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INTRODUCTION

Soin Medical Center is one of seven hospitals in the Kettering Health Network. Opening its doors in 2012, Soin Medical Center has access to the Network's resources such as a vast network of specialist physicians as well as specialized centers and services.

Soin Medical Center Service Area

The primary service area for Soin Medical Center is defined as Greene County, which is located in West Central Ohio. This service area's health care infrastructure is comprised of 2 hospitals, both of which are short-term acute care hospitals, 11 State licensed nursing homes, seven State licensed residential care facilities, two hospice centers, three State licensed ambulatory surgery facilities, three State licensed dialysis centers, and one birthing center, per the Ohio Department of Health.

Community Health Needs Assessment

In 2013, Soin Medical Center partnered with member hospitals of the Greater Dayton Area Hospital Association and Wright State University to prepare the Community Health Needs Assessment (CHNA) for the Medical Center's service area. A community health needs assessment engages community members and partners to collect and analyze health-related data from many sources.

Data Collection

To prepare the CHNA, primary and secondary data were collected in order to paint a detailed picture of the Soin Medical Center Service Area. Primary data is collected directly from first-hand experience and secondary data is data that has already been collected and archived by other organizations. For Soin's Community Health Needs Assessment, primary data were collected by surveying 975 Greene County adults using the Centers for Disease Control and Prevention's Behavioral Risk Factor Surveillance System (BRFSS). Secondary data were collected from sources such as the Ohio Hospital Association via the Greater Dayton Area Hospital Association, the Ohio Department of Health, the Health Resources and Services Administration (HRSA), the Bureau of the Census, and the Robert Wood Johnson Foundation, among others.

Using the key findings from the CHNA, key stakeholders identified and prioritized strategic areas of concern for Soin Medical Center's service area as the basis for Medical Center's Implementation Strategy. The following report outlines the process for identifying and prioritizing key strategic issues and the implementation strategy that will address these issues.

SELECTION OF COMMUNITY HEALTH PRIORITIES

The following lists present serious health priorities identified by the Soin Medical Center Community Health Needs Assessments (CHNA), ranked according to prevalence. “Serious” health priorities pertain to health issues that lead to hospitalization and/or death.

Top Inpatient Diagnoses

1. Hypertension
2. Heart attack/other ischemic heart disease
3. Complications of pregnancy and childbirth
4. Homicide/Assault
5. Diabetes
6. Heart Disease
7. Alcohol and drug

Top ED Diagnoses

1. Alcohol and drug
2. Unintentional Injury
3. Hypertension
4. Abdominal pain
5. Spinal disorders
6. Diabetes
7. Chest Pain

Leading Causes of Death

1. Diseases of heart
2. Malignant neoplasms
3. Other and unspecified
4. Accidents
5. Chronic lower respiratory diseases
6. Cerebrovascular disease

In addition to prevalence, hospitalization, and death, the trends and impact of each health factor were taken into consideration when selecting the top health priorities for the Soin Medical Center Service area along with other criteria. The full list of criteria used to select the health priorities is:

- ✓ Proportion of population impacted
- ✓ Number of hospitalizations/ ED visits
- ✓ Number of deaths
- ✓ Degree to which the health factor in the local area is more prevalent than in the State and/or Nation
- ✓ Impacts on other health outcomes
- ✓ Rapid increase/decrease of the health factor
- ✓ Trends across contributing factors that affect the health factor

Once all of these criteria were applied, the top five priorities were selected according to the criteria above and the prevalence of their contributing factors. For example, heart disease was chosen as one priority area because heart disease is the number one cause of death in the County, inpatient diagnoses of heart disease are increasing, the percentage of County adults with heart disease (via self-reported data) is higher than the State and Nation, and the prevalence of contributing factors of heart disease (hypertension, smoking, obesity and high cholesterol) are also of concern in the hospital’s service area. Besides heart disease, the other health priorities identified for the hospital’s service area are diabetes, breast cancer, chronic lower respiratory disease, and unintentional injury.

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This hospital facility will only address two of the five needs identified through the CHNA, heart disease and diabetes. Appendix A presents tables containing the health data used to select the top two health priorities. The other three health needs will not be addressed by this facility, as they are being addressed by other organizations in the service area. The following sections contain information about how the unaddressed health needs will be met by other organizations.

UNADDRESSED HEALTH PRIORITIES

Using the criteria above, five health priorities were identified for adults in the service area: heart disease, breast cancer, diabetes, chronic lower respiratory disease, and unintentional injury. However, only two of these, heart disease and diabetes, will be addressed by the Soin Medical Center. Greene Memorial Hospital will address Breast Cancer in its Hospital Implementation Strategy. Chronic Lower Respiratory Disease and Unintentional Injury will be addressed by the Greene County Combined Health District (GCCHD) as per their Community Health Improvement Plan (CHIP) and through the Safe Communities grant. Please refer to the table below for more information about these programs.

Greene County		
Health Priority	Organization	Action Plan
Breast Cancer	Greene Memorial Hospital	2014-2016 Implementation Strategy addresses Breast Cancer through outreach and education that includes partnering with local universities to provide targeted breast cancer awareness and education. Prevention and early detection are paramount in addressing women’s breast health. Educating women at a younger age encourages their commitment to lifelong breast health.
Chronic Lower Respiratory Disease	Greene County Combined Health District	The 2013-2016 Community Health Improvement Plan addresses creating an asthma referral system and integrating asthma related social media tools into the GCCHD website.
Unintentional Injury	Greene County Combined Health District-Safe Communities Program	The Safe Communities grant addresses unintentional injuries and is primarily related to traffic crashes.

HEALTH NEEDS TO BE ADDRESSED

Soin Medical Center representatives reviewed the selected health priorities in conjunction with the hospital's services and programs, areas of expertise, resources, and existing community assets to determine which priority areas could best be addressed. Specialists from Kettering Breast Evaluation Center (KBEC)-Greene Memorial and the cardiac team, along with representatives from the President's Office, the Hospital Foundation Office, the Marketing Office and the Community Outreach Group came together to determine the health factors that this facility is best positioned to influence during the upcoming planning cycle due to the facility's programs and accessible resources. The priorities include:

- ✓ Heart Disease
- ✓ Diabetes

IMPLEMENTATION STRATEGY

In support of the 2013 Community Health Needs Assessment and ongoing community benefit initiatives, Soin Medical Center plans to implement the following strategies to impact and measure community health improvement. As the Soin Medical Center moves forward with each initiative, community needs will be continually monitored, and programming and services will be adjusted accordingly.

PRIORITY: Heart Disease

Rationale

Based on self-reported data, 7.6% of Greene County adults have been told by a medical professional that they have coronary heart disease, and this percentage is significantly higher than the rate for the State and Nation. From 2004 to 2012, heart disease as the primary or secondary discharge diagnosis for residents of Greene County has been relatively stable for both inpatient and emergency department discharges. Similarly, the mortality rate due to ischemic heart disease has remained relatively stable over this same period. Deaths in the County due to non-ischemic heart disease decreased from 2000 to 2006; but rates began rising again in 2007 and continued this trend through 2012. Both hospitalization and mortality due to heart disease is lower in the County than in the State. The maps on the following pages present those zip codes in orange where hospitalization (based on primary and secondary diagnoses at time of discharge) or mortality due to heart disease is higher than the State's rate. Refer to the following tables for rates. Interestingly, mortality is lower due to heart disease in the largest zip code (45385¹) where both inpatient and emergency hospitalization is higher than the State's rate.

¹ Seniors are more concentrated in this zip code (45385) than other zip codes. Poverty is also higher in this zip code than the surrounding zip codes.

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Heart Disease Adult Emergency Department Hospitalization, 2011

Primary & Secondary Discharge Diagnoses	Greene County		Ohio
	Number	Rate/100k	Rate/100k
Ischemic	1,449	1126.4	1590.2
Non-Ischemic	2,170	1686.9	2158.5

Source: Ohio Hospital Association and Greater Dayton Area Hospital Association

Heart Disease Adult Inpatient Hospitalization, 2011

Primary & Secondary Discharge Diagnoses	Greene County		Ohio
	Number	Rate/100k	Rate/100k
Ischemic	3,428	2664.8	3634.2
Non-Ischemic	4,979	3870.5	4826.0

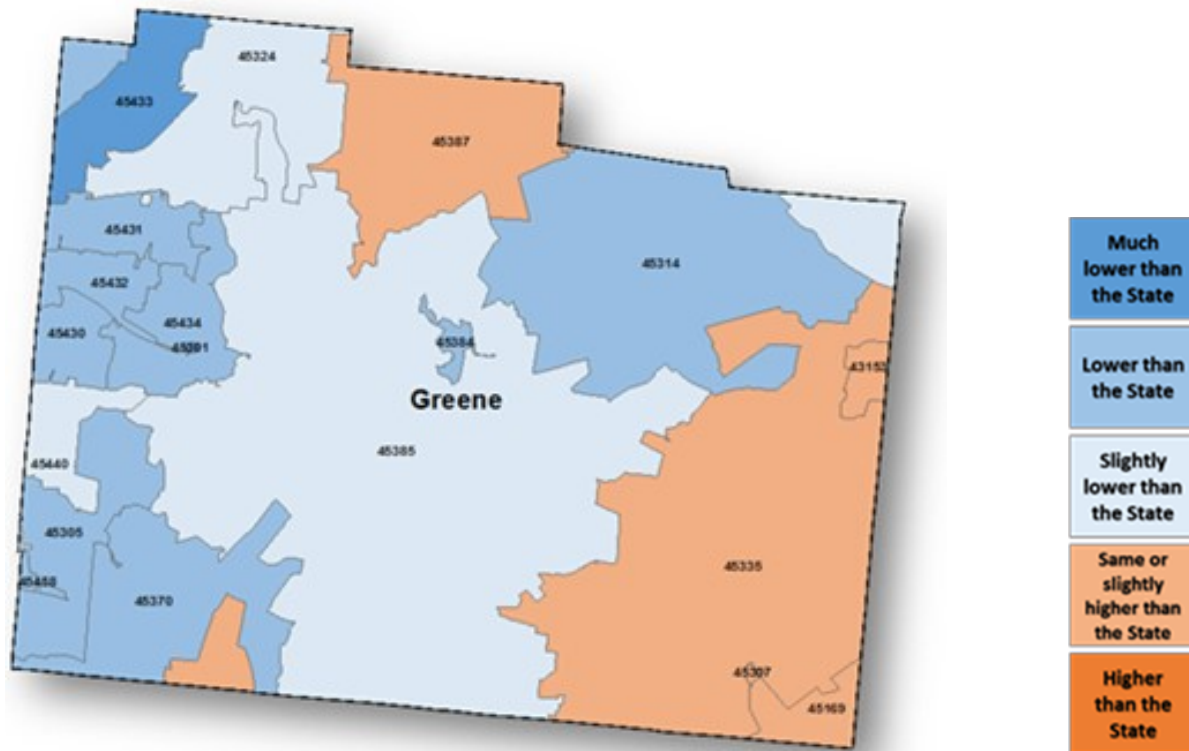
Source: Ohio Hospital Association and Greater Dayton Area Hospital Association

Adult Mortality Due to Heart Disease, 2011

Mortality Heart Disease	Greene County		Ohio
	Number	Rate/ 100k	Rate/ 100k
Ischemic	227	176.5	194.0
Non-Ischemic	58	45.1	87.2

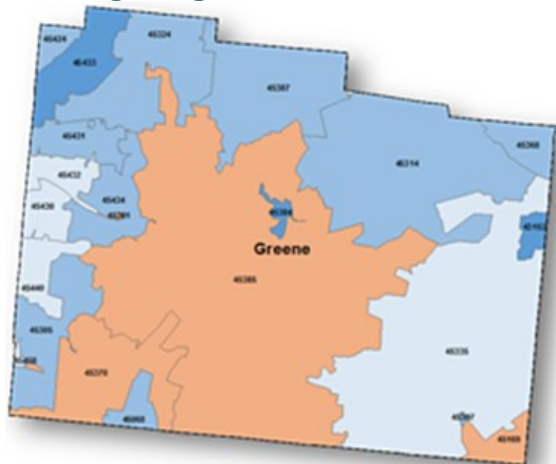
Source: Vital Statistics Program, Ohio Department of Health, 2000-2012.

Cause of Death, Adults - Heart Disease, 2011

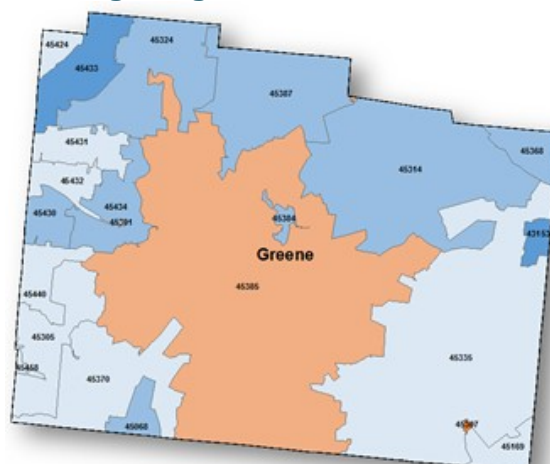


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Emergency Department Adult Primary & Secondary Ischemic Heart Disease Discharge Diagnosis, 2011



Emergency Department Adult Primary & Secondary Non-Ischemic Heart Disease Discharge Diagnosis, 2011



Impact on/by Other Health Issues

Hypertensive heart disease is the No. 1 cause of death associated with high blood pressure; it includes heart failure, ischemic heart disease, hypertensive heart disease, and left ventricular hypertrophy. Hypertension is a leading contributing factor to heart disease, and in Greene County the number one inpatient diagnosis is hypertension. Other contributing factors to heart disease are smoking, obesity, high cholesterol and excessive use of alcohol, all of which are more prevalent in the County than in the State and are higher than the national benchmark.

Objective: From 2014-2016, successfully screen blood pressure for 70% of adults attending community outreach “heart health” events in Greene County. Refer 100% of people determined to be hypertensive to follow up care.

Strategy: Increase health education and promote preventive screenings to improve heart health.

Activity One: Strengthen partnerships with Greene County Parks & Trails and faith based organizations to promote healthy living and increase access to preventive screenings.

1. Increase and promote *edu-tainment* opportunities such as “shake it up” heart exercise and Zumba.
2. Engage physicians as presenters in health expositions and fairs.
3. Promote health education opportunities through radio announcements.

Activity Two: Conduct health screenings such as cholesterol and blood glucose tests while patients are in the hospital for other health services.

PRIORITY: Diabetes

Rationale

From 2005 to 2010, the incidence of adults newly diagnosed with diabetes in Greene County has been on the rise – from 9.4 per 1,000 in 2004 to 10.3 in 2010. At its peak in 2008, the rate of adults with newly diagnosed cases of diabetes was 11.5 per 1,000 residents. Similarly, diabetes prevalence has also been on the rise from 8.1% of the adult population reporting diabetes diagnosis in 2004 to 10.3% in 2010. These rates are similar to the State of Ohio, but are slightly lower. Mortality due to diabetes over this same period peaked in 2006 at 47.4 deaths per 100,000 residents, declining to 32.6 deaths per 100,000 in 2012. Mortality rates due to diabetes have been consistently lower than the State’s rate since 2006. The maps below present those zip codes in orange where hospitalization (based on primary and secondary diagnoses at time of discharge) or mortality due to diabetes is higher than the State’s rate. Refer to the tables below for rates. The mortality rate is higher than the State’s rate in seven of the County’s zip codes, while Emergency Department discharge rates are higher for residents only in the central zip code of the County (45385).

Adult Diabetes, 2010

Discharge Diagnoses	Greene County		Ohio
	<i>Number</i>	<i>Rate</i>	<i>Percent</i>
New Adult Cases	1,113	10.3/1,000	11.0/1,000
Total Adult Cases	12,348	10.3%	10.8%

Source: Centers for Disease Control and Prevention: National Diabetes Surveillance System.

Adult Diabetes Hospitalization, Primary & Secondary Discharge Diagnosis, 2011

Discharge Diagnoses	Greene County		Ohio
	<i>Number</i>	<i>Percent</i>	<i>Percent</i>
Emergency	3,909	3.0%	3.9%
Inpatient	4,329	3.3%	3.8%

Source: Ohio Hospital Association and Greater Dayton Area Hospital Association

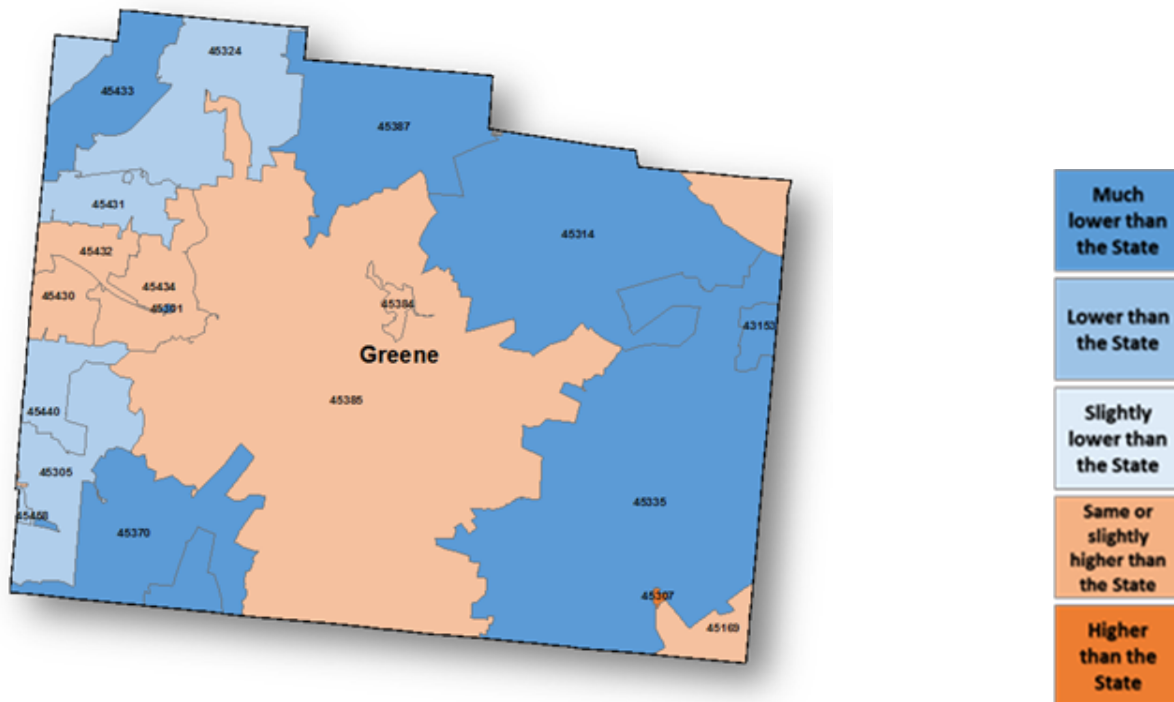
Adult Mortality Due to Diabetes, 2011

Mortality Diabetes	Greene County		Ohio
	<i>Number</i>	<i>Rate/100k</i>	<i>Rate/ 100k</i>
Greene County	42	32.6	41.7

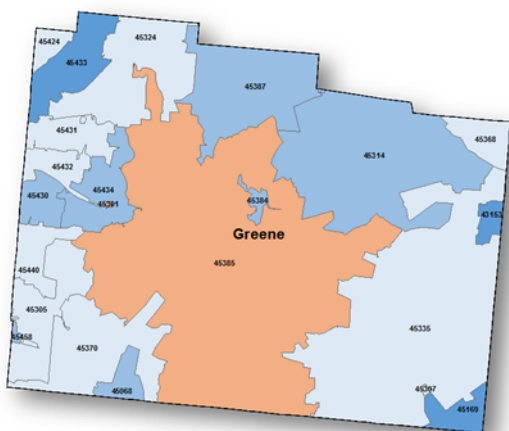
Source: Vital Statistics Program, Ohio Department of Health, 2000-2012.

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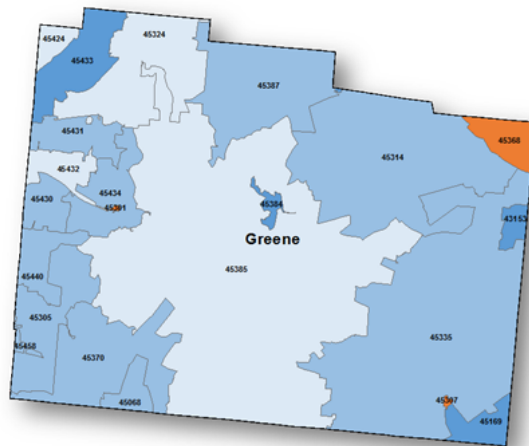
Cause of Death, Diabetes, 2011



Emergency Department Adult Primary & Secondary Diabetes Discharge Diagnosis, 2011



Inpatient Adult Primary & Secondary Diabetes Discharge Diagnosis, 2011



Impact on/by Other Health Issues

According to the CDC, adults with diabetes are 2-4 times more likely to die of heart disease or experience a stroke. The rate of diabetes screening in Greene County is lower than the rate for Ohio and the national benchmark (77% versus 83% and 90%, respectively). However, the percentage of County adults with health risks associated with diabetes (obesity and hypertension) is higher than the State percentage and the national benchmark.

Objective: From 2014-2016, increase by 2% annually the number of diabetes screenings provided to adults ages 18+ who attend education and outreach initiatives implemented by a partnership between the Joslin Diabetes Center and Community Outreach.

Strategy: Promote healthy lifestyles and increase diabetes education to improve overall health and mitigate the effects of diabetes

Activity One: Create corporate partnerships focusing on local government organizations in the County to engage more employers in hospital-led health and wellness education and activities.

1. Use lessons learned from the YMCA-led diabetes education offered to GMH employees to promote diabetes education to other employers in the County.
2. Use lessons learned from collaborations to improve diabetes outreach to the community.
3. Tap into the pool of expert diabetes educators that are accessible through the Kettering Health Network to bring diabetes education to employers and their employees within the County.

Activity Two: Engage public employers other than the City of Xenia and Greene County in screenings provided by the Soin Medical Center.

1. Enable the Community Benefits office to bill public insurance for services provided.

APPENDIX A: SOIN MEDICAL CENTER HEALTH PRIORITIES

Heart Disease

Contributing Factors	Proportion of population impacted	Comparison to State & Nation	Trend	Number of hospitalizations/ ED visits	Number of Deaths	Impacts other health outcomes
Heart Disease	7.6%	Higher than the State (4.3%) and Nation (4.1%)	Inpatient discharge diagnoses have increased by 13.4% from 2004-2012.		#1 leading cause of death in the County	Cardiovascular diseases is among the leading causes of disability in the U.S.
Hypertension	32.9%	Higher than the State (31.7%) and the Nation (28.7%)	ED discharge diagnoses have tripled from 2004 to 2012	Leading inpatient discharge diagnosis		Heart attack, stroke, and diabetes among others
Adult Smoking	19.5%	Higher than the national benchmark (17.3%)	Decreasing			Leading predictor of lung & bronchus cancer; ~90% of deaths from chronic obstructive lung disease are caused by smoking
Obesity & Overweight	70.3%	Higher than the State (65.7%) and the national benchmark (64.5%)	Increased until 2010			CHD, HTN, stroke, type 2 diabetes, abnormal cholesterol, metabolic syndrome, cancer, osteoarthritis, among others
High Cholesterol	40.1%	Higher than the State (33.9%) and the nation (37.5%)				High LDL cholesterol levels increase the risk of developing heart disease or having a heart attack
Excessive use of Alcohol	20% are binge drinkers	Almost 3 times higher than the national benchmark (7%)	Drug and alcohol related ED discharge diagnoses more than doubled from 2007-2012	Alcohol and drug related diagnoses are top ED discharge diagnoses		Cardiovascular disease, cirrhosis, breast cancer, gout, HTN, dementia, depression, seizures, and pancreatitis

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Diabetes

Contributing Factors	Proportion of population impacted	Comparison to State & Nation	Trend	Number of hospitalizations/ ED visits	Number of Deaths	Impacts other health outcomes
Diabetes	10%	Since 2004 adults newly diagnosed with diabetes increased from 9.4 per 1,000 to 10.3 in 2010.	ED discharge diagnoses almost tripled from 2004 to 2012	In the top five inpatient discharge diagnoses	Death rate per 100,000 32.6 vs. 41.7 for State	Adults with diabetes are 2-4x more likely to die of heart disease or experience a stroke
Hypertension	32.9%	Higher than the State (31.7%) and the Nation (28.7%)	ED discharge diagnoses have tripled from 2004 to 2012	Leading inpatient discharge diagnosis		Heart attack, stroke, and diabetes among others
Obesity & Overweight	70.3%	Higher than the State (65.7%) and the national benchmark (64.5%)	Increased until 2010			NIH says: CHD, HTN, stroke, type 2 diabetes, abnormal cholesterol, metabolic syndrome, cancer, osteoarthritis,..
Diabetes Screening	77%	Below state (83%) and national benchmark (90%)				

APPENDIX B: IMPLEMENTATION STRATEGY SYNTHESIS

Heart Disease

Objective: From 2014-2016, successfully screen blood pressure for 70% of adults attending community outreach “heart health” events in Greene County. Refer 100% of people determined to be hypertensive to follow on care.

Background	Strategies and Activities
<ul style="list-style-type: none"> • Hypertensive heart disease is the No. 1 cause of death associated with high blood pressure • It includes heart failure, ischemic heart disease, hypertensive heart disease, and left ventricular hypertrophy • The prevalence of hypertension, high cholesterol, and heart disease among Greene County adults is greater than State and National prevalence. • Higher rates of smoking, alcohol, and obesity/overweight versus national benchmarks contribute to these health outcomes. 	<ol style="list-style-type: none"> 1. Increase health education and promote preventive screenings to improve heart health. <ol style="list-style-type: none"> a. Strengthen partnerships with Greene County Parks & Trails and faith based organizations to promote healthy living and increase access to preventive screenings. <ul style="list-style-type: none"> • Increase and promote <i>edu-tainment</i> opportunities such as <i>Shake Your Heart Up</i> and Zumba. • Engage physicians as presenters in health expos and fairs. • Promote health education opportunities through radio announcements. b. Conduct health screenings such as cholesterol and blood glucose tests while patients are in the hospital for other health services.

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Diabetes

Diabetes	
<p>Objective: From 2014-2016, increase by 2% annually the number of diabetes screenings provided to adults ages 18+ who attend education and outreach initiatives implemented by a partnership between the Joslin Diabetes Center and Community Outreach.</p>	
<p>Background</p> <ul style="list-style-type: none"> • According to the CDC, adults with diabetes are 2-4 times more likely to die of heart disease or experience a stroke • Individuals with undiagnosed type 2 diabetes are at significantly higher risk • The risk of developing type 2 diabetes increases with age, obesity and lack of physical activity and is more common in individuals with a family history and in members of certain racial/ethnic groups • The rate of diabetes screening in Greene County is lower than the rate for Ohio and is lower than the national benchmark • Higher rates of hypertension and overweight /obese and lower rates of diabetic screenings exist in the County versus the State and Nation, contributing to this health outcome 	<p>Strategies and Activities</p> <ol style="list-style-type: none"> 1. Promote healthy lifestyles and increase diabetes education to improve overall health and mitigate the effects of diabetes. <ol style="list-style-type: none"> a. Create corporate partnerships focusing on local government organizations in the County to engage more employers in hospital-led health and wellness education and activities. <ul style="list-style-type: none"> • Use lessons learned from the YMCA-led diabetes education offered to GMH employees to promote diabetes education to other employers in the County. • Use lessons learned from collaborations to improve diabetes outreach to the community. • Tap into the pool of expert diabetes educators that are accessible through the Kettering Health Network to bring diabetes education to employers within the County. b. Engage public employers other than the City of Xenia and Greene County in screenings provided by Soin Medical Center. <ul style="list-style-type: none"> • Enable the Community Benefits office to bill public insurance for services provided.