

# Cancer in Arkansas 2020

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### **Prepared by:**

Abby Holt, MPH, MLIS  
ACCR Director

Mallory Jayroe, MS, CHES  
Cancer Epidemiologist

Chris Fisher, BS  
Informatics Supervisor

### **Contributors:**

Appathurai Balamurugan, MD DrPH  
Acting Chief Medical Officer & State Chronic Disease Director

Robert Delongchamp, PhD MPH  
Professor of Epidemiology  
UAMS College of Public Health

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## Arkansas Central Cancer Registry

Cancer is common with 1 in 2 males and 1 in 3 females diagnosed at some point in their lifetime.<sup>1</sup> The state leads in cancer mortality ranking 5<sup>th</sup> in the nation among states with the highest cancer mortality rates over the last 3-years.<sup>2</sup> Reducing this burden requires collaboration among local and national cancer communities.

The ACCR provides data services for special studies that focus on risk reduction, reducing disparities, and improving cancer care and the quality of life for survivors. The ACCR disseminates cancer rates through a variety of platforms to serve a fundamental role in cancer research and prevention efforts.

Since 1996, through funding from the National Program of Cancer Registries (NPCR) at the Centers for Disease Control and Prevention (CDC), the Arkansas Central Cancer Registry (ACCR) has been collecting population-based cancer incidence data among residents in Arkansas. The ACCR collects high quality and complete data, and has been consistently certified as a gold-standard registry designated by the North American Association of Central Cancer Registries (NAACCR) and as a Registry of Distinction by NPCR.

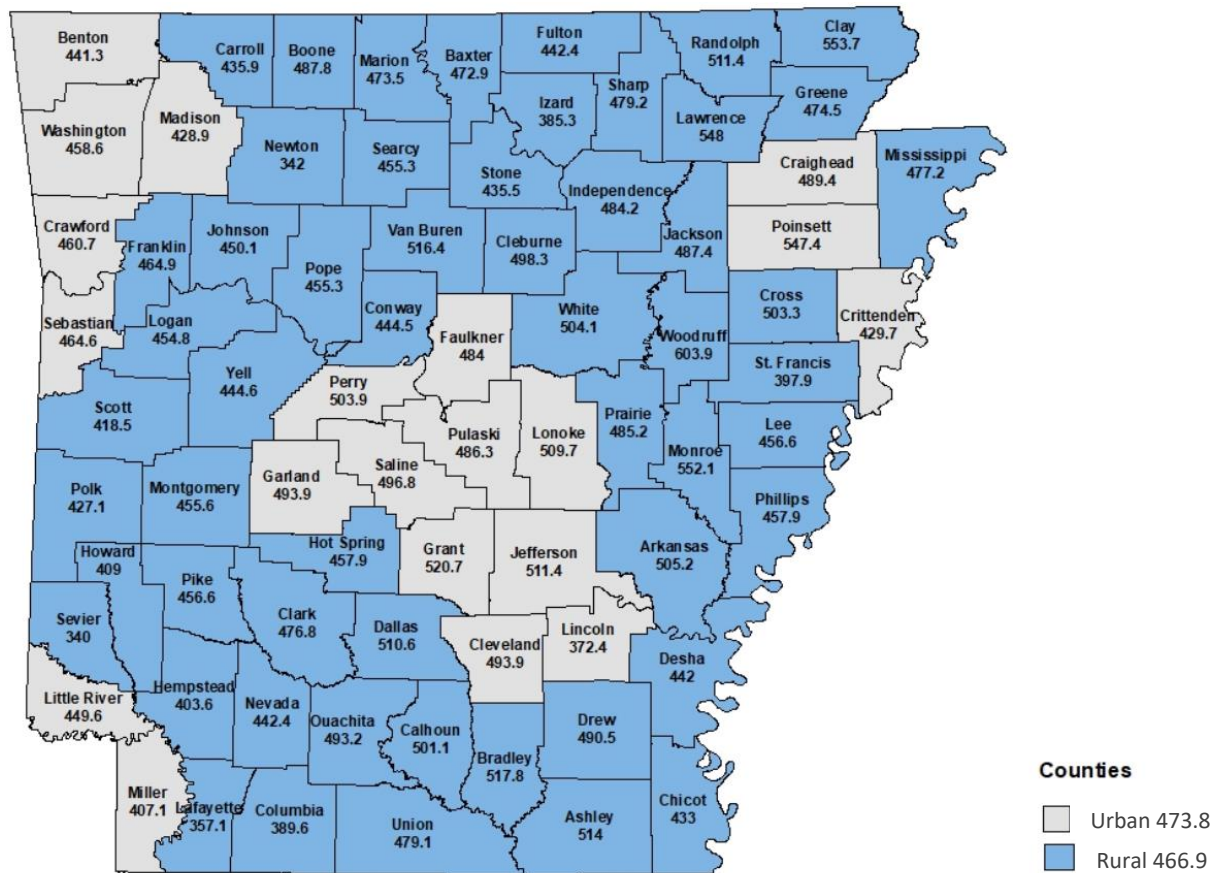
This report describes invasive cancers in Arkansas including new cases and cancer related deaths over the period from 2013 – 2017, and trends and survivorship over the period from 1997 - 2017. This report does not include carcinoma in situ (non-invasive cancer) of any site except urinary bladder.



## Newly Diagnosed Cancers

During 2020, it is estimated that 17,200 Arkansas residents will be diagnosed with invasive cancer and in situ bladder cancers.<sup>1</sup> Cumulative rates of new cancers, per 100,000 population, by county are displayed representing urban and rural locations in Figure 1. The top 5 cancers with trends by sex are provided on the next page.

**Figure 1. Age-standardized Incidence Rates per 100,000, All Cancers, Urban and Rural Counties, Arkansas, 2013-2017 Combined**

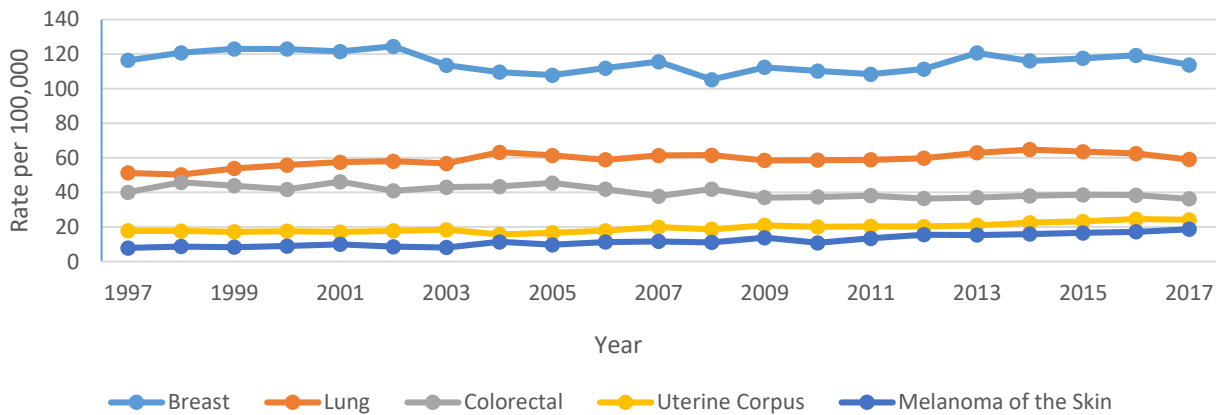


Date: November 5, 2020  
 Source: Arkansas Department of Health  
 Map created by: Mallory Jayroe, MS, CHES

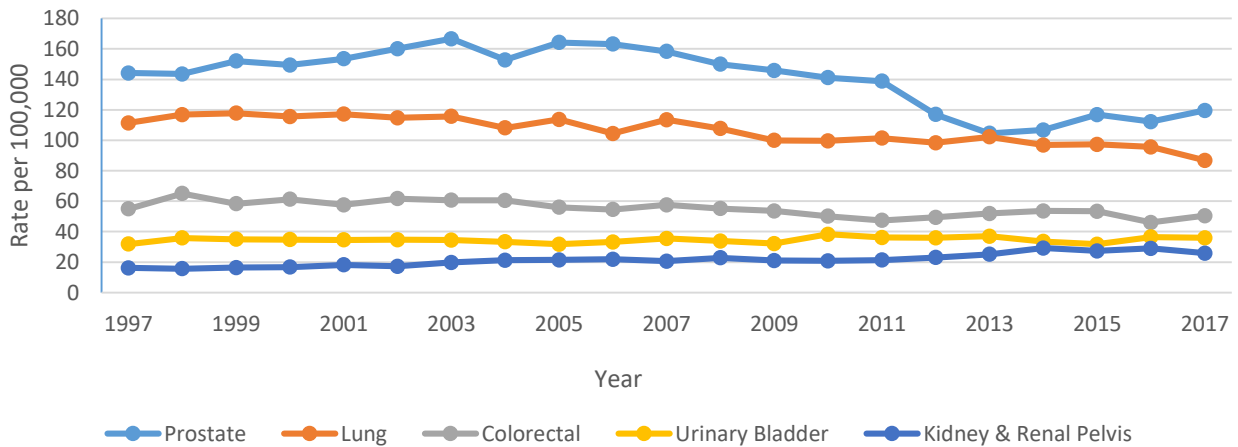
**Table 1. NEW CANCERS BY SEX, ARKANSAS, 2013 – 2017 Combined**

FEMALES			MALES		
Cancer Type	# of Cases	% of Total	Cancer Type	# of Cases	% of Total
Breast	10,883	27.5%	Prostate	10,064	22.4%
Lung	6,288	15.9%	Lung	8,129	18.1%
Colorectal	3,616	9.1%	Colorectal	4,182	9.3%
Uterine Corpus	2,195	5.5%	Urinary Bladder	2,821	6.3%
Melanoma of the Skin	1,453	3.7%	Kidney & Renal Pelvis	2,247	5.0%
All others	15,166	38.3%	All others	17,459	38.9%

**Figure 2. Trends in Age-standardized Cancer Incidence Rates by Site, Females, Arkansas, 1997 - 2017**



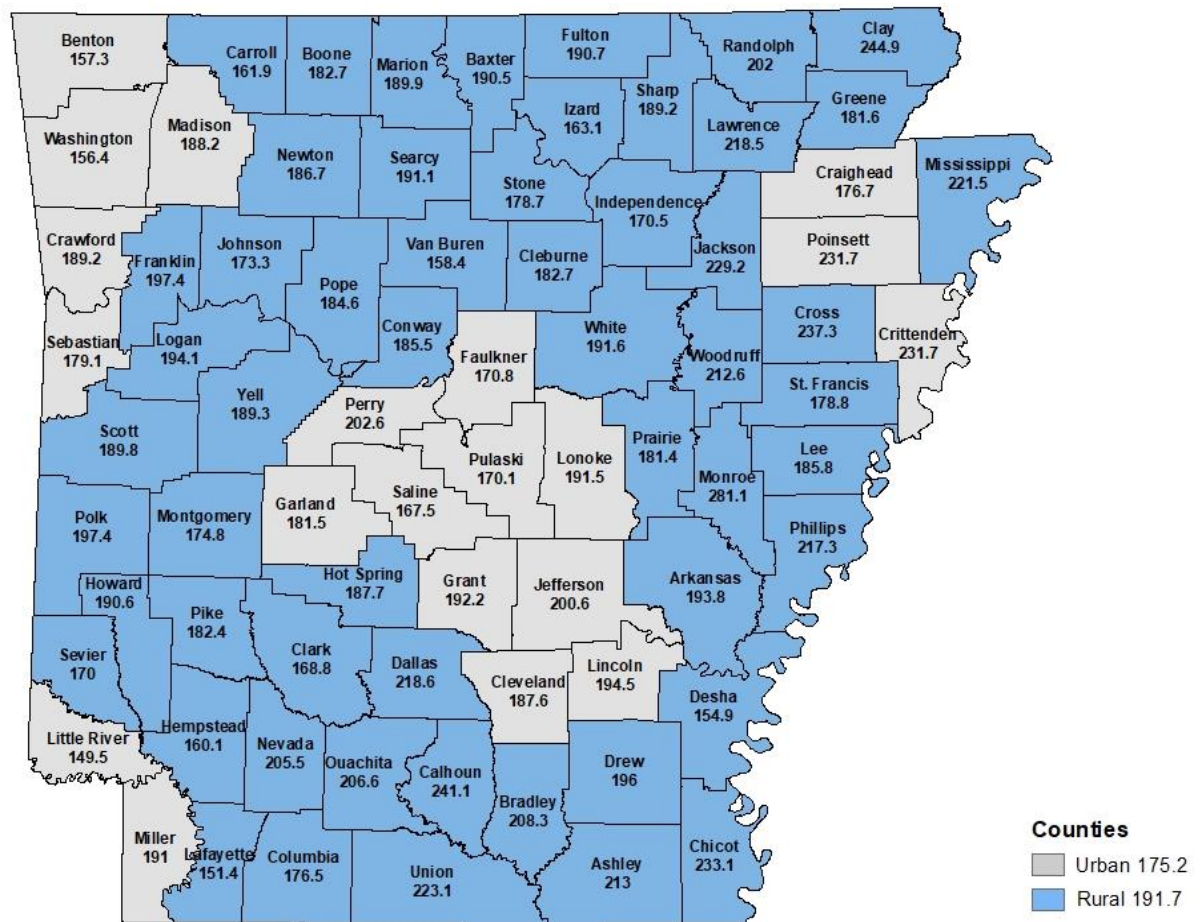
**Figure 3. Trends in Age-standardized Cancer Incidence Rates by Site, Males, Arkansas, 1997 - 2017**



## Deaths from Cancer

Cancer is the second leading cause of death in Arkansas.<sup>2</sup> During 2020, it is estimated that 6,730 Arkansas residents will die from cancer.<sup>1</sup> Cumulative death rates, per 100,000 population, by county are provided representing urban and rural locations in Figure 4. The top 5 cancers with trends by sex are displayed on the next page. Lung cancer remains the leading cause of cancer death in men and women, with trends in male rates decreasing faster than female rates.<sup>3</sup>

**Figure 4. Age-standardized Mortality Rates per 100,000, All Cancers, Urban and Rural Counties, Arkansas, 2013-2017 Combined**

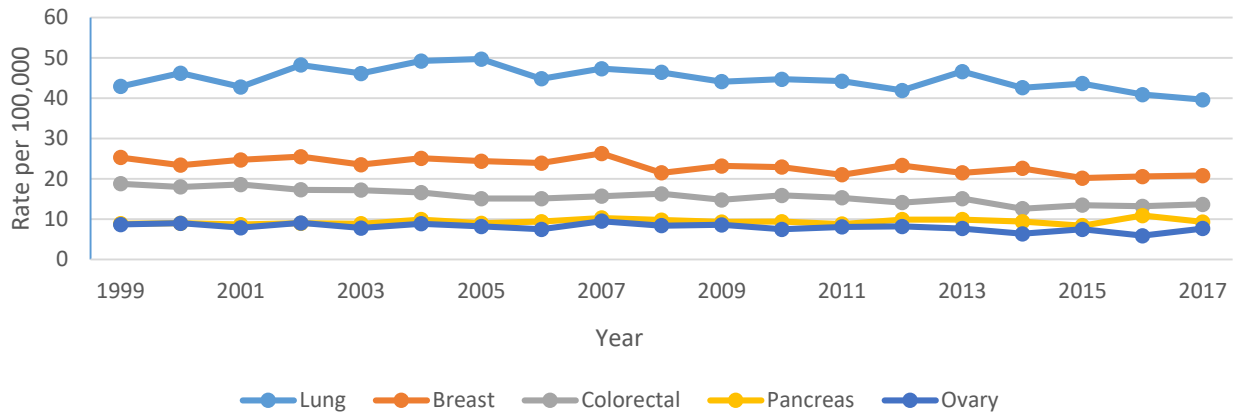


Date: September 16, 2020  
 Source: Arkansas Department of Health  
 Map created by: Mallory Jayroe, M.S., CHES

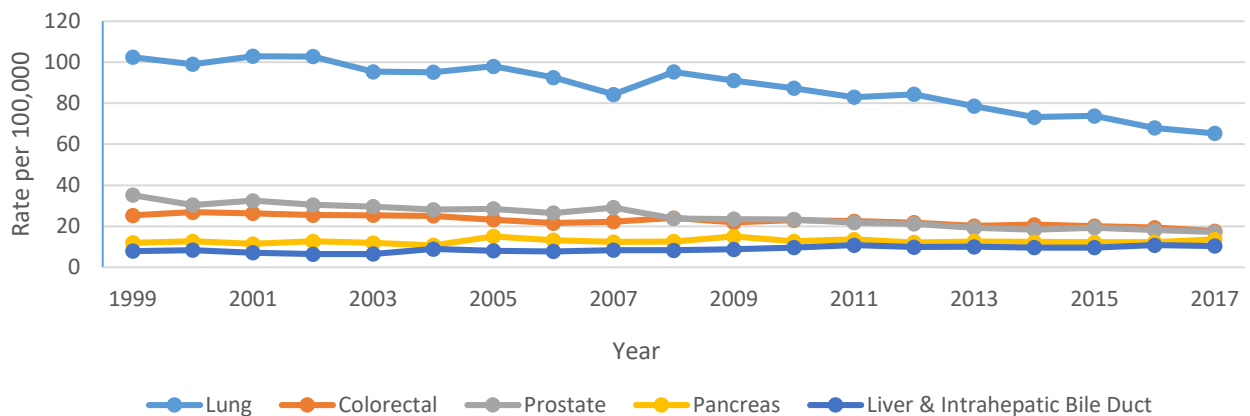
**Table 2. CANCER DEATHS BY SEX, ARKANSAS, 2013 – 2017 Combined**

FEMALES			MALES		
Cancer Type	# of Deaths	% of Total	Cancer Type	# of Deaths	% of Total
Lung	4,305	28.9%	Lung	6,001	33.0%
Breast	2,032	13.7%	Colorectal	1,647	9.1%
Colorectal	1,386	9.3%	Prostate	1,375	7.6%
Pancreas	970	6.5%	Pancreas	1,044	5.7%
Ovary	695	4.7%	Liver & Intrahepatic Bile Duct	867	4.8%
All others	5,520	37.0%	All others	7,248	40.0%

**Figure 5. Trends in Age-standardized Cancer Mortality Rates by Site, Females, Arkansas, 1999 - 2017**



**Figure 6. Trends in Age-standardized Cancer Mortality Rates by Site, Males, Arkansas, 1999 - 2017**



## Living with Cancer

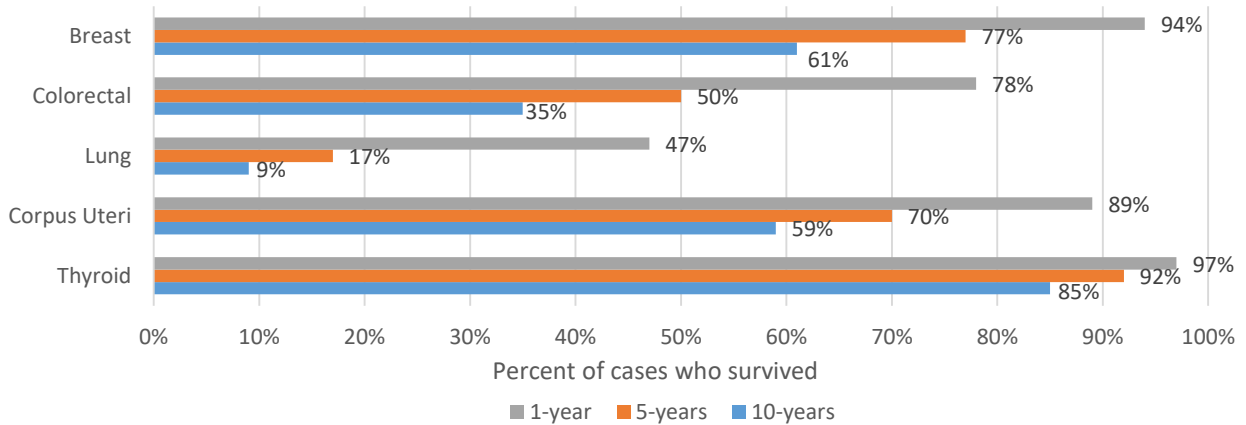
The ACCR provides passive follow-up of mortality (from all causes) among incident cases using death certificates from the Arkansas Department of Health and linkage results from the National Death Index (NDI). Based on this information, we estimate that there are 126,740 Arkansas residents who were diagnosed with cancer during 1997 – 2017 and alive as of December 31, 2017. Many in this count were more recently diagnosed and are currently undergoing treatment.

The number of Arkansas residents living with cancer by sex are provided in Table 3. The top 5 cancers by sex and percent survival by duration are displayed on the next page.

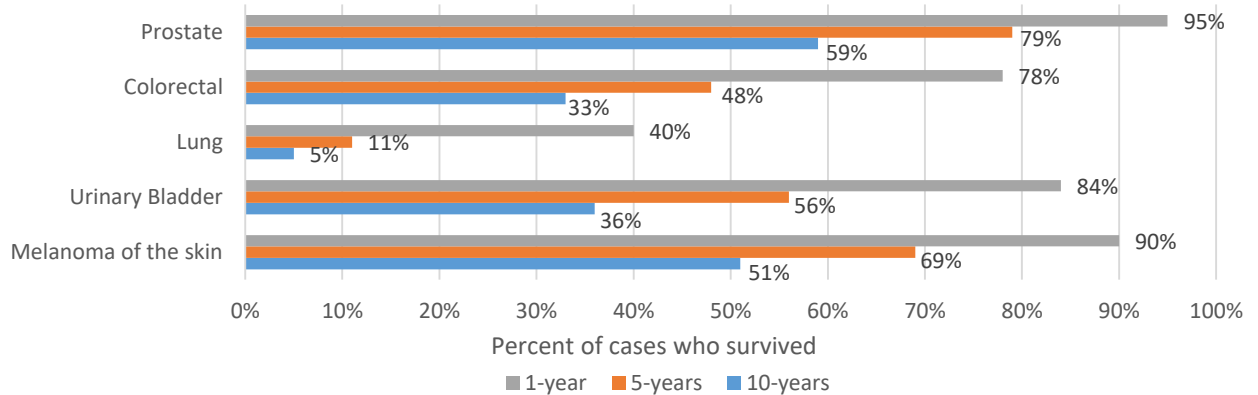
<b>Table 3. LIVING WITH CANCER, BY SEX, ARKANSAS, 2013 – 2017 Combined</b>					
<b>FEMALES</b>			<b>MALES</b>		
<b>Cancer Type</b>	<b># living with cancer</b>	<b>% of Total</b>	<b>Cancer Type</b>	<b># living with cancer</b>	<b>% of Total</b>
Breast	9,542	35.9%	Prostate	9,052	32.9%
Colorectal	2,397	9.0%	Colorectal	2,734	10.0%
Lung	2,226	8.4%	Lung	2,186	8.0%
Corpus Uteri	1,814	6.8%	Urinary Bladder	1,995	7.3%
Thyroid	1,331	5.0%	Melanoma of the Skin	1,919	7.0%
All others	9,241	34.8%	All others	9,586	34.9%



**Figure 7. Percent Survival by Duration and Cancer Type, Females, Arkansas, 1997 - 2017**



**Figure 8. Percent Survival by Duration and Cancer Type, Males, Arkansas, 1997 - 2017**

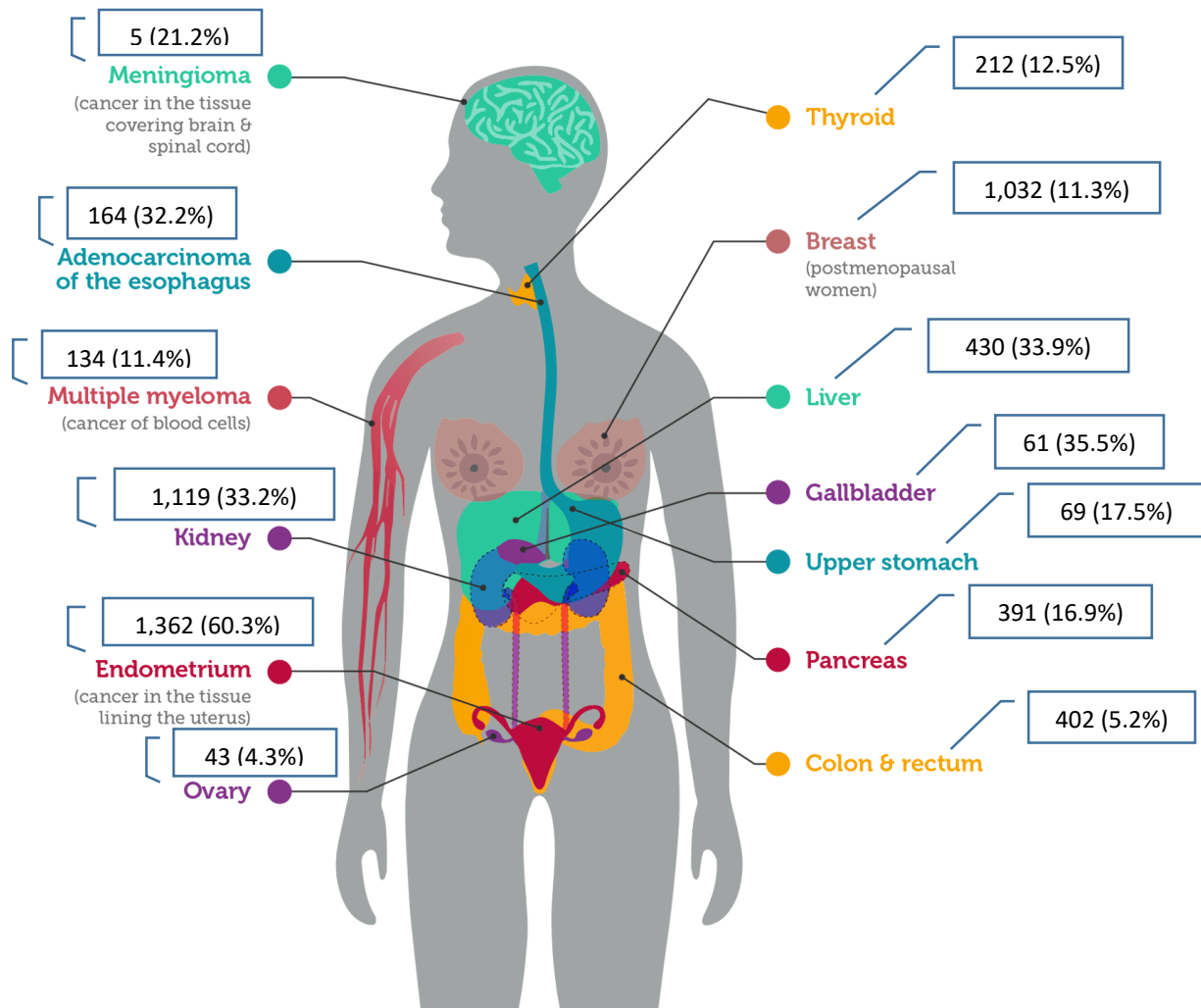


## Overweight and Obesity Associated Cancers

Overweight is defined as a body mass index (BMI) between 25.0 and 29.9, and obese is defined as a BMI of 30.0 or greater. During 2018, 33.3% of Arkansas adults aged 18 and older were considered overweight while 37.1% were considered obese.<sup>4</sup>

The following 13 cancers are associated with overweight and obesity (see Figure 9). It is estimated that 17.4% of the cancers diagnosed in Arkansas adults aged 30 and older between 2013 – 2017 are attributed to overweight and obesity. Figure 9 lists each cancer type, the estimated number, and percent of cases attributed to excess body weight in the state.<sup>5-7</sup> See technical notes for methods used to determine the attributable risk.

**Figure 9. Estimated Number and Percent of Cancers in Adults Aged 30 Years and Older Attributed to Overweight & Obesity, By Site, Arkansas, 2013 – 2017 Combined**



cancer.gov/obesity-fact-sheet

Adapted from Centers for Disease Control & Prevention

Associated cancers are defined by ICD-O-3 primary site and histology codes, and age based on guidelines from the CDC:  
<https://www.cdc.gov/cancer/uscs/public-use/predefined-seer-stat-variables.htm>

## Technical Notes

Incident cancer cases from 2013 - 2017 were obtained from the ACCR database on July 30, 2020. Incidence rates from 1997 – 2017 are available from the ACCR Query System: (<https://www.cancer-rates.info/ar/>). Cases were defined using the International Classification of Diseases for Oncology, 3<sup>rd</sup> Edition (ICD-O-3).

Cancer deaths from 1999 - 2017 were obtained from the Underlying Cause of Death on CDC WONDER Online Database. Data are from the Multiple Cause of Death Files, 1999-2017, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program on July 31, 2020. Mortality rates are available from CDC WONDER: (<http://wonder.cdc.gov/ucd-icd10.html>). Cancer deaths were defined using the International Classification of Diseases, 10<sup>th</sup> Revision (ICD-10).

Rural and urban counties were designated using the 2013 Rural-Urban Continuum Codes from the United States Department of Agriculture at: (<https://www.ers.usda.gov/data-products/rural-urban-continuum-codes/>).

Survival estimates (Kaplan-Meier estimates)<sup>8</sup> are based on passive follow-up of mortality from all causes among incident cases using death certificates from the Arkansas Department of Health and linkage results from the National Death Index (NDI).

The population attributable fraction (PAF) for all sites associated with overweight and obesity, with the exception of meningioma, was obtained from Islami, F. et al.<sup>7</sup> The PAF was applied to the Arkansas cancer incidence data (2013 - 2017) to determine the number of attributable cancers in Figure 9. A total of 31,039 cases diagnosed in Arkansas adults aged 30 and over were associated with overweight and obesity with 5,424 attributed to the risk factor.<sup>9</sup>

The PAF for meningioma was calculated using the formula from Islami, F. et al, the relative risk estimates from Niedermaier, T. et al, and the 2018 Arkansas BRFSS prevalence estimates for overweight and obesity.<sup>4,6,7</sup>

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