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INTRODUCTION

Greene Memorial Hospital is one of seven hospitals in the Kettering Health Network. Joining the Network in 2009, Greene Memorial has access to the Network's resources such as a vast network of specialist physicians as well as specialized centers and services.

Greene Memorial Hospital Service Area

The primary service area for Greene Memorial Hospital 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, Greene Memorial Hospital 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 hospital'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 was collected in order to paint a detailed picture of the Greene Memorial Hospital Service Area. Primary data is data collected specifically for the purpose of creating the CHNA and secondary data is data that had already been collected and archived by other organizations. Primary data was collected by surveying 975 Greene County adults using the Centers for Disease Control and Prevention's Behavioral Risk Factor Surveillance System (BRFSS). Secondary data was 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 Greene Memorial's service area that were used to develop the hospital's Implementation Strategy. The following report outlines the process for identifying and prioritizing key strategic issues and the implementation plan that will address these issues.

SELECTION OF COMMUNITY HEALTH PRIORITIES

The following lists present serious health priorities identified by the Greene Memorial Hospital 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 Greene Memorial Hospital Service area. 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. 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 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 breast cancer, diabetes, chronic lower respiratory disease and unintentional injury.

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IMPLEMENTATION STRATEGY]**

This hospital facility will only address two of the five needs identified through the CHNA, heart disease and breast cancer. 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 already being addressed by other organizations in the service area. The following section contains 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 breast cancer, will be addressed by the Greene Memorial Hospital. Soin Medical Center, also serving Greene County, will address Diabetes 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
Diabetes	Soin Medical Center	<p>2014-2016 Implementation Strategy addresses diabetes through a community-benefit approach that includes corporate partnerships with local businesses and their employees.</p> <p>Such partnerships will engage more employers in hospital-led health and wellness education and activities, and this will maintain a healthier workforce and create best practices of how to deliver diabetes services to the general population in the County.</p>
Chronic Lower Respiratory Disease	Greene County Combined Health District	The 2013-2016 CHIP 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	Safe Communities grant addresses unintentional injuries that are related to

traffic crashes.

HEALTH NEEDS TO BE ADDRESSED

Greene Memorial Hospital 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 it could best address. Specialists from Kettering Breast Evaluation Center (KBEC) and the cardiac team, along with representatives from the Greene Memorial Hospital 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
- ✓ Breast Cancer

IMPLEMENTATION STRATEGY

In support of the 2013 Community Health Needs Assessment and ongoing community benefit initiatives, Greene Memorial Hospital plans to implement the following strategies to impact and measure community health improvement. As Greene Memorial 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 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 due to

[GREENE MEMORIAL HOSPITAL IMPLEMENTATION STRATEGY]

heart disease is lower 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.

[GREENE MEMORIAL HOSPITAL IMPLEMENTATION STRATEGY]

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

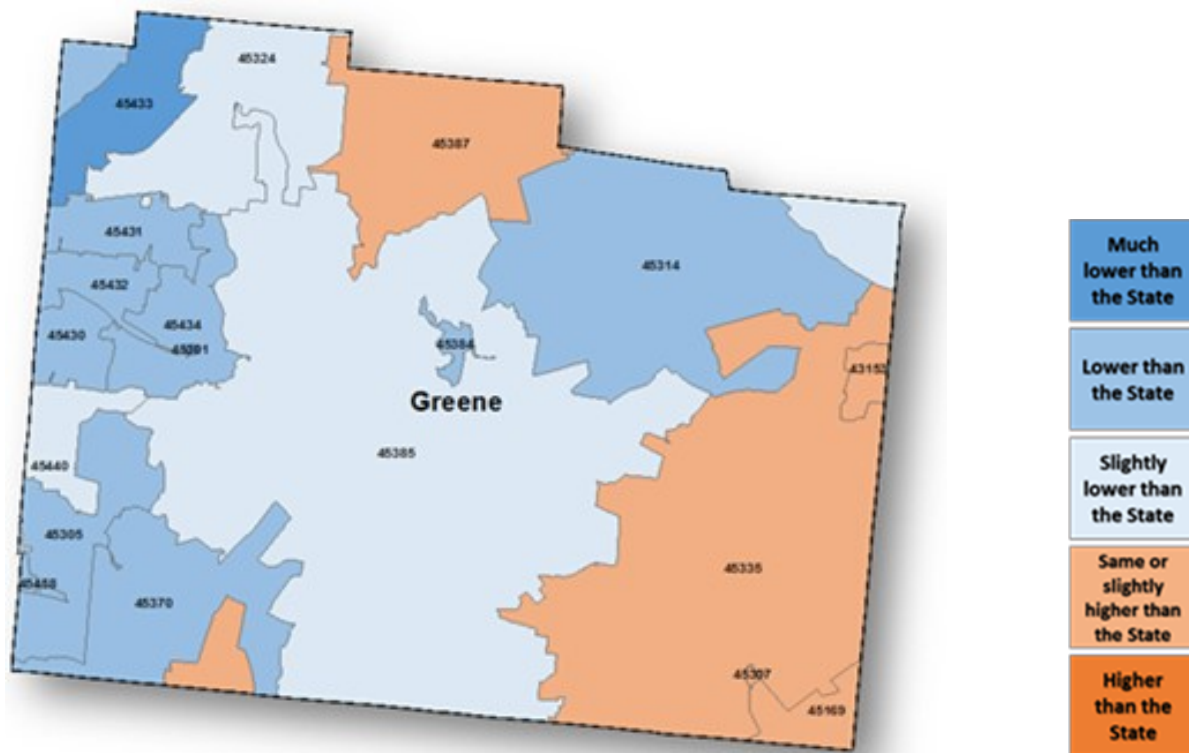
Source: Ohio Hospital Association and Greater Dayton Area Hospital Association

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

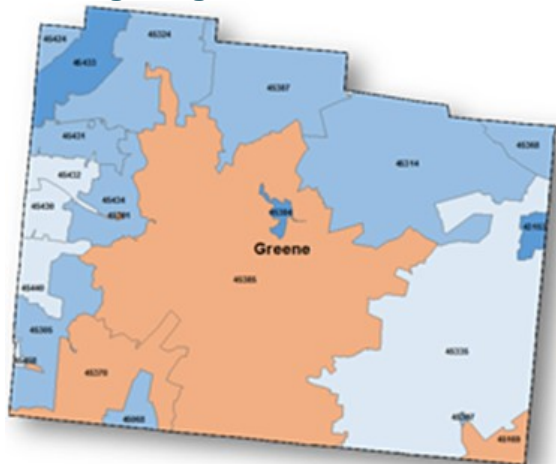
Source: Vital Statistics Program, Ohio Department of Health, 2000-2012.

Cause of Death, Adults - Heart Disease, 2011

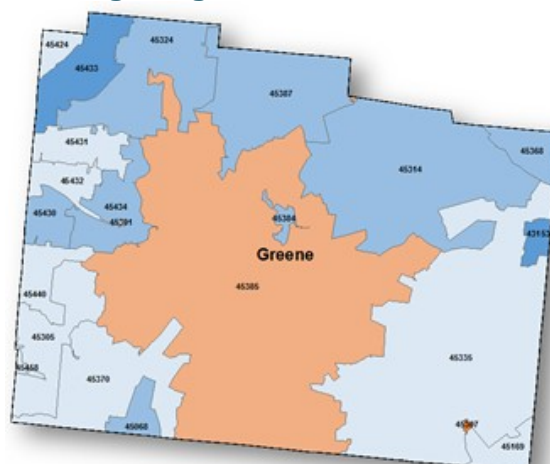


[GREENE MEMORIAL HOSPITAL IMPLEMENTATION STRATEGY]

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: As medically appropriate, conduct health screenings such as cholesterol and blood glucose tests while patients are in the hospital for other health services.

PRIORITY: Breast Cancer

Rationale

Breast cancer diagnosis in Greene County decreased from 264.3 adult female cases in 2000 to 195.6 cases in 2005, but in 2006 the rates began increasing again – peaking in 2007 at 270.3 cases per 100,000 adult females and tapering off again to 212.2 in 2011. The mortality rate due to breast cancer and inpatient hospitalizations (based on primary and secondary discharge diagnoses) due to breast cancer have remained relatively stable over this same period. Breast cancer incidence, and inpatient hospitalization and mortality due to breast cancer is lower in the County than in the State.

The maps on the following page present those zip codes in orange where adult female breast cancer diagnosis, hospitalization (based on primary and secondary diagnoses at time of discharge), or mortality due to breast cancer is higher than the State’s rate. In many of the zip codes where the rate for breast cancer diagnosis for Greene County adult female residents is lower than the State’s rate, the mortality rate is higher. Coincidentally, the zip codes with a higher mortality rate than the State also have 13.0% or more of the adult population, ages 18-64, with no health insurance.

Breast Cancer Diagnosis, Adult Females, 2011

Diagnosis	Greene County		Ohio
	Number	Rate/100k	Rate/100k
Breast Cancer	107	212.2	224.5

Source: Ohio Department of Health Ohio Cancer Incidence Surveillance System

Breast Cancer Hospitalization, Primary & Secondary Discharge Diagnosis, Adult Females, 2011

Discharge Diagnosis	Greene County		Ohio
	Number	Rate/100k	Rate/100k
Inpatient	94	141.5	147.6

Source: Ohio Hospital Association and Greater Dayton Area Hospital Association

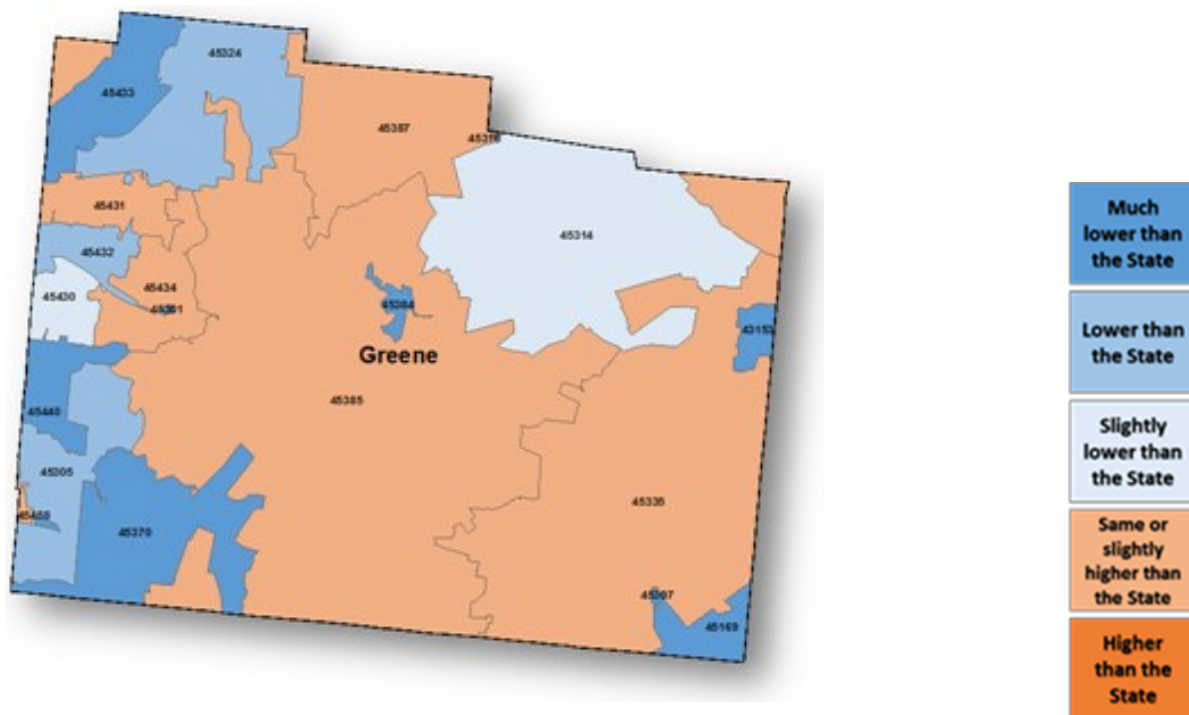
Adult Mortality Due to Breast Cancer, Females, 2011

Mortality	Greene County		Ohio
	Number	Rate/100k	Rate/100k
Breast Cancer			
Adult Females	24	36.1	40.0

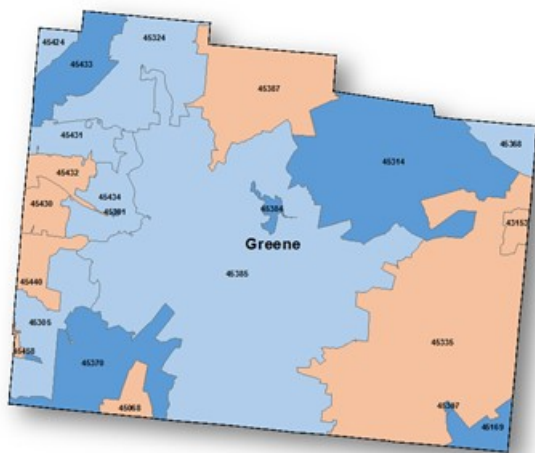
Source: Vital Statistics Program, Ohio Department of Health, 2000-2012.

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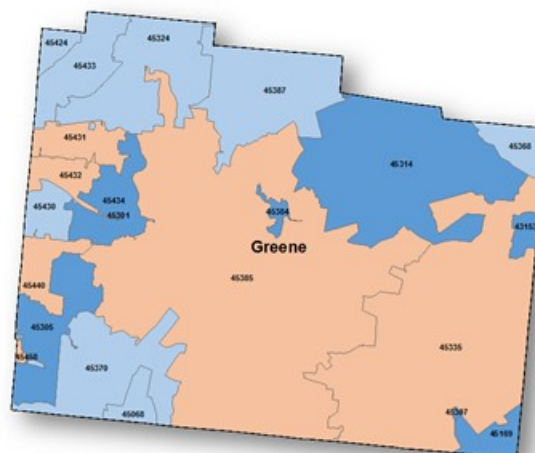
Cause of Death, Adult Females - Breast Cancer, 2011



**Ohio Cancer Incidence Surveillance System
Breast Cancer Diagnosis, Adult Females, 2011**



**Inpatient Care Primary & Secondary Breast
Cancer Diagnosis, Adult Females - 2011**



Impact on/by Other Health Issues

The late effects of breast cancer and its treatment include emotional distress and depression, lymphedema, and weight gain among others. The rate of Greene County adult females diagnosed with breast cancer has increased since 2006, and cancer is the second leading cause of death in the County. Also, the contributing factors of breast cancer, obesity/overweight and lack of mammography screenings, are compare unfavorably to the State and Nation.

Objective: From 2014-2016, increase the number of women ages 40-69 years obtaining a screening mammogram by 2% annually as a result of education and outreach to the community.

Strategy One: Educate women at a younger age about the importance of breast health and increase mammography screenings for women who meet the age guidelines.

Activity One: Educate younger females about breast health and screenings.

1. Partner with the college/university institutions in the County to provide targeted breast cancer awareness and education to females on campuses.
2. Cross market breast health education to departments within the hospital that have many younger patients.

Strategy Two: Increase mammography screenings among the at-risk population

Activity One: Promote mammography screenings

1. Educate women about ACA coverage of screening mammograms. If age requirements are met, a physician referral is not necessary.
2. As medically appropriate, cross market mammography screenings with osteoporosis and other women's health initiatives.
3. Expand breast cancer awareness month to encompass the first six months of the year.
4. Use the "Save the Udders" campaign to promote cancer care from September 1 through October 31.
5. Expand the number of breast cancer resource expositions & fairs and engage physicians as presenters.

APPENDIX A: GREENE MEMORIAL HOSPITAL HEALTH PRIORITIES

Heart Disease

Health Priority	Prevalence	Comparison	Trend	Impact	Notes
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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Breast Cancer

Health Issue	Rate	Comparison	Trend	Rate	Rank	Notes
Breast Cancer	Rate is 212.2 per 100,000 adult females		Rate increased from 2006-2011	Rate is 141.5/100,000 adult females	Cancer is the #2 cause of death in the County	Late effects of breast cancer and its treatment include emotional distress, lymphedema, and weight gain among others
Obesity & Overweight	70%	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
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
Mammography Screenings	63.7%	Below the national benchmark (73%)	10.2% decrease from 2004			

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 up care.*

<p>Background</p> <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. 	<p>Strategies and Activities</p> <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 Shake Your Heart Up and Zumba. • Engage physicians as presenters in health expos and fairs. • Promote health education opportunities through radio announcements. b. As medically appropriate, conduct health screenings such as cholesterol and blood glucose tests while patients are in the hospital for other health services.
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Breast Cancer

Objective: From 2014-2016, increase the number of women ages 40-69 years obtaining a screening mammogram by 2% annually as a result of education and outreach to the community.

Background

- The late effects of breast cancer and its treatment include emotional distress and depression, lymphedema, and weight gain among others
- The rate of Greene County adult females diagnosed with breast cancer has increased since 2006.
- Cancer is the second leading cause of death in the County.

Strategies and Activities

1. Educate women at a younger age about the importance of breast health.
 - a. Educate younger females about breast health and screenings.
 - Partner with the college/university institutions in the County to provide targeted breast cancer awareness and education to females on campus.
 - Cross market breast health education to departments within the hospital that have many younger patients.
2. Increase mammography screenings among the at-risk population.
 - a. Promote mammography screenings.
 - Educate women about ACA coverage of screening mammograms. If age requirements are met, a physician referral is not necessary.
 - As medically appropriate, cross market breast health and screenings with osteoporosis and other women’s health promotions.
 - Expand the breast cancer awareness and screenings promotion to the first six months of the year.
 - Use the “Save the Udders” campaign to promote cancer care from September 1 through October 31.
 - Expand the number of breast cancer resource expos & fairs and engage physicians as presenters.