Sept. 23, 2019

Community Health Needs Assessment 2019-2021

King's Daughters Medical Center, Ashland, Ky.

KING'S DAUGHTERS

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Community Health Needs Assessment 2019

Reviewed and Approved:
Monday, Sept. 23, 2019

Serving Boyd, Carter, Greenup counties, Kentucky, and Lawrence County, Ohio

Table of Contents

Executive Summary

King's Daughters Medical Center is a locally controlled, not-for-profit, 465 bed regional referral center, covering a 150-mile radius that includes southern Ohio and eastern Kentucky. King's Daughters offers comprehensive cardiac, medical, surgical, maternity, pediatric, rehabilitative, bariatric, psychiatric, cancer, neurological, pain care, wound care and home care services. KDMC operates more than 50 offices in eastern Kentucky and southern Ohio. KDMC's primary service area encompasses four counties in two states, Boyd, Carter and Greenup counties in Kentucky, and Lawrence County, Ohio.

The Community Health Needs Assessment (CHNA) was a collaborative effort between King's Daughters Medical Center, Bon Secours Kentucky, Our Lady of Bellefonte Hospital, local health departments, the Healthy Communities Coalition, and the CHNA Advisory Group. The assessment was conducted between November 2018 and June 2019 and included Boyd, Carter, Greenup counties in Kentucky and Lawrence County, Ohio. The CHNA included both primary (focus group and questionnaire) and secondary data analysis. The primary data was collected from community members and local leaders representing a broad spectrum of the service area. The focus groups included representation from public health in all four counties, as well as individuals with special knowledge of the medically underserved, low income and vulnerable populations and people with chronic disease.

The following needs were identified through the assessment process and will be the focus of the Implementation Plan:

1. Substance abuse/misuse
2. Obesity/diabetes
3. Cancer prevention
4. COPD (lung and breathing issues)
5. Heart disease/High blood pressure

Facility Description

King's Daughters Medical Center is a locally controlled, not-for-profit, 465 bed regional referral center, covering a 150-mile radius that includes southern Ohio and eastern Kentucky. King's Daughters offers comprehensive cardiac, medical, surgical, maternity, pediatric, rehabilitative, bariatric, psychiatric, cancer, neurological, pain care, wound care and home care services. KDMC operates more than 50 offices in eastern Kentucky and southern Ohio. KDMC's primary service area encompasses four counties in two states, Boyd, Carter and Greenup counties in Kentucky, and Lawrence County, Ohio.

With more than 3,600 full and part time team members, King's Daughters is the largest employer between Charleston, West Virginia and Lexington, Kentucky. Other large employers include Our Lady of Bellefonte Hospital, Marathon Petroleum Refinery, AT&T Call Center, several banking firms, Ashland Community and Technical College, Ohio University Southern campus, Liebert, Kentucky Christian University, Haverhill Chemicals, Sun Coke, Calgon Carbon, school districts and other smaller businesses and retail stores.

Description of Community Served:

The assessed counties, Boyd, Carter and Greenup in Kentucky and Lawrence in Ohio, lay in the foothills of the Appalachian Mountains, situated at the border between Ohio, Kentucky and West Virginia. This area is known for unhealthy behaviors and poor health outcomes.

According to the US Census Bureau's American Community Survey, a total of 173,766 people live in the service area, which covers 1,367 square miles. Of these, 95.6% are white, 1.84% are black and 2.56% make up all other races. The Hispanic/Latino population is approximately 1.17%. Just about 20% of the population is disabled. There are more females (50.8%) than males (49.2%) in the four-county area. The population is made up of 22.1% children/youth (age 0-17), 60.2% adults (age 18-64) and 17.7% seniors (age 65 and older).

All four counties have a total poverty level higher than both states and the nation. The percentage of students on the free and reduced lunch program is higher than the national percentage. The median and per capita income levels for the region are well below Kentucky, Ohio and the United States. Medicaid enrollment in the four counties is well above both states and the nation. With the exception of Carter County, Kentucky, the area fares better with healthcare insurance enrollments than the states and nation. When considering educational attainment, only Boyd County, Kentucky, has a lower rate of adults that do not have a high school diploma. Teen birth rates for all four counties exceed those of comparative state and national rates. Unemployment in the area is also worse than the states and nation. The following chart outlines in detail these comparisons.

Indicator/Area	Boyd Co.	Carter Co.	Greenup Co.	Lawrence Co.	Kentucky	Ohio	United States
Poverty – total	18.98%	18.65%	17.56%	18.44%	18.81%	15.38%	15.11%
Poverty-child	26.4%	24.6%	26.3%	25.5%	25.7%	22.1%	21.2%
Free/Reduced	61.5%	66.2%	53.7%	63.4%	59.5%	44.9%	52.6%

Lunch							
Median Income	$55,634	$43,827	$55,212	$57,990	$56,522	$64,433	$67,871
Per Capita Income	$25,438	$19,170	$24,446	$22,567	$24,801	$27,799	$29,829
Medicaid Population	26.8%	30.3%	25.8%	27.8%	24.9%	20.8%	21.6%
Uninsured Adults	9.93%	12.64%	9.59%	9.23%	9.61%	8.5%	11.7%
No High School Diploma	10.81%	20.54%	13.2%	14.4%	14.4%	10.5%	13.0%
Teen Births	58.3%	51.4%	43.8%	48.8%	48.4%	36.0%	36.6%
Unemployment Rate	5.4	8.9	5.9	5.6	4.1	4.5	4.0

Sources: US Census Bureau American Community Survey 2012-16; US Census Decennial Census 2010; *National Center for Education Statistics, NCES - Common Core of Data. 2015-16; US Census Bureau, Small Area Health Insurance Estimates. 2016; US Department of Health & Human Services, Health Indicators Warehouse. Centers for Disease Control and Prevention, National Vital Statistics System 2006-12; US Department of Labor, Bureau of Labor Statistics. 2018 - August.*

Persons Representing the Broad Interests of the Community

In order to assure that there was a broad involvement from all four counties in the assessment process, focus groups and the survey were selected to gain input. Each county focus group consisted of individuals from public health, business, non-profits, healthcare and others interested in the health of their community (attachment A: List of Community Members). There were individuals from each county public health department, which represented the medically underserved, low-income and minority populations. In addition, multiple other non-profits also represented those that are underserved, low income or part of the minority community. These covered programs for the aged to those for young children/infants.

Primary Data:

Primary data was collected from the community through the use of a questionnaire and through focus groups. The questionnaire was distributed both online using SurveyMonkey and through personal contact using a paper version. The health departments and other agencies in the four counties assisted in the distribution of the questionnaire to assure that the medically underserved and low-income population had the opportunity to participate.

Questionnaire:

The questionnaire focused on multiple areas including personal health, the health of the community, community support and services, health programs, and healthcare services and access. The 21-question survey was administered throughout the four-county service area, with 1,511 respondents. There were 1,396 individuals that provided their county of residence. Of these, 45.8% were from Boyd County; 20.5% from Carter County; 20% Greenup County; 11.2% Lawrence County (Ohio); and 3% made up counties outside the target area, including Floyd, Rowan, Lewis, Menifee, Franklin and Elliott in Kentucky; Wayne, Lincoln and Cabell in West Virginia; and Scioto County, Ohio.

Of the respondents, there were more female (77.5%) than male (21.5%). There was a

good diversity in age with 7.2% age 18-24; 26.9% age 25-39; 32.7% age 40-54; 18.1% age 55-64; and 15.2% over age 65. Income distribution was also diverse with 25% showing income at or below $24,999; 20.5% in the income range $25,000-$49,999; 20.31% in the income range $50,000-$74,999; and 34.2% with income above $75,000.

Race and ethnicity distribution closely followed area census data with 97.3% white, 1.5% black and 1.2% representing all other races. Hispanics were represented with 1.23% and non-Hispanics made up the other 98.77%. Educational attainment varied, with 4.1% with no high school diploma; 15.6% with a high school diploma or GED equivalent; 19.3% had some college; 14.6% had attained an associate, trade school or technology school certificate; 17.9% had a bachelor's degree; and 28.5% had a graduate or higher degree.

Under community support and services, respondents were asked if they got enough social and emotional support from friends, family, their church and the community; if they had enough financial and physical support; and if there was safe housing, play spaces and transportation to get where they needed to go.

Overall personal health was rated as excellent/very good by 59.95%; fair by 34.69% and poor to very poor by 5.36%. The following chart shows responses for getting the social and emotional support needed:

Social and Emotional support received from:	Strongly agree/agree	Neutral	Disagree/ strongly disagree
Family	80.8%	8.6%	10.6%
Friends	80.0%	12.9%	7.1%
Church	66.3%	23.5%	10.2%
Community	40.8%	38.3%	20.9%

When asked about getting financial and physical support, the respondents shared:

Financial and physical support received from:	Strongly agree/agree	Neutral	Disagree/ strongly disagree
Family	72.5%	13.7%	13.8%
Friends	55.2%	28.3%	16.5%
Church	46.4%	35.9%	17.7%
Community	33.1%	40.4%	26.5%

During the past year, most respondents (64.8%) received care through their doctor's office. Thirteen percent sought care at an urgent care center and 9.2% visited the emergency room. Additional care was attained through a federally qualified health center (3.2%), local health department (1.9%) or a free clinic (0.4%). Nearly 5% of respondents did not seek care in the past year.

Having health insurance is critical to people's ability to access healthcare services. Those without health insurance often seek care late and are more likely to die prematurely. Most questionnaire respondents had some form of healthcare insurance coverage, with 59.1% insured through their employer or labor union. Nearly 17% were

insured through Medicare and 14% through Medicaid. Six percent were covered through individual policies, Tricare, Veterans Administration/military or had some other type of coverage. Slightly over 3% had no healthcare coverage.

The air we breathe and the water we drink are important to our well-being, economic prosperity and the environment. Access to healthy foods and safe places to be physically active can have huge impact on a person's health. Those completing the questionnaire were asked about the health of the community in which they lived. This section included the overall health of the community, if there were safe places to play and walk, whether fresh food was accessible and if the air was clean. When asked about the overall health of their community, only 17.4% felt that it was very good or good, with 56.6% deeming their community's health fair and 26% rating the community's health as poor to very poor. The following chart demonstrates the reasons respondents identified as why their community was healthy or not.

Area	Strongly agree/agree	Neutral	Disagree/Strongly disagree
Clean environment	26.4%	33.4%	40.2%
Little air pollution	29.1%	24.1%	46.8%
Access to clean water	67.9%	17.8%	14.3%
Access to healthy foods	69.0%	15.9%	15.1%
Good places to play	42.0%	26.6%	31.4%
Good place to walk/bike	41.5%	24.0%	34.5%
Access to dental care	60.1%	21.4%	18.5%

Safety is essential for a healthy community. The chronic stress associated with living in unsafe neighborhoods can accelerate aging and harm health. Unsafe neighborhoods can cause anxiety, depression, and stress, and are linked to higher rates of pre-term births and low birthweight babies, even when income is accounted for. Fear of violence can keep people indoors, away from neighbors, exercise, and healthy foods and contribute to obesity. When respondents were asked about safety in their neighborhoods, most felt there was safe housing (62.8% strongly agree/agree), while 21.3% remained neutral and 15.9% disagreed or strongly disagreed. Nearly half (48.9%) agreed or strongly agreed that there were safe places to play, with 25.3% neutral and 25.8% disagreeing or strongly disagreeing. Safe transportation to get where needed also garnered more than half (51.9%) strongly agreeing or agreeing, with nearly 25% neutral and 23.1% strongly disagreeing or disagreeing.

Respondents were asked if they could help make their community a better place to live. Nearly two-thirds (73.6%) strongly agreed or agreed that they could make a difference, with 23.9% remaining neutral and only 2.6% feeling they could not.

Included in the survey, respondents were asked to choose what they believed were the top five community health needs. The list included alcohol and drug abuse; health screenings and programs; vaccines; cancer; dental health; heart disease, high blood pressure and stroke; mental health; overweight and obesity; and violence and abuse. In addition, questions were asked that focused on where respondents sought care, i.e. physician office, emergency room, health department, etc. and what type of healthcare

coverage they had, if any. The following is the list in rank order:

1. Alcohol/Drug/Tobacco Use (86.7%)
2. Cancer (51.3%)
3. Obesity (47.2%)
4. Mental Health Issues/Suicide (45.8%)
5. Child Abuse/Neglect (42.7%)
6. Diabetes (39.9%)
7. Heart Disease (31.2%)
8. High Blood Pressure (21.9%)
9. COPD (lung/breathing issues) (21.3%)
10. Dental Health (20.0%)
11. Domestic Abuse (17.7%)
12. Senior Health (17.5%)
13. Persons with Disabilities (13.2%)
14. Teen Pregnancy (10.5%)
15. Infant Health (8.34%)
16. Sexually Transmitted Disease including HIV/AIDS (8.28%)
17. Asthma (7.9%)
18. Stroke (5.3%)

Healthcare and community resources are important to helping meet the needs of residents and promoting a healthy community. A lack of resources to meet a health need creates issues that not only impact the health of the community but also can have economic impact. Respondents were asked which programs were meeting these needs in the community. The following chart shows the responses:

Program Area	Strongly agree/agree	Neutral	Disagree/Strongly disagree
Alcohol/Drug Abuse	22.7%	26.0%	51.3%
Access to health programs/screenings	54.8%	24.4%	20.8%
Access to vaccinations	71.7%	16.3%	12.0%
Cancer	40.9%	33.5%	25.6%
Dental Health	52.0%	23.6%	24.4%
Diabetes	46.1%	32.9%	21.1%
Heart Disease/High Blood Pressure/Stroke	52.1%	28.3%	19.6%
Mental Health	30.5%	28.9%	40.6%
Overweight/Obesity	27.0%	29.3%	43.8%
Violence/Abuse	29.4%	36.2%	34.4%

Focus Groups:

Focus groups were held in the four service area counties. The groups were made up of persons representing public health, non-profits, businesses, hospitals, schools, city and county government, faith community, news media, universities/colleges and community members at large. Attendance was good but varied - Boyd County, 34 attendees; Carter

County, 20 attendees; Greenup County, 28 attendees; and Lawrence County, 17 attendees. Leadership was provided to the groups by area health departments, hospitals and non-profits. Each session focused on learning the strengths, weaknesses, opportunities and threats (SWOT) to the health of the area.

The health of a community is dependent not only upon the genetics of its residents, but also upon the environment within which those individuals live, work, play and worship. Basically, a person's health depends upon their environment. As such, a healthy community is one in which all residents have access to a quality education, safe and healthy homes, adequate employment, transportation, physical activity, and healthy food, in addition to quality healthcare. Unhealthy communities lead to chronic diseases, such as cancers, diabetes, and heart disease. The health of our communities is critical to the growth and development of the region.

The focus groups looked at the strengths of the communities through the health lens and found many things that worked well in promoting health. Across the counties, participants identified schools (both secondary and higher education) as a strength. They included many non-profits and collaboration between agencies, counties and the two states as having a positive impact. There are economic development efforts and programs focused on workforce development and leadership. Healthcare is high quality and available in most areas. Churches and the faith community are supportive and there is a strong sense of community. They also cited that there is a building of awareness for people to live healthier lifestyles.

Weaknesses were also found that may have a negative impact on the community's health. Drug and substance abuse issues were discussed in all sessions, with concerns that the problem was getting worse with a shift from opioids to heroine and fentanyl. This issue also contributes to crime and may put children into foster care or living with relatives. Another issue that was a common theme was the lack of public or affordable transportation in many areas. Affordable and senior housing was cited as low or no access for some areas. Obesity and lifestyle choices rounded out their concerns.

There were many opportunities identified that may move the community to better health. Most of these are social/economic opportunities, including education, workforce development, creating a drop-in center to help in educating and assisting the homeless, learning from other communities about successful efforts that may be able to be replicated and buying local campaigns. The participants believe that technology has a role and should be embraced and used to improve healthcare access, including telemedicine and electronic medical records. Hospitals should use current healthcare providers to further expand access and recruit more specialists. Acquiring grants to improve pedestrian safety and fund children's activities were also listed as opportunities.

One of the biggest threats to the health of the community was seen to be the illicit drug/substance abuse issue, which contributes to crime and mental health problems (two other highly ranked issues). The participants citied concerns for family structure

with many children being raised by grandparents or other family and that young people/families were leaving the area for better opportunities. With industrial plant closings, the loss of jobs was considered a threat. Government healthcare cuts also can have a negative impact and be a threat to the overall health of the area.

The following chart shows each group's responses to the SWOT analyses (rank order unless bulleted).

County	Strengths	Weaknesses	Opportunities	Threats
Boyd, KY	1. Collaborations 2. Faith community 3. School resource centers 4. Non-profit community services 5. Community events	1. Lack of affordable housing 2. Transportation 3. Good paying jobs 4. Youth activity 5. Obesity 6. Lifestyle	1. Trades/skills/job ready 2. Funding for kid's activities 3. Mentorship 4. Engage faith community 5. Clean environment 6. Embrace technology	1. Drugs 2. Mental health 3. Family structure along with grandparents raising kids 4. Loss of jobs
Carter, KY	• Strong sense of community • Number of healthcare clinics • Good access to specialists • Improved communication with physicians with technology • Greater awareness of need for healthier lifestyle • Parks & recreation opportunities • Galaxy project to engage youth • Leadership programs • Increase in home health programs • Higher education helping to develop workforce • Great collaboration between agencies, businesses, etc.	• Obesity is a challenge and seems to be increasing • Feeling of pessimism • Closest hospital 30 minutes away • Addiction and opioids worse or has shifted to heroin and fentanyl • Not enough transitional housing support for those coming out of recovery or prison. General weakness in how people are integrated back into society • Not enough ambulance coverage • Clinic hours are limited • No homeless shelter • Limited engagement of community in health classes and resources • Low access to low income housing in Olive Hill area • Slow internet • Lack of adequate childcare; children being raised by other than parents	• Integrating veterans into community • Use technology to improve access; telemedicine, EMRs • Educate about resources available and leverage those resources • Communicate good things happening in community to increase synergy and positivity • Improve pedestrian safety through grants • Build upon existing workforce development programs • Involve young people in community improvement • Expand and strengthen existing collaborations and coalitions to	• General sense of negativity about change and the ability to improve the county • Accessing resources to support growth is challenging, hard, and lacking • General movement to limit the ability to age in place and move them (elderly) from the area • Companies do not always utilize local labor and resources thus undermining possible benefits to the community • Young families & people moving elsewhere for better

			improve health • Use current base of healthcare providers to help further expand access	opportunities • Drug crisis makes it challenging for employers to find workers that can pass a drug test, which undermines economic growth
Greenup, KY	1. Strong hospitals 2. Schools 3. Welcoming community 4. State park 5. 211 resources	1. Jobs 2. Transportation 3. Substance abuse 4. Obesity 5. Kid's living with family other than parents	1. Industrial growth 2. Education 3. Support for families raising kids 4. Adding programs such as START 5. Communications 6. Transportation Expansion 7. Grants 8. Walkable neighborhoods	1. Jobs 2. Substance abuse 3. Drug trafficking 4. State budget funding
Lawrence, OH	1. Faith based community 2. Relationships and collaboration between people and organizations 3. Judicial System (drug court) 4. Healthcare quality/availability 5. People 6. Strong economic development groups	1. Drug issues 2. Tax base 3. Family issues such as grandparents raising kids 4. Jail 5. Public transportation 6. Aging population 7. Senior housing 8. Affordable housing 9. Government strategic plan	1. Drop in center for homeless education and assistance 2. Learn from other Communities like Huntington and Ashland 3. Buy local 4. Recruit medical specialists (such as oral surgeons, services for kids) 5. Riverfront development 6. States work together	1. Drugs 2. Crime 3. Family Unit 4. Mental Health 5. Tax base 6. Poverty 7. Healthcare cuts from the government

Secondary Data:

Secondary data from national, state, regional, county and local levels were considered in preparation of the community health need assessment. The information was divided into five categories that impact health. These categories include:

- Socioeconomic: persons with disabilities; median and per capita income; Medicaid population; uninsured population; adult and child poverty; unemployment; teen births
- Clinical care: access to dentists and primary care providers; low screening rates for mammography, pap tests and colonoscopy/sigmoidoscopy; poor disease

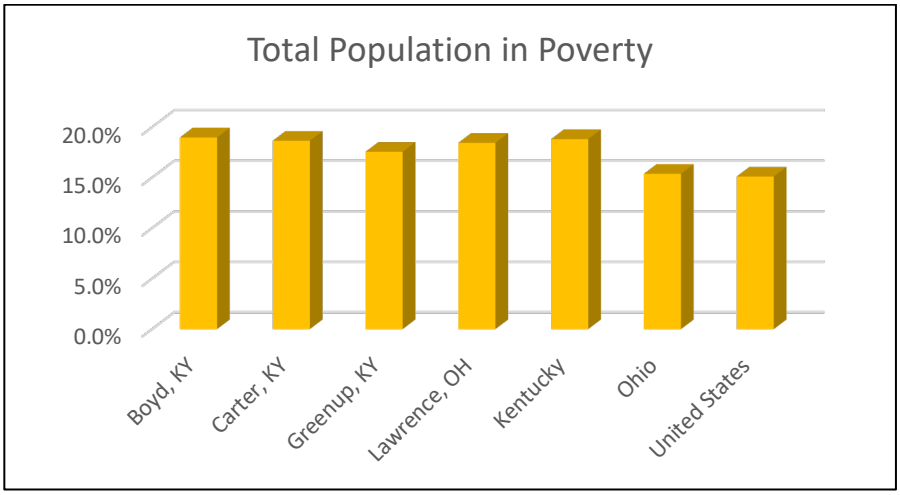
management for diabetes and high blood pressure; lack of consistent primary care; preventable hospital events

- Health behaviors: low fruit/vegetable consumption; no leisure time physical activity; high number of former or current smokers; low tobacco use quit rates
- Health outcomes: high incidence of asthma, colon/rectal and lung cancers, heart disease, high blood pressure, high cholesterol, infant mortality and low birth weight babies
- Mortality: high mortality rates for cancer, coronary heart disease, drug poisoning, heart disease, lung disease, motor vehicle crashes, stroke, suicide and unintentional injury; high level of premature death, obesity and general poor health

Social and Economic Indicators:
Social insecurity and economic indicators often are associated with poor health. Poverty, unemployment, and lack of educational achievement affect access to care and a community's ability to engage in healthy behaviors. Without a network of support and a safe community, families cannot thrive. Ensuring access to social and economic resources provides a foundation for a healthy community.

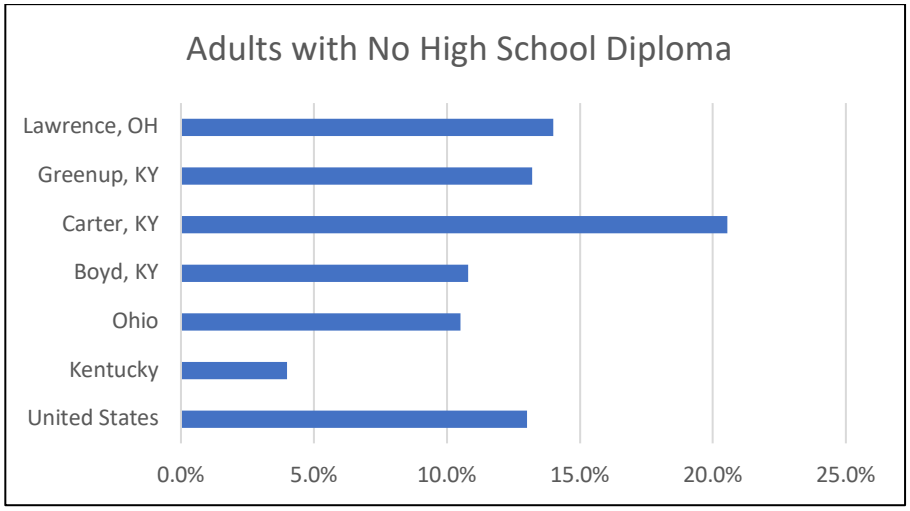
The three most critical social and economic indicators of poverty, unemployment and educational achievement are all worse in the area than the nation.

Poverty can be both a cause and consequence of poor health. The chances of poor health is increased by poverty as these individuals are often deprived of information, money and access to health services to prevent or treat disease due to poverty. Difficult choices may have to be made that impact health, like whether to purchase needed medications or food. The lack of resources often creates a situation where healthcare is put off due to the cost of doctor's fees, medication and transportation. This creates a situation where for those in poverty, disease is often diagnosed later when it is more difficult and costlier to treat.



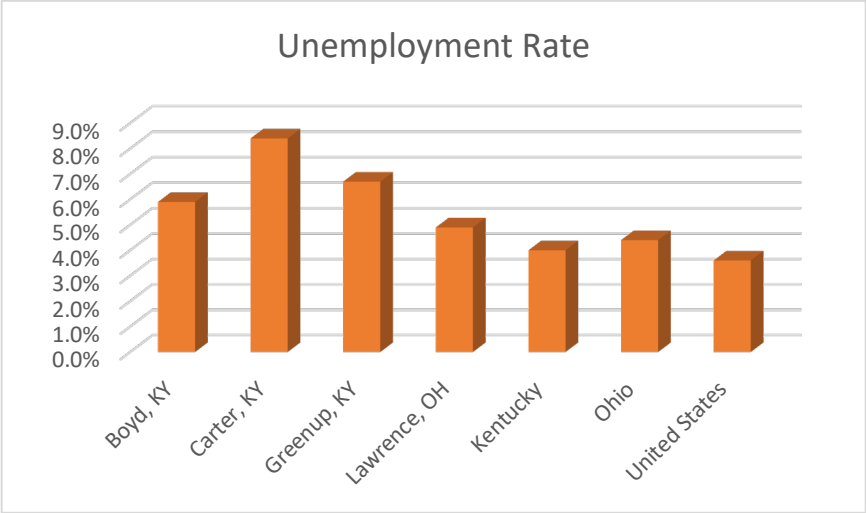
Source: US Census Bureau, American Community Survey 2012-16

Educational attainment (number of years of education completed) is an upstream contributing factor which may contribute to health outcomes. According to the January 2018 edition of the *Annual Review of Public Health*, adults with higher educational attainment live healthier and longer lives compared to their less educated peers. These disparities are large and widening. During the past several generations, education has become the principal pathway to financial security, stable employment and social success. Education improves an individual's knowledge, skills, reasoning, effectiveness, and a broad range of other abilities, which can be utilized to produce health. Hundreds of studies have documented the gradient, where more schooling is linked to better health and longer life. Education has impact on economics, health behaviors, psychological and social well-being, and access to healthcare. Those with less education tend to smoke more and eat less healthy. They also have fewer resources to access services in the healthcare system.



Source: National Center for Education Statistics, Common Core Data 2015-16

Unemployment: Employment in a good paying job makes it much easier for workers to live in healthier neighborhoods, provide a quality education for their children, and buy more nutritious food – all of which affect health. People with good jobs are more likely to have good benefits, including health insurance. According to the Robert Wood Johnson Foundation, higher earning also translates to longer lifespan. Since 1977, the life expectancy of male workers retiring at age 65 has risen 5.8 years in the top half of income distribution, compared to only 1.3 years in the bottom half. By contrast, the unemployed face numerous challenges beyond loss of income. Laid-off workers are more likely to have fair to poor health, compared to their continuously employed counterparts. Those that have lost jobs are more likely to develop stress-related conditions, such as stroke, heart attack, or arthritis. A 2010 Gallup Poll found that unemployed individuals were far more likely than the employed to be diagnosed with depression and report feelings of sadness and worry. Additionally, there are those employed but classified as the "working poor." This status is associated with health challenges as well. Research shows that insurance coverage is less likely among this group of workers and those with lower wages are less likely to access preventive care services that insurance may cover, such as screenings and immunizations.



Source: US Department of Labor, Bureau of Statistics, March 2019.

Physical Environment:

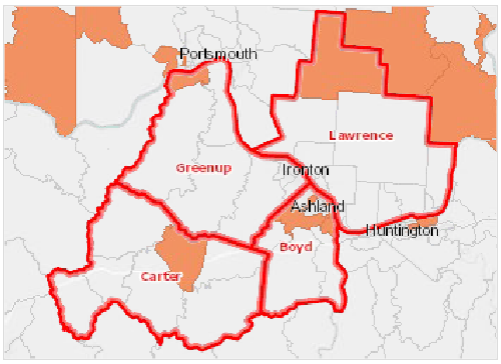
A community's health is affected by the physical environment. A safe, clean environment that provides access to healthy food and recreational opportunities is important to maintaining and improving community health.

Area/Indicator	Boyd Co.	Carter Co.	Greenup Co.	Lawrence Co.	Kentucky	Ohio	United States
Food Access Rate Fast Food Restaurants (per 100,000 pop.)	131.2	64.94	62.31	60.85	73.26	80.6	77.06
Food deserts (% of population impacted)	51.8%	15.6%	40.3%	33.7%	33.6%	46.7%	42.1%
Recreation facilities rate (per 100,000 pop.)	6.06	10.82	2.71	4.80	7.95	9.75	11.01

Data Sources: US Census Bureau, County Business Patterns, 2016; US Department of Agriculture, Economic Research Service, USDA - Food Access Research Atlas. 2015

Food access to in Boyd County, Kentucky is much worse than the other counties and both states and the nation. Food deserts exist in both Boyd and Greenup counties. In Boyd County this is primarily in Ashland, around low-income areas. Healthy food retailers, such as grocery stores; farmer's markets; and other vendors of fresh, affordable, nutritious food are critical components of healthy, thriving communities. Without access to healthy foods, a nutritious diet and good health are out of reach. An unhealthy diet is a known contributor to obesity and overweight individuals, which affects two out of three adults and over one-third of children 6-19 in the United States. Healthy food access has been recognized by national agencies and associations, like

the Centers for Disease Control and Prevention (CDC) and the Institute of Medicine, as important in reducing obesity and improving health.



Food Desert Census Tracts, 1 mi./10 mi. by tract

- Food desert area
- Not a food desert
- No data
- CHNA Service Area

Data Source: US Department of Agriculture, Economic Research Service, USDA – Food Access Research Atlas,. 2015.

Recreation facilities also contribute to health by providing a safe place to be physically active. Individuals who live within one-half mile of a park, or in urban areas, within one mile of a recreational facility; or within 3 miles of a recreational facility for those living in a rural area, are considered to have adequate access for opportunities to be physically active. In the service area, only Carter County has a rate better than both states and the nation. Increased physical activity is associated with reduced risk for type 2 diabetes, cancer, stroke, high blood pressure, heart disease, and premature death independent of obesity. The built environment, such as parks, sidewalks and gyms, are important to encouraging physical activity and people living close to them are more likely to exercise.

Clinical Care:

The lack of access to healthcare professionals presents a barrier to good health. People's access to facilities and physicians, the rate of uninsurance, financial hardship, transportation barriers, cultural competency, and coverage limitations all affect access. Rates of morbidity, mortality, and emergency hospitalizations can be reduced if community residents access services such as health screenings, routine tests, vaccinations and primary care in a timely manner. Prevention indicators can call attention to a lack of access or knowledge regarding one or more health issues and can inform program interventions.

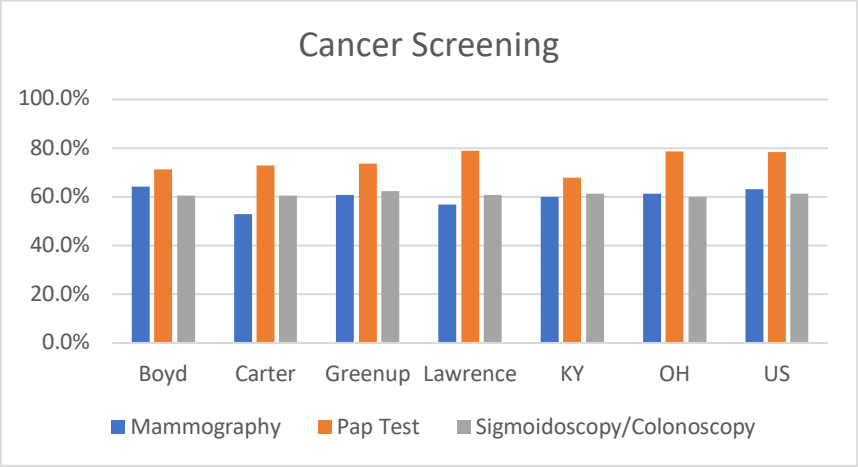
Access to healthcare professionals for the region is mixed. Boyd County does not have access issues primarily because of hospital and physician office concentration in the county. The other three counties have limited access to dentists, mental health professionals and primary care providers. The rate of these providers per 100,000 population in Carter, Greenup and Lawrence counties is well below the averages for the states and the nation. Access to health services and timely use of personal health services are critical to positive health outcomes. Individuals having access to comprehensive, quality healthcare services is important to promote and maintain health, prevent and manage disease, reduce unnecessary disability and premature death, and achieve health equity.

Having a consistent primary care provider is important for higher quality of care. Primary care offers the patient a single place where a broad array of health problems can get appropriate attention. A primary care provider guides the patient through the health system; provides referrals for services from other health professionals; facilitates an ongoing relationship between patients and clinicians; provides opportunities for disease prevention and health promotion and helps build bridges between personal health care services and patients' families.

Area/Indicator	Boyd Co.	Carter Co.	Greenup Co.	Lawrence Co.	Kentucky	Ohio	United States
Access to Dentists (per 100,000 pop.)	66.22	29.46	41.59	32.73	61.8	59.1	65.6
Access to Mental Health (per 100,000 pop.)	471.0	143.2	115.6	58.4	179.8	154.8	202.8
Access to Primary Care (per 100,000 pop.)	106.9	22.04	77.12	51.93	74.0	93.1	87.8
No consistent Primary Care Provider	18.9%	23.4%	18.4%	34.1%	19.2%	18.7%	22.1%

Data Source: US Department of Health & Human Services, Health Resources and Services Administration, Area Health Resource File, 2014.

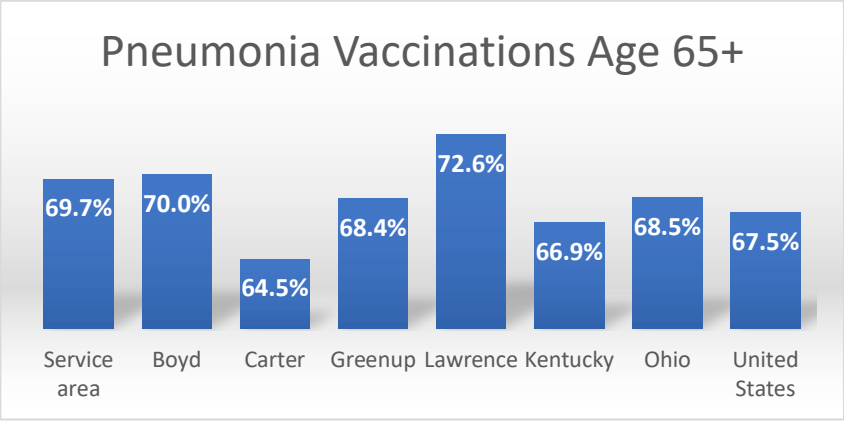
Cancer screenings help save lives. The earlier cancer is detected, the easier and less costly it is to treat. Timely screenings have proven to be an effective tool in curtailing cancer mortality rates. With early screening and engagement, health professionals are able to better tailor treatment plans to the individual tumor characteristics. In the service area, Carter, Greenup and Lawrence counties have mammography rates among Medicare patients below both the states and the nation. Boyd, Carter and Greenup counties have pap test rates higher than the state but lower than the nation. Colon screenings through sigmoidoscopy or colonoscopy are below the averages for Kentucky and the nation in Boyd and Carter counties; Lawrence County has a rate lower than the nation.



Data Sources: Dartmouth College Institute for Health Policy & Clinical Practice, Dartmouth Atlas of Health Care. 2014; Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2006-12.

Disease management for people with chronic conditions helps to reduce costs and improve the quality of life for those patients. In the United States, the 44% of noninstitutionalized Americans with chronic disease account for a disproportionate share (78%) of healthcare expenses. According to the Dartmouth College Institute for Health Policy 2006-12, in the service area, diabetes mellitus management among the Medicare population is better than both Kentucky (85.9%), Ohio (85.1%) and the nation (85.2%), except for Lawrence County, Ohio (83%) where it is a few points worse. High blood pressure management, defined as those not taking blood pressure medicine when needed, is better in two of the four counties in the service area according to CDC Behavioral Risk Survey Surveillance System data, 2006-10. Boyd (5.7%) and Carter (15%) counties are much better than Greenup (17.8%) and Lawrence (28.9%) counties, when compared to Kentucky (17.6%), Ohio (19.8%) and the United States (21.7%).

Pneumococcal vaccines can help prevent the spread of pneumonia. According to vaccines.gov, pneumococcal disease causes thousands of infections every year in the United States. It's more common in children, but it's most likely to cause serious complications in adults. Pneumococcal disease is contagious, meaning it spreads from person to person. It can lead to different kinds of health problems — including serious infections in the lungs, lining of the brain and spinal cord, and blood. Pneumococcal disease is especially dangerous for babies, older adults, and people with certain health conditions. Getting vaccinated is the best way to prevent pneumococcal disease.



Source: *Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Department of Health & Human Services, 2006-12.*

The preventable hospital events indicator reports the discharge rate (per 1,000 Medicare enrollees) for conditions that are ambulatory care sensitive (ACS). ACS conditions include pneumonia, dehydration, asthma, diabetes, and other conditions which could have been prevented if adequate primary care resources were available and accessed by those patients. According to the data, all of the service area fares worse than the comparable state and national data.

Area/Indicator	Boyd	Carter	Greenup	Lawrence	Kentucky	Ohio	United

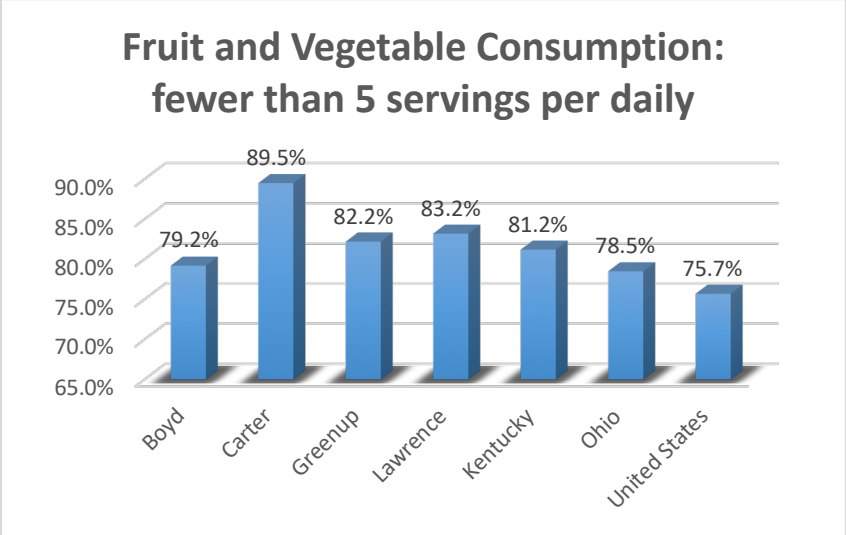
	Co.	Co.	Co.	Co.			States
Preventable Hospital Events Rate (per 1,000 MC enrollees)	104.8	90.1	88.7	81.1	77.0	59.8	49.9

Data Source: Dartmouth College Institute for Health Policy & Clinical Practice, Dartmouth Atlas of Health Care, 2014

Health Behaviors

Health behaviors such as poor diet, a lack of exercise, and substance abuse contribute to poor health status. Unhealthy eating and lack of physical activity can lead to significant health issues like obesity and diabetes. Tobacco use contributes to a multitude of health issues including cancer, heart disease and COPD.

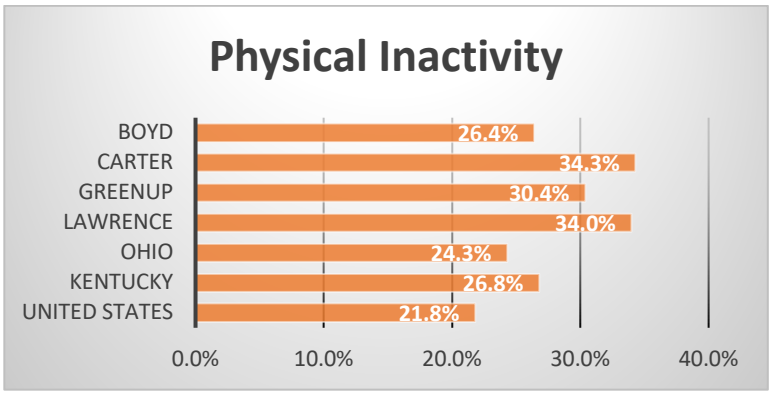
Fruit and vegetable intake is an important component of a healthy diet. Reduced fruit and vegetable consumption is linked to poor health and increased risk of noncommunicable diseases. According to the World Health Organization, an estimated 3.9 million deaths worldwide were attributable to inadequate fruit and vegetable consumption in 2017. Including fruits and vegetables as part of the daily diet may reduce the risk of some diseases including cardiovascular diseases and certain types of cancer. More limited evidence suggests that when consumed as part of a healthy diet low in fat, sugars and salt/sodium, fruits and vegetables may also help to prevent weight gain and reduce the risk of obesity, an independent risk-factor for many diseases. In addition, fruits and vegetables are rich sources of vitamins and minerals, dietary fiber and a host of beneficial non-nutrient substances including plant sterols, flavonoids and other antioxidants and consuming a variety of fruits and vegetables helps to ensure an adequate intake of many of these essential nutrients. In the service area, all counties data shows an inadequate consumption of fruits and vegetables among adults compared to Kentucky, Ohio and the United States.



Source: *Centers for Disease Control, Behavioral Risk Factor Surveillance System, 2006-12.*

Physical inactivity is a major public health problem. In the CDC, Behavioral Risk Surveillance System questionnaire, asks “During the past month, other than your

regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?" In the service area, 31.1% of adults age 20 and older reported they did not. Physical activity is important because current behaviors are determinants of future health and may indicate a cause of future significant health issues, such as obesity and poor cardiovascular health.



Source: *Centers for Disease Control, Behavioral Risk Factor Surveillance System, 2006-12.*

Tobacco use is a major public health issue. According to the report, *Tobacco, Nicotine and E-Cigarettes*, from the National Institute on Drug Abuse, updated January 2018, cigarette smoking harms nearly every organ in the body, and smoking is the leading preventable cause of premature death in the United States. Although rates of smoking have declined, it is estimated that it leads to about 480,000 deaths yearly. Smokers aged 60 and older have a twofold increase in mortality compared with those who have never smoked, dying an estimated six (6) years earlier. Quitting smoking results in immediate health benefits, and some or all of the reduced life expectancy can be recovered depending on the age a person quits. Although nicotine itself does not cause cancer, at least 69 chemicals in tobacco smoke are carcinogenic, and cigarette smoking accounts for at least 30-percent of all cancer deaths. The overall rates of death from cancer are twice as high among smokers as nonsmokers, with heavy smokers having a four times greater risk of death from cancer than nonsmokers.

In the service area, an estimated 36,057, or 26.4% of adults age 18 or older self-report currently smoking cigarettes some days or every day. This is relevant because tobacco use is linked to leading causes of death including cancer and cardiovascular disease. Current tobacco use is worse in all four counties than Kentucky, Ohio and the United States and quit attempts are much lower. Tobacco use among former and current smokers is near or greater than 50% in three of the four counties as indicated in the following chart:

Area/Indicator	Boyd Co.	Carter Co.	Greenup Co.	Lawrence Co.	Kentucky	Ohio	United States
Tobacco Use – Current Smokers	28%	33.6%	23.9%	26.2%	26.1%	21.7%	18.1%
Tobacco Use – Former and Current Smokers	49.8%	61.6%	57.5%	44.5%	53.5%	49.1%	44.2%

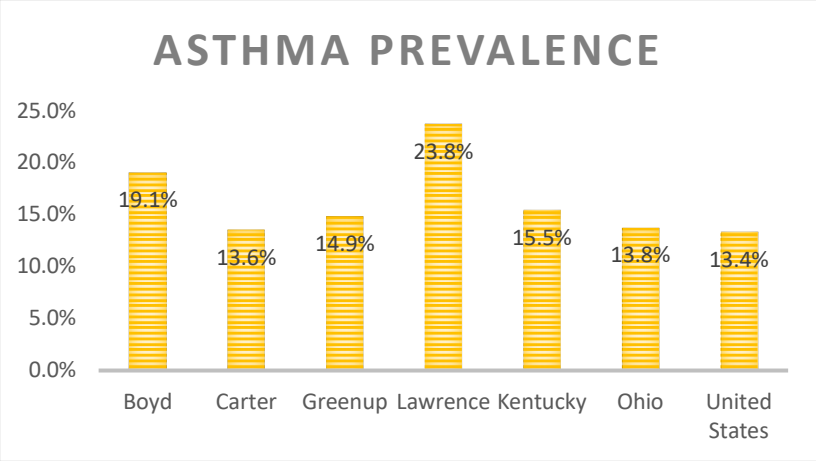
Tobacco – Quit Attempts	51.4%	46.8%	52.1%	42.8%	54.3%	55.5%	60.0%

Sources: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Department of Health & Human Services, Health Indicators Warehouse,. 2006-12. Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion. 2013.

Health Outcomes

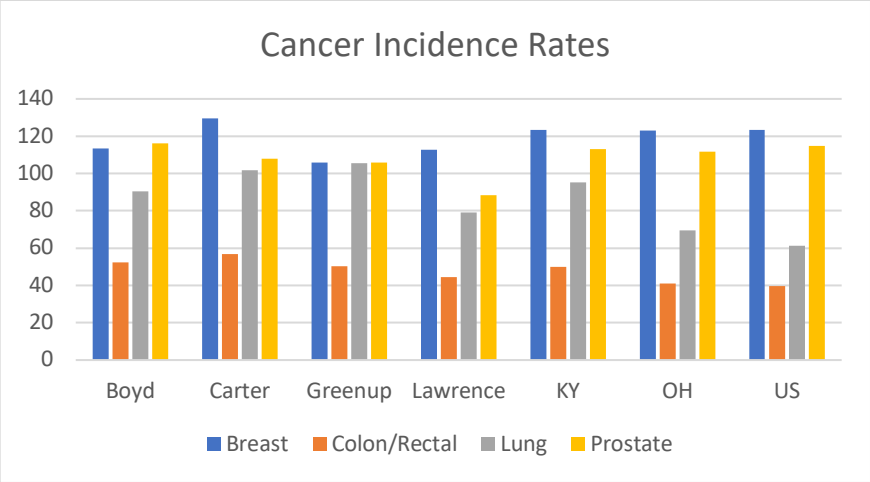
Looking at morbidity and mortality rates allows assessment of linkages between social and behavioral determinants of health and outcomes. By comparing, for example, the prevalence of certain chronic diseases to indicators in other categories (e.g., poor diet and exercise) with outcomes (e.g., high rates of obesity and diabetes), various causal relationship may emerge, allowing a better understanding of how certain community health needs may be addressed.

Asthma prevalence is not only a serious public health issue that has far reaching medical, economic, and psychosocial impact, but it is also a personal health issue. The following chart reports the percentage of adults aged 18 and older who self-report that they have ever been told by a doctor, nurse, or other health professional that they had asthma. Three of the four counties have asthma prevalence rates about the same as state and national rates.



Source: *Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2011-13*

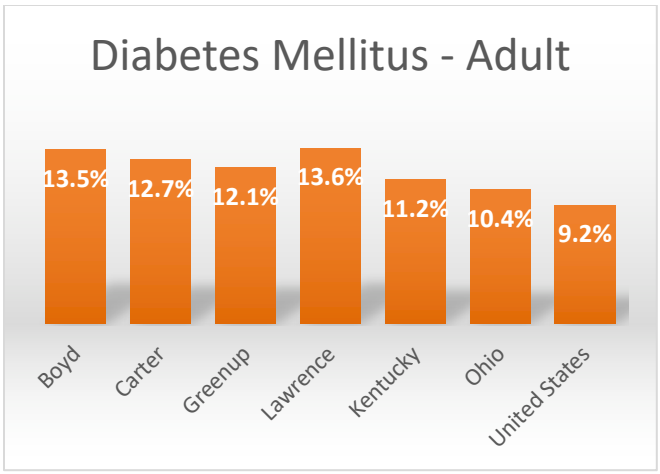
Cancer incidence rates provide a picture of the estimated new cancer cases diagnosed each year, based on 100,000 population. Cancer puts a huge burden on the individual and the healthcare system. In the service area, all counties except Carter fare much better than the two states and the nation when it comes to breast cancer incidence. All of the service area counties are worse than Kentucky, Ohio and the United States when it comes to incidence of colon/rectal and lung cancers. With prostate cancer, only Boyd County has an incidence rate worse than the two states and the nation. The rate details are highlighted in the following chart.



Source: State Cancer Profiles. 2011-15.

While depression is not a normal part of the aging process, there is a strong likelihood of it occurring when other physical health conditions are present. Symptoms of clinical depression can be triggered by other chronic illnesses common in later life, such as Alzheimer's disease, Parkinson's disease, heart disease, cancer and arthritis. Depression among the Medicare population in the service area is higher than both states and the nation, according to the Centers for Medicaid and Medicare Services. Boyd and Greenup counties both have 22.7% of Medicare patients indicate having depression, Carter County showed 19.3% and Lawrence County, Ohio was highest at 23.0%. This is compared to Kentucky at 20.2%, Ohio at 18.5% and the United States at 16.7%.

Diabetes mellitus (DM) is a major public health problem worldwide. Persistently high blood glucose levels can lead to serious life-changing and life-threatening complications. Diabetes can be effectively managed when caught early. However, when left untreated, it can lead to potential complications that include heart disease, stroke, kidney damage, eye and nerve damage. This indicator reports the percentage of adults aged 20 and older who have ever been told by a doctor that they have diabetes. The high prevalence of diabetes may indicate an unhealthy lifestyle and puts individuals at risk for further health issues. DM is higher across all four service area counties than Kentucky, Ohio and the United States.



Source: *Center for Disease Control and Prevention, National Center for Disease Prevention and Health Promotion, 2013*

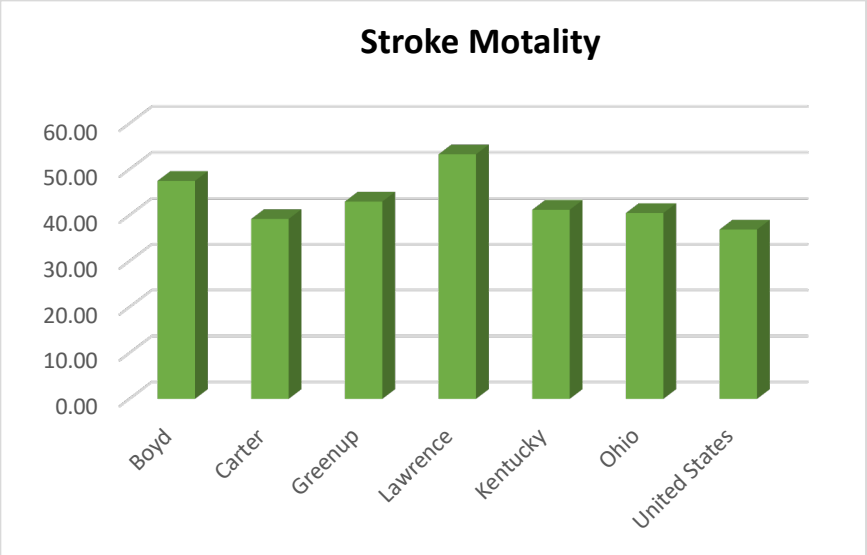
Heart disease is often used interchangeably with "cardiovascular disease." It can be fatal and also lead to serious illness, disability, and lower quality of life. Heart disease is the leading cause of death in the United States. Heart disease describes a range of conditions that affect your heart including narrowed or blocked vessels that can lead to heart attack, angina or stroke. Diseases under the heart disease umbrella include blood vessel diseases, such as coronary artery disease; heart rhythm problems (arrhythmias); and heart defects you're born with (congenital heart defects), among others. Other heart conditions, such as those that affect your heart's muscle, valves or rhythm, also are considered forms of heart disease. The following chart shows the morbidity and mortality (age-adjusted per 100,000 population) of heart disease and associated conditions like high blood pressure and high cholesterol.

Area/Indicator	Boyd Co.	Carter Co.	Greenup Co.	Lawrence Co.	Kentucky	Ohio	United States
Heart Disease (adult)	6.6%	5.4%	8.9%	4.8%	5.9%	5.1%	4.4%
Heart Disease (Medicare pop.)	33.4%	32.1%	34.3%	30.3%	29.1%	27.2%	26.5%
High Blood Pressure (adult)	33.4%	40.3%	32.7%	26.5%	32.5%	28.8%	28.2%
High Cholesterol (adult)	45.1%	46.6%	44.2%	32.7%	41.4%	38.7%	38.5%
Coronary Heart Disease Mortality	158.0	145.0	133.6	129.9	111.3	110.6	99.6
Heart Disease Mortality	241.6	221.8	213.9	213.3	202.5	187.8	168.2

Sources: *Centers for Disease Control and Prevention, National Vital Statistics System. 2006-12.* Source: *Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2011-13. Centers for Medicare and Medicaid Services, 2015.*

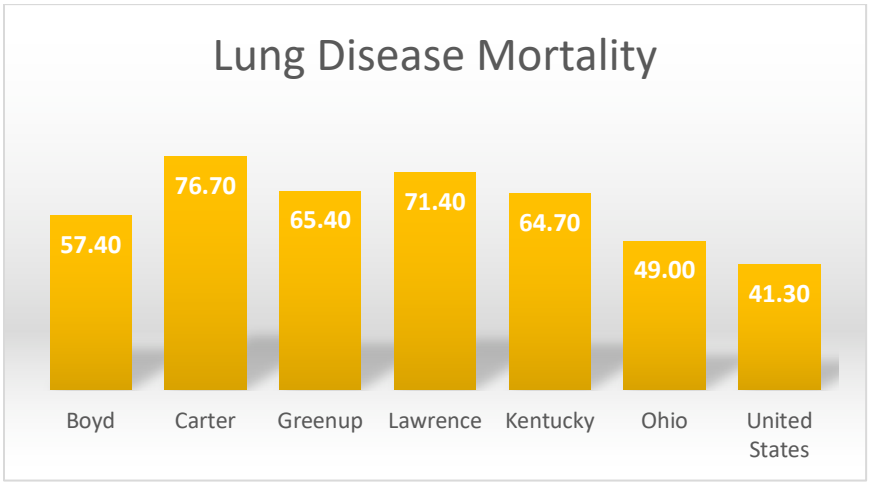
Stroke is the fifth leading cause of death in the United States. Suffering a stroke may lead to significant disability, such as paralysis, speech difficulties, and emotional problems. A stroke can cause permanent loss of function. The long-term effects of stroke depend on which part of the brain was damaged and by how much. Three of the

four counties are worse than the state's and all are worse than the nation in stroke mortality.



Source: *Centers for Disease Control and Prevention, National Vital Statistics System. 2006-12.*

Lung disease, other than cancer, refers to many disorders affecting the lungs, such as asthma, COPD, infections like influenza, pneumonia and tuberculosis, lung cancer, and many other breathing problems. Some lung diseases can lead to respiratory failure. Lung disease refers to any disease or disorder in which the lungs do not function properly. According to the National Institute of Environmental Health Sciences, lung disease is the third leading killer in the United States, responsible for one in seven deaths, and is the leading cause of death among infants under the age of one. Lung disease mortality (age-adjusted rate per 100,000 population) is higher than both states and the nation across all four counties, as shown in the following chart:



Source: *Centers for Disease Control and Prevention, National Vital Statistics System. 2006-12.*

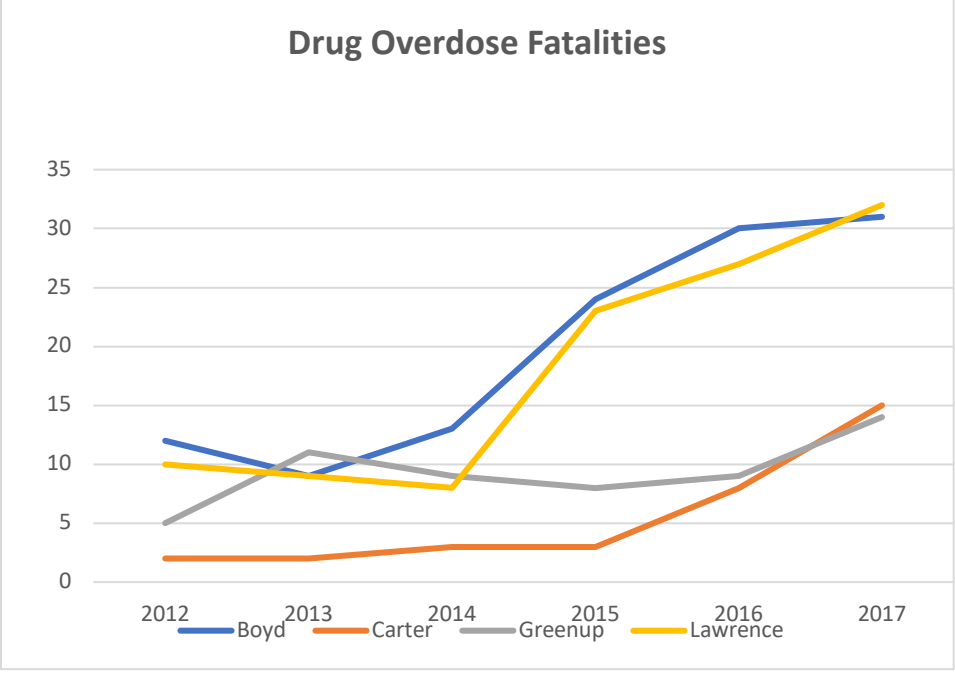
Infant mortality and low birth weight may be indicators of inadequate prenatal care. In 2015, preterm birth and low birth weight accounted for about 17% of all infant deaths.

According to the National Institute of Health, studies have demonstrated that low birth weight, defined as a birth weight less than 2,500 grams, is associated with a higher risk of neonatal and infant mortality and morbidity, and a greater risk for adverse health outcomes, cognitive development, and school performance problems than those born a normal weight. In the service area, infant mortality is better than the states and nation in all but Lawrence County, Ohio; where it is considerably worse. Low birth weight, however, is worse across all four counties than the comparative states and nation. The following chart show the comparisons:

Area/Indicator	Boyd Co.	Carter Co.	Greenup Co.	Lawrence Co.	Kentucky	Ohio	United States
Infant Mortality Rate (per 1,000 births)	6.6	5.0	5.8	9.1	7.0	7.7	6.5
Low birth weight (under 2500 g)	10.3%	10.1%	8.7%	10.9%	9.1%	8.6%	8.2%

Source: *US Department of Health & Human Services Health Indicators Warehouse. Centers for Disease Control and Prevention, National Vital Statistics System. 2006-12.*

Drug poisoning/overdose deaths continue to rise in the area. In 2017, the number of drug overdose deaths was nearly three times higher than in 2012. Heroin and prescription opioids account for the greatest number of fatal overdoses. Hydrocodone and naloxone account for the highest number of prescription doses written for controlled substances. High prescription rates may indicate that the medication is being diverted for non-medical use. Drug overdose is a growing problem for the area. The death rate from drug overdose is higher in Boyd County (32.6), Greenup County (27.4), and Lawrence County, Ohio (28.1), than Kentucky (27.4), Ohio (2.7) and the United States (15.6). While Carter County's rate (24.9) is better than both states it is much higher than the nation.



Sources: *Kentucky Office of Drug Control and Policy, 2017 Overdose Fatality Report; Ohio Department of Public Health, 2017.*

Associated Drug Poisoning Data

Description	Boyd, KY	Carter, KY	Greenup, KY	Lawrence, OH
Total Number of Drug Hospitalizations				
All Drugs	378	145	102	-
Heroin	153	52	24	-
Pharmaceutical Opioids	58	24	12	
Benzodiazepine	23	10	12	-
Rate per 1,000 persons All Controlled Substance Doses				
Hydrocodone	51	75	116	-
Oxycodone	31	44	67	-
Naloxone	57	104	87	-
Total	139	223	270	-
Total Number of Drug Overdose Deaths	31	15	14	-

Source: Kentucky Outpatient Services Database and Kentucky Inpatient Hospitalization Files , 2017.

Motor vehicle crashes, according to the Centers for Disease Control and Prevention, are a leading cause of death in the U.S., with over 100 people dying every day. More than 2.5 million drivers and passengers were treated in emergency departments as the result of being injured in motor vehicle traffic crashes in 2015. The economic impact is also notable: in a one-year period, the cost of medical care and productivity losses associated with occupant injuries and deaths from motor vehicle traffic crashes exceeded $63 billion. In the service area, the age-adjusted rate of mortality in motor vehicle crashes is worse than Ohio (10.2) and the nation (11.3). The highest rate is in Carter County (25.1), which is higher than Kentucky's rate of 17.5. The other county rates are: Boyd – 11.2, Greenup – 15.9 and Lawrence - 11.5 (Source: *US Department of Health & Human Services, Health Indicators Warehouse. Centers for Disease Control and Prevention, National Vital Statistics System, 2006-12).* The following chart shows the number of crashes involving drunk or impaired driving.

Vehicle Crash Associated Data

Description	Boyd, KY	Carter, KY	Greenup, KY	Lawrence, OH
Collision Involving Drunk Drivers				-
Fatal Collison	0	0	0	-
Collison Involving Injury	8	17	6	-
Collison Involving Property Damage	18	3	11	-
Total	26	20	17	-
Total Number of Drivers Under Influence of Drugs/Controlled Substances				
Fatal Collison	1	0	0	-

Collision Involving Injury	9	6	2	-
Collison Involving Property Damage	9	4	4	-
Total	19	10	6	-

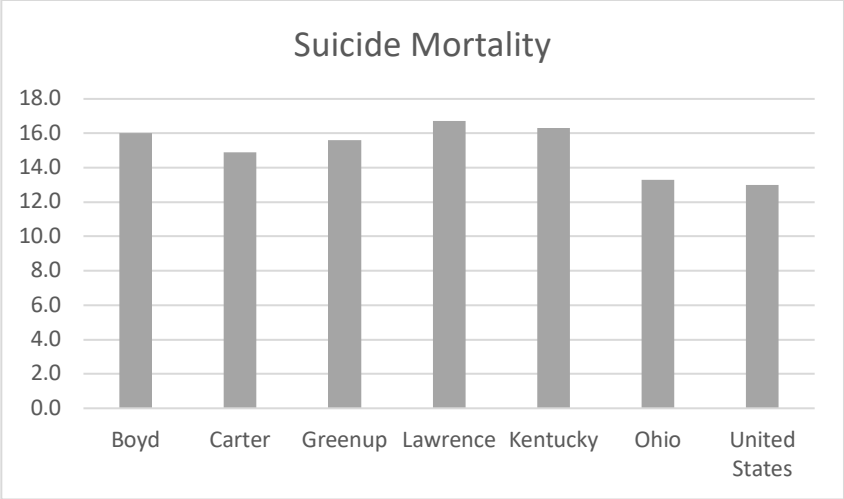
Source: Kentucky State Police, 2016

Premature death is measured through deaths that are unnecessary and preventable deaths. The measurement focuses on measuring deaths that occur before age 75 because these deaths are largely preventable, compared to deaths at older ages. Communities where many people die at young ages often face social and economic disadvantages that impact community well-being. Premature death can also be used to compare differences between populations or geographic areas and better understand risk factors for early deaths. Over the past decades in the U.S., the rates of premature death from all causes have declined as preventive services and government health policies have improved. However, significant variation in premature death rates remains a serious health equity concern. In the service area, the premature death rate is much higher than Ohio and the national rate. The three Kentucky counties do fare better than Kentucky as a whole, as reflected in the following chart.

Area/Indicator	Boyd Co.	Carter Co.	Greenup Co.	Lawrence Co.	Kentucky	Ohio	United States
Premature Death (Years of Potential Life Lost Rate per 100,000)	9,912	10,245	9,401	10,363	10,610	7,908	7,222

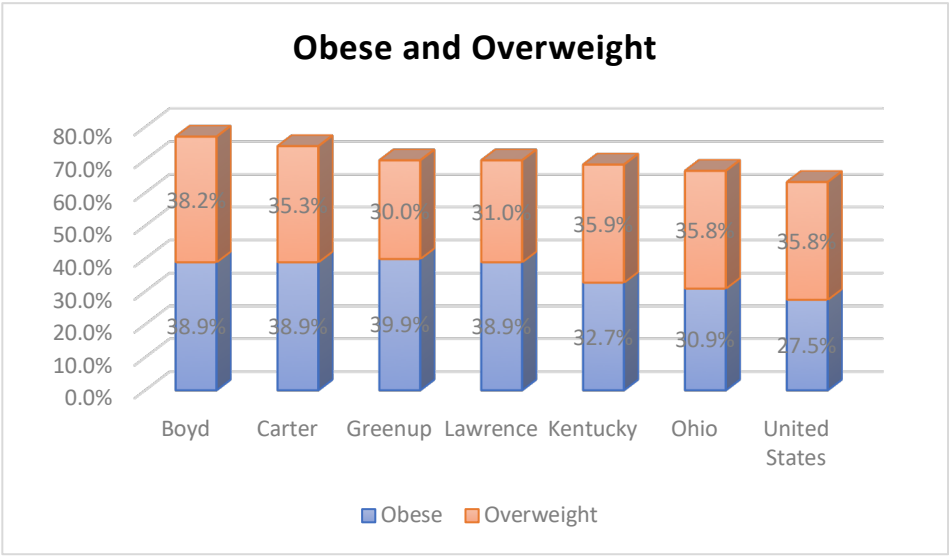
Source: *Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, 2013.*

Suicide is a large and growing public health problem. Suicide is the 10th leading cause of death in the United States. Suicide is a problem throughout the life span, affecting all ages. According to the CDC, it is the second leading cause of death for people 10 to 34 years of age, the fourth leading cause among people 35 to 54 years of age, and the eighth leading cause among people 55 to 64 years of age. Suicide mortality in the service area is higher than both Ohio and the United States (age-adjusted rate per 100,000 population).



Source*: Centers for Disease Control and Prevention, National Vital Statistics System, 2012-16.*

Obesity (BMI >30) and overweight (BMI 25-29.9) pose a high public health risk. People who have obesity, compared to those with a normal or healthy weight, are at increased risk for many serious diseases and health conditions, including high blood pressure, high LDL cholesterol, type 2 diabetes, coronary heart disease, stroke, osteoarthritis and sleep apnea. In addition, obese individuals are at higher risk for some cancers, including breast, colon, endometrial, kidney, gallbladder and liver. The percent obese in all four counties is higher than both states and the nation. The following chart provides detail about the obesity and overweight problem in the service area.



Sources: *Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, 2013. Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2011-13.*

Poor general health, as an indicator, is an important measure of general poor health status. Within the report area 27.9% of adults age 18 and older self-report having poor

or fair health in response to the question "Would you say that in general your health is excellent, very good, good, fair, or poor?." This is well below Kentucky, Ohio and the United States.

Area/Indicator	Boyd Co.	Carter Co.	Greenup Co.	Lawrence Co.	Kentucky	Ohio	United States
Poor General Health (age adjusted percent)	25.6%	31.2%	23.6%	27.9%	21.1%	15.3%	15.7%

Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2011-13.

Information Gaps:

There were information gaps identified for Lawrence County, Ohio, where we were unable to attain data for drug poisoning and motor vehicle crash data associated with driving under the influence. In addition, the BRFSS data is older than desired. This is because county level data is limited. Administrative district or regional information is more current but the inclusion of non-target county data may skew results for target counties. While the BRFSS data is six years old, this data does not seem to change significantly over time so the 2011-13 data was considered usable.

Existing Resources:

Resources and programs currently in place to address the health needs identified in the CHNA are provided by multiple community organizations in the area, as follows:

Local Health Departments:

- Ashland-Boyd County
- Little Sandy District- Carter County
- Greenup County
- Lawrence County, Ohio
- City of Ironton

Local Hospitals:

- King's Daughters Health System
- Bon Secours Kentucky-Our Lady of Bellefonte Hospital
- Southern Ohio Medical Center
- Cabell Huntington Hospital
- Saint Mary's Medical Center
- Veteran's Administration - Huntington

Mental Health/Substance Abuse:

- King's Daughters Health System
- Bon Secours Kentucky-Our Lady of Bellefonte Hospital
- ILCAO- Family Guidance Center
- Mended Reeds
- Pathways, Inc.
- Mahajan Therapies

- Prestera Mental Health
- Shawnee Mental Health
- Southern Ohio Behavioral Health
- River Park Hospital

Transportation to Aid in Access to Care

- City of Ashland Bus System
- FIVCO
- Ironton Port Authority
- Bon Secours Kentucky- Van Ministry
- Tri-State Transit Authority Bus System-Ashland/Ironton/Huntington

Low-Income Assistance

- The Neighborhood
- Safe Harbor
- Shelter of Hope
- Hope's Place
- United Way
- Salvation Army
- Kentucky Homeplace
- Area Churches
- Interagency/Community Action Councils

Community Assets:

The focus groups and questionnaire both collected data on what assets or strategies exist in the community that contribute to health. The following were identified:

- Local health departments
- Strong hospitals
- Number of healthcare clinics
- Good access to specialists
- Healthcare technology
- Greater awareness of need for healthier lifestyle
- Health screening and education programs
- Good schools and colleges
- Strong faith community
- Judicial system – drug program
- Strong economic development groups
- 211 resources
- School-based Family and Youth Resource Centers
- Parks and recreation opportunities
- Leadership programs
- Home health programs
- Higher education/workforce development
- Greater agency collaboration

- Health coalitions
- Non-profit community services
- Strong community pride

Health Needs Identified:

To get a comprehensive view of the needs of the service area, data was collected from the three data sources. This will provide the framework for discussion and selection of the top needs that can be addressed by the hospital over the next two years through the implementation planning and implementation process. The following chart provides the top health concerns from each data source:

Focus Groups: based on responses from the "Threats" discussion	**Questionnaire:** based on top 10 answers question	**Secondary Data:** three out of four counties worse than nation
• Substance abuse • Family unit/children living with grandparents • Jobs • Mental Health • Crime	• Alcohol/drug/tobacco use • Cancer • Obesity • Mental health/suicide • Child abuse/neglect • Diabetes • Heart disease • High blood pressure • COPD (lung/breathing issues) • Dental Health	• Poverty • Preventable hospital events (ambulatory care sensitive conditions that could have been prevented with adequate primary care) • Physical inactivity • Fruit and vegetable consumption • Tobacco use • Diabetes • Heart disease • Asthma • Colorectal cancer • Lung cancer • Stroke • Lung disease other than cancer • Low birth weight • Suicide • Obesity • Poor general health

Many times an interventional approach may need to be targeted to a single area instead of broadly to improve health. While there are a lot of issues across all counties, not all counties have the same needs. Therefore, it was important to look at the secondary data broken down by county (items included are statistically below both the state and nation):

Boyd County	**Carter County**	**Greenup County**	**Lawrence Co., Ohio**
• Poverty	• Poverty	• Poverty	• Poverty

• Food desert • Recreation facilities • Preventable hospital events • Physical inactivity • Tobacco use • Asthma • Colorectal cancer • Lung cancer • Diabetes • Heart disease • High blood pressure • High cholesterol • Stroke • Lung disease • Low birth weight • Premature death • Obesity • Overweight • Poor general health	• Educational attainment • Primary care access • No consistent primary care provider • Mammography screening • Pneumonia vaccine • Preventable hospital events • Fruit and vegetable consumption • Physical inactivity • Tobacco use • Breast cancer • Colorectal cancer • Lung cancer • Diabetes • Heart disease • High blood pressure • High cholesterol • Lung disease • Low birth weight • Premature death • Suicide • Obesity • Poor general health	• Educational attainment • Recreation facilities • Preventable hospital events • Fruit and vegetable consumption • Physical inactivity • Colorectal cancer • Lung cancer • Diabetes • Heart disease • High blood pressure • High cholesterol • Stroke • Lung disease • Low birth weight • Premature death • Obesity • Overweight • Poor general health	• Educational attainment • Primary care access • No consistent primary care provider • Mammography screening • Preventable hospital events • Fruit and vegetable consumption • Physical inactivity • Tobacco use • Asthma • Colorectal cancer • Lung cancer • Diabetes • Heart disease • Stroke • Lung disease • Infant mortality • Low birth weight • Premature death • Suicide • Obesity • Poor general health

Health Needs Priorities:

The priorities developed are based on the focus group and questionnaire findings and analysis of quantitative health and social indicators as presented in this community health needs assessment. In addition, the resources available within the communities served were considered. The CHNA is aligned with the efforts of other local agencies and considers the proposed objectives for Healthy People 2030. The priorities identified by the CHNA are:

- Substance abuse/misuse
- Obesity/diabetes
- Cancer prevention
- COPD (lung and breathing issues)
- Heart disease/High blood pressure

How are identified needs currently being addressed

The identified needs are addressed in the following way:

Substance abuse/misuse is currently being addressed by KDMC in multiple ways, including programs to target tobacco use, prescription drug take back and disposal, detox and opioid prescription limits. The medical center provides anti-tobacco/vaping educational programs in area schools and at community events. In addition, the medical center accepts referrals from providers to smoking cessation classes held free at the hospital. In 2017 KDMC designated four beds in its behavioral health unit as detox beds. KDMC has hosted several prescription medication take-back events and has a take back box in its family pharmacy at the hospital. In addition, an initiative focused on the hospital's emergency room has helped reduce the number of opioids prescribed. In the community, there are substance abuse rehab/detox and counseling services through Our Lady of Bellefonte Hospital and Pathways, Inc. For those in legal trouble, some counties offer drug court opportunities for those involved in the justice system.

Obesity/Diabetes are both being addressed from a nutrition education perspective with KDMC offering multiple types of nutrition education in schools and throughout the community at events like county fairs and festivals. The hospital's Center for Healthy Living focuses on both weight loss and diabetes, providing educational opportunities, weight loss surgery, diabetes education and more. KDMC also either hosts or sponsors events that encourage people to be physically active. The community offers education and physical activity opportunities for those wanting to lose weight. There are a number of gyms, including the YMCA, Planet Fitness and others offering exercise opportunities. The area also offers a number of recreational facilities including state parks, like Greenbo Lake and Carter Caves State parks, as well as walking opportunities through parks and planned walking paths around businesses.

Cancer Prevention at KDMC is addressed through education and screening. KDMC provides mobile mammography throughout the region to help make this service close to home for women. The mobile unit visits health departments, clinics, schools, businesses and churches. In addition, KDMC has received grant funding from the Breast Cancer Research and Education Trust Fund and the Susan G. Komen Foundation, which helps pay for mammograms and diagnostic services for women that are uninsured or underinsured. In collaboration with area providers, free community screenings are offered for prostate and skin cancers. KDMC also provides low-cost, low-dose CT scans for qualifying persons that were smokers. The Regional Cancer Conference, sponsored by KDMC, helps to educate physicians and other providers about the need for more screening and new therapies for cancer. In addition, the health departments in each county offer women's cancer screening programs. Our Lady of Bellefonte Hospital also offers cancer screenings in the community.

COPD (lung and breathing issues) is a new area for KDMC's community outreach. KDMC has provided tobacco education and smoking cessation classes to help minimize the impact of tobacco use as a preventive effort for lung disease. KDMC also has provided asthma education, but it has not done so since 2016. There is not a lot of preventive or education programs that are free and broadly available in the community.

Heart disease/High blood pressure has been a focus for KDMC for many years. KDMC

provides free screenings for total cholesterol, blood sugar and high blood pressure. In addition, KDMC has a mobile unit that is dedicated to providing heart screenings throughout the area. The mobile unit staff provide total cholesterol, blood sugar, blood pressure and EKG screenings at churches, businesses, schools and other community locations. In addition, KDMC focuses screening and education on high blood pressure by providing screening and education opportunities. Each year, thousands of people take advantage of these free screening opportunities. Our Lady of Bellefonte Hospital also offers free heart screenings in the community.

Summary of the 2017-19 progress toward goals and objectives.

Health needs to be met:

- Substance abuse
- Obesity
- Access to care
- Poverty/unemployment
- Diabetes
- Hypertension

How the strategies are being met:

Priority Area: Substance Abuse

KDMC chose to adopt the goal “to reduce illness, disability and death related to tobacco/substance abuse.” The focus on tobacco included hiring a wellness educator to provide tobacco cessation programs, offer non-traditional support for tobacco cessation and provide anti-tobacco education in schools and other venues in the community. The objectives for tobacco have been met through FY18. KDMC hired the wellness coordinator and has established the smoking cessation classes; anti-tobacco education has been provided at three school districts, including 11 schools and reaching more than 4,300 students. A staff member is an active member of the Healthy Choices, Healthy Communities Coalition and serves on the substance abuse subcommittee. Education for providers, others serving those involved in substance misuse and for youth leaders were provided education through several learning opportunities including lunch and learns, a youth summit on substance use and a conference titled Beyond Addiction: Help, Hope, Healing. The wellness educator also provided substance misuse education through the Celebrating Families initiative at Hillcrest Bruce Mission. To help those already misusing addictive substances, KDMC designated four beds in its Behavioral Medicine unit to detox patients. These beds have been at capacity since the initiation of the endeavor. KDMC received a grant from the Cardinal Health Foundation to implement Generation Rx. The program began in May 2018 and ran through April 2019. Through the program, students in grades four and five in all elementary schools in Boyd County received education designed to combat prescription medication misuse. The program taught children about medication safety. It also had an adult component that instructed parents and other trusted adults about keeping medication safe from children and how to use and dispose of medications properly. More than 1,000 children and over 400 adults were educated through this program. King's Daughters Family Pharmacy in Ashland accepts unused medications at any time, regardless of when a

prescription was filled. This program gives the public the opportunity to prevent medication misuse and theft by ridding their homes of potentially dangerous expired, unused and unwanted prescription drugs.

Priority Area: Obesity

KDMC adopted two goals to fight obesity. The first was "Promote health and reduce chronic disease risk by providing the knowledge and skills to increase the consumption of fruits and vegetables and other healthy foods for healthful diets and achievement and maintenance of healthy body weight." To reach this goal, KDMC adopted strategies addressing nutrition and physical activity in schools and in the community. The medical center staff and volunteers provided in classroom education programs focused on nutrition, healthy living and physical activity. In addition, school wellness programs were implemented in the Boyd County School District for staff, including the *Healthy Living Challenge.* Addressing the issue with the broader community, KDMC provided healthy cooking events and nutrition/physical activity education at county fairs, festivals and other community venues. The *Choose to Lose* program helped people interested in losing weight learn to cook healthy low-calorie dishes. The *Healthy Families: Groceries to Table* event was held in partnership with Marshall University dietetic students, Boyd and Greenup Counties Cooperative Extension offices and the Boyd/Ashland Health Department. Those attending watched live healthy cooking demonstrations and participated in a taste testing of the food cooked. In addition, participants visited a mock grocery store where they learned to make the healthy choice. The focus of the event was to help participants learn how to shop for and prepare healthy food options. In order to increase access to healthy foods for vulnerable populations, the medical center supported the meals-on-wheels program by providing financial support and volunteers to deliver food; brought the Farmer's Market onto a parking lot that is part of the medical center's campus, which lies in a food desert area of Ashland; participated with Our Lady of Bellefonte Hospital in the Food Feud gathering tons of food for the local food bank; supported River Cities Harvest through donating food from the hospital cafeteria and supporting the backpack snacks program that send home food with school children in need. Physical activity is a critical component of maintaining normal weight, which is why KDMC either hosted or supported numerous physical activity opportunities including local 5k runs and physical activity classes. In addition, KDMC incorporated physical activity into its events including *Go Red for Girl Scouts, Get Healthy Boyd County,* and *Get Moving Charles Russell Elementary.*

A second goal was to "Improve patient knowledge about the relationship between height and weight through screening, counseling and education in the healthcare setting." Working with primary care physicians, KDMC implemented a plan to increase the number of patient contacts that included assessment of BMI. During FY18, 100% of patients were assessed.

Priority Area: Access to Care

KDMC chose to address the goal of "improving access to comprehensive, quality health care services for the achievement of health equity," using multiple approaches looking at both school and hospital settings. In the school setting, KDMC established school-

based clinics in four school districts. The school clinics were staffed by advanced practice nurses (APRN) that provided both primary care and wellness services. The APRNs saw both students and staff with the objective or reducing absentee rates and improve access to care. KDMC also worked to improve access to primary care providers through their Call Center that assists patients with getting appointments within 24 hours of their call. In addition, KDMC established and promoted a 24/7 Care Line/Patient Access Center that provides medical advice and services for anyone in the community.

KDMC also offers mobile health services in underserved areas. Three mobile units provide mammography, cardiac services, and occupational health in areas without these services. The mammography unit visited businesses, schools, physician offices and other community sites in eastern Kentucky and southern Ohio counties. The cardiac mobile unit provided healthy heart screenings, wellness screenings, immunization clinics, flu shots and lung function testing in the target region. The general health unit provided occupational health, hearing screenings, lung function testing and health screenings throughout the service region.

To help bring affordable testing to those that are uninsured, underinsured or have limited coverage, KDMC offers low cost blood profiles each month. The blood profile includes fasting lipid panel (total cholesterol, high density cholesterol, low density cholesterol and triglycerides); comprehensive metabolic panel which gives the current status of the metabolism, including the health of the kidneys and liver, electrolyte and acid/base balance, glucose and blood protein levels. In addition, the test includes a complete blood count, which helps the individual determine general health status and screen for or monitor conditions affecting the blood, including anemia, infection, inflammation, bleeding disorders or cancer. The test also includes TSH or thyroid stimulating hormone, which screens for and aids in the diagnosis of thyroid disorders. For a nominal additional fee, the participant can add A1c testing, which provides a three-month average of blood glucose levels and is a primary tool in diagnosing and managing diabetes mellitus. The blood profiles are $25, with the A1c and additional $5 charge.

Priority: Poverty/Unemployment

Social issues can contribute to poor health in the community. This became one of the issues of the 2016 CHNA and KDMC decided to focus on “improving opportunities for employment among residents in an effort to build the economy and improve overall health.” Within the scope of KDMC’s expertise, the medical center focuses on promoting clinical and non-clinical careers in the community. This was done through career fairs and other promotional events and working with local educational institutions to expand programs that trained individuals for careers in healthcare. KDMC also worked with Ashland Community and Technical College in the FIVCO Science & Engineering Fair. The fair was held for elementary, middle and high school students that were at the top of their local science fairs. The fair encouraged interest and careers in science, technology and engineering. In addition, KDMC sponsored and provided staff for the Young Women Lead and Young Men Lead Conferences. The conferences were two-

day events for high school age girls or boys. The purpose each event was to empower high school students to embrace their strengths and to reach their full potential. Nationally recognized leaders shared their insights on real life issues and how to overcome them in order to achieve successful and fulfilling careers. In addition, teens connected with local leaders to learn from them. In addition, KDMC provides nursing instruction support to the Ashland Community and Technical College to help assure a continuing program for registered nurses in the region.

Priority: Diabetes

To combat the increasing epidemic of diabetes mellitus, KDMC set the goal of "reducing the disease and economic burden of diabetes mellitus (DM) and improve the quality of life for all persons who have, or are at risk for DM." KDMC chose a strategy of working with schools, providing diabetic education and/or testing. Working with the schools, both students and adults were served through educational programming. A Healthy Kids Day was held in the Boyd County district, which provided a fun, educational day for diabetic youth.

KDMC during its general and healthy heart screenings included a non-fasting blood glucose test. This test provides the participant an indicator of risk of diabetes and depending on the test reading, the individual was counseled on diabetes prevention or to visit their healthcare provider for further fasting blood testing. Diabetes prevention education was provided through partnerships with the following: Ohio Retired Teachers Association, Grayson Rural Electric, Ashland Head Start, Members Choice Credit Union, Ashland Community and Technical College, Russell Fire Department, Ashland Cardiology, Lawrence County Senior Day, Northeast Head Start, Boyd County Middle School, Ironton Farmer's Market, Marathon Petroleum, Boyd County Homemakers, Ashland Second Baptist Church, Greenup New Life Church, and South Point Nazarene Church. The Center for Healthy Living dieticians post 1-2 times per week to Facebook, sharing nutrition tips, healthy recipes and health topics geared specifically to diabetic patients and their families. As part of KDMC's Low Cost Blood Profiles, individuals receive a fasting glucose test. This test can tell the individual is they have abnormal blood sugar readings.

Priority: Hypertension

Hypertension is a problem that can cause stroke and other issues. KDMC adopted a goal to "improve cardiovascular health and quality of life through prevention, detection, and treatment of hypertension." Through screening and education, KDMC has reached over 2,000 people during this implementation plan period. KDMC worked with churches, businesses, educational institutions and others to educate the community about hypertension. KDMC hosted nearly 100 events in the four-county service region providing blood pressure screening and education. KDMC also provided stroke education, which includes discussion of blood pressure's role in stroke.

While KDMC is currently in its third year of the Implementation Plan, all of the Implementation Plan goals have either been met or will be met during FY19. The FY18 progress report is attachment E.