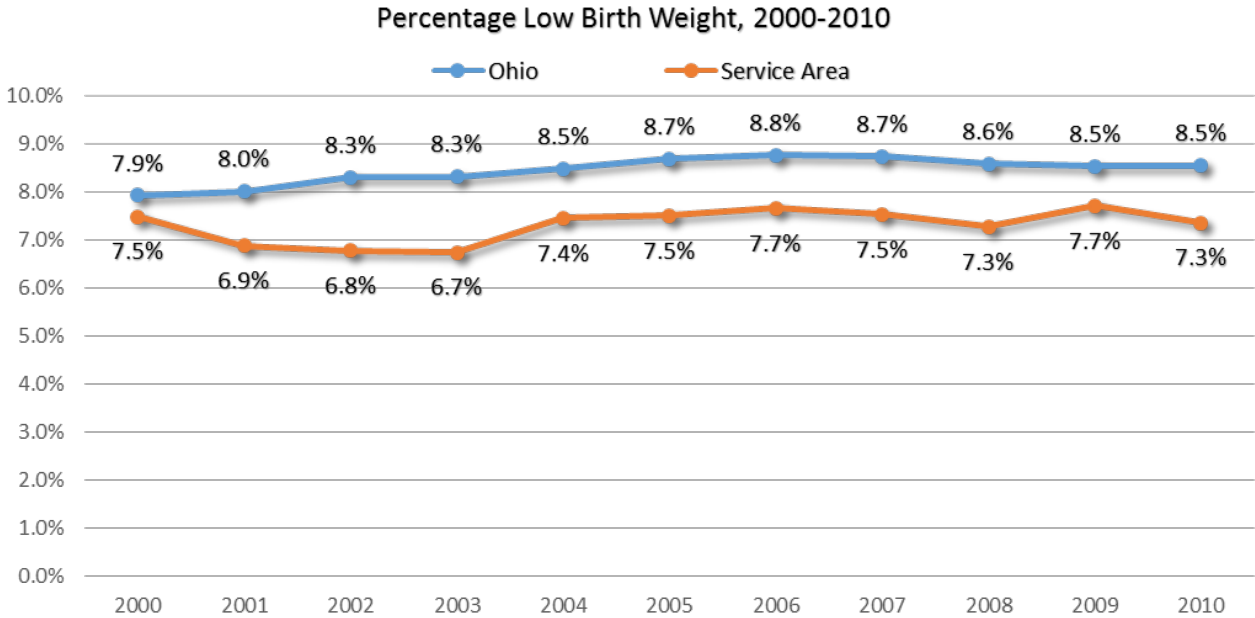


Source: 2000-2010, Ohio Department of Health, Vital statistics annual birth summaries. Last updated 05/24/2013.

Low Birth Weight Rate

Smoking during pregnancy causes low birth-weight in at least 1 in 5 infants. The service area’s percentage of low birth weight babies is substantially lower than the State percentage. The national rate is 8.2% with a national target for reduction to 7.8%.

Figure 16: Percentage of Low Birth Weight Babies

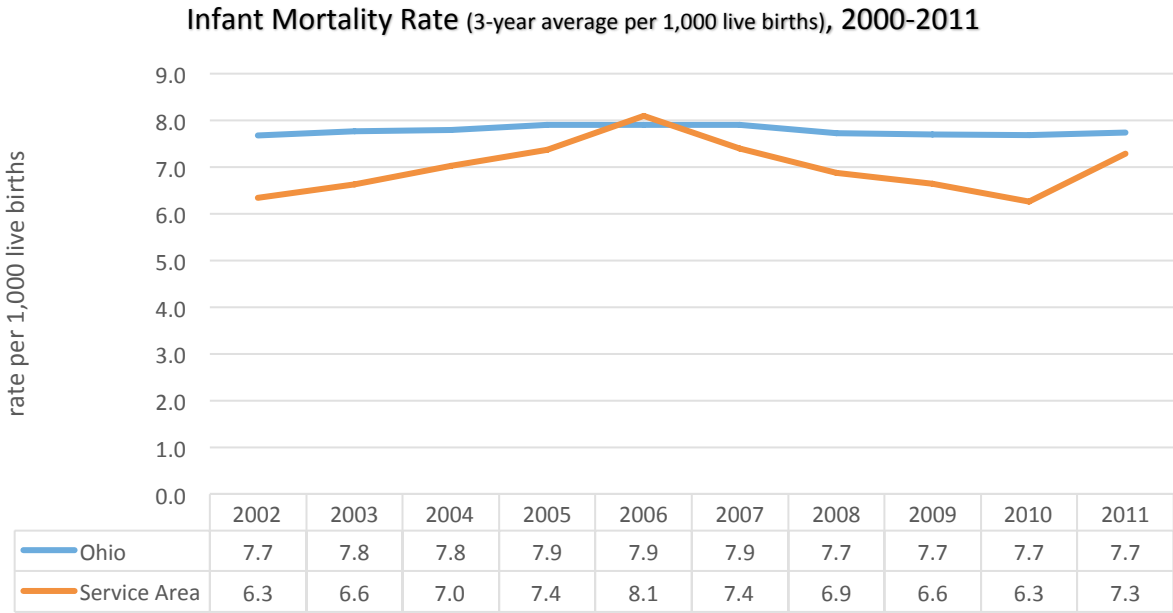


Source: 2000-2010, Ohio Department of Health, Vital statistics annual birth summaries. Last updated 05/24/2013.

Infant Mortality Rate

The infant mortality trend is calculated as a three-year rolling average. The small number of infant deaths means the data should be reviewed with caution.

Figure 17: Infant Mortality Rate



Source: 2000-2010, Ohio Department of Health, Vital statistics annual birth summaries. Last updated 05/24/2013.

Behavioral Risk Factors

Underscoring the variability across this service area, County Health Rankings for behavioral risk factors rank Butler County as 41st among the 88 counties and Warren County as 5th.

Adult smoking

According to the Journal of the American Medical Association, tobacco use is the leading cause of preventable death in the U.S. The percentage of adults who smoke is 23% in Butler County and 17% in Warren County versus 22% for the State.

Physical Activity & Obesity

Twenty-six percent of Butler County adults and 22% of Warren County adults lead a sedentary life style compared to 27% on average in Ohio. Lack of physical activity and poor diet contribute to overweight and obesity, which are prevalent in the service area. Over 32% of Butler County adults and 27% of Warren County adults self-report a height and weight (without shoes) that constitutes obesity (BMI ≥ 30). Overweight and obesity contribute to approximately 400,000 of the 2 million annual deaths in the U.S. (Dietary Guidelines for Americans, 2005). Additionally being overweight or obese increases the risk of heart disease, diabetes, cancer, high blood pressure, high total cholesterol, stroke, liver disease, sleep apnea, respiratory problems, and osteoarthritis (Centers for Disease Control and Prevention).

Excessive drinking

Excessive drinking can take three forms: chronic drinking, heavy drinking or binge drinking. Adult Behavioral Risk Factor Surveillance System (BRFSS) data from the County Health Rankings show that 19% of Butler County adults and 21% of Warren County adults were binge drinkers, on average, having consumed five or more drinks on any one occasion within the month prior to the survey. This compares to a State average of 18%.

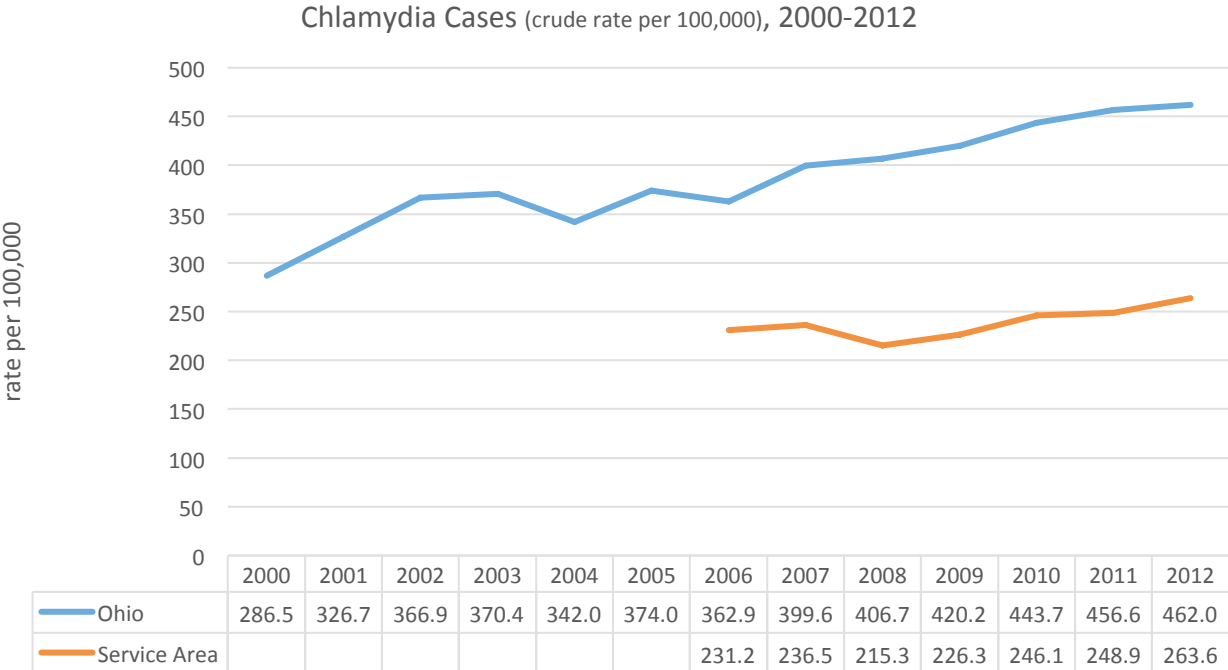
Motor vehicle crash death rate

For Ohioans of all ages, the leading causes of injury-related death include unintentional motor vehicle traffic crashes, suicide, unintentional poisonings, unintentional falls and homicides. In the County Health Rankings data, the motor vehicle crash death rate was 10 for Butler and 7 for Warren County, versus 11 for Ohio overall. An average of 41 Butler County residents and 12 Warren County residents died annually from 2004-2006 as a result of a motor vehicle traffic crash.

Sexually Transmitted Infections

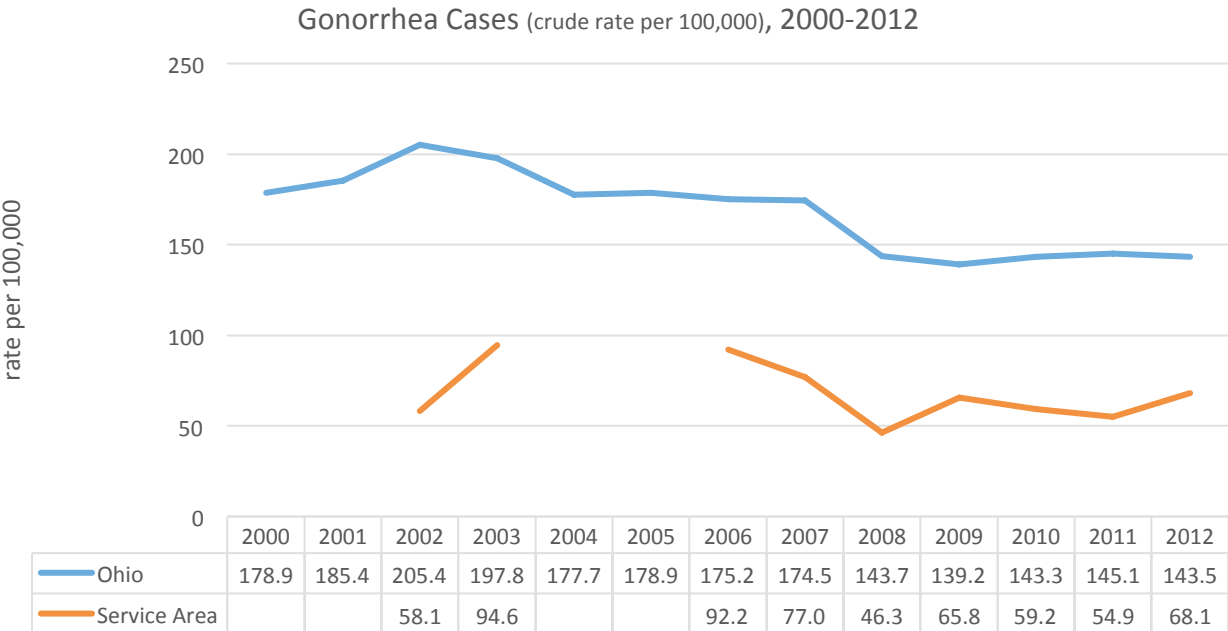
Data from the Ohio Department of Health show that the incidence of Chlamydia has been generally increasing in the State since the year 2000. The service area's rate has remained consistently below the State rate throughout the study period. Conversely, the Gonorrhea rate has been declining in the State. Again, the service area's rate is below the State rate.

Figure 18: Chlamydia Cases, 2000-2012



Source: Ohio Department of Health, 2008-2012 Ohio Infectious Disease Status Report: Chlamydia, last accessed 11/13/2013
 Ohio Department of Health, 2006-2010 Ohio Infectious Disease Status Report: Chlamydia, last accessed 11/13/2013
 Ohio Department of Health Information Warehouse, 2000-2005 Chlamydia Surveillance Report, last accessed 11/13/2013

Figure 19: Gonorrhea Cases, 2000-2012



Source: Ohio Department of Health, 2008-2012 Ohio Infectious Disease Status Report: Gonorrhea, last accessed 11/13/2013
 Ohio Department of Health, 2006-2010 Ohio Infectious Disease Status Report: Gonorrhea, last accessed 11/13/2013
 Ohio Department of Health Information Warehouse, 2000-2005 Gonorrhea Surveillance Report, last accessed 11/13/2013

Mental Health and Wellness

According to the Ohio Department of Health “Registered Hospitals Directory,” two short-term acute care hospitals in the service area have psychiatric units for a total of 82 psychiatric registered beds. Inpatient psychiatric units provide their own behavioral health crisis assessments and provide patients with access to specialty services. The Lindner Center of Hope in Warren County provides an additional 32 psychiatric beds and the Cincinnati Children’s Hospital Medical Center provides 16 psychiatric beds for children. As mentioned earlier, the Butler County Mental Health Board and the Warren MHRB member agencies also address mental health needs. The County Health Rankings provides a ratio of the county population to the number of mental health providers including child psychiatrists, psychiatrists, and psychologists active in patient care. The service area’s mental health provider ratios are unfavorable when compared to the State’s ratio—3,323 (Butler) or 3,004:1 (Warren) versus 2,553:1 for the State. Butler County is determined by HRSA to be a mental health professional shortage area in regard to its FQHC called *Primary Health Solutions*.

Poor mental health days

The shortage of mental health providers is a concern for this service area. In light of the prevalence of poor mental health days reported by adults in the BRFSS, this concern is further underscored. Butler County adults reported 3.5 days out of the 30 days prior to the survey when their mental health was not good, while adults in Warren County reported 3.6. The State average is 3.8 and the national Healthy People 2020 target is 2.3.

Hospitalization due to Poor Mental Health

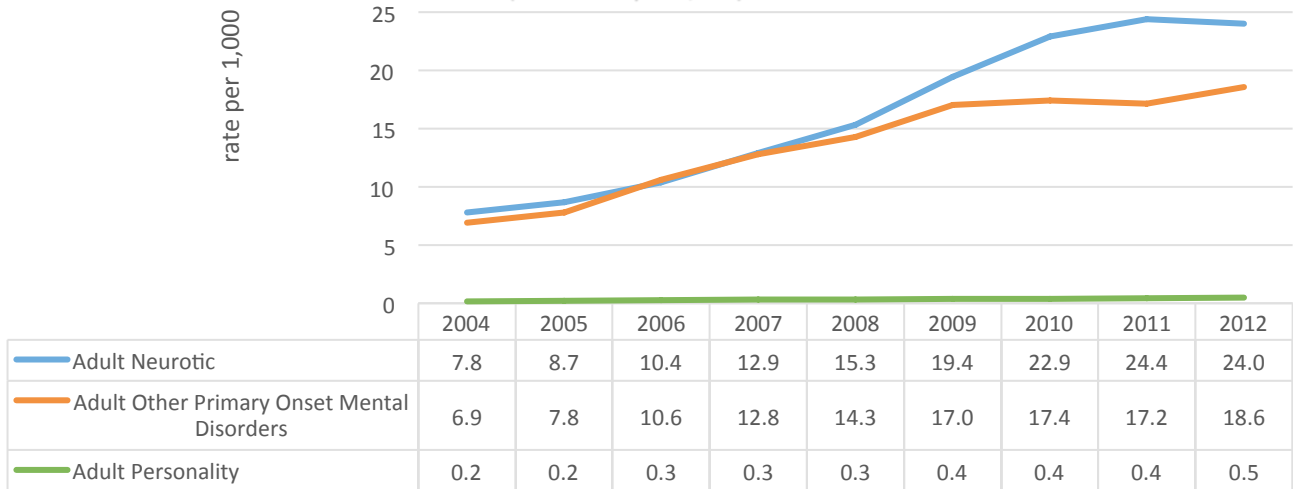
The International Classification of Diseases (also known by the abbreviation ICD) is the United Nations-sponsored World Health Organization’s “standard diagnostic tool for epidemiology, health management and clinical purposes.”² ICD-9 codes for mental disorders are presented for the Emergency Department and Hospital Inpatient discharge diagnoses in the following two figures for further exploration of mental disorder trends in the service area.

The Emergency Department trends show a diagnosis discharge rate that has increased by nearly four times from 2004 to 2012 for adult neurotic disorders and adult other primary onset mental disorders. The discharge diagnosis for adult personality disorders has remained flat.

² <http://www.who.int/classifications/icd/en/>

Figure 20: Mental Disorders - Primary/Secondary Emergency Discharge Diagnoses for the Adult Population, 2004-2012

Mental Disorders - Primary/Secondary Emergency Discharge Diagnoses for the Adult Population, 2004-2012
(crude rate per 1,000)

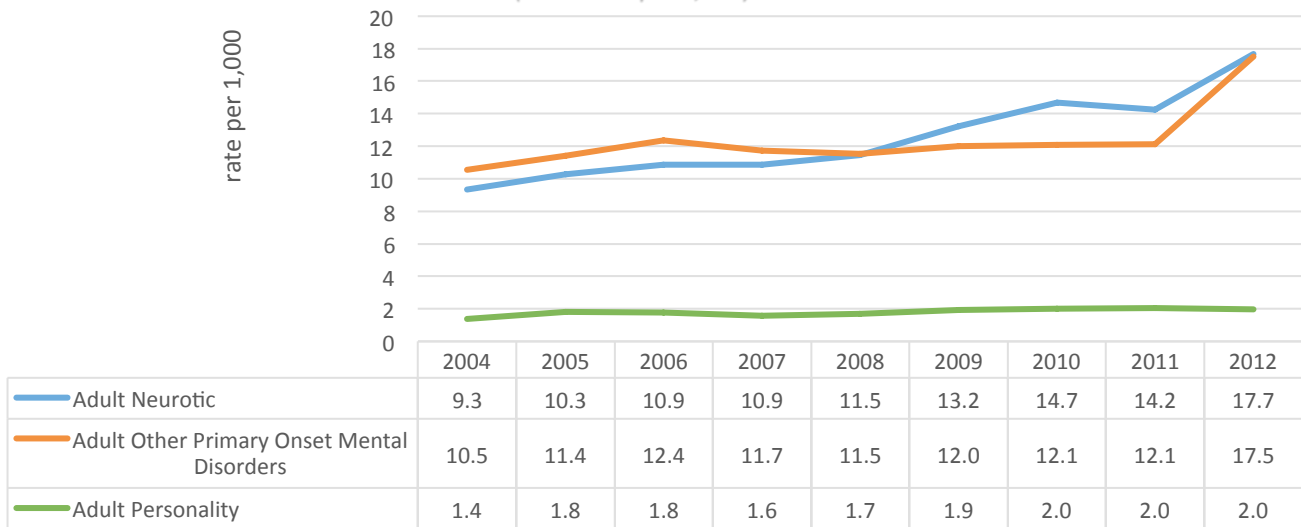


Source: Ohio Hospital Association and Greater Dayton Area Hospital Association

Mental disorder inpatient discharge diagnoses have increased over the study period too, but not at a rate as steep as for the ER.

Figure 21: Mental Disorders - Primary & Secondary Inpatient Discharge Diagnoses for the Adult Population, 2004-2012

Mental Disorders - Primary & Secondary Inpatient Discharge Diagnoses for the Adult Population, 2004-2012
(crude rate per 1,000)



Source: Ohio Hospital Association and Greater Dayton Area Hospital Association

Clinical & Preventative Services

According to County Health Rankings, Butler County is ranked 37th of 88 counties in terms of residents obtaining appropriate clinical care, while Warren County is ranked 2nd.

Uninsured

According to American Community Survey data, 11.5% of the service area's adult population (ages 18+) has no health care coverage. The service area has a lower percentage of adults with no health coverage as compared to the State (13.9%) and the nation (17.5%). Data show that adults ages 18-34 in the service area are less likely to have coverage compared to adults ages 35-64 and 65+ (18.7%, 10.6%, and 0.6%, respectively).

Primary care physicians

The service area's ratios of population to primary care physicians are varied when compared to the State's ratio—2,027:1 (Butler) and 1,233:1 (Warren) versus 1,348:1 for the State. However, the national aim is 1,067:1. And even though ratios indicate a near sufficient number of physicians in Warren County, not everyone can access them. According to the Greater Cincinnati Community Health Status Survey (GCCHSS), 83% of Butler County residents have an appropriate, regular source of health care. About 70% of adults have dental coverage and 62% have vision coverage (per the Ohio Family Health Survey of 2008). In the higher poverty areas of Warren County:

- 23.9% of adults use the ER because they could not get a needed appointment w/health care provider
- 30.1% could not see a doctor because of cost
- 26.6% could not pay for prescriptions because of cost

Dentists

Good oral health is important to one's overall health and well-being. Oral disease, particularly periodontal disease, is associated with other health issues such as problems controlling diabetes, heart disease, and premature birth (Surgeon General).

The service area's ratios of population to dentists are unfavorable when compared to the State ratio (2,499:1 in Butler; 3,178:1 in Warren; and 1,928:1 in the State with a national target of 1,516:1). This finding is further corroborated in that Butler County's low income areas and its FQHC are dental HPSAs.

Mental health providers

The service area's ratios of population to mental health providers are unfavorable when compared to the State ratio (3,323; 3,004:1; and 2,553:1, respectively).

Preventable hospital stays

Since 1996, the Dartmouth Atlas of Health Care has examined patterns of health care delivery and practice across the U.S., and evaluated the quality of health care Americans receive. Preventable hospital stays is measured as the hospital discharge rate for ambulatory care-sensitive conditions per 1,000 Medicare enrollees. Preventable hospital stays in Butler County are 83, in Warren County are 62, in the State are 79, and the national goal is 47.

Diabetic screening

Diabetic screening percentages are also provided by the Dartmouth Atlas and are calculated as the percent of diabetic Medicare patients whose blood sugar control was screened in the past year using a test of their glycated hemoglobin (HbA1c) levels. The percentage for the service area is above the State percent (85-86% versus 83%). These percentages fall below the Healthy People 2020 goal of 90%.

According to the GCCHSS, 12% of adults in the service area have been told by a doctor or other health care provider that they have diabetes. This percentage is higher than State or national rates of 10.1% and 8.7%, respectively.

Mammography screening

Mammography screening, calculated in the Dartmouth Atlas, is a measure that represents the percent of female Medicare enrollees age 67-69 that had at least one mammogram over a two-year period. The percentages for Butler County, Warren County, the State, and the U.S. benchmark are 59%, 68%, 63%, and 73%, respectively.

Disease

According to County Health Rankings, Butler County is ranked 33rd of 88 counties in terms of disease prevalence, while Warren County is ranked 2nd.

Poor or fair health

Self-reported health status is a general measure of health-related quality of life. This measure is based on BRFSS responses to the question: "In general, would you say that your health is excellent, very good, good, fair, or poor?" The value reported in the County Health Rankings is the percent of adult respondents who rate their health "fair" or "poor." In Butler County, the percentage of adults reporting "poor or fair" health status was 16%, for Warren County it was 12%, and for Ohio it was 15%.

Poor physical health days

The BRFSS also asks, "Thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?" The number of poor physical health days reported for Butler County adults was 4.1, for Warren County was 2.8, and for Ohio was 3.6.

High blood pressure

High blood pressure is also queried in the BRFSS where adults are asked if they have ever been told by a health professional that they have high blood pressure. In this case, the estimates come from more current BRFSS data. The GCCHSS found that 33.8% of adults in the service area have this disease, compared to the State's 31.7% and 28.7% for the U.S.

Blood cholesterol

Blood cholesterol is another question in the BRFSS which was asked in the GCCHSS. The percentage for the service area was 27.6% versus 33.9% and 28.4% in Ohio and the U.S., respectively.

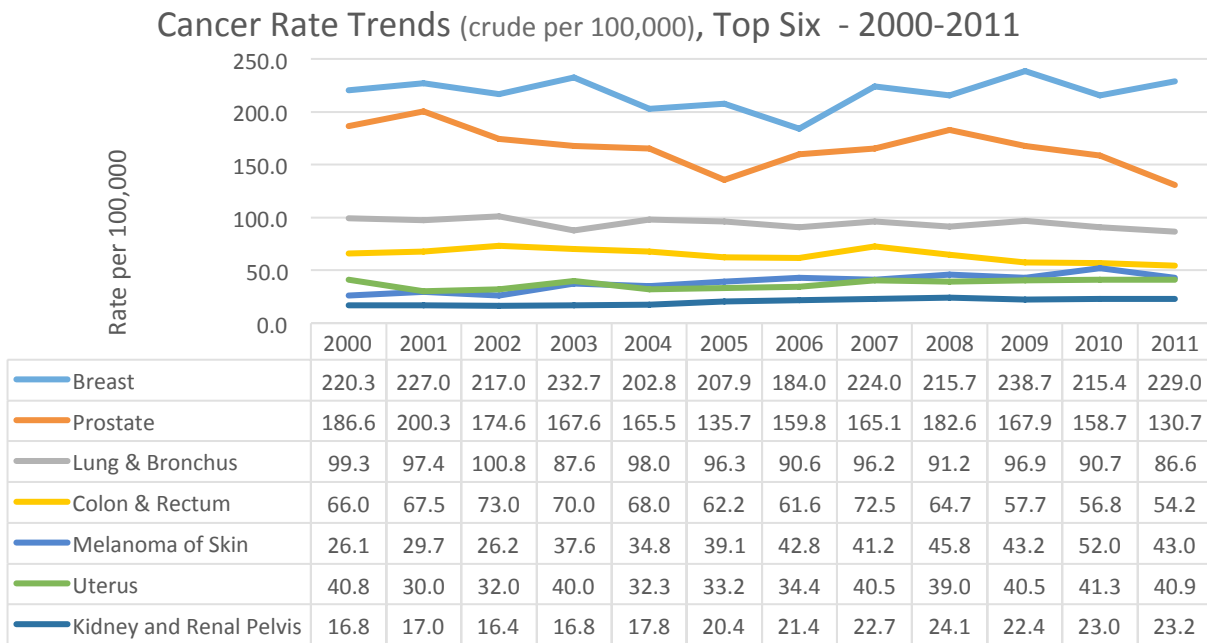
Coronary heart disease

Similarly, the BRFSS asks adult survey respondents if they have ever been told that they have coronary heart disease or angina, and the GCCHSS asked a similar question. The following percentages apply to the service area, Ohio, and the U.S., respectively: 8.7%, 4.3%, and 4.1%.

Cancer

Breast cancer rates, the most prevalent of all cancers in the service area, remained relatively flat or declining from 2000-2006 but appear to be increasing since then. Prostate, colon & rectum, and lung & bronchus cancer rates have declined, while there is an increase in rates for melanoma of the skin and kidney and renal pelvis cancer rates over the study period.

Figure 22: Cancer Rates, 2000-2011



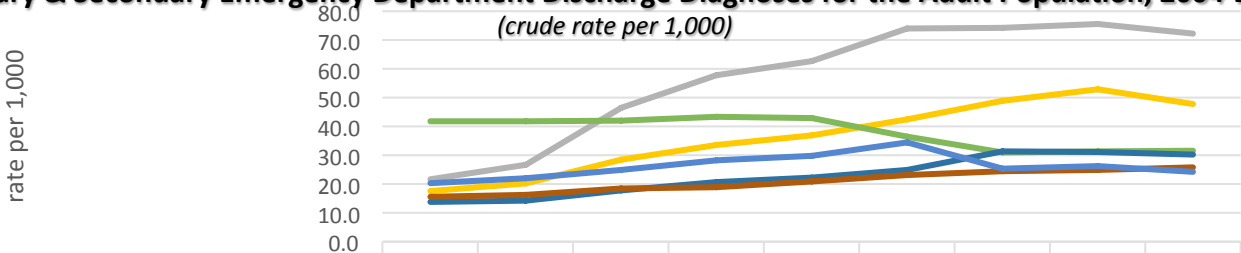
Source: Ohio Department of Health Ohio Cancer Incidence Surveillance System

Hospital Discharge Diagnoses

The top seven Emergency Department (ED) and inpatient discharge diagnoses are presented in the figures below. Hypertension is the most common hospital inpatient discharge diagnosis and presents an increasing rate over time. It is the third most common ED discharge diagnoses. In the ED, alcohol and drug dependence syndrome rates have climbed more than 300% over the study period and that diagnosis is now the leading ED discharge diagnosis and is an increasing inpatient discharge diagnosis. The ED rate for injuries has remained flat over time.

Figure 23: Emergency Department Discharge Diagnoses for the Adult Population, 2004-2012

Primary & Secondary Emergency Department Discharge Diagnoses for the Adult Population, 2004-2012

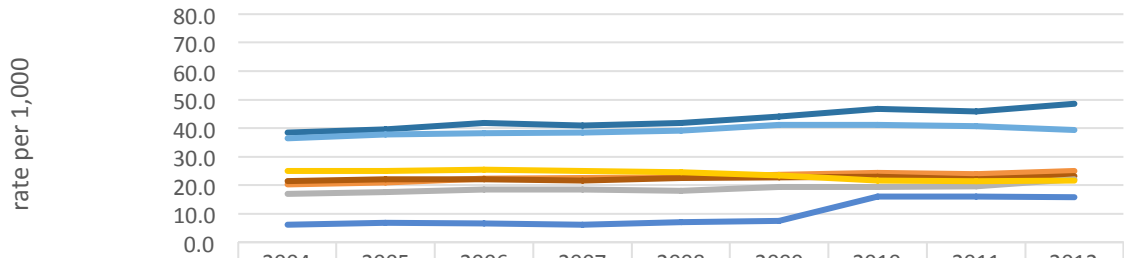


	2004	2005	2006	2007	2008	2009	2010	2011	2012
Alcohol and drug	21.7	26.6	46.5	57.9	62.8	74.1	74.3	75.6	72.4
Hypertension	17.6	20.3	28.5	33.5	37.0	42.5	49.0	52.9	47.8
Unintentional injury	41.8	41.8	42.1	43.5	42.9	36.6	31.0	31.5	31.6
Heart disease	13.8	14.3	17.8	20.6	22.3	25.0	31.4	31.3	30.2
Abdominal pain (ill-defined)	15.6	16.3	18.4	19.0	20.9	23.3	24.5	24.9	25.9
Spinal disorders	20.3	22.0	24.8	28.2	29.9	34.4	25.3	26.3	24.4

Source: Ohio Hospital Association and Greater Dayton Area Hospital Association

Figure 24: Hospital Inpatient Discharge Diagnoses for the Adult population, 2004-2012

Primary & Secondary Inpatient Discharge Diagnoses for the Adult Population, 2004-2012
(crude rate per 1,000)



	2004	2005	2006	2007	2008	2009	2010	2011	2012
Hypertension	38.4	39.6	41.7	41.0	41.7	44.1	46.8	46.0	48.6
Non-ischemic heart disease	36.4	37.9	38.3	38.4	39.1	41.1	41.1	40.6	39.3
Diabetes	20.2	21.0	22.3	22.4	22.6	23.6	24.4	23.9	25.1
Heart attack/oth ischemic heart disease	21.4	22.1	22.1	21.7	22.5	22.9	22.9	22.1	23.2
Alcohol and drug	17.0	17.6	18.5	18.5	18.1	19.3	19.4	19.7	22.0
Complications of pregnancy and childbirth	25.0	25.0	25.4	24.9	24.5	23.4	21.7	21.4	21.7
Chronic obstructive pulmonary disease	6.0	6.8	6.5	6.2	7.1	7.4	16.1	15.9	15.7

Source: Ohio Hospital Association and Greater Dayton Area Hospital Association

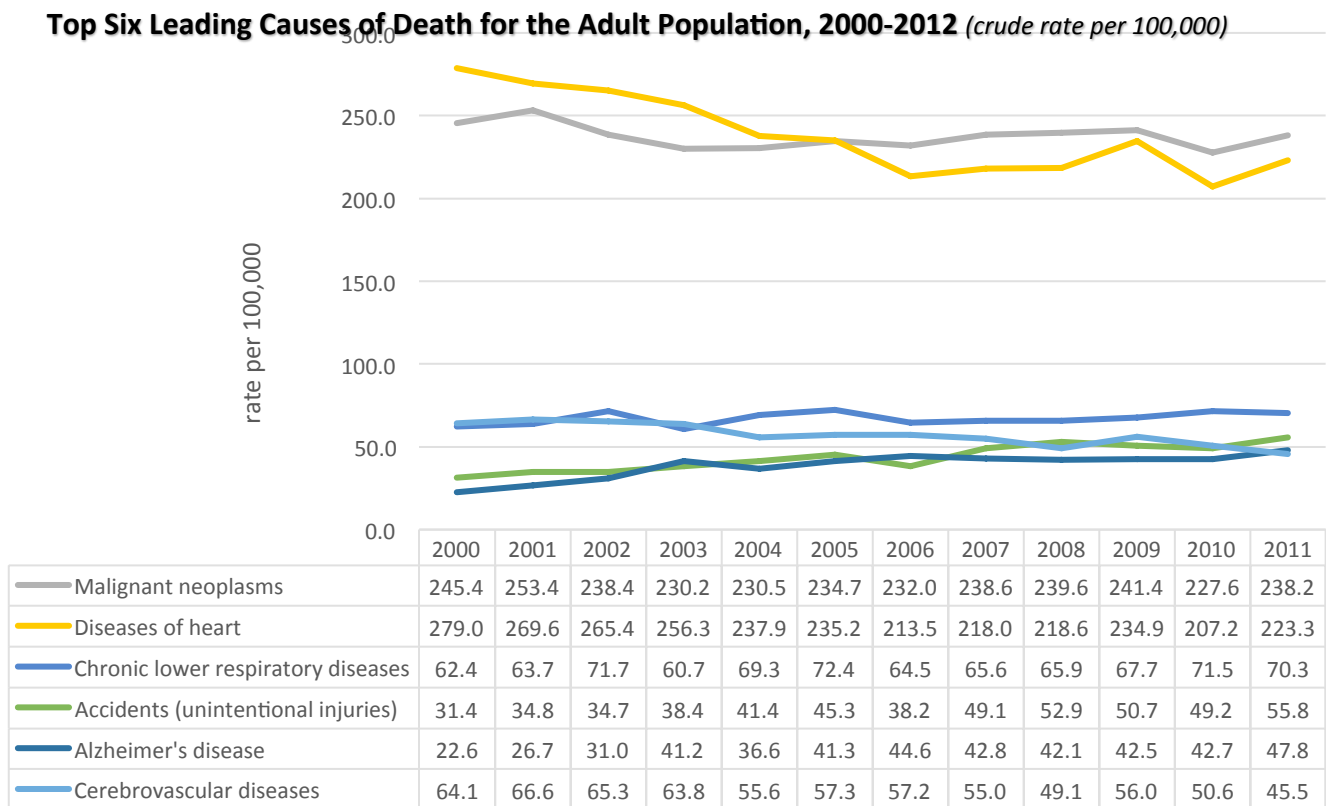
Leading Causes of Death

According to County Health Rankings, Butler County is ranked 37th of 88 counties in terms of premature death, while Warren County is ranked 6th. Premature age-adjusted mortality is a common population health outcome measure. The age-adjusted mortality rate of residents under the age of 75 in Warren County is substantially lower than that for Butler County (299 versus 369 compared to 378 for Ohio).

The figure below presents the six top leading causes of death in the service area. Cancer and diseases of the heart top the list, but the mortality rate for diseases of the heart has declined substantially since 2000. Mortality rates that are increasing include Chronic Lower Respiratory Diseases, accidents, and Alzheimer’s disease.

Figure 25: Top Six Leading Causes of Death, 2000-2012

Top Six Leading Causes of Death for the Adult Population, 2000-2012 (crude rate per 100,000)



Source: 2000-2012, Ohio Department of Health Vital Statistics

Process for Identifying and Prioritizing Community Health Needs

The identification of priority health needs began with a comprehensive review of all primary and secondary data. Next, criteria were applied to aid in the selection of cross-cutting issues that are not trending in a favorable way. The criteria used were:

- Prevalence
- Seriousness (hospitalization and/or death)
- Impacts on other health issues
- Urgency—what are the consequences of not addressing this issue?
- Prevention—is the strategy preventative in nature?
- Economics — is the strategy financially feasible? Does it make economic sense to apply this strategy?
- Acceptability – Will the stakeholders and the community accept the strategy?
- Resources — is funding likely to be available to apply this strategy? Are organizations able to offer personnel time and expertise or space needed to implement this strategy?

Priorities Identified by Researchers

By applying these criteria, researchers identified priority areas for consideration by the Hospital and its community group. These priority areas are not presented in a ranked order.

Maternal and Infant Priorities:

1. First Trimester Prenatal Care – The percentage of mothers not receiving first trimester prenatal care in the service area is well above the State percentage (58.3 versus 43.6).
2. Infant mortality rate—The service area rate was above the State rate for the first time in 2006 and is trending up again in 2011.

Primary and Chronic Diseases:

1. Hypertension—Hypertension self-reported rates are higher in the service area than in the State and nation (33.8% versus 31.7% and 28.7%, respectively). It is the leading inpatient discharge diagnosis and the 3rd leading ED discharge diagnosis. Furthermore, the rate of self-reported angina is substantially higher than the State and national rates (8.7% versus 4.3% and 4.1%).
2. Breast cancer—The breast cancer rate is 229 per 100,000, and the rate is increasing as opposed to other historically prevalent cancers.
3. Diabetes—The prevalence of diabetes is substantially greater in the service area compared to the State and nation according to self-reports (12% vs. 10.1% and 8.7%). It is the 3rd most common inpatient discharge diagnosis and the 6th most common ER discharge diagnosis. Discharge diagnoses rates have increased from 2004 to 2012. There is also an increase in kidney and renal cancer-- type 2 diabetes is significantly associated with an increased risk of renal cell cancer.
4. Alcohol and drug dependence—From 2004 to 2011, the rate of Emergency Department discharge diagnosis for alcohol and drug dependence syndrome increased from 21.7 to 72.4 per 1,000 and from 17 to 22 per 1,000 for inpatient discharge diagnosis.

Methodology and Information Gaps

The spine of this analysis is hospital and public health data. Hospital data is provided in the form of ICD-9 codes. The International Classification of Diseases (also known by the abbreviation ICD) is the United Nations-sponsored World Health Organization's "standard diagnostic tool for epidemiology, health management and clinical purposes."³ The ICD is designed as a health care classification system, providing a system of diagnostic codes for classifying diseases, including nuanced classifications of a wide variety of signs, symptoms, abnormal findings, complaints, social circumstances, and external causes of injury or disease.⁴

For this Community Health Needs Assessment, primary and secondary diagnoses were provided for selected ICD-9 codes. Researchers listed 26 codes for adults, five of which had subcategories. An example of a category is "injury" which is subcategorized into unintentional injury (with another subcategory of *fractures*), homicides, and suicides. For this analysis, the top codes were selected for presentation based on natural breaks in the data.

Public health data are provided by the Ohio Department of Health (ODH) for West Central Ohio. Maternal and infant health data as well as mortality data (including infant mortality) were directly downloaded from the ODH website. Cancer registry data were provided to Wright State University for rate calculations. Data are suppressed whenever there are fewer than 10 cases in a cell.

Besides hospital and public health data, other critical primary and secondary data sources included:

- U.S. Bureau of the Census American Community Survey
- The Ohio Development Services Agency population forecasts and county descriptions
- The Ohio Department of Job and Family Services Ohio Home Care Program data
- Economic Modeling Specialists, Inc. industry and occupational data
- Hoover's (a subsidiary of Dun & Bradstreet) company records
- The Greater Cincinnati Community Health Status Survey
- Robert Wood Johnson Foundation County Health Rankings
- Health Resources and Services Administration (HRSA) HPSA and health resources data

Limitations and Gaps in the Data

Information gaps that limit the ability to assess the community's health needs include:

- No service/usage data are included from hospital clinics and private clinics.
- Secondary aggregate data on mental health users, services, and costs is difficult to obtain for Medicaid patients and basically impossible to obtain from private sector providers.
- The most recent data from the Ohio Department of Health for some data is 2010.
- Some ICD-9 data had to be suppressed due to anomalies.
- The health data presented in this report are not exhaustive.
- A longitude for First Trimester Prenatal Care has a baseline of 2006, because the method for data presentation changed in that year.

³ <http://www.who.int/classifications/icd/en/>

⁴ <http://www.rtmedibus.com/educationclinicalcontent/conditions-and-diseases>