



# Community Health Needs Assessment

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# Princeton Baptist Medical Center

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## Princeton Baptist Medical Center at a Glance

Princeton Baptist Medical Center (Princeton), located in Birmingham, AL, is licensed for 505 beds and has 465 physicians on staff. Princeton is fully equipped to handle the acutely ill patient, with 45 ICU beds and six cardiovascular extended-care beds. Princeton remains committed to contributing to the future of healthcare through its dedication to clinical research and its medical residency program. Its patient-centered approach to care ensures patients get the immediate care needed, as well as a full line of preventative care and education.

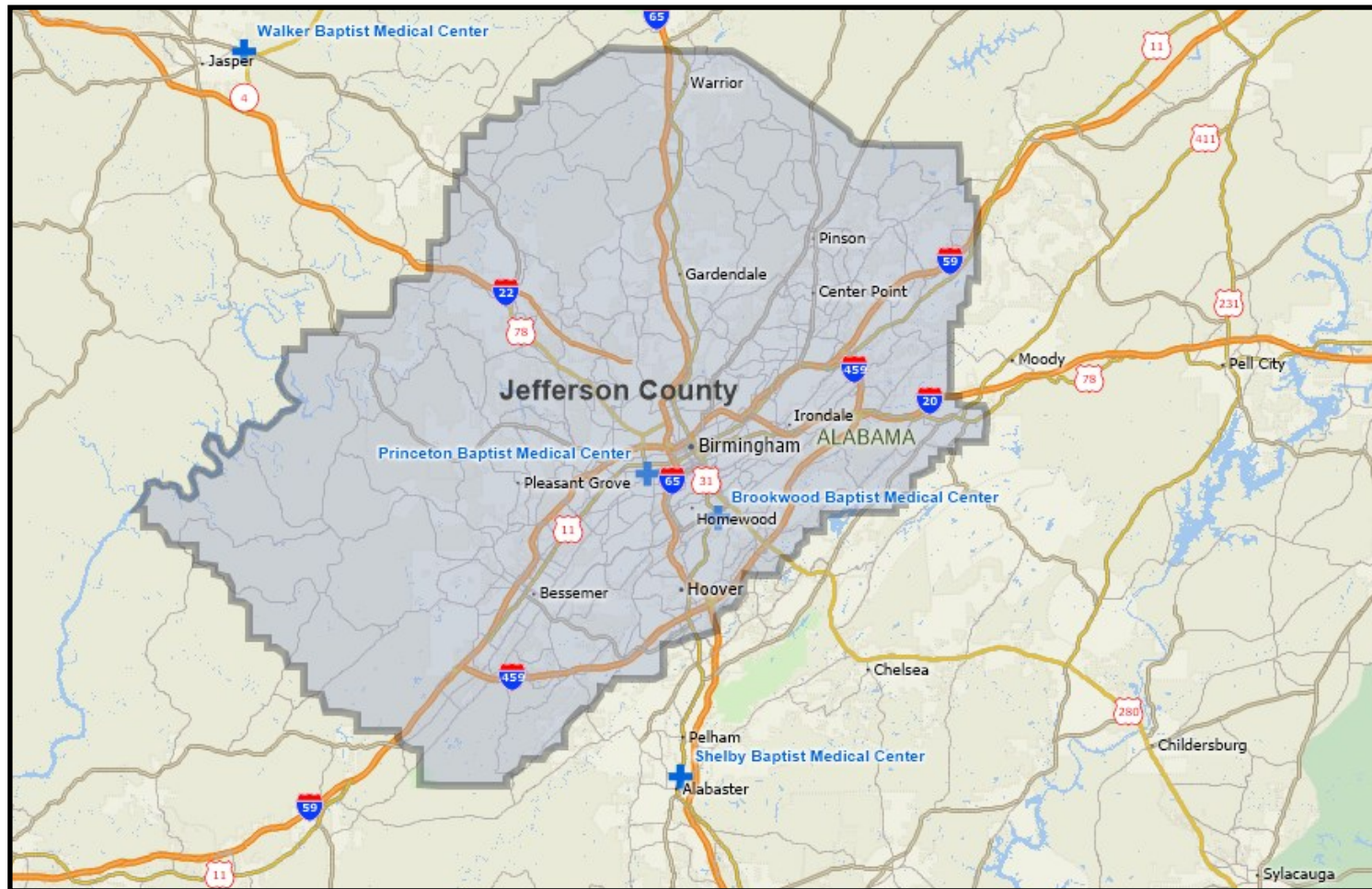
Princeton offers a comprehensive range of services designed to meet nearly any healthcare need. In addition to general and specialty surgery performed in new, state-of-the-art surgical suites, Princeton offers an accredited Bariatrics Center, neurology services, Cancer Care, Emergency services, comprehensive Heart Care including a structural heart and valve program, Rehabilitation Services for both physical and cardiac issues, and Wound Care services that include hyperbaric oxygen treatment, to name a few. Princeton is accredited by the American College of Surgeons Commission on Cancer and is the only UHMS accredited wound care center in Birmingham. Princeton's focus on the overall wellbeing of patients and the community is evident through various support groups including T.O.U.C.H. Cancer Support Meetings, Breast Cancer Survivor meetings, and a Bariatric Support Group.



# Community Overview

For the purposes of the CHNA report, PBMC chose Jefferson County as its service area. This community was chosen purely by geography, and includes medically underserved, low income, and minority populations.

The map below represents the PBMC service area.

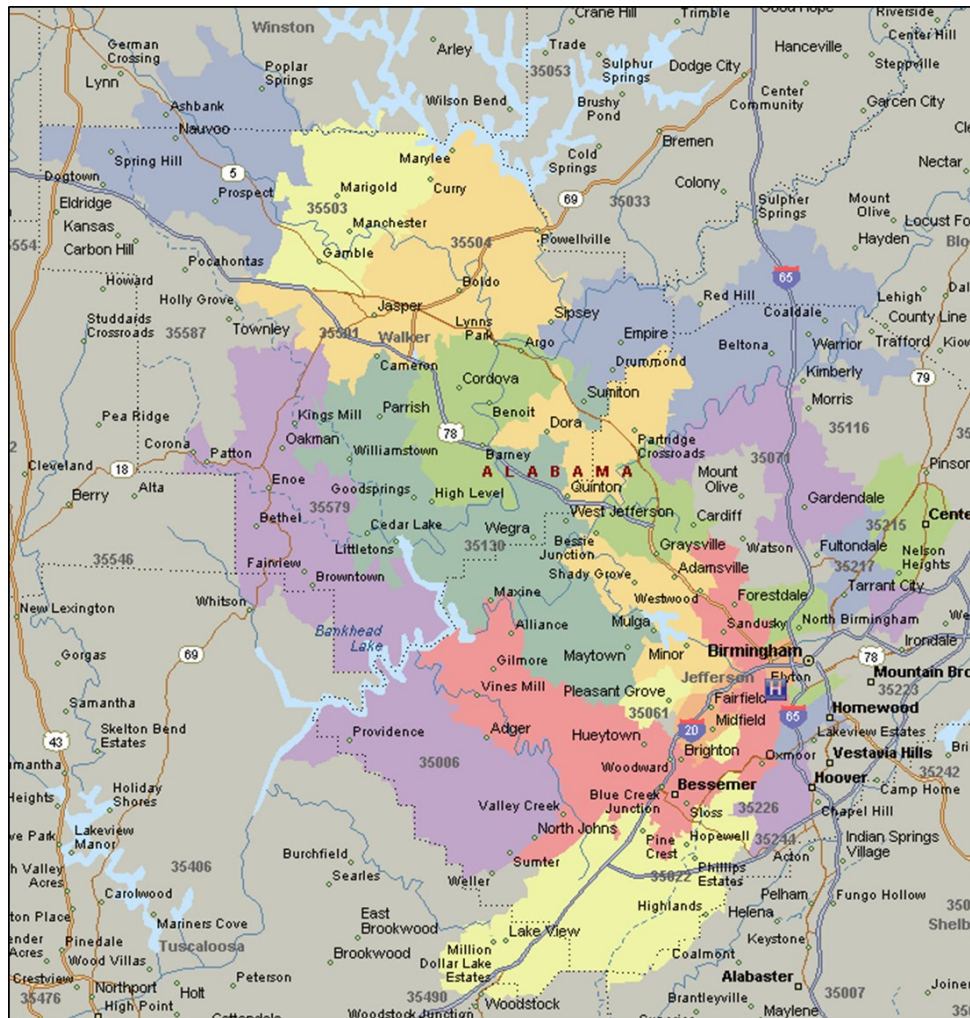


Sources: PBMC; Mapitude 2016

# Community Overview, continued

While Jefferson County is used for the purposes of this CHNA to develop various county-level analyses, PBMC also recognizes that it serves a much broader community. Based on its 75% discharge data for the year ending with Q2 2015, PBMC serves the following area, with ZIP codes into Walker County in addition to its main community of Jefferson.

The map below represents the PBMC service area based on discharge data.



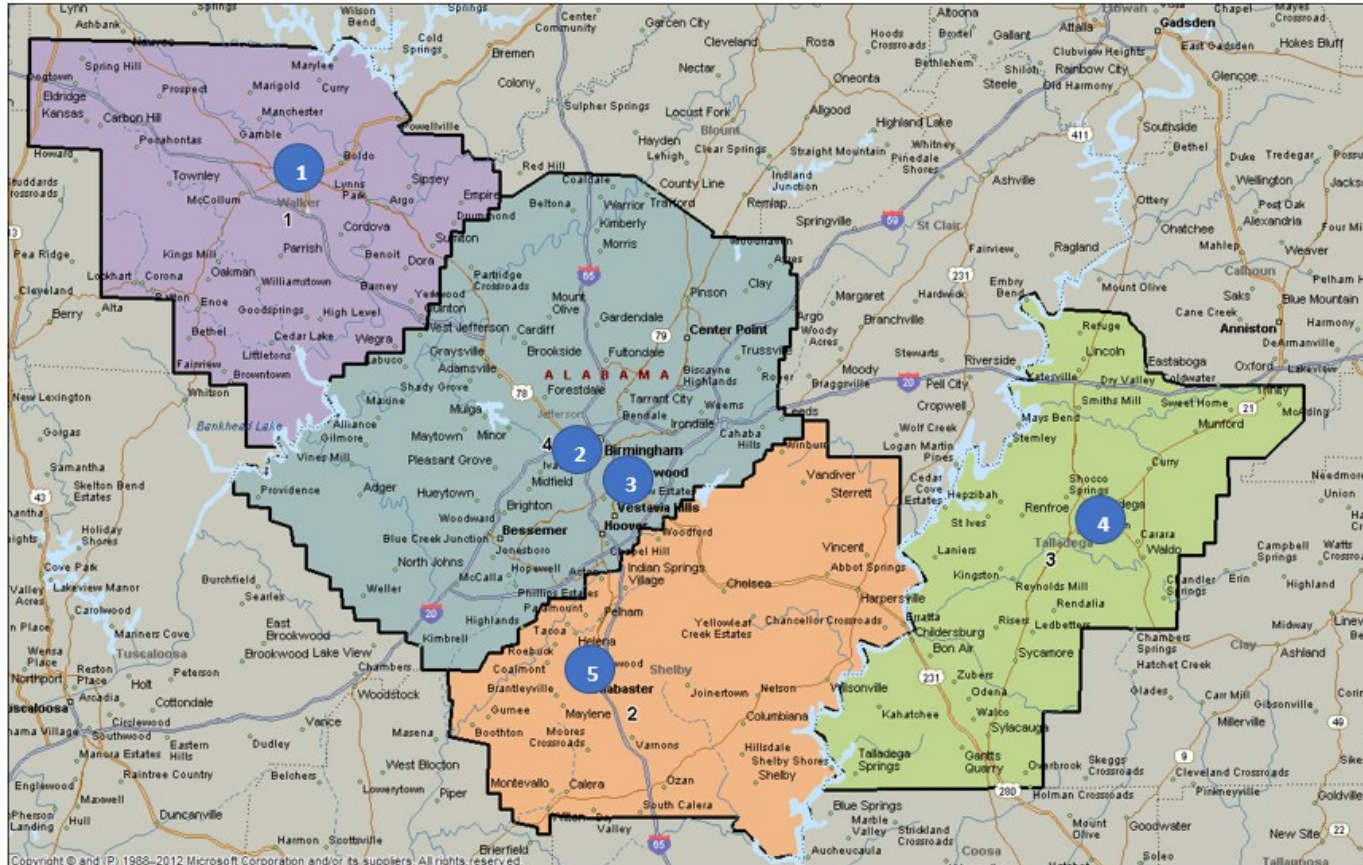
Sources: PBMC; Mapititude 2016



# Brookwood Baptist Health

In 2015, Brookwood Medical Center and Baptist Health System merged, creating the new five-hospital network: Brookwood Baptist Health. The five hospitals, shown in the map below, along with Brookwood Baptist Health’s additional convenient primary care and specialty centers throughout the state, now represent the largest primary care network in Alabama.

The map below represents the Brookwood Baptist Health Hospital Network



Key:

- 1 Walker Baptist Medical Center
- 2 Princeton Baptist Medical Center
- 3 Brookwood Baptist Medical Center
- 4 Citizens Baptist Medical Center
- 5 Shelby Baptist Medical Center



## Community Health Needs Assessment Background

On February 15, 2016, PBMC contracted with Carnahan Group to conduct a Community Health Needs Assessment (CHNA) as required by the Patient Protection and Affordable Care Act (PPACA). Please refer to Appendix C: Carnahan Group Qualifications for more information about Carnahan Group.

The PPACA, enacted on March 23, 2010, requires not-for-profit hospital organizations to conduct a CHNA once every three taxable years that meet the requirements of the Internal Revenue Code 501(r) set forth by the PPACA. The PPACA defines a hospital organization as an organization that operates a facility required by a state to be licensed, registered, or similarly recognized as a hospital; or, any other organization that the Treasury's Office of the Assistant Secretary ("Secretary") determines has the provision of hospital care as its principal function or purpose constituting the basis for its exemption under section 501(c)(3).

A CHNA is a report based on epidemiological, qualitative, and comparative methods that assess the health issues in a hospital organization's community and that community's access to services related to those issues. Based on the findings of the CHNA, an implementation strategy for PBMC that addresses the community health needs will be developed and adopted by early 2017.

# Requirements

As required by the Treasury Department (“Treasury”) and the Internal Revenue Service (IRS), this CHNA includes the following:

- A description of the community served;
- A description of the process and methods used to conduct the CHNA, including:
  - A description of the sources and dates of the data and the other information used in the assessment, and,
  - The analytical methods applied to identify community health needs;
- The identification of all organizations with which PBMC collaborated, if applicable, including their qualifications;
- A description of how PBMC took into account input from persons who represented the broad interests of the community served by PBMC, including those with special knowledge of or expertise in public health, written comments regarding the hospital’s previous CHNA, and any individual providing input who was a leader or representative of the community served by PBMC; and,
- A prioritized description of all of the community health needs identified through the CHNA and a description of the process and criteria used in prioritizing those needs.

# CHNA Strategy

- This CHNA was conducted following the requirements outlined by the Treasury and the IRS, which included obtaining necessary information from the following sources:
- Input from persons who represented the broad interests of the community served by PBMC, which included those with special knowledge of or expertise in public health;
- Identifying federal, regional, state, or local health or other departments or agencies, with current data or other information relevant to the health needs of the community served by PBMC, leaders, representatives, or members of medically underserved, low-income, and minority populations with chronic disease needs in the community served by PBMC; and,
- Consultation or input from other persons located in and/or serving PBMC's community, such as:
  - Healthcare community advocates;
  - Nonprofit organizations;
  - Local government officials;
  - Community-based organizations, including organizations focused on one or more health issues;
  - Healthcare providers, including community health centers and other providers focusing on medically underserved populations, low-income persons, minority groups, or those with chronic disease needs.
- The sources used for PBMC's CHNA are provided in the References and Appendix A: Community Leader Interview Organizations. Information was gathered by conducting interviews with individuals representing community health and public service organizations, medical professionals, hospital administration and other hospital staff members.



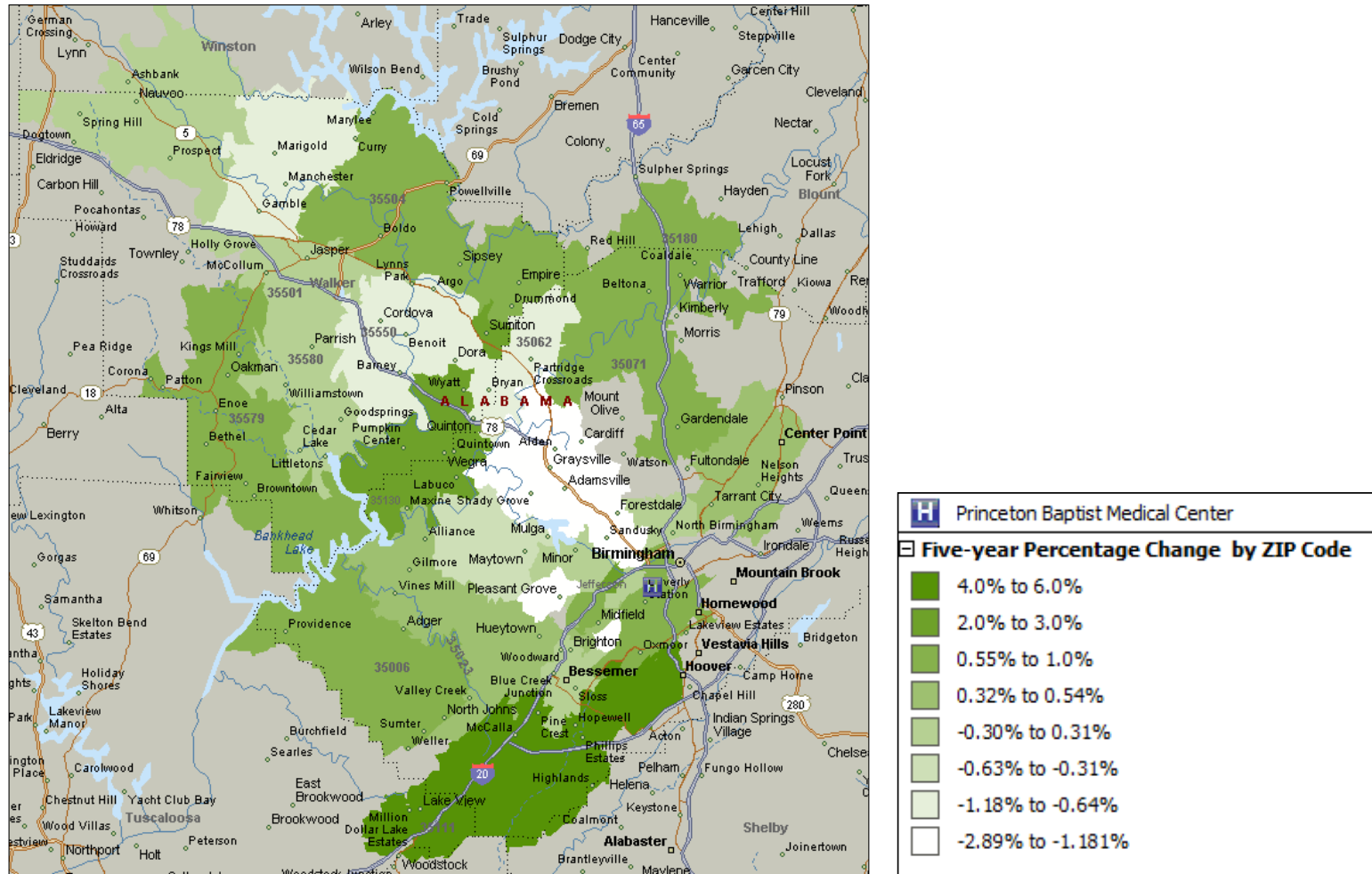
## Secondary Data Collection and Analysis Methodology

A variety of data sources were utilized to gather demographic and health indicators for the community served by PBMC. Commonly used data sources include Esri, the U.S. Census Bureau, the Alabama Department of Public Health (ADPH), and the Centers for Disease Control and Prevention (CDC). As previously mentioned, Jefferson County defines the community for PBMC. Demographic and health indicators are presented at the county level and compared to state benchmarks.

# Demographics

## Population in Princeton Baptist Medical Center's Community

Population Density by ZIP Code, 2015



Sources: Esri 2015; Maptitude 2016

# Population Change by ZIP Code

The estimated 2015 population in PBMC's Service Area is 491,708 and is expected to grow by 1.0% over the next five years.

Total Service Area Population Change by ZIP Code, 2015–2020

## Current and Projected Population by ZIP Code

ZIP Code	Community	County	Current Population	Projected 5-year Population	Percent Change
35215	Birmingham	Jefferson	47,097	47,250	0.3%
35226	Birmingham	Jefferson	33,606	35,008	4.2%
35209	Birmingham	Jefferson	28,760	29,006	0.9%
35020	Bessemer	Jefferson	25,655	25,607	-0.2%
35211	Birmingham	Jefferson	25,510	25,952	1.7%
35023	Bessemer	Jefferson	25,010	25,138	0.5%
35022	Bessemer	Jefferson	21,414	22,314	4.2%
35214	Birmingham	Jefferson	18,819	18,534	-1.5%
35205	Birmingham	Jefferson	17,480	17,716	1.4%
35206	Birmingham	Jefferson	16,995	17,086	0.5%
35111	Mc Calla	Jefferson	16,637	17,593	5.7%
35180	Warrior	Jefferson	15,262	15,380	0.8%
35208	Birmingham	Jefferson	15,178	15,133	-0.3%
35071	Gardendale	Jefferson	14,890	15,020	0.9%
35504	Jasper	Walker	14,672	14,757	0.6%
35217	Birmingham	Jefferson	12,832	12,890	0.5%
35204	Birmingham	Jefferson	11,941	12,130	1.6%
35064	Fairfield	Jefferson	11,237	11,348	1.0%
35228	Birmingham	Jefferson	10,420	10,477	0.5%
35501	Jasper	Walker	9,955	9,944	-0.1%

ZIP Code	Community	County	Current Population	Projected 5-year Population	Percent Change
35127	Pleasant Grove	Jefferson	9,391	9,143	-2.6%
35207	Birmingham	Jefferson	8,824	8,848	0.3%
35503	Jasper	Walker	8,140	8,046	-1.2%
35062	Dora	Jefferson	8,036	7,985	-0.6%
35218	Birmingham	Jefferson	7,550	7,749	2.6%
35005	Adamsville	Jefferson	7,265	7,179	-1.2%
35224	Birmingham	Jefferson	6,207	6,189	-0.3%
35550	Cordova	Walker	5,839	5,801	-0.7%
35578	Nauvoo	Walker	5,781	5,772	-0.2%
35221	Birmingham	Jefferson	4,604	4,471	-2.9%
35580	Parrish	Walker	4,007	3,995	-0.3%
35063	Empire	Walker	3,727	3,762	0.9%
35579	Oakman	Walker	3,725	3,793	1.8%
35006	Adger	Jefferson	3,597	3,639	1.2%
35130	Quinton	Walker	3,276	3,380	3.2%
35118	Mulga	Jefferson	3,199	3,187	-0.4%
35148	Sumiton	Walker	2,724	2,783	2.2%
35073	Graysville	Jefferson	2,446	2,415	-1.3%
<b>Total</b>			<b>491,708</b>	<b>496,420</b>	<b>1.0%</b>

Source: Esri 2015



# Population Change by Age and Gender

Substantial population growth is expected among residents aged 65 and older (16.6%). Marginal growth is expected for children and young adults aged 0 through 19 (0.2%), while the populations of adults aged 20 through 44 and adults aged 45 through 64 are expected to decline slightly (-2.4% and -3.2%, respectively).

Service Area Current and Projected Population Change by Age and Sex

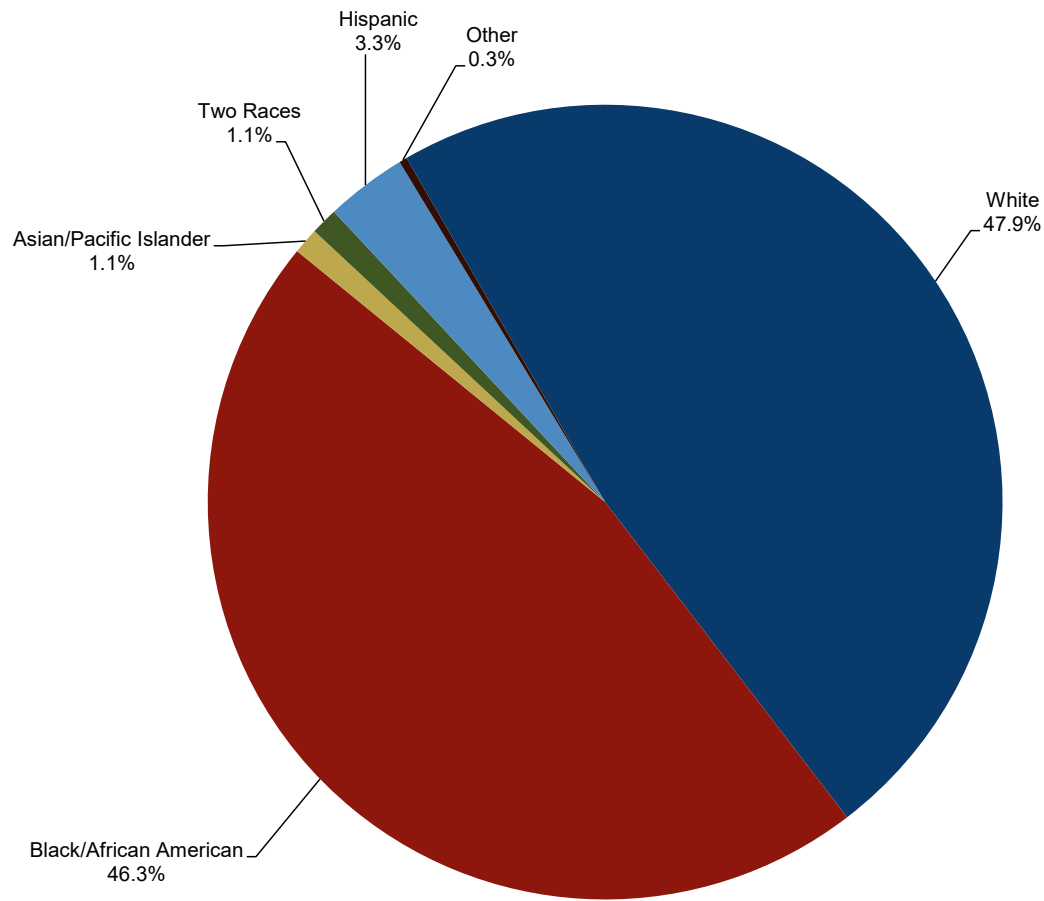
Age Group	2015			2020			Percent Change		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Age 0 through 19	62,663	60,529	123,192	62,874	60,611	123,485	0.3%	0.1%	0.2%
Age 20 through 44	78,895	83,571	162,466	77,264	81,308	158,572	-2.1%	-2.7%	-2.4%
Age 45 through 64	61,246	69,593	130,839	59,911	66,789	126,700	-2.2%	-4.0%	-3.2%
Age 65 and older	31,116	44,095	75,211	37,023	50,640	87,663	19.0%	14.8%	16.6%
<b>Total</b>	<b>233,920</b>	<b>257,788</b>	<b>491,708</b>	<b>237,072</b>	<b>259,348</b>	<b>496,420</b>	<b>1.3%</b>	<b>0.6%</b>	<b>1.0%</b>

Source: Esri 2015

# Race/Ethnic Composition

The most common race/ethnicity in PBMC's community is white (47.9%) followed by black/African American (46.3%), Hispanic (3.3%), Asian/Pacific Islander (1.1%), individuals of two or more races (1.1%) and other races (0.3%). According to the United States' 2010 Census, however, the city of Birmingham is predominately black, at 73.4%.

**PBMC Service Area Race/Ethnic Composition 2015**



Source: Esri 2016

# Population by Race and Ethnicity

The populations of individuals of two or more races and Asian/Pacific Islanders are expected to grow substantially by 2020 (19.7% and 16.0%, respectively), in the service area. Those identifying as “Other,” black/African American, and Hispanic are expected to grow slightly, while the White population is expected to decline slightly (-1.7%).

Service Area Current and Projected Population by Race

Race/Ethnicity	2015	2020	Percent Change
White	235,581	231,535	-1.7%
Black/African American	227,675	233,740	2.7%
Asian/Pacific Islander	5,213	6,045	16.0%
Two Races	5,438	6,507	19.7%
Hispanic	16,227	16,943	4.4%
Other	1,574	1,650	4.8%

Source: Esri 2015



# Socioeconomic Characteristics

According to the U.S. Bureau of Labor Statistics, the 2014 annual unemployment average for Jefferson County (5.4%) was lower than Alabama's overall rate of 6.8%.

The U.S. Census American Community Survey (ACS) publishes median household income and poverty estimates. According to 2010–2014 estimates, the median household income in Jefferson County (\$45,239) is slightly higher than Alabama's (\$43,511). However, when looking into data regarding the immediate area surrounding PBMC, the median household income is estimated to be much lower. Birmingham, Alabama had an estimated annual median household income of approximately \$31,217.

Poverty thresholds are determined by family size, number of children, and age of the head of the household. A family's income before taxes is compared to the annual poverty thresholds. If the income is below the threshold, the family and each individual in it are considered to be in poverty. In 2014, the poverty threshold for a family of four was \$24,008. The ACS estimates indicate that Jefferson County residents are as likely to live in poverty (18.7%) as all Alabama residents (18.9%). Children in Jefferson County are as likely to be living below the poverty level (27.9%) as all children in Alabama (27.5%).

Socioeconomic Characteristics

	Jefferson County	Alabama
Unemployment Rate, 2014 annual average <sup>1</sup>	5.4%	<b>6.8%</b>
Median Household Income <sup>2</sup>	\$45,239	<b>\$43,511</b>
Individuals Below Poverty Level <sup>2</sup>	18.7%	<b>18.9%</b>
Children Below Poverty Level <sup>2</sup>	27.9%	<b>27.5%</b>

<sup>1</sup> Source: Bureau of Labor Statistics

<sup>2</sup> Source: U.S. Census - American Community Survey, 2010–2014

# Education

The U.S. Census ACS publishes estimates of the highest level of education completed for residents 25 years and older. Jefferson County residents aged 25 and older are more likely to be college educated compared to all Alabama residents.

The Alabama State Department of Education reported data from the 2014-2015 school year indicating that Jefferson County students were more likely to be approved for free or reduced lunch (55.9%) compared to students in Alabama (52.5%). This discrepancy is shown further in the City of Birmingham's free or reduced lunch rate of 64.2%. The projected four-year dropout rate for Jefferson County (3.5%) is below Alabama's (4.8%), which directly relates to a higher high school graduation rate than that of all Alabama students (91% versus 89.0%).

Highest Level of Education Completed Persons 25 Years and Older, 2010--2014

	Jefferson County	Alabama
Less than a high school degree	12.3%	<b>16.3%</b>
High school degree or equivalent	26.6%	<b>31.1%</b>
Some college	23.2%	<b>22.0%</b>
Bachelor's degree	18.4%	<b>14.5%</b>
Graduate or professional degree	11.9%	<b>8.6%</b>

Source: U.S. Census - American Community Survey, 2010-2014

Select Education Indicators

	Jefferson County	Alabama
Students approved for free or reduced lunch <sup>1</sup>	55.9%	<b>52.5%</b>
Four-year dropout rate <sup>1</sup>	3.5%	<b>4.8%</b>
High school graduation rate <sup>1</sup>	91.0%	<b>89.0%</b>

<sup>1</sup>Source: Alabama State Department of Education, 2014-2015

# Crime Rates

According to the Alabama Criminal Justice Information System, in 2014 Jefferson County had significantly higher rates of homicide, rape, assault, and robbery compared to the state of Alabama. The homicide rate in Jefferson County (11.6 per 100,000) is more than double Alabama's (5.6 per 100,000). Further, according to crime statistics released by the Federal Bureau of Investigation in 2015, Birmingham is the fifth most dangerous city in the United States based on violent crime rates per capita.

Violent Crime Rates, 2014

	Jefferson County	Alabama
Homicide	11.6	5.6
Rape	51.1	39.0
Assault	486.8	267.8
Robbery	247.7	92.4

Source: Alabama Criminal Justice Information System

Rates are per 100,000 population



# Mortality Indicators

The ADPH 2013 County Health Profile for Jefferson County reported that its residents have a similar life expectancy at birth (75.1 years) compared to Alabama (75.6 years).

Mortality Indicators

	Jefferson County	Alabama
Life expectancy at birth in years	75.1	75.6
Death rate (per 1,000 population)	10.6	10.4

Source: Alabama Department of Public Health, 2013 County Health Profiles

Mortality rates in Jefferson County are very similar to that of the overall state of Alabama in all age groups, as shown in the table below.

Age-Specific Mortality Rates per 100,000 Population, 2013

	Jefferson County	Alabama
0 - 14 years old	1.1	0.8
15 - 44 years old	1.8	1.7
45 - 64 years old	9.0	8.9
65 - 84 years old	36.2	34.7
85 years and older	145.7	153.4

Source: Alabama Department of Public Health, 2013 County Health Profiles

# Leading Causes of Death

Heart disease, cancer, and stroke are the three leading causes of death in Jefferson County, while heart disease, cancer, and chronic lower respiratory disease (CLRD) are the top three in Alabama. The Chronic Lower Respiratory Disease (CLRD) mortality rate is substantially lower in Jefferson County (46.6 per 100,000) than in Alabama (62.9 per 100,000). Other leading causes of death in Jefferson County include Alzheimer’s disease, diabetes, influenza and pneumonia, and homicide. It is important to note that the homicide and HIV mortality rates in Jefferson County are substantially higher than in Alabama.

Leading Causes of Death , 2010-2014

	Jefferson County	Alabama
Heart disease	230.0	<b>257.6</b>
Cancer	217.4	<b>213.7</b>
Chronic lower respiratory disease	46.6	<b>62.9</b>
Accidents	48.2	<b>47.6</b>
Stroke	60.0	<b>53.6</b>
Alzheimer's disease	24.0	<b>28.9</b>
Diabetes	28.1	<b>27.8</b>
Influenza and pneumonia	20.0	<b>21.4</b>
Suicide	13.0	<b>14.9</b>
Homicide	14.3	<b>8.7</b>
HIV	4.5	<b>2.5</b>

Source: Alabama Department of Public Health, 2013 County Health Profiles

Rates are per 100,000 population

# Cardiovascular Outcomes

Residents aged 65 and older in Jefferson County are less likely to die from heart disease (1,165.1 per 100,000) compared to Alabama (1,357.6 per 100,000). Blacks in Jefferson County are more likely to die from heart disease (1,244.2 per 100,000) compared to whites (1,138.5 per 100,000). Males in Jefferson County and Alabama have a substantially higher likelihood of dying from heart disease compared to females.

Age-Adjusted Heart Disease Mortality Rates per 100,000 Adults Ages 65 and Older by Race and Gender, 2011-2013

	Jefferson County	Alabama
Heart Disease, All	1,165.1	<b>1,357.6</b>
Heart Disease, White (Non-Hispanic)	1,138.5	<b>1,359.9</b>
Heart Disease, Black (Non-Hispanic)	1,244.2	<b>1,430.0</b>
Heart Disease, Male	1,427.5	<b>1,631.1</b>
Heart Disease, Female	998.4	<b>1,162.9</b>

Source: Centers for Disease Control and Prevention

Deaths from acute myocardial infarctions, commonly known as heart attacks, are less common in Jefferson County than in Alabama. The overall heart attack mortality rate for residents 65 and older in Jefferson County (188.8 per 100,000) is substantially lower than in Alabama (213.6 per 100,000). In Jefferson County, whites are more likely to die from heart attacks than blacks. Males in Jefferson County and Alabama are significantly more likely to die from a heart attack compared to females.

Age-Adjusted Heart Attack Mortality Rates per 100,000 Adults Ages 65 and Older by Race and Gender, 2011-2013

	Jefferson County	Alabama
Heart Attack, All	188.8	<b>213.6</b>
Heart Attack, White (Non-Hispanic)	190.7	<b>212.0</b>
Heart Attack, Black (Non-Hispanic)	181.3	<b>233.5</b>
Heart Attack, Male	226.6	<b>268.4</b>
Heart Attack, Female	161.6	<b>173.1</b>

Source: Centers for Disease Control and Prevention

## Cardiovascular Outcomes (continued)

Jefferson County residents ages 65 and older are more likely to die from a stroke (349.8 per 100,000) than residents in Alabama (317.7 per 100,000). Blacks in Jefferson County and Alabama are substantially more likely to die from a stroke compared to white residents. There is a slightly lower stroke mortality rate among women in Jefferson County (338.2 per 100,000) compared to men (360.0 per 100,000).

Age-Adjusted Stroke Mortality Rates per 100,000 Adults Ages 65 and Older by Race and Gender, 2011-2013

	Jefferson County	Alabama
Stroke, All	349.8	317.7
Stroke, White (Non-Hispanic)	331.4	311.1
Stroke, Black (Non-Hispanic)	395.6	364.4
Stroke, Male	360.0	318.3
Stroke, Female	338.2	312.9

Source: Centers for Disease Control and Prevention

Hypertension mortality in persons ages 65 and older in Jefferson County (652.8 per 100,000) is higher than in Alabama (614.2 per 100,000). Blacks in Jefferson County and Alabama are substantially more likely to die from hypertension compared to whites. In Jefferson County, hypertension mortality is higher in males (688.2 per 100,000) than females (623.1 per 100,000).

Age-Adjusted Hypertension Mortality Rates per 100,000 Adults Ages 65 and Older by Race and Gender, 2011-2013

	Jefferson County	Alabama
Hypertension, All	652.8	614.2
Hypertension, White (Non-Hispanic)	549.3	559.3
Hypertension, Black (Non-Hispanic)	899.3	899.3
Hypertension, Male	688.2	648.6
Hypertension, Female	623.1	581.1

Source: Centers for Disease Control and Prevention

# Cancer Incidence

Total cancer incidence is higher in Jefferson County (466.5 per 100,000) than in Alabama (461.1 per 100,000) and the United States (453.8 per 100,000).

Lung and bronchus cancer incidence in Jefferson County (66.8 per 100,000 population) is lower than in Alabama (73.4 per 100,000 population) but higher than the United States (63.7 per 100,000 population).

Breast cancer incidence in Jefferson County (131.0 per 100,000 females) is higher than in Alabama (119.5 per 100,000 females) and the United States (123.0 per 100,000 females).

Prostate cancer incidence is higher in Jefferson County (161.0 per 100,000 males) than in Alabama (146.1 per 100,000 males) and the United States (131.7 per 100,000 males).

The cervical cancer incidence rates in Jefferson County (8.3 per 100,000 females) and Alabama (8.5 per 100,000 females) are similar, but both rates are slightly higher than the rate in the United States (7.7 per 100,000 females).

Select Cancer Incidence Rates, 2008-2012

	Jefferson County	Alabama	United States
Total cancer <sup>1</sup>	466.5	<b>461.1</b>	<b>453.8</b>
Lung and bronchus <sup>1</sup>	66.8	<b>73.4</b>	<b>63.7</b>
Breast <sup>2</sup>	131.0	<b>119.5</b>	<b>123.0</b>
Prostate <sup>3</sup>	161.0	<b>146.1</b>	<b>131.7</b>
Cervical <sup>2</sup>	8.3	<b>8.5</b>	<b>7.7</b>

Source: National Cancer Institute, State Cancer Profiles

<sup>1</sup>Rates are per 100,000 population

<sup>2</sup>Rates are per 100,000 females

<sup>3</sup>Rates are per 100,000 males



# Cancer Mortality

Total cancer mortality is lower in Jefferson County (188.0 per 100,000) compared to Alabama (191.2 per 100,000) but higher than the United States (171.2 per 100,000).

Lung and bronchus cancer mortality in Jefferson County (51.8 per 100,000 population) is lower than in Alabama (58.1 per 100,000 population) but higher than the United State (47.2 per 100,000 population).

Breast cancer mortality is higher in Jefferson County (26.4 per 100,000 females) than in Alabama (22.6 per 100,000 females) and the United States (21.9 per 100,000 females).

Prostate cancer mortality is higher in Jefferson County (29.4 per 100,000 males) than in Alabama (26.4 per 100,000 males) and the United States (21.4 per 100,000 males).

Cervical cancer mortality in Jefferson County (2.6 per 100,000 females) is lower than in Alabama (3.0 per 100,000 females) but higher than in the United States (2.3 per 100,000 females).

Select Cancer Mortality Rates, 2008-2012

	Jefferson County	Alabama	United States
Total cancer <sup>1</sup>	188.0	191.2	171.2
Lung and bronchus <sup>1</sup>	51.8	58.1	47.2
Breast <sup>2</sup>	26.4	22.6	21.9
Prostate <sup>3</sup>	29.4	26.4	21.4
Cervical <sup>2</sup>	2.6	3.0	2.3

Source: National Cancer Institute, State Cancer Profiles

<sup>1</sup>Rates are per 100,000 population

<sup>2</sup>Rates are per 100,000 females

<sup>3</sup>Rates are per 100,000 males

# Cancer Screenings and Risk Factors

Jefferson County adults are as likely to have received a blood stool test in the past two years (14.3%) as all Alabama adults (14.8%).

Jefferson County adults are more likely to have ever had a sigmoidoscopy or colonoscopy (72.5%) compared to all Alabama adults (67.8%).

Men in Jefferson County are more likely to have received a PSA test in the past two years (55.9%) compared to all men in Alabama (50.7%).

Jefferson County women aged 40 and older are more likely to have received a mammogram in the past two years (80.3%) compared to all Alabama women (74.3%).

Women aged 18 and older in Jefferson County are about as likely to have had a pap test in the past three years (80.6%) compared to all women aged 18 and older in Alabama (80.1%).

Adults in Jefferson County are less likely to be smokers (20.0%) compared to all Alabama adults (23.8%).

Select Cancer Screenings and Risk Factors, 2012

	Jefferson County	Alabama
Had a blood stool test in the past two years <sup>1</sup>	14.3%	14.8%
Ever had a sigmoidoscopy or colonoscopy <sup>1</sup>	72.5%	67.8%
Had a PSA test within the past two years <sup>2</sup>	55.9%	50.7%
Had a mammogram in the past two years <sup>3</sup>	80.3%	74.3%
Had a pap test within the past three years <sup>4</sup>	80.6%	80.1%
Adults who are current smokers	20.0%	23.8%

Source: Behavioral Risk Factor Surveillance Survey

<sup>1</sup>Adults aged 50 and older

<sup>2</sup>Men aged 40 and older

<sup>3</sup>Women aged 40 and older

<sup>4</sup>Women aged 18 and older

# Diabetes

According to the State of Obesity, diabetes rates have doubled in the past 20 years and Alabama has the third highest rates of diabetes. Adults in Jefferson County are less likely to be diagnosed with Diabetes (12.0) when compared to adults in Alabama (12.5%), however are more likely than adults in the United States (9.2%).

Males in Jefferson County are more likely to be diagnosed with diabetes when compared to males in the United States and females in Jefferson County are more likely to be diagnosed with diabetes when compared to females the United States (see Table).

Diagnosed Diabetes, 2013

	Jefferson County	Alabama	United States
Population with Diagnosed Diabetes*	12.0%	12.5%	9.2%
Percent Males with Diabetes*	12.4%	13.1%	9.8%
Percent Females with Diabetes*	11.7%	12.0%	8.6%

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

\*Adults aged 20 who have been diagnosed with diabetes

The Dartmouth Atlas of Health Care reports on the percentage of diabetes Medicare patients who in the last year have had a hemoglobin A1c (hA1c) test, which is a blood test that measures blood sugar levels. This test is instrumental in early detection as well as treatment of subsequent health problems. Medicare enrollees who have been diagnosed with diabetes in Jefferson County are less likely to have had an annual A1c (hA1c) test (84.0%) when compared to Medicare enrollees diagnosed with diabetes in Alabama (84.2%) and in the United States (84.6%).

Diabetes Annual Exam, 2012

	Jefferson County	Alabama	United States
Percentage with Diabetes who have had an Annual Exam*	84.0%	84.2%	84.6%

Source: Dartmouth Atlas of Health Care, 2012

\*Medicare Enrollees diagnosed with Diabetes

# Reported Health Status, Risk Factors, and Behaviors

Adults in Jefferson County are less likely to report having fair or poor general health (20.5%) compared to all Alabama adults (25.0%).

Physical inactivity is defined as not participating in any leisure-time physical activities (physical activities or exercises other than their regular job). Adults in Jefferson County are less likely to report physical inactivity (24.5%) than all adults in Alabama (27.2%).

Jefferson County adults aged 65 and older are more likely to report receiving a flu shot within the past 12 months (66.6%) compared to all Alabama adults aged 65 and older (61.2%).

Jefferson County adults are as likely to report engaging in heavy drinking in the 30 days prior to the survey or binge drinking on at least one occasion during that period (12.2%) as all Alabama adults (12.3%).

Jefferson County residents are about as likely to be diagnosed with diabetes (11.4%) as Alabama residents (11.1%).

Obesity is defined as having a BMI greater than or equal to 30. Respondents in Jefferson County are more likely to report being obese (34.8%) compared to all Alabama respondents (33.0%).

Reported Health Status, Risk Factors, and Behaviors, 2013

	Jefferson County	Alabama
Fair or poor health	20.5%	<b>25.0%</b>
Physical inactivity	24.5%	<b>27.2%</b>
Flu vaccination	66.6%	<b>61.2%</b>
Binge drinking	12.2%	<b>12.3%</b>
Diabetes	11.4%	<b>11.1%</b>
Obesity	34.8%	<b>33.0%</b>

Source: Centers for Disease Control and Prevention

# Obesity

According to the State of Obesity, diabetes rates have doubled in the past 20 years and Alabama has the third highest rates of diabetes. Adults in Jefferson County are less likely to be diagnosed with Diabetes (12.0) when compared to adults in Alabama (12.5%), however are more likely than adults in the United States (9.2%).

Males in Jefferson County are more likely to be diagnosed with diabetes when compared to males in the United States and females in Jefferson County are more likely to be diagnosed with diabetes when compared to females the United States (see Table).

Diagnosed Obesity, 2013

	Jefferson County	Alabama	United States
Percent Adults with BMI > 30.0 (Obese)*	33.0%	34.0%	27.5%
Percent Males Obese*	31.5%	33.2%	27.9%
Percent Females Obese*	34.3%	34.7%	27.1%

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

\*Adults aged 20 or older who have self reported their obesity

This data point reports on the number of fast-food restaurants per 100,000 population and measures food access. Jefferson County has a substantially higher rate of fast food restaurants (97.5 per 100,000 population) when compared to the rate in Alabama (74.5 per 100,000) and the United States (73.1 per 100,000).

Food Access, 2014

	Jefferson County	Alabama	United States
Food Access – Fast Food Resturants	97.5	74.5	73.1

Source: US Census Bureau, County Business Patterns 2014

\* Per 100,000 Population

# Communicable Diseases

Data on reported communicable diseases are available through the ADPH. Reported HIV incidence in Jefferson County (26.5 per 100,000) is substantially higher than in Alabama (13.5 per 100,000). According to the Centers for Disease Control reports on HIV prevalence, Birmingham is ranked as the 37th metropolitan area for HIV prevalence in the United States. This ranking, taken in 2014, shows a major improvement from Birmingham's 2011 ranking of 17th. Jefferson County has a substantially higher chlamydia incidence rate (804.1 per 100,000) compared to Alabama (613.3 per 100,000). The gonorrhea and syphilis incidence rates in Jefferson County are substantially higher than Alabama's. The tuberculosis incidence rates were similar in Jefferson County (2.4 per 100,000) and Alabama (2.2 per 100,000).

Communicable Disease Incidence Rates, 2013

	Jefferson County	Alabama
HIV	26.5	<b>13.5</b>
Chlamydia	804.1	<b>613.3</b>
Gonorrhea	291.0	<b>173.2</b>
Syphilis	30.0	<b>13.8</b>
Tuberculosis	2.4	<b>2.2</b>

Source: Alabama Department of Public Health, 2013 County Health Profiles

Rates are per 100,000 population



# Maternal and Child Health

A birth rate is defined as the number of live births per 1,000 persons in a given year. According to the ADPH 2013 County Health Profiles, the birth rate in Jefferson County (13.1 per 1,000) is higher than the birth rate in Alabama (12.0 per 1,000). The teen birth rate in Alabama is defined as the number of births per 1,000 persons aged 10-19. Teen births are slightly less common in Jefferson County (16.5 per 1,000) than in Alabama (17.4 per 1,000).

Women in Jefferson County are more likely to receive prenatal care in the first trimester (84.1%) than all women in Alabama (80.6%). Adequate prenatal care in this report is defined as receiving 80% or more of the expected prenatal visits based on the Kotelchuck Index; whereas, inadequate care in this report is defined as 79% or less of expected prenatal visits. The percentage of women in Jefferson County who receive adequate prenatal care (80.8%) is higher than Alabama (76.2%). Women in Jefferson County are less likely to receive inadequate care (9.6%) compared to women in Alabama (12.8%).

Low birthweight is defined as less than 2,500 grams (5 lbs. 8oz). Low birthweight births are more likely to occur in Jefferson County (11.0%) than in Alabama (10.0%). Teen women in Jefferson County were more likely to have low birthweight babies (12.7%) than teen women in Alabama (10.4%).

The infant mortality rate in Jefferson County (12.6 per 1,000) is substantially higher than in Alabama (8.6 per 1,000).

Maternal and Child Health Indicators, 2013

	Jefferson County	Alabama
Birth rate (per 1,000 population)	13.1	12.0
Teen birth rate (per 1,000 population aged 10-19 years)	16.5	17.4
Women receiving prenatal care in first trimester	84.1%	80.6%
Women receiving adequate prenatal care	80.8%	76.2%
Women receiving inadequate care	9.6%	12.8%
Low weight births*	11.0%	10.0%
Low weight births to teen women (10-19 years old)	12.7%	10.4%
Infant mortality rate (per 1,000 births)	12.6	8.6

Source: Alabama Department of Public Health, 2013 County Health Profiles

\* Percent of all births with known status

# Access to Care

According to the ACS 2010–2014 estimates, Jefferson County residents are slightly more likely to have health insurance coverage (87.5%) compared to all Alabama residents (86.5%).

Private insurance coverage is about as common among Jefferson County residents (66.3%) as all Alabama residents (65.4%).

Public insurance coverage is slightly less common among Jefferson County residents (32.5%) compared to all Alabama residents (33.9%).

Residents in Jefferson County are less likely to be uninsured (12.5%) compared to all Alabama residents (13.5%), while children in Jefferson County are as likely to be uninsured (4.6%) as all children in Alabama (4.6%).

Health Insurance Coverage, 2010-2014

	Jefferson County	Alabama
Health insurance coverage	87.5%	<b>86.5%</b>
Private insurance	66.3%	<b>65.4%</b>
Public coverage	32.5%	<b>33.9%</b>
No health insurance coverage	12.5%	<b>13.5%</b>
No health insurance coverage (Children)	4.6%	<b>4.6%</b>

Source: U.S. Census - American Community Survey, 2010–2014

Note: Individuals may be included in more than one group due to dual enrollment in Private and Public Insurance.

# Phone Survey Critical Analysis

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One of the most commonly mentioned concerns communicated by respondents of the phone survey was substance abuse, with special emphasis on children. While many of these areas would likely be dealt with more efficiently and effectively by law enforcement, there are some initiatives that could be handled by PBMC. For example, respondents mentioned that “enhanced parenting skills” and “better education” could help mitigate some of the drug issues in the community. Cancer was another commonly mentioned area of concern by participants. Many were concerned with the perceived lack of funds that are being infused into cancer-related research. The most frequently mentioned concern by respondents, pollution, includes air, water, and trash buildup in the community. Some respondents were concerned about appearance and cleanliness, while others were concerned with chemicals and the environment. Finally, in line with the statistics under the “Violent Crime” section of this report, a number of respondents saw violent crimes in the area as the top concern. Respondents believe that more law enforcement is necessary to prevent the shootings, robberies, and gang activity in the community.

# Community Health Priorities

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The overarching goal in conducting this Community Health Needs Assessment is to identify significant health needs of the community, prioritize those health needs, and identify potential measures and resources available to address the health needs. For the purpose of identifying health needs for PBMC, a health priority is defined as a medical condition or factor that is central to the state of health of the residents in the community. An exhaustive list of health needs was compiled based on the health profile, interviews, and focus group data. Concerns that did not fall within the definition of an identified health priority, such as social determinants of health, are discussed in conjunction with the health priorities where applicable. A modified version of Fowler and Dannenberg's Revised Decision Matrix was developed to capture priorities from the primary and secondary data. This matrix tool is used in health program planning intervention strategies, and uses a ranking system of "high," "medium," and "low" to distinguish the strongest options based on effectiveness, efficiency, and sustainability. As the CHNA is meant to identify the community's most significant health needs, only the health needs falling under the "high" and "medium" categories are highlighted.

Princeton Baptist Medical Center's leadership team reviewed the primary and secondary data compiled and then ordered the priority health needs based on capacity to meet the needs identified. The four health priorities identified through the CHNA are: obesity, diabetes, sexually transmitted infections, and cardiovascular disease.

## Sexually Transmitted Infections

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- The HIV mortality rate in Jefferson County is nearly double the state rate.
- Report incidence rates of HIV, chlamydia, gonorrhea, and syphilis are substantially higher in Jefferson County than in Alabama.

## Cardiovascular Disease

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- Heart disease is the leading cause of death in Jefferson County.
- The stroke mortality rate in Jefferson County is higher than the statewide rate.
- Residents aged 65 and older are more likely to die from a stroke compared to all residents aged 65 and older in Alabama.
- Jefferson County residents surveyed as part of the BRFSS are more likely to report being physically inactive and obese compared to all Alabama residents.
- Heart disease was the fifth most commonly mentioned health concern among phone survey participants.

## Obesity

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- More than one-third of Jefferson County residents surveyed as part of the BRFSS reported being obese.
- The rate of fast-food restaurants in Jefferson County is significantly higher than the rates in Alabama and the United States
- Diabetes and hypertension, medical conditions associated with obesity, were commonly mentioned by community leaders as health concerns in Jefferson County.
- Obesity/overweight was the sixth most commonly mentioned health concern mentioned by phone survey participants.

## Diabetes

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- Adults in Jefferson county are more likely to be diagnosed with diabetes when compared to adults in the United States.
- Males in Jefferson County are moderately more likely to be diagnosed with diabetes when compared to males in the United States.
- Females in Jefferson County are moderately more likely to be diagnosed with diabetes when compared to females in the United States.
- Medicare enrollees diagnosed with diabetes in Jefferson County are less likely to have had an annual hemoglobin A1c (HA1c) test when compared to Medicare enrollees diagnosed with diabetes in Alabama and the United States.
- During community phone surveys, diabetes was the fifth most mentioned health concern by community members.
- During community leader interviews, interviewees noted diabetes as being one of their main health concerns.



# Resources

## Sexually Transmitted Infections

Jefferson County has multiple resources available to help the community with sexually transmitted infections. AIDS Alabama South is a not-for-profit organization that provides HIV prevention, education, and awareness to the community. It has several locations around Birmingham and offers free HIV testing. The North Jefferson Women's Center located in Fultondale offers free STD testing for Chlamydia, Gonorrhea, Syphilis, and HIV.

Birmingham Health Care, located in the Birmingham metro area, provides free HIV/AIDS education, counseling, and testing services. The organization focuses its efforts to treat minority populations in response to data that HIV/AIDS is an epidemic among African Americans. Also in Birmingham is a center operated by Planned Parenthood Southeast, Inc. This facility provides not only testing but treatments and vaccinations for various sexually transmitted infections. The Planned Parenthood location also provides condoms to the community. Another resource available to the people of Jefferson County is the Jefferson County Department of Health, which operates a Sexually Transmitted Disease Clinic in Birmingham.

## Resources (continued)

### Cardiovascular Disease

Brookwood Baptist Health provides advanced resources for cardiovascular disease to the Jefferson County community through both Brookwood Baptist Medical Center and Princeton Baptist Medical Center. These services include cardiac surgery, interventional and medical cardiology, electrophysiology, structural heart and valve disease, and vascular and venous care. Brookwood Baptist Health has a strong community partnership with the American Heart Association to promote cardiovascular disease awareness to residents of Jefferson County, with Brookwood Baptist Health executives serving on the AHA board. To aid in promoting heart health in Jefferson County, Brookwood Baptist Health has sought out a partnership with West End Community Garden in order to raise community awareness about the positive cardiovascular effects of exercise and healthy eating. Brookwood Baptist Health also promotes physical activity through partnering with several organizations such as the Rumpshaker 5K, Susan B. Komen Race for the Cure, Mayhem on the Mountain, Laura Crandall Brown 5K, and Relay for Life.

Brookwood Baptist Health also partners with numerous local businesses in a Workforce Wellness Program, aimed at decreasing cardiovascular disease in each respective business's employees as well as hospital employees. These efforts include smoking cessation classes, discounted memberships to Weight Watchers, enhanced access to gym/physical fitness activities, and healthy eating/nutritional education.

Within Jefferson County, there are other health systems in addition to Brookwood Baptist Health that provide critical access for patients in need of cardiovascular care.

## Resources (continued)

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### Obesity

As a comorbidity with cardiovascular disease, many of the same partnerships that Brookwood Baptist Health has to promote cardiovascular health are also utilized to target obesity in Jefferson County. Additionally, Brookwood Baptist Health has Jefferson County's only comprehensive Bariatric Center, located at Princeton Baptist Medical Center. Within the comprehensive Bariatric Center, services include BMI testing, gym access, healthy eating seminars, exercise seminars, support groups, medically supervised weight loss programs, as well as discounted membership to Weight Watchers through Brookwood Baptist Health's "Be Well – Workforce Wellness Program." Princeton Baptist Medical Center offers several free weight loss seminars a month at the hospital that informs surgical candidates of the support and resources available at Princeton Baptist Medical Center.

The Young Men's Christian Association offers financial assistance to families and promotes healthy living and physical activity for the youth of the Birmingham area. Children's of Alabama operates a Children's Center for Weight Management in Birmingham to help children with interdisciplinary care and lifestyle change.

## Resources (continued)

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### Diabetes

Princeton Baptist Medical Center hosts a Diabetes Self-Management Education Program in which they educate the public about Diabetic management and care.

Brookwood Baptist Health partners with the local chapter of the American Diabetes Association and helps provide support for outreach events. Within Jefferson County, residents have access to FMS Pharmacy in Birmingham which provides a 'self-management' program for diabetics, helpful for people who are looking to become better educated on the disease and are seeking to manage their condition at home. The educators for this program, accredited by the American Association of Diabetes Educators, tailor an approach to managing diabetes on an individual basis with the help of the individual's physicians. Both the Ken Glover Drugstore and Sumiton Senior Center provide Diabetes Education classes with local pharmacists and Hospice nurses for those seeking more information about treatment and maintenance.

The County Department of Health for Jefferson County also provides an open clinic for diabetic patients in conjunction with the Samford University School of Pharmacy. This clinic provides both educational and coaching services under the guidance of licensed Pharmacists. The goal of this clinic is to provide an enhanced plan of care for diabetic patients in the community.

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# Appendix A: Community Leader Interview Organizations

Organization	Area Represented
Birmingham Regional EMSS	Public Service Organization
Community Foundation of Greater Birmingham	Medically Underserved and Low-Income Populations
Division of Youth Services	Child Health
Greater Shiloh Baptist Church	Faith Based Organization
Ida V. Moffitt School of Nursing	Hospital Leaders/Medical Professionals
The University of Alabama at Birmingham	Education
Urban Ministry	Faith Based Organization

## Appendix B: Additional Data

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1. Are you at least 18 years of age? [Yes or No]; **If No, not eligible for survey**
2. Are you a resident of [County of interest]? [Yes or No]; **If No, not eligible for survey**
3. When thinking about your community, what do you feel is the number one health concern facing your community today?

Record <PRIMARY> verbatim:

4. Are you satisfied with your local hospital's ability to deal with <PRIMARY>? [Yes or No]
5. Has there been improvement in <PRIMARY> in the community over time? [Yes or No]
6. What do you feel the community can do to address <PRIMARY>?
7. What do you feel is your second highest health concern in your community?

Record <SECOND> verbatim:

8. Are you satisfied with your local hospital's ability to deal with <SECOND>? [Yes or No]
9. Has there been improvement in <SECOND> in the community over time? [Yes or No]
10. And finally, what do you feel is your third highest health concern in your community?

Record <THIRD> verbatim.

11. Are you satisfied with your local hospital's ability to deal with <THIRD>? [Yes or No]
12. Has there been improvement in <THIRD> in the community over time? [Yes or No]

# Community Leader Interviews

## Interview Methodology

Seven phone interviews were conducted from May 9–19, 2016. Interviews required approximately 20 minutes to complete. Interviewers followed the same process for each interview, which included documenting the interviewee’s expertise and experience related to the community. Additionally, the following community-focused questions were used as the basis for discussion:

- Interviewee’s name
- Interviewee’s title
- Interviewee’s organization
- Overview information about the interviewee’s organization
- What are the top three strengths of the community?
- What are the top three health concerns of the community?
- What are the health assets and resources available in the community?
- What are the health assets or resources that the community lacks?
- What are the barriers to obtaining health services in the community?
- What is the single most important thing that could be done to improve the health in the community?
- That other information can be provided about the community that has not already been discussed?

# Community Leader Interview Summary

Topic	Discussion Points/Highlights
<b>Health Strengths</b>	<ul style="list-style-type: none"> <li>• The fact that Birmingham is a medical hub with a large network of hospitals and healthcare professionals was mentioned as a strength by the majority of interviewees.</li> <li>• Interviewees also mentioned the breadth of available services and resources ranging from screenings, sports programs for children and young adults, and education opportunities as community strengths.</li> </ul>
<b>Health Concerns</b>	<ul style="list-style-type: none"> <li>• Main health related concerns mentioned during interviews include diabetes, hypertension, and mental health.</li> <li>• One interviewee pointed out that while there are several organizations who focus on different health related issues, there seems to be a lack of partnership between organizations.</li> </ul>
<b>Resources Available</b>	<ul style="list-style-type: none"> <li>• The Princeton Hospital was mentioned several times as one of the most important health resources in the community. One interviewee noted “Princeton is a hospital that can be depended on, they are always open and available. Working with them is superb and the quality of care they provide is excellent.”</li> <li>• Health related resources in the community include the Cahaba Valley Health Center, Equal Access Birmingham, and M-Power Ministries.</li> </ul>
<b>Resources Needed</b>	<ul style="list-style-type: none"> <li>• Several interviewees noted that there is a high number of transient people who are underserved in the community. Resources that address their health concerns are needed.</li> <li>• More programs for seniors, especially those in assisted living facilities.</li> <li>• Mobile based services were suggested by several interviewees.</li> </ul>
<b>Ways to improve the overall health in the community</b>	<ul style="list-style-type: none"> <li>• Prevention was a widely discussed topic during interviews. Most interviewees noted that preventative programs in the community is the key to having a healthier community.</li> <li>• One interviewee noted that utilizing churches to get health related messages out is a good way to promote healthy living.</li> </ul>

# Community Health Phone Survey

Phone surveys were conducted between March 2, 2016 and March 17, 2016. There were 200 respondents to the survey, all from Jefferson County. Respondents were asked about their top concerns for the health of the community, their satisfaction with their local hospital’s ability to deal with their concerns, and whether their concerns were improving over time.

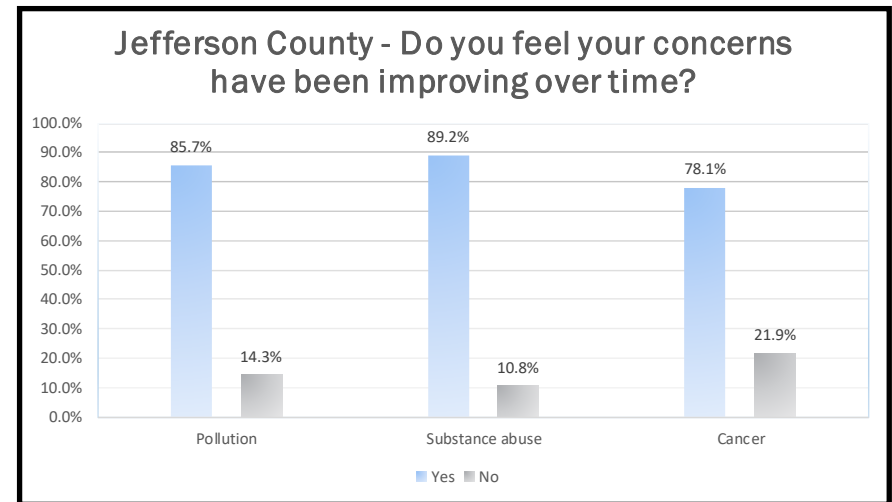
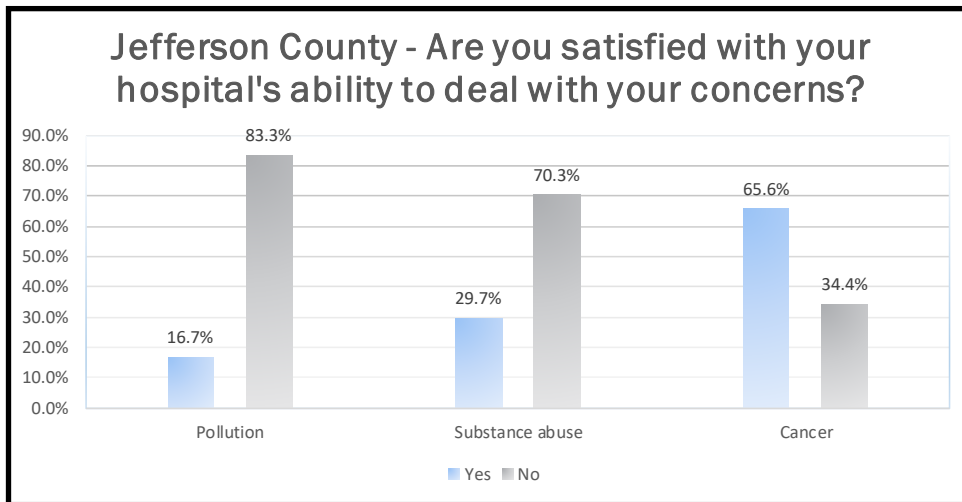
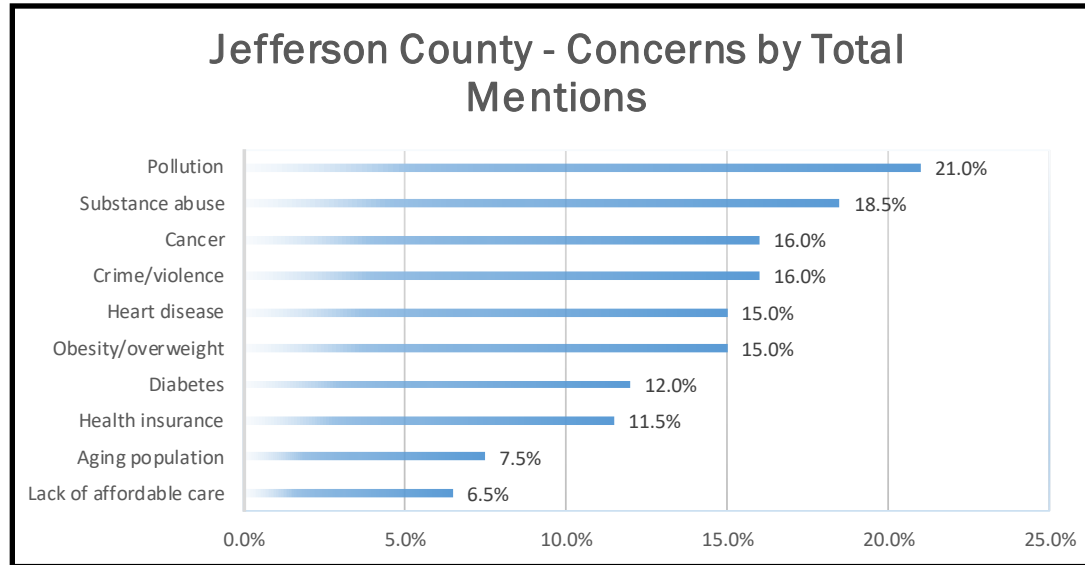
## Jefferson County Phone Survey Responses

The total service area’s top three concerns by total mentions are pollution (21.0%), substance abuse (18.5%), and cancer (16.0%). Most respondents are unsatisfied with their hospital’s ability to deal with pollution and substance abuse, but are satisfied with their hospital’s ability to deal with cancers. Most respondents feel that their concerns were improving over time.

Total Service Area Top Health Concerns by Total Mentions

Community Concerns	Primary Concern	Secondary Concern	Tertiary Concern	Total Mentions
Pollution	11.0%	5.5%	4.5%	21.0%
Substance abuse	9.5%	6.0%	3.0%	18.5%
Cancer	8.0%	5.0%	3.0%	16.0%
Crime/violence	11.0%	3.5%	1.5%	16.0%
Heart disease	4.0%	7.5%	3.5%	15.0%
Obesity/overweight	5.5%	6.0%	3.5%	15.0%
Diabetes	4.5%	4.5%	3.0%	12.0%
Health insurance	9.0%	2.5%	0.0%	11.5%
Aging population	3.5%	1.5%	2.5%	7.5%
Lack of affordable care	3.5%	2.5%	0.5%	6.5%

# Jefferson County Phone Survey Responses



## Appendix C: Carnahan Group Qualifications

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Carnahan Group is an independent and objective healthcare consulting firm that focuses on the convergence of regulations and planning. For over 10 years, Carnahan Group has been trusted by healthcare organizations throughout the nation as an industry leader in providing Fair Market Valuations, Medical Staff Demand Analyses, Community Health Needs Assessments, and Strategic Planning. Carnahan Group serves a variety of healthcare organizations, such as, but not limited to, hospitals and health systems, large and small medical practices, imaging centers and ambulatory surgery centers. Carnahan Group offers services through highly trained and experienced employees, and Carnahan Group's dedication to healthcare organizations ensures relevant and specific insight into the needs of our clients.



# Company Overview

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