12. Cancer

Ranked AL's Twelfth Health Indicator

Alabamians identified cancer as the twelfth health indicator in AL. Cancer, characterized by uncontrolled growth and spread of abnormal cells, is the second leading cause of death in AL. According to the American Cancer Society®, an estimated 30,830 Alabamians will be diagnosed with cancer in 2021, and an estimated 10,590 Alabamians will die from cancer in 2021.[1]

The top four cancers in AL are colorectal, female breast, lung/bronchus, and prostate cancers.[2] These cancers represent more than 52 percent of all new tumors reported to the AL Statewide Cancer Registry (ASCR) in 2018. Additionally, the burden of each of these cancers could be reduced through behavior modifications such as smoking cessation, weight loss, exercise, and improved nutrition.[2]

According to CDC, regular screening examinations by a healthcare professional can help detect cancers early.[2] It is recommended to follow-up with a doctor during annual visits for mammograms, prostate screenings, and colonoscopies.

Vulnerable Populations

In AL, males have slightly less than a 1 in 2 risk of developing any cancer over the course of a lifetime. For women, the risk is a little more than 1 in 3 for developing any cancer over the course of a lifetime.[2] The risk of being diagnosed with cancer increases with age, and more than three-fourths of all cancers are diagnosed in persons 55 years of age and older. Family history and lifestyle choices can affect the frequency and age at which someone may need to be screened for cancer. For example, CDC recommends yearly lung cancer screenings if you formerly were or currently are a heavy smoker.[2]

Geographic Variation

Physical access to cancer centers for the initial and follow-up appointments is a barrier for at-risk and new cancer patients.[3] Rural areas have a higher lung cancer incidence, colorectal cancer incidence, cervical cancer incidence, and overall cancer mortality rates compared to urban areas between 2014-2018.

Topics Addressed for This Indicator are:

- Overall cancer mortality.
- Colorectal cancer incidence.
- Breast cancer incidence.
- Lung and bronchus cancer incidence.
- Prostate cancer incidence.
- Cervical cancer incidence.

Highlights

Data are retrieved from ASCR for all cancer cases diagnosed or treated in AL. Mortality statistics are from ADPH Center for Health Statistics Mortality Files:

- Although the overall cancer mortality rate for AL declined for the past few years, Alabamians have higher overall cancer mortality rates than the U.S.
- In AL, lung cancer incidence rates are significantly higher than the U.S. average.
- In AL, AA/black females have significantly higher rates of breast cancer incidence than white females.
- Prostate cancer is the most common cancer in men. Prostate cancer incidence in AL has declined over the past few years most likely due to changes in screening guidelines resulting in fewer men screened.
- In AL, prostate cancer occurs significantly more in AA/black males than white males.
- The West Central Public Health District has the highest rates of cervical cancer between 2014-2018.

Risk Factors:

- Age over 60 years old.
- Family history.
- Immune system deficiency.
- Genetics.
- Alcohol use.
- Smoking.

Overall Cancer Mortality

In 2019, the AL age-adjusted cancer mortality rate was 209.3 deaths per 100,000 persons and was higher than the national average of 182.7 deaths

per 100,000 persons. In the 2015 CHA, the AL rate was 184.5 deaths per 100,000 persons:

- Although the overall cancer mortality rate for AL declined for the past few years, Alabamians have higher overall cancer mortality rates than the U.S.
- AL's Southwestern Public Health District had the highest cancer mortality rate.
- Rural areas had drastically increased rates from the previous CHA to 2019 (188.8 deaths compared to 233.4 deaths per 100,000 persons).
- Males had a higher mortality rate than females (236.5 deaths compared to183.8 deaths per 100,000 persons).

- In the previous CHA, there was a larger disparity between males and females. The rate for males was 237.2 deaths per 100,000 persons, compared to females with 147.0 deaths per 100,000 persons.
- White individuals had a higher mortality rate than AA/black individuals (239.7 deaths compared to 189.9 deaths per 100,000 persons).

Table 12.1 – Cancer Mortality Rate, 2019

	Count	Rate per 100,000
AL	**10,263**	**209.3**
U.S.	**599,601**	**182.7**
Public Health Districts		
Northern	2,220	203.8
Northeastern	1,740	215.0
West Central	859	198.0
Jefferson	1,334	202.6
East Central	1,425	201.2
Southeastern	835	220.4
Southwestern	969	235.4
Mobile	881	213.2
Geographic Variation		
Rural	4,916	233.4
Urban	5,347	191.2
Sex		
Male	5,605	236.5
Female	4,658	183.8
Race		
White	7,671	239.7
AA/black	2,464	189.9
Household Income		
N/A	-	-
Age (in years)		
18-24	-	-
25-34	57	8.8
35-44	167	28.1
45-54	626	101.5
55-64	2,093	318.2
65+	7,292	858.0
Education		
Less than high school	2,307	-
High school or GED	4,346	-
Some college	1,925	-
College graduate or higher	1,605	-

Colorectal Cancer Incidence

Colorectal cancer is the third leading cancer occurring in white males, white females, and AA/black males. Colorectal cancer was the second leading cancer in AA/black females in 2018:[4]

- Alabamians had higher incidence rates of colorectal cancer than the U.S.
- Colorectal cancer occurred significantly more frequently in males than females.
- Colorectal cancer occurred more frequently in AA/black individuals than in white individuals.

Regular screenings allow for early detection, removal of colorectal polyps before they become cancerous, and detect cancer at an early stage where survival is more likely. Screenings could potentially lower both the incidence and mortality of this disease.

Table 12.2 – Colorectal Cancer, 2014-2018

	Rate per 100,000
AL	**42.9**
U.S.	**38.0**
Public Health Districts	
Northern	41.6
Northeastern	44.0
West Central	45.1
Jefferson	38.1
East Central	42.5
Southeastern	41.1
Southwestern	45.4
Mobile	45.9
Geographic Variation	
Rural	44.4
Urban	41.1
Sex	
Female	37.6
Male	49.3
Race	
AA/black	48.2
Asian or Pacific Islander	28.4
White	41.0
Household Income	
N/A	-
Age (in years)	
Under 50	10.1
50-64	86.7
65+	178.6
Education	
N/A	-

Breast Cancer Incidence

Breast cancer is the most common cancer in females and occurs far more frequently in females than males:[5]

- The Northeastern Public Health District had the lowest breast cancer incidence rate in AL (113.5 per 100,000 persons).
- In AL, AA/black females had higher incidence rates than white females.[6]
- Asian/Pacific Islander females in AL had significantly lower breast cancer rates than white or AA/black females. This is consistent with the U.S. average.[6]

Mammography can detect breast cancer early when treatment is more effective, and a cure is more likely.[5]

Table 12.3 – Breast Cancer, 2014-2018

	Rate per 100,000
AL	**121.4**
U.S.	**127.4**
Public Health Districts	
Northern	122.9
Northeastern	113.5
West Central	121.6
Jefferson	131.1
East Central	114.0
Southeastern	121.7
Southwestern	128.4
Mobile	118.4
Geographic Variation	
Rural	119.6
Urban	122.3
Sex	
Female	121.4
Male	1.6
Race	
AA/black	126.3
Asian or Pacific Islander	70.6
White	118.9
Household Income	
N/A	-
Age (in years)	
Under 50	43.7
50-64	256.9
65+	405.5
Education	
N/A	-

Lung and Bronchus Cancer Incidence

Lung cancer is the second most common cancer in white males, white females, and AA/black males. Lung cancer is the third most common cancer in AA/black females:[7]

- Alabamians have significantly higher incidence rates for lung cancer than the U.S.
- Rural areas have higher incidence rates of lung cancer compared to urban areas (68.9 new cases compared to 59.0 new cases per 100,000 persons).

Smoking is the leading cause of developing lung cancer (see Health Indicator 14: Tobacco and Vaping):[7]

- Alabamians have a higher prevalence of smoking than the U.S.[8]
- Males have significantly higher lung cancer rates and smoking prevalence than females.[8]

Radon is the second leading cause of lung cancer and the number one cause of lung cancer among non-smokers:[7]

- In AL, 15 counties have been designated as Zone 1 Radon counties, meaning they have the highest potential for elevated radon levels.[9] For more information on radon levels, visit the ADPH website.

Table 12.4 – Lung Cancer, 2014-2018

	Rate per 100,000
AL	**63.7**
U.S.	**51.4**
Public Health Districts	
Northern	64.9
Northeastern	65.3
West Central	66.3
Jefferson	58.9
East Central	60.6
Southeastern	66.8
Southwestern	63.1
Mobile	63.6
Geographic Variation	
Rural	68.9
Urban	59.0
Sex	
Female	49.6
Male	81.9
Race	
AA/black	55.9
Asian or Pacific Islander	35.6
White	66.2

Household Income	
N/A	-
Age (in years)	
Under 50	3.8
50-64	121.6
65+	338.0
Education	
N/A	-

Prostate Cancer Incidence

Prostate cancer is the most common cancer in males.[10] In 2018, prostate cancer occurred approximately 75 percent more frequently in AA/black males than white males in the U.S.:

- Jefferson County Health District has the highest rate of prostate cancer incidence (157.5 cases per 100,000 persons).
- In AL, most prostate cancer cases are diagnosed in males older than 65 years old population (597.2 cases per 100,000 persons).[11]
- In AL, prostate cancer occurs significantly more in AA/black males than white males.

Prostate cancer incidence in AL has declined over the past few years most likely due to changes in screening guidelines resulting in fewer men screened.[10]

Table 12.5 – Prostate Cancer, 2014-2018	
	Rate per 100,000
AL	**122.0**
U.S.	**108.2**
Public Health Districts	
Northern	97.6
Northeastern	116.3
West Central	136.8
Jefferson	157.5
East Central	134.5
Southeastern	121.1
Southwestern	107.5
Mobile	96.6
Geographic Variation	
Rural	109.3
Urban	128.1
Sex	
Female	-
Male	122.0
Race	
AA/black	186.4
Asian or Pacific Islander	64.3
White	97.8
Household Income	
N/A	-
Age (in years)	
Under 50	6.1
50-64	280.8
65+	597.2
Education	
N/A	-

Cervical Cancer Incidence

Although all females are at risk for cervical cancer, it occurs most often in women over 30 years old.[12] Cervical cancer is routinely screened during primary care visits:[13]

- The West Central and Southwestern Public Health districts have the highest incidence rates of cervical cancer between 20142018.
- Rural areas have higher rates of cervical cancer than urban areas (10.1 new cases compared to 8.8 new cases per 100,000).
- The age group with the highest incidence was ages 50-64 years old.

A pap smear screening test is recommended to be completed every three years and can help detect early stages of cervical cancer. The HPV vaccine can help prevent cervical cancer.[12]

Table 12.6 – Cervical Cancer, 2014-2018	
	Rate per 100,000
AL	**9.4**
U.S.	**7.6**
Public Health Districts	
Northern	8.5
Northeastern	10.1
West Central	10.9
Jefferson	7.6
East Central	10.1
Southeastern	9.5
Southwestern	10.7
Mobile	9.0

Geographic Variation	
Rural	10.1
Urban	8.8
Sex	
Female	9.4
Male	-
Race	
AA/black	9.8
Asian or Pacific Islander	7.9
White	9.2
Household Income	
N/A	-
Age (in years)	
Under 50	8.3
50-64	13.5
65+	10.8
Education	
N/A	-

3. Rural Health Information Hub, Healthcare Access in Rural Community, 2020.
4. CDC, Colorectal Cancer, 2020.
5. CDC, Breast Cancer, 2020.
6. National Cancer Institute, Surveillance, Epidemiology, and End Results Program, Recent Trends in SEER Age-Adjusted Incidence Rates, 2000-2018, 2021.
7. CDC, Lung and Bronchus Cancer, 2020.
8. CDC, BRFSS Smoking Module, 2019.
9. ADPH, Radon in AL, 2019.
10. CDC, Prostate Cancer, 2020.
11. ADPH, Prostate Cancer Risk Factors, 2020.
12. CDC, Basic Information about Cervical Cancer, 2021.
13. NIH Surveillance, Epidemiology, and End Results Program, Cervix Uteri Recent Trends in Age-Adjusted Incidence Rates, 2018.

Data Sources

Table 12.1 – Cancer Mortality Rate, 2019. ADPH, Center for Health Statistics Mortality Files, 2019. Data requested March 2021.

Table 12.2 – Colorectal Cancer, 2014-2018. ADPH, Cancer Epidemiology Division, 2021. Data requested July 2021.

Table 12.3 – Breast Cancer, 2014-2018. ADPH, Cancer Epidemiology Division, 2021. Data requested July 2021.

Table 12.4 – Lung Cancer, 2014-2018. ADPH, Cancer Epidemiology Division, 2021. Data requested July 2021.

Table 12.5 – Prostate Cancer, 2014-2018. ADPH, Cancer Epidemiology Division, 2021. Data requested July 2021.

Table 12.6 – Cervical Cancer, 2014-2018. ADPH, Cancer Epidemiology Division, 2021. Data requested July 2021.

Written Sources

1. American Cancer Society, Cancer Facts – Incidence, 2018.
2. CDC, Cancer Data and Statistics, 2021.

Community Resources

AL Breast and Cervical Cancer Early Detection Program
Location: Montgomery County, AL
Type: Advocacy Program

American Cancer Society®
Location: Jefferson County, AL
Type: Non-profit Organization

American Association for Cancer Research
Location: Philadelphia, PA
Type: Research Institution

American Lung Association Central Branch
Location: Jefferson County, AL
Type: Advocacy Program

Bullock County Community Health Advisors
Location: Bulloch County, AL
Type: Non-profit Organization

Steel Magnolias Breast Cancer
Location: Calhoun County, AL
Type: Non-profit Organization

Susan G. Komen Breast Cancer
Location: Dallas, TX
Type: Non-profit Organization