

Cancer spotlight: 2020 Arkansas Red Counties

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Purpose



The purpose of this presentation is to provide an overview of descriptive statistics for cancers in Arkansas and the 2020 Arkansas Red Counties. Cancer surveillance data for incidence and mortality was collected to present on female breast, colorectal, and lung & bronchus cancer.

Objectives:

- Provide a brief overview of the 2020 Red Counties report highlights
- Compare incidence rates for female breast, colorectal, and lung & bronchus cancer between Arkansas and the 2020 Arkansas Red Counties
- Compare mortality rates for female breast, colorectal, and lung & bronchus cancer between Arkansas and the 2020 Arkansas Red Counties.
- Identify groups and geographic areas in Arkansas with a high incidence of cancer rates among selected cancers.

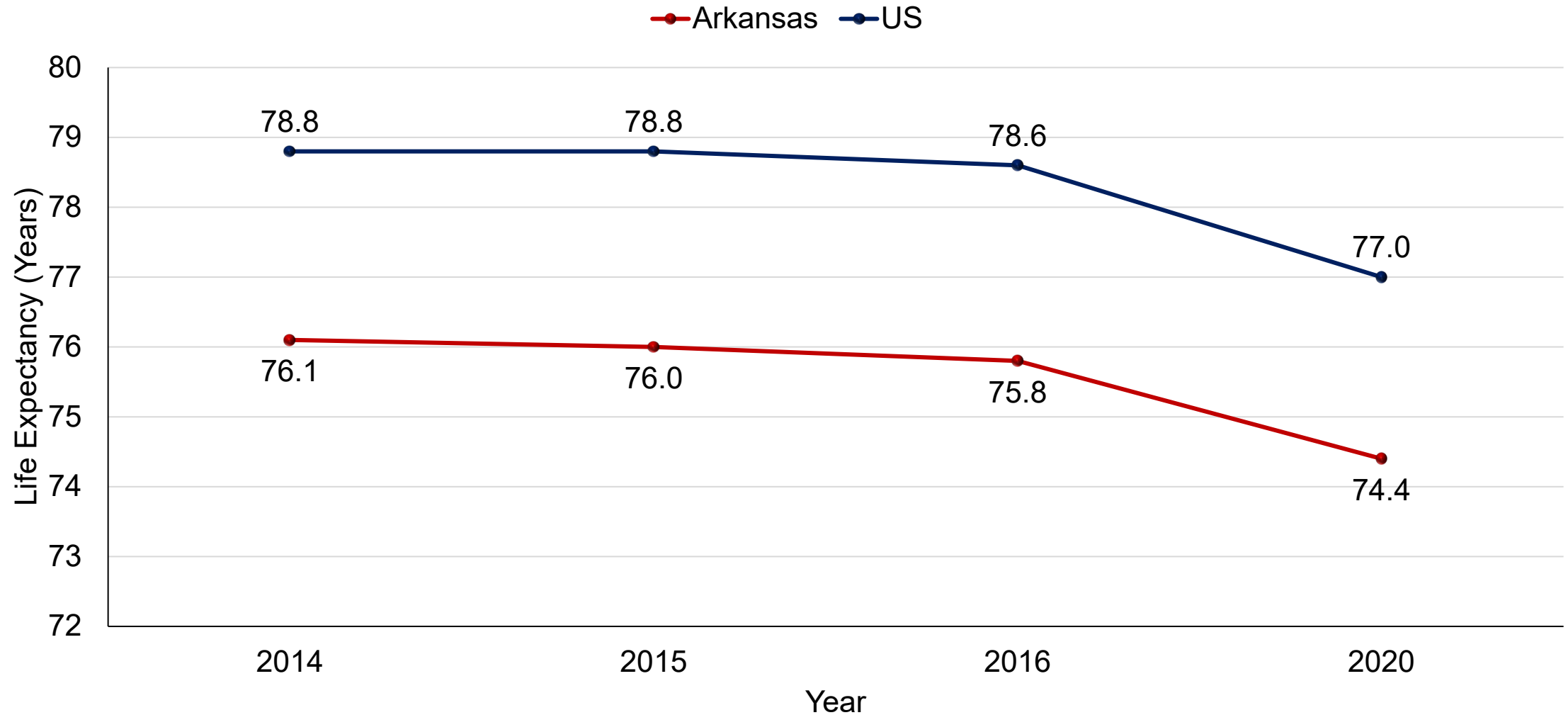
DISCLAIMER:

The views expressed in this presentation are those of the presenter and not necessarily those of the Arkansas Department of Health.

Historical Arkansas Life Expectancy



Life Expectancy (years) for Arkansas and US, 2014-2020



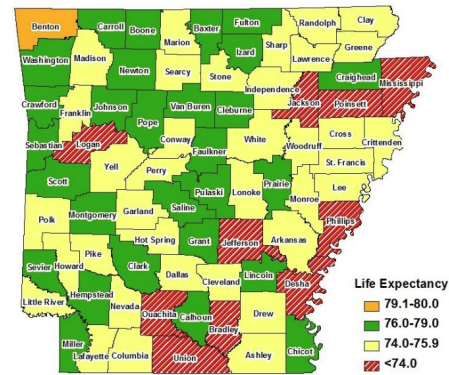
Historical Arkansas Red Counties Reports



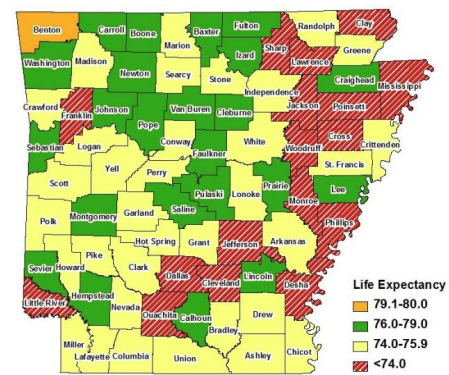
2014 N = 10	2015 N = 17	2016 N = 22	2020 N = 28
Bradley	Clay	Bradley	Arkansas
Desha*	Cleveland	Calhoun	Ashley
Jackson*	Cross	Chicot	Bradley
Jefferson*	Dallas	Clay	Calhoun
Logan	Desha	Cleveland	Chicot
Mississippi*	Franklin	Crittenden	Clay
Ouachita*	Jackson	Cross	Columbia
Phillips*	Jefferson	Desha	Crittenden
Poinsett*	Lawrence	Hot Spring	Cross
Union	Little River	Howard	Dallas
	Mississippi	Jackson	Desha
	Monroe	Jefferson	Fulton
	Ouachita	Lawrence	Jackson
	Phillips	Little River	Jefferson
	Poinsett	Mississippi	Lawrence
	Sharp	Monroe	Lee
	Woodruff	Nevada	Little River
	Ouachita	Logan	
	Phillips	Miller	
	Poinsett	Mississippi	
	Randolph	Monroe	
	Sharp	Ouachita	
		Phillips	
		Poinsett	
		Polk	
		Scott	
		St. Francis	
		Union	

*Counties highlighted identified for each Arkansas Red County Profile report.

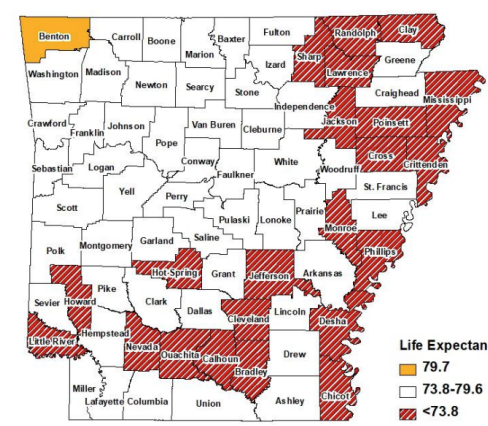
State Mean = 76.1
Minimum (Phillips County) = 71.5; Maximum (Benton County) = 79.6



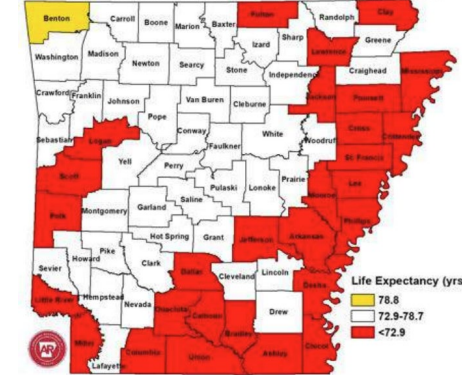
State Mean = 76.0
Minimum (Poinsett & Phillips County) = 71.3; Maximum (Benton County) = 79.5



State Mean = 75.8 yrs
Lowest (Monroe County) = 70.6 yrs; Highest (Benton County) = 79.7 yrs



State Mean = 74.4 yrs
Lowest (Phillips County) = 68.0 yrs; Highest (Benton County) = 78.8 yrs



Source: Arkansas Department of Health, Office of Health Equity-Arkansas Minority Health Commission, [Red County Life Expectancy Profile Reports](#). Red County Reports for 2014-2016 population estimates were prepared by Joyce Biddle, MPH, MPA. Red County Report for 2020 population estimates was prepared by Andrea Andrews.

Technical notes



- How was life expectancy calculated for the 2022 report?
 - Life expectancy was calculated using 2019-2021 Arkansas resident death data and 2020 Arkansas population estimates.
 - Red counties were determined based on Act 798 categories where life expectancy was less than 72.9 years.
- Which counties from the Arkansas Red County reports were used to evaluate cancer burden for today's presentation?
 - Only the **28 counties** identified in the [Red County – County Life Expectancy Profile 2022](#) report were used for this presentation.
 - The 2022 red county report calculated the life expectancy by counties using 2020 population estimates.
 - For county comparisons, maps only contain readily visible values for those red counties only.
- About the 2020 cancer data diagnosis year:
 - **Use caution when interpreting 2020 data.** The COVID-19 pandemic disrupted health services, leading to delays and reductions in cancer screening, diagnosis, and reporting to some central cancer registries. This may have contributed to the decline in new cancer cases for many sites in 2020.
 - As such, trendlines for new cancer diagnosis is left as a single point since it is not comparable to past cancer diagnosis years.

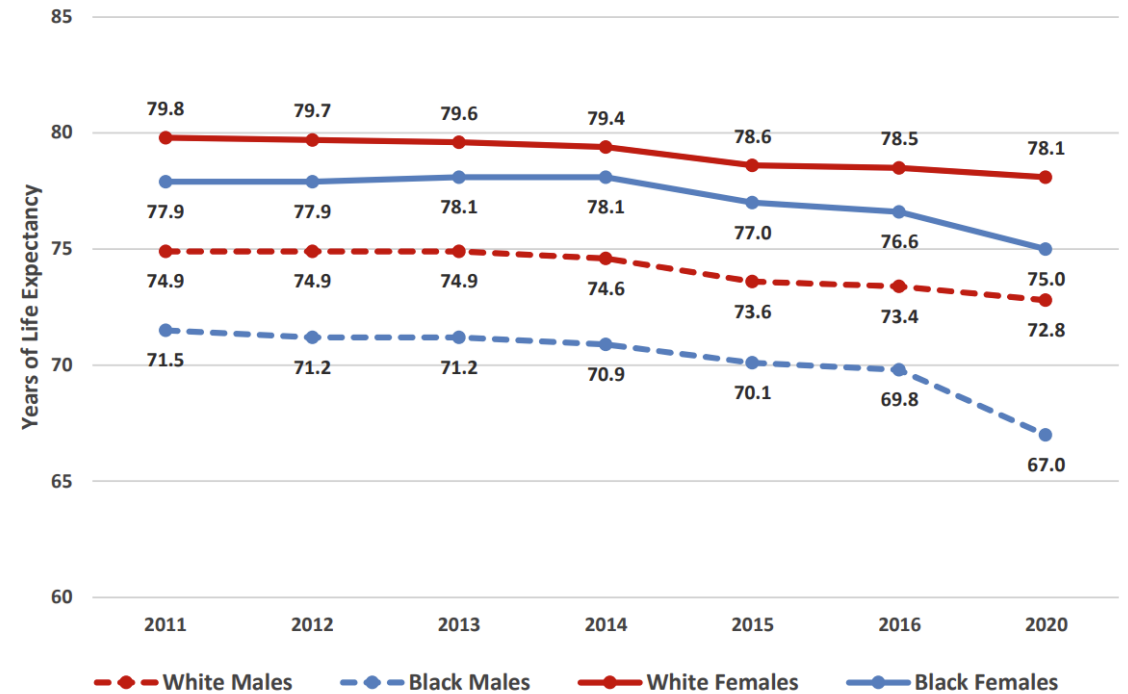
2020 Red Counties Report Highlights



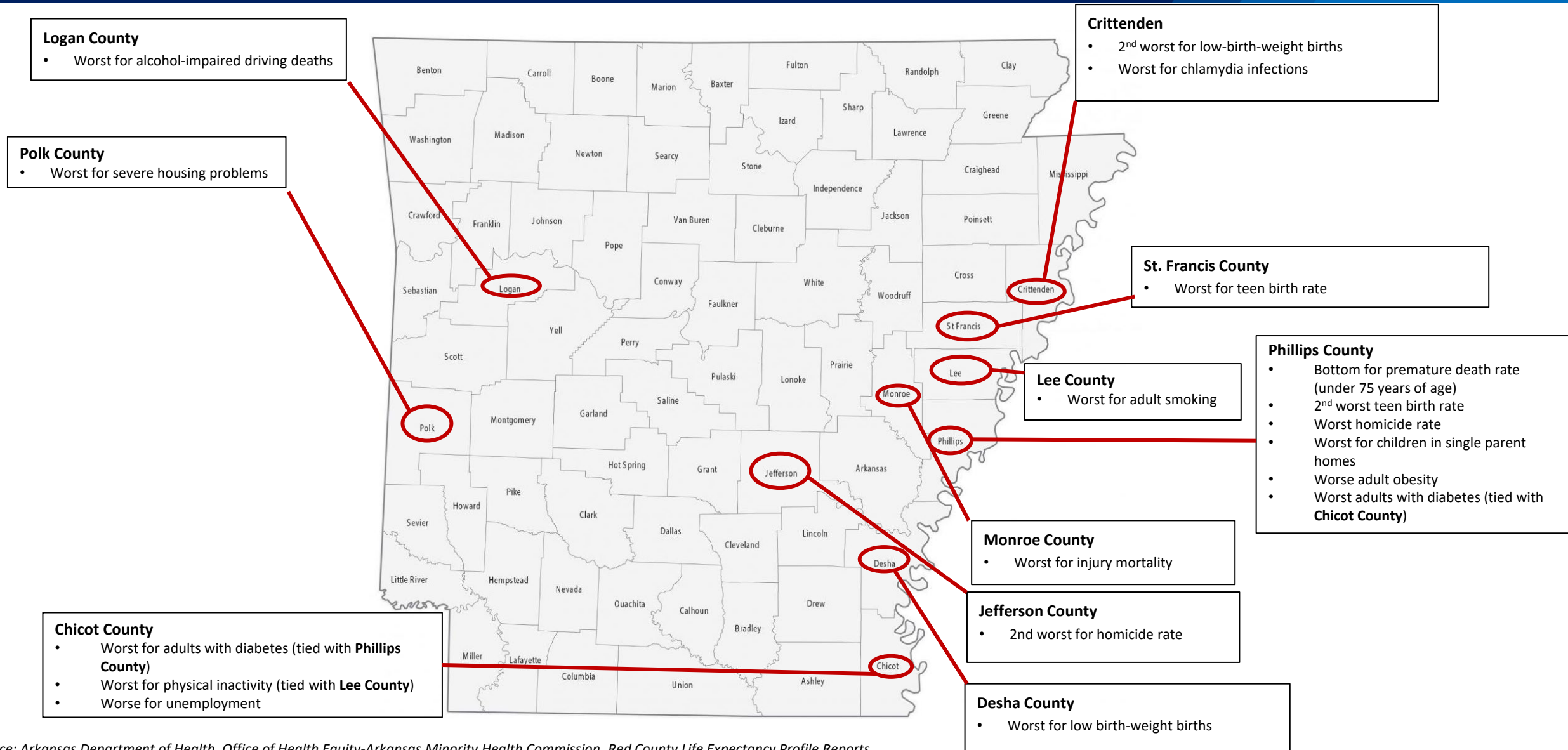
**Figure 2. Life Expectancy at Birth by Gender and Race
Arkansas Red Counties*, 2014-2020**



**Figure 1. Life Expectancy at Birth by Gender and Race
Arkansas, 2011-2020**



2020 Red Counties Report Highlights



Which health factors from the 2020 report are associated to cancer?



Health behaviors

- Cigarette smoking – Lung cancer, colorectal cancer
- Obesity – Female breast cancer (postmenopausal), colorectal cancer
- Physical Inactivity – Female breast cancer, colon cancer
- Excessive alcohol drinking – Female breast cancer, colorectal cancer

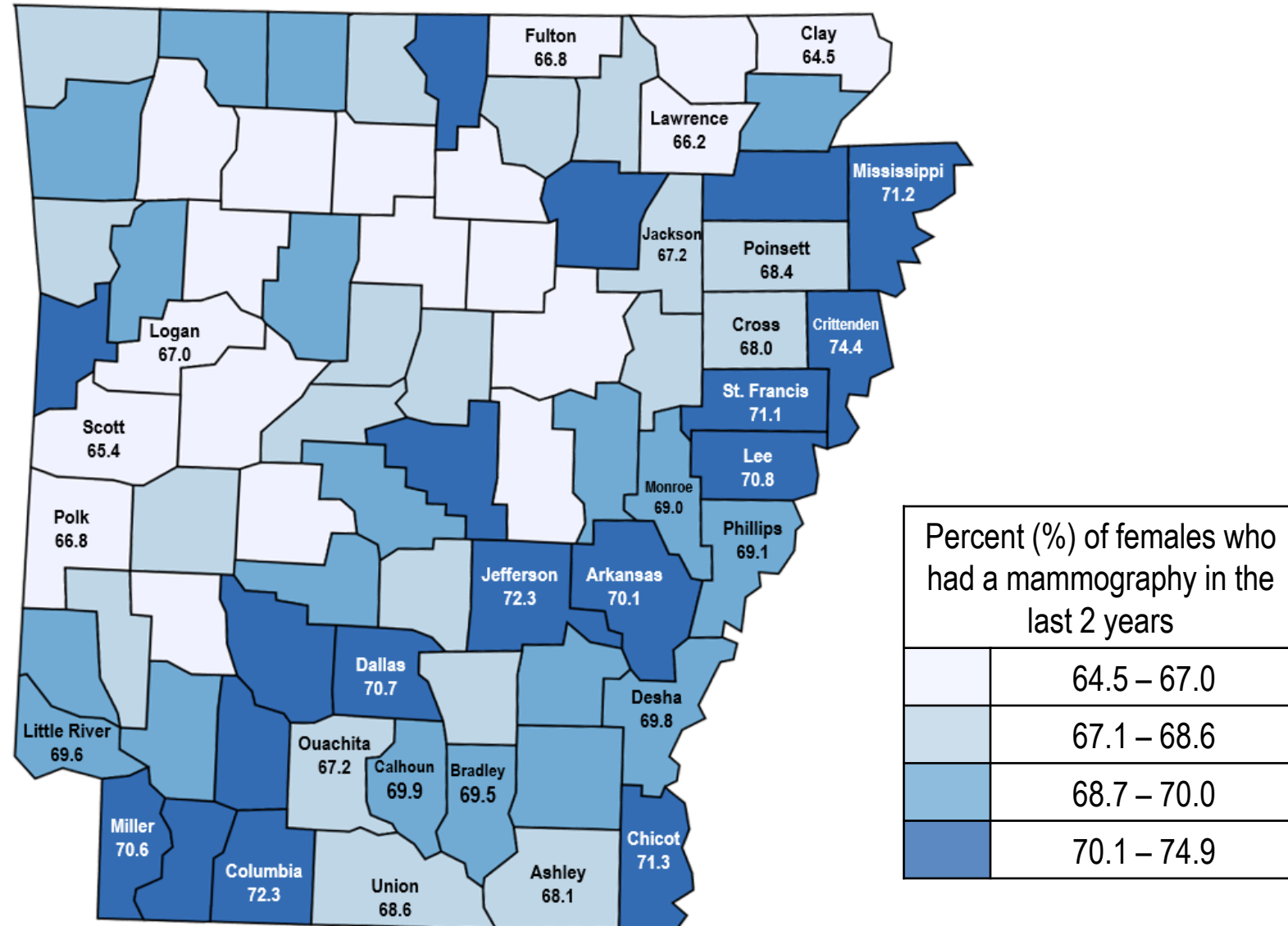
Selected Cancer: Female Breast

2016-2020 Cancer Data

2020 Arkansas Red Counties



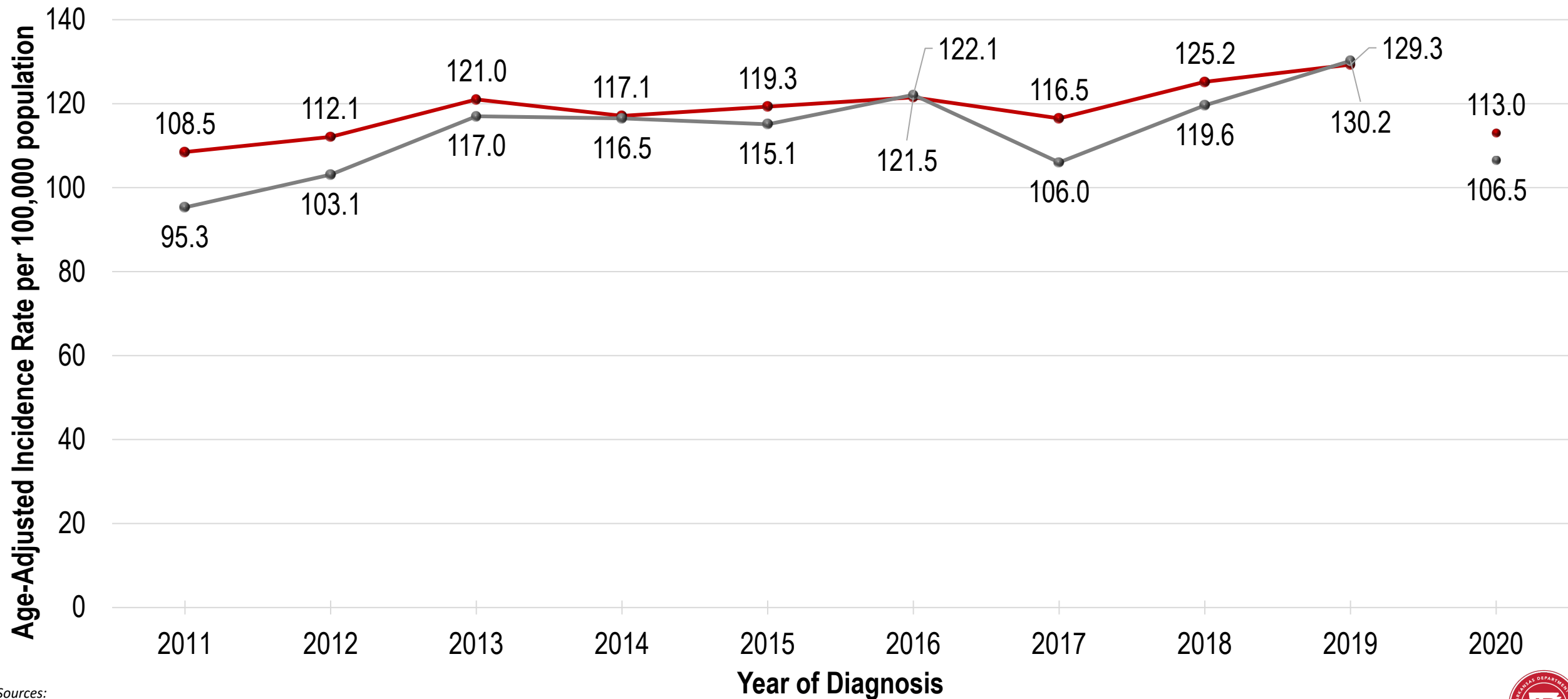
Percentage of females aged 50-74 years who reported having had a mammogram in 2 years, BRFSS 2020



Age-Adjusted Incidence Rate Trendline for Female Breast Cancer, Arkansas and 2020

Arkansas Red Counties, 2011-2020

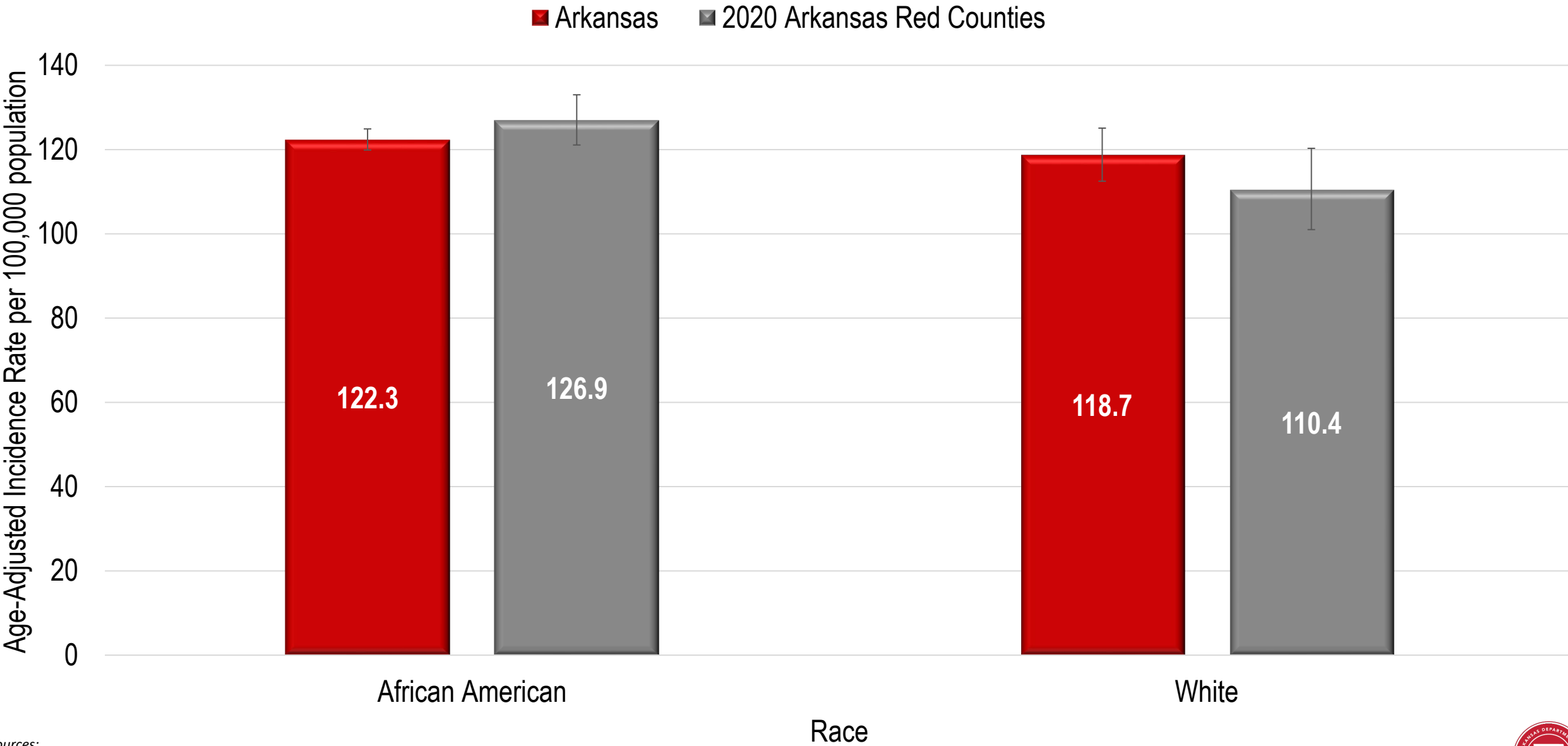
Arkansas 2020 Arkansas Red Counties



Sources:
(Arkansas) U.S. Cancer Statistics Public Use Database in SEER*Stat software: NPCR and SEER-U.S. Cancer Statistics Public Use.
(2020 Arkansas Red Counties) Imported ACCR Dataset calculated by SEER*Stat software.



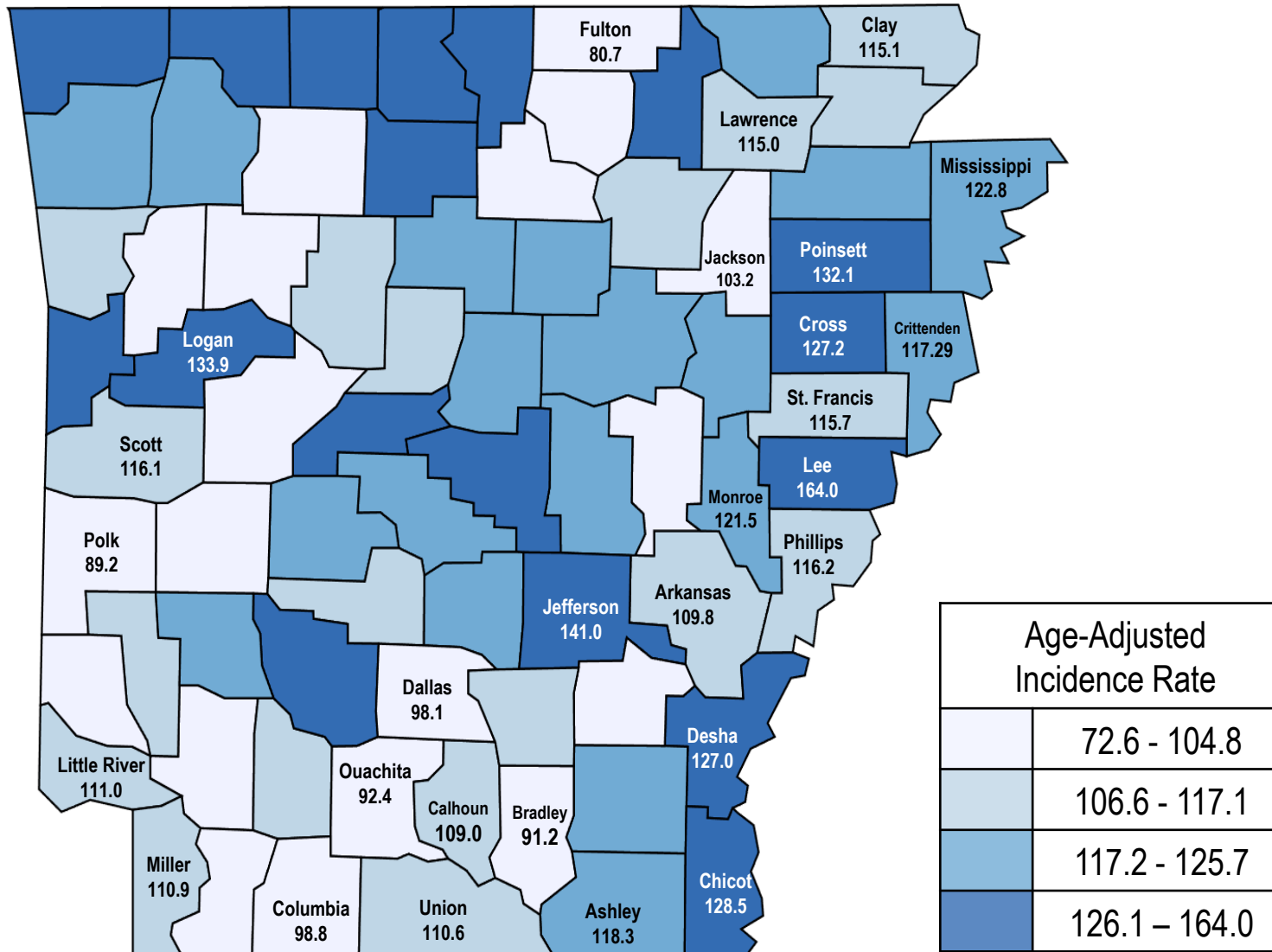
Age-Adjusted Incidence Rate of Female Breast Cancer by Race, Arkansas and 2020 Arkansas Red Counties, 2016-2020



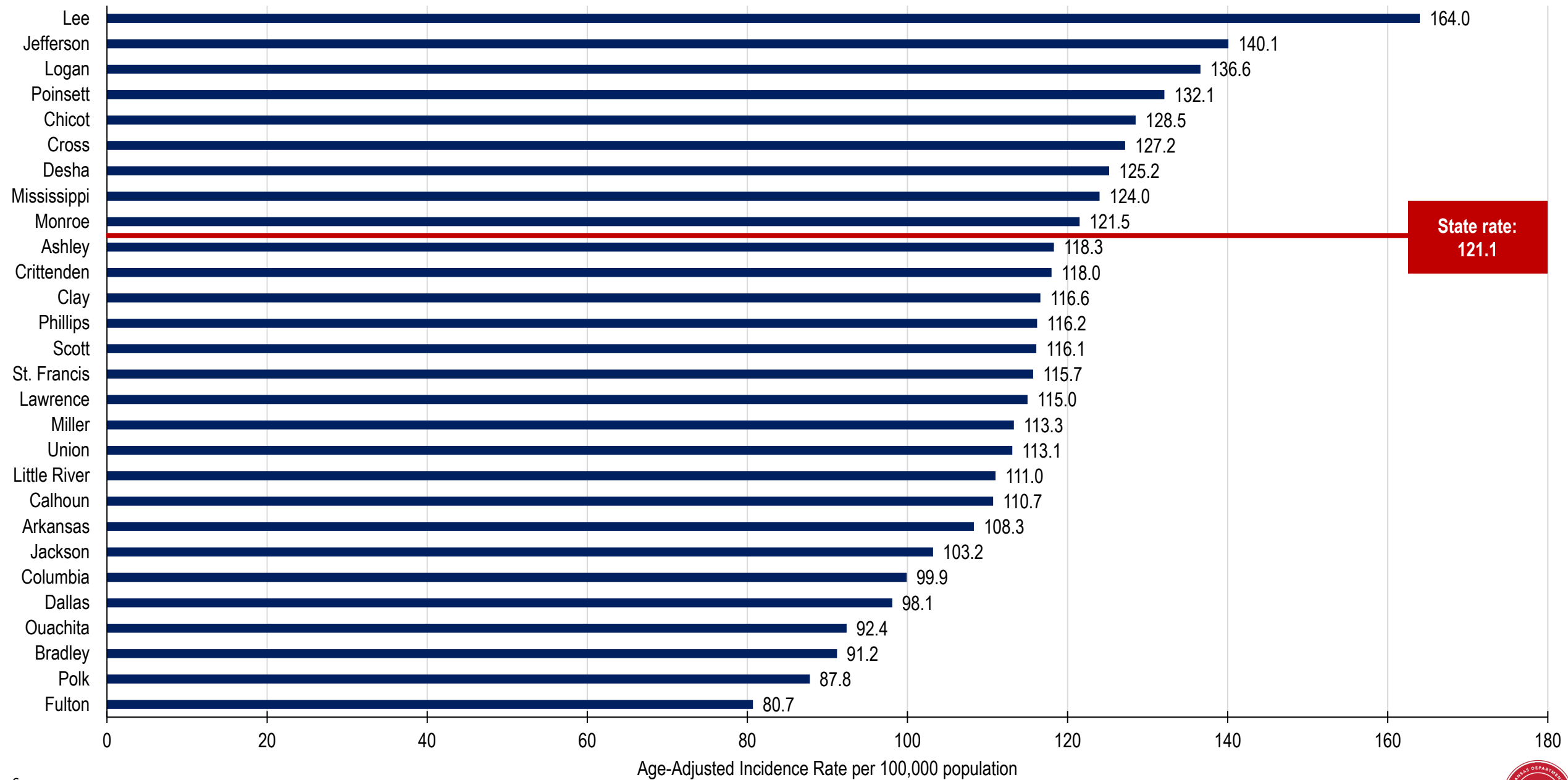
Sources:
(Arkansas) U.S. Cancer Statistics Public Use Database in SEER*Stat software: NPCR and SEER-U.S. Cancer Statistics Public Use.
(2020 Arkansas Red Counties) Imported ACCR Dataset calculated by SEER*Stat software.



Map of Age-Adjusted Incidence Rate for Female Breast Cancer, Arkansas, 2016-2020



Age-Adjusted Incidence Rate of Female Breast Cancer by Arkansas Red Counties, 2016-2020



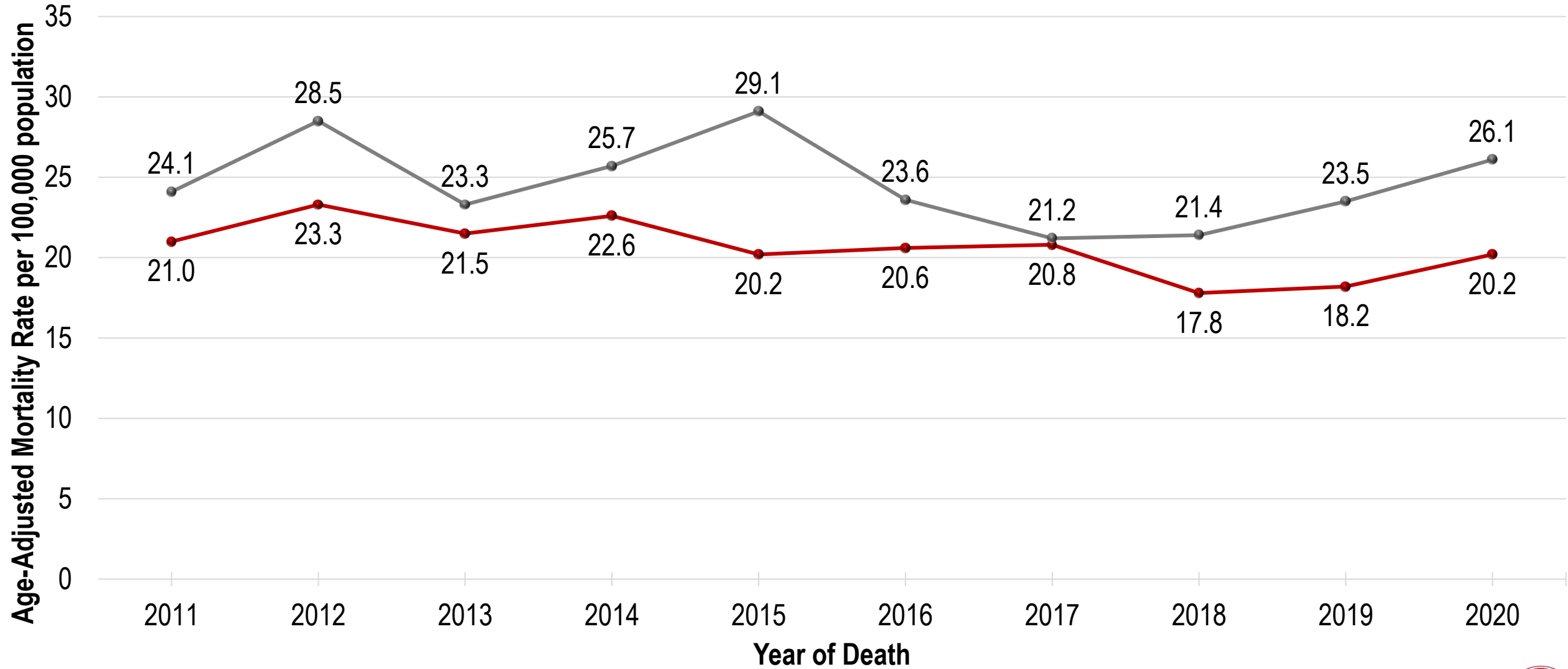
Sources:
 (Arkansas) U.S. Cancer Statistics Public Use Database in SEER*Stat software: NPCR and SEER-U.S. Cancer Statistics Public Use.
 (2020 Arkansas Red Counties) Imported ACCR Dataset calculated by SEER*Stat software.



Age-Adjusted Mortality Rate Trendline for Female Breast Cancer, Arkansas and 2020

Arkansas Red Counties, 2011-2020

Arkansas 2020 Arkansas Red Counties



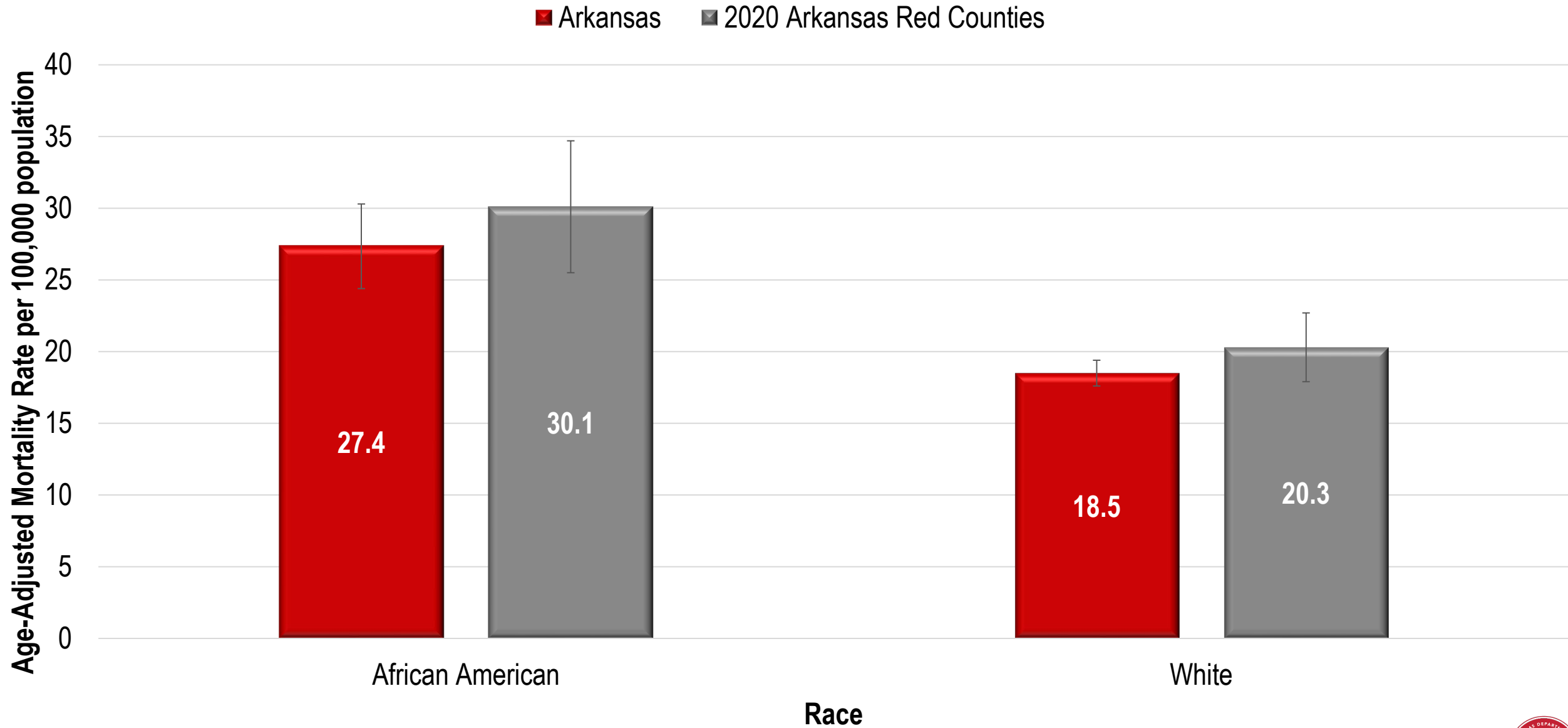
Sources:

(Arkansas) CDC WONDER Cancer Mortality Statistics.

(2020 Arkansas Red Counties) CDC WONDER Cancer Mortality Statistics, Underlying Cause of Death.



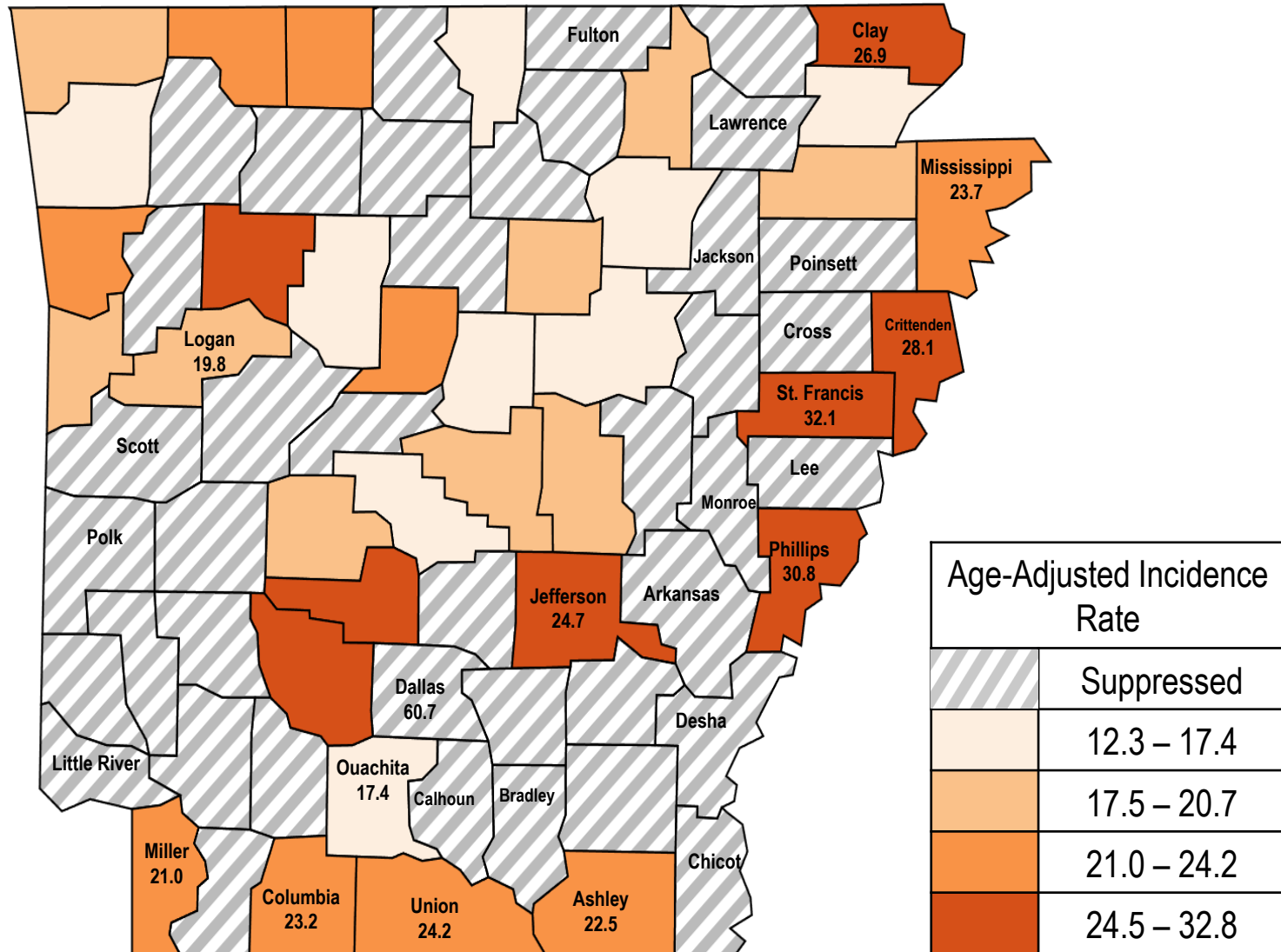
Age-Adjusted Mortality Rate of Female Breast Cancer by Race, Arkansas and 2020 Arkansas Red Counties, 2016-2020



Sources:
(Arkansas) CDC WONDER Cancer Mortality Statistics.
(2020 Arkansas Red Counties) CDC WONDER Cancer Mortality Statistics, Underlying Cause of Death.



Map of Age-Adjusted Mortality Rate for Female Breast Cancer, Arkansas, 2016-2020



Age-Adjusted Incidence Rate	
	Suppressed
	12.3 – 17.4
	17.5 – 20.7
	21.0 – 24.2
	24.5 – 32.8

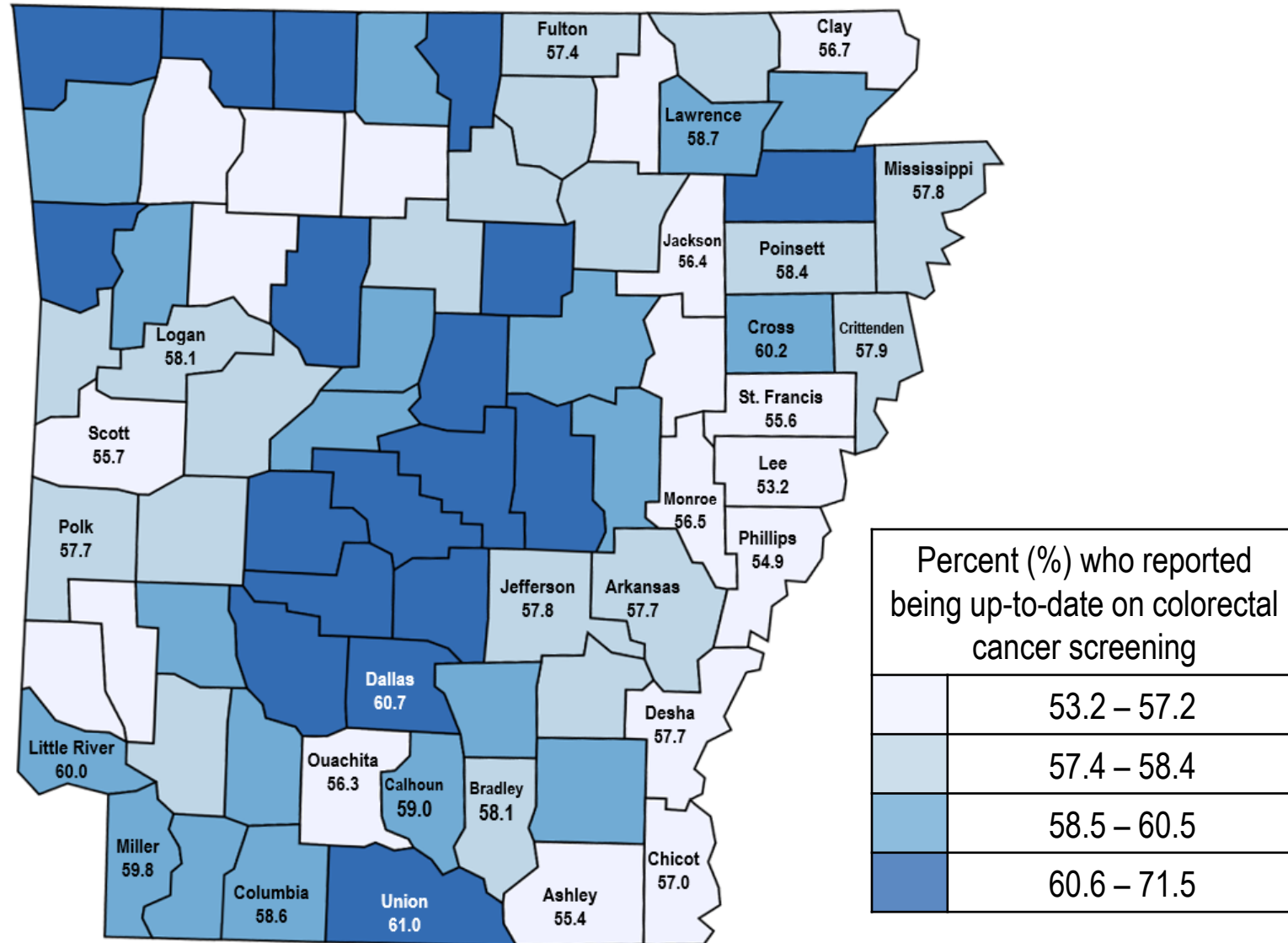
Selected Cancer: Colorectal

2016-2020 Cancer Data

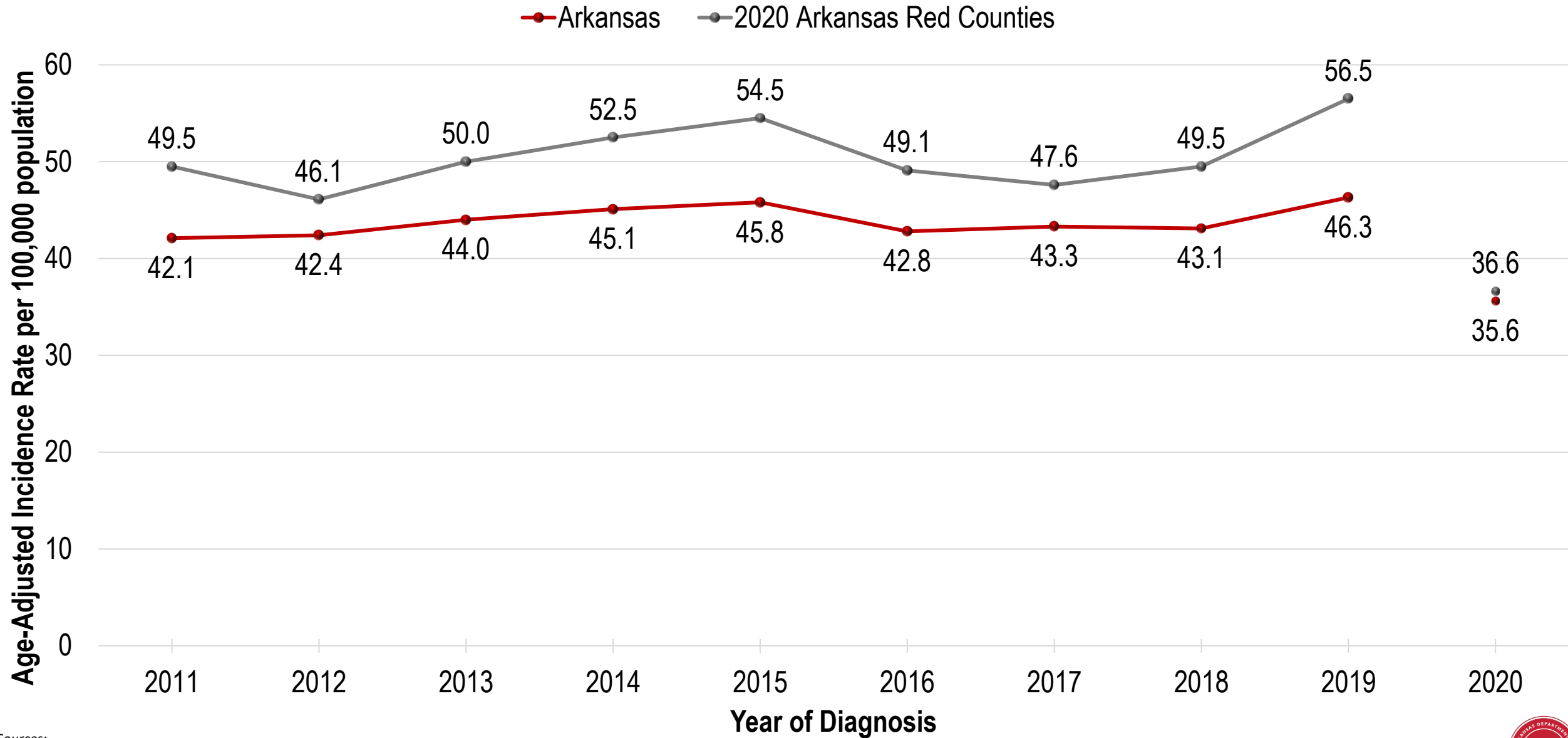
2020 Arkansas Red Counties



Percentage of adults aged 50-75 years who reported being up-to-date with colorectal cancer screening, BRFSS 2020



Age-Adjusted Incidence Rate Trendline for Colorectal Cancer, Arkansas and 2020 Arkansas Red Counties, 2011-2020



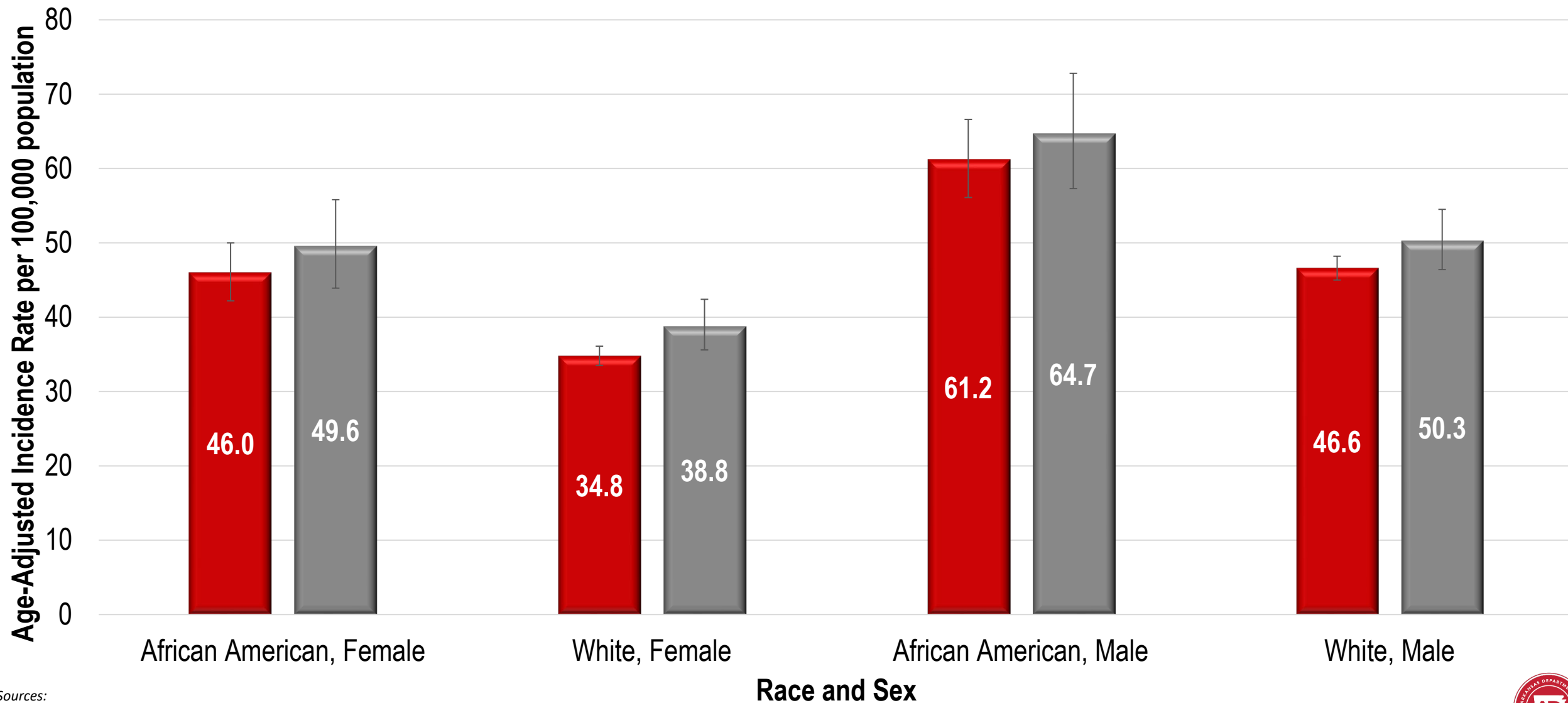
Sources:
 (Arkansas) U.S. Cancer Statistics Public Use Database in SEER*Stat software: NPCR and SEER-U.S. Cancer Statistics Public Use.
 (2020 Arkansas Red Counties) Imported ACCR Dataset calculated by SEER*Stat software.



Age-Adjusted Incidence Rate of Colorectal Cancer by Race and Sex, Arkansas and 2020

Arkansas Red Counties, 2016-2020

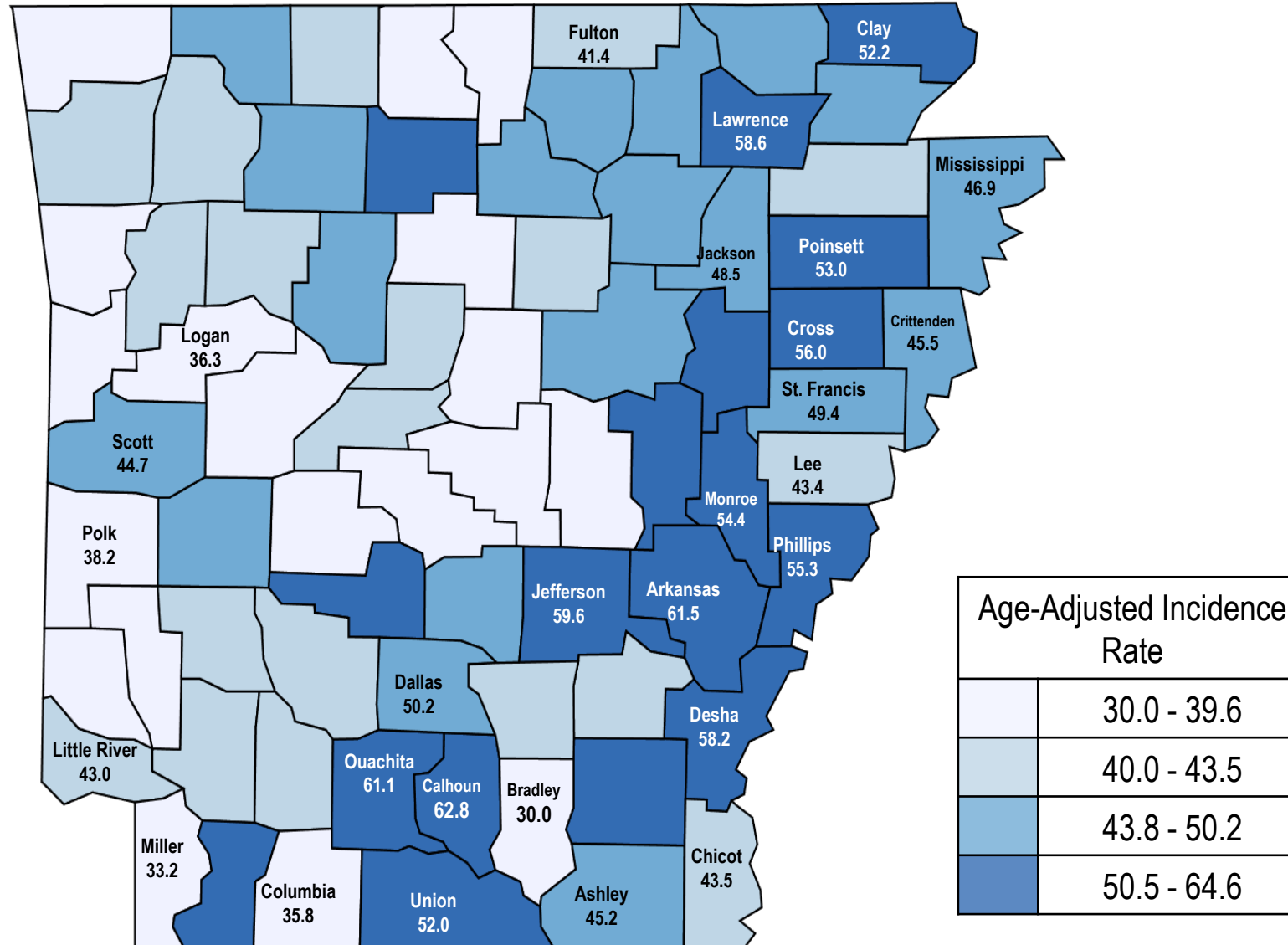
Arkansas 2020 Arkansas Red Counties



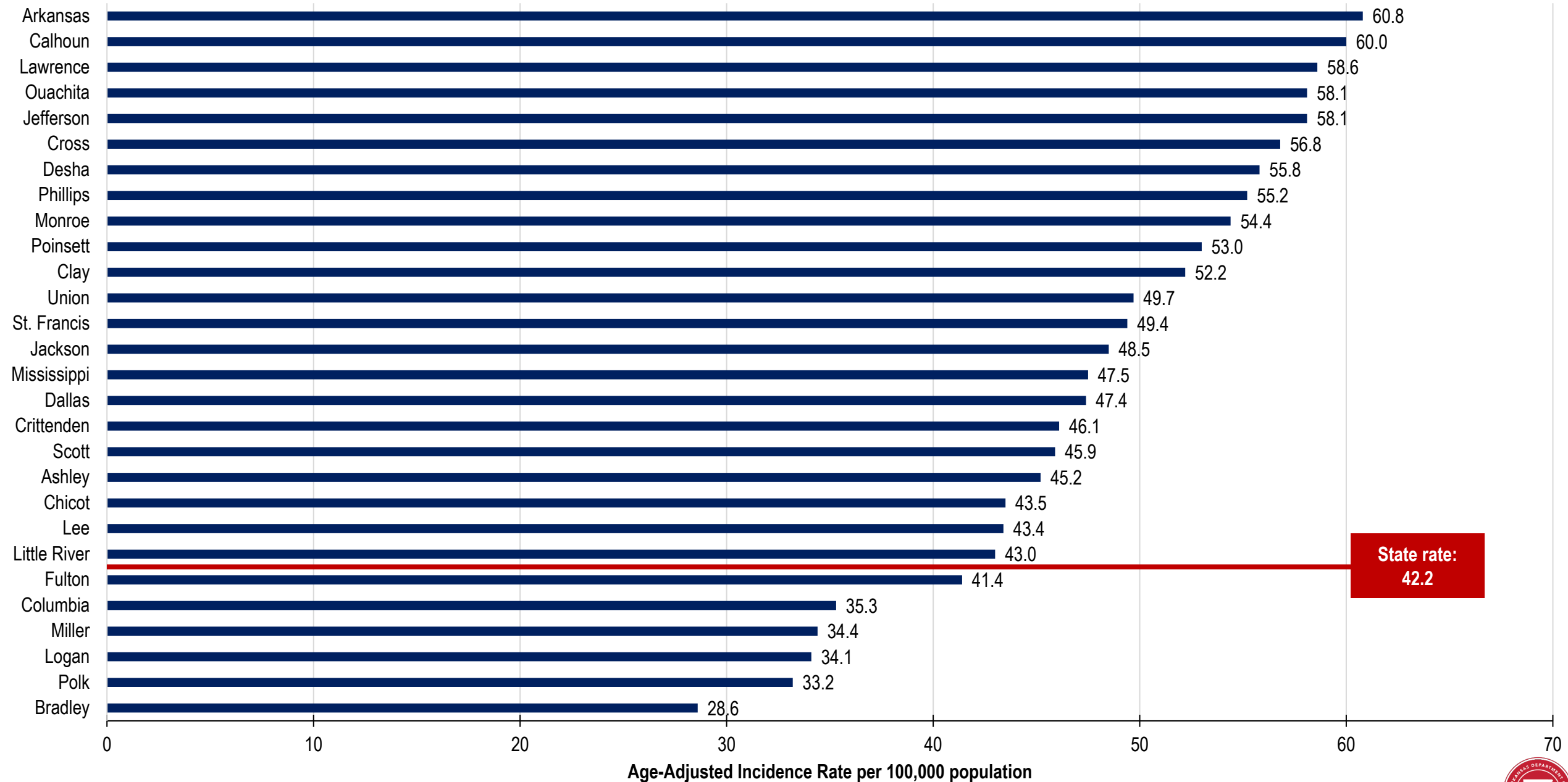
Sources:
(Arkansas) U.S. Cancer Statistics Public Use Database in SEER*Stat software: NPCR and SEER-U.S. Cancer Statistics Public Use.
(2020 Arkansas Red Counties) Imported ACCR Dataset calculated by SEER*Stat software.



Map of Age-Adjusted Incidence Rate for Colorectal Cancer, Arkansas, 2016-2020

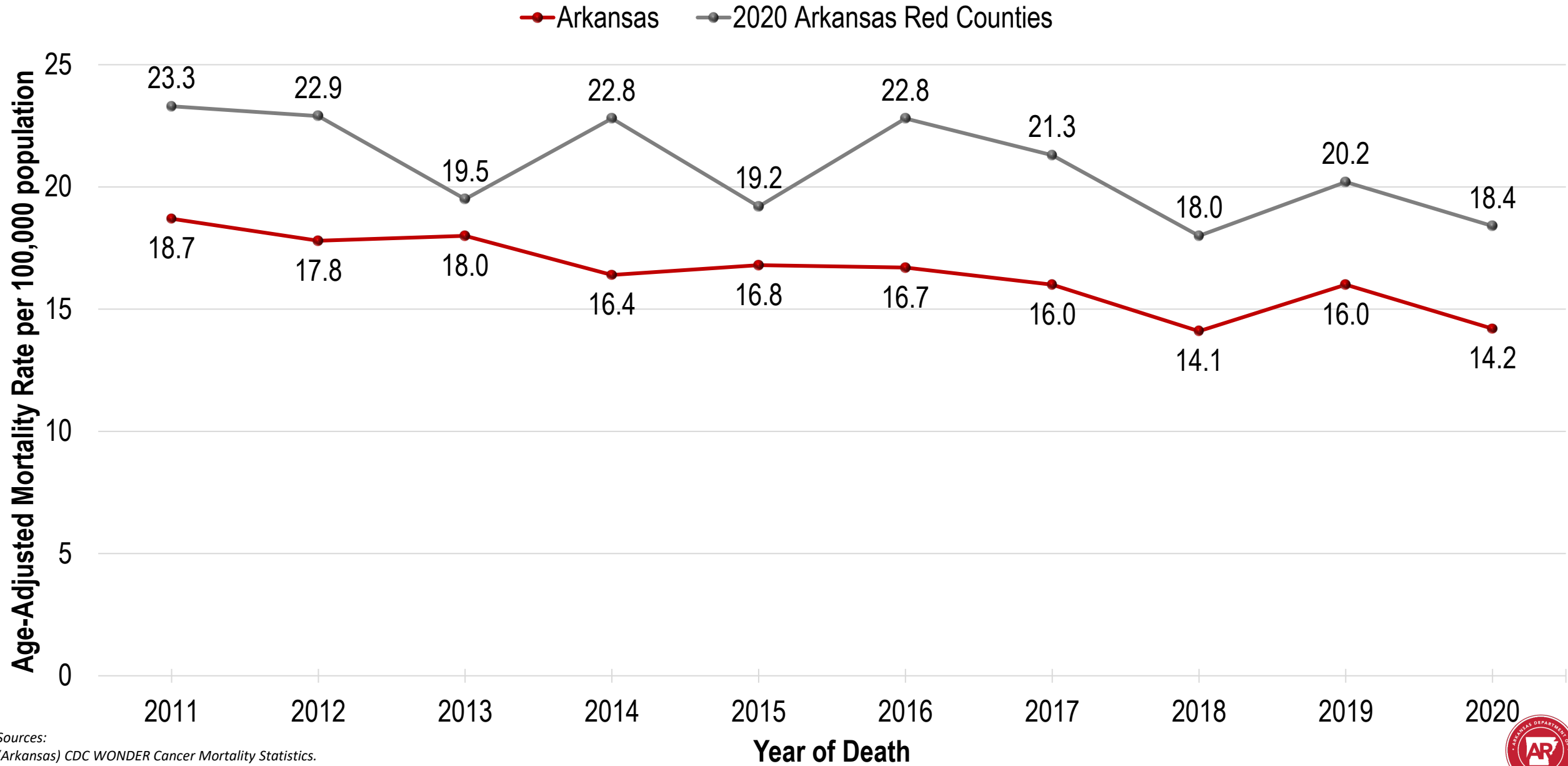


Age-Adjusted Incidence Rate of Colorectal Cancer by 2020 Arkansas Red Counties, 2016-2020



Source: (2020 Arkansas Red Counties) Imported ACCR Dataset calculated by SEER*Stat software.

Age-Adjusted Mortality Rate Trendline for Colorectal Cancer, Arkansas and 2020 Arkansas Red Counties, 2011-2020



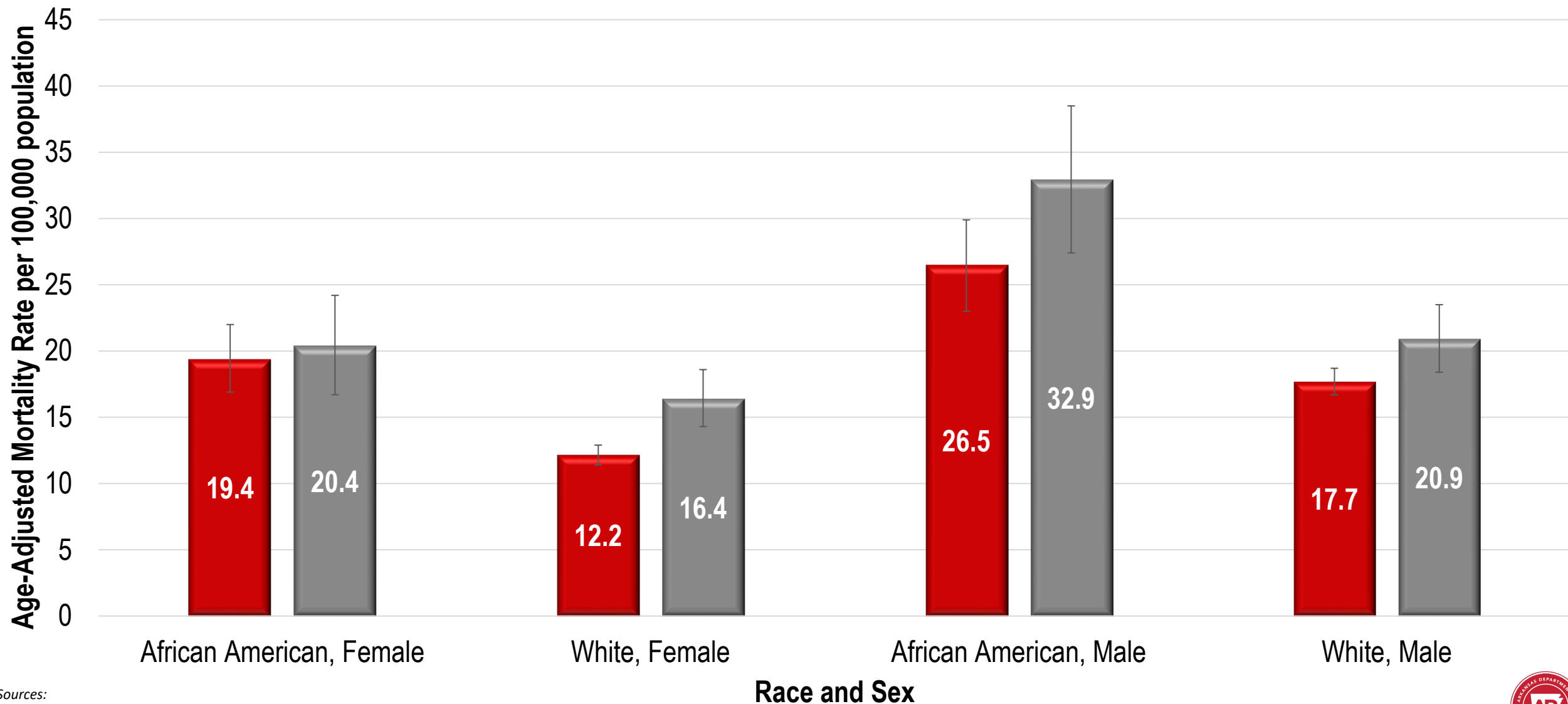
Sources:
(Arkansas) CDC WONDER Cancer Mortality Statistics.
(2020 Arkansas Red Counties) CDC WONDER Cancer Mortality Statistics, Underlying Cause of Death.



Age-Adjusted Mortality Rate of Colorectal Cancer by Race and Sex, Arkansas and 2020

Arkansas Red Counties, 2016-2020

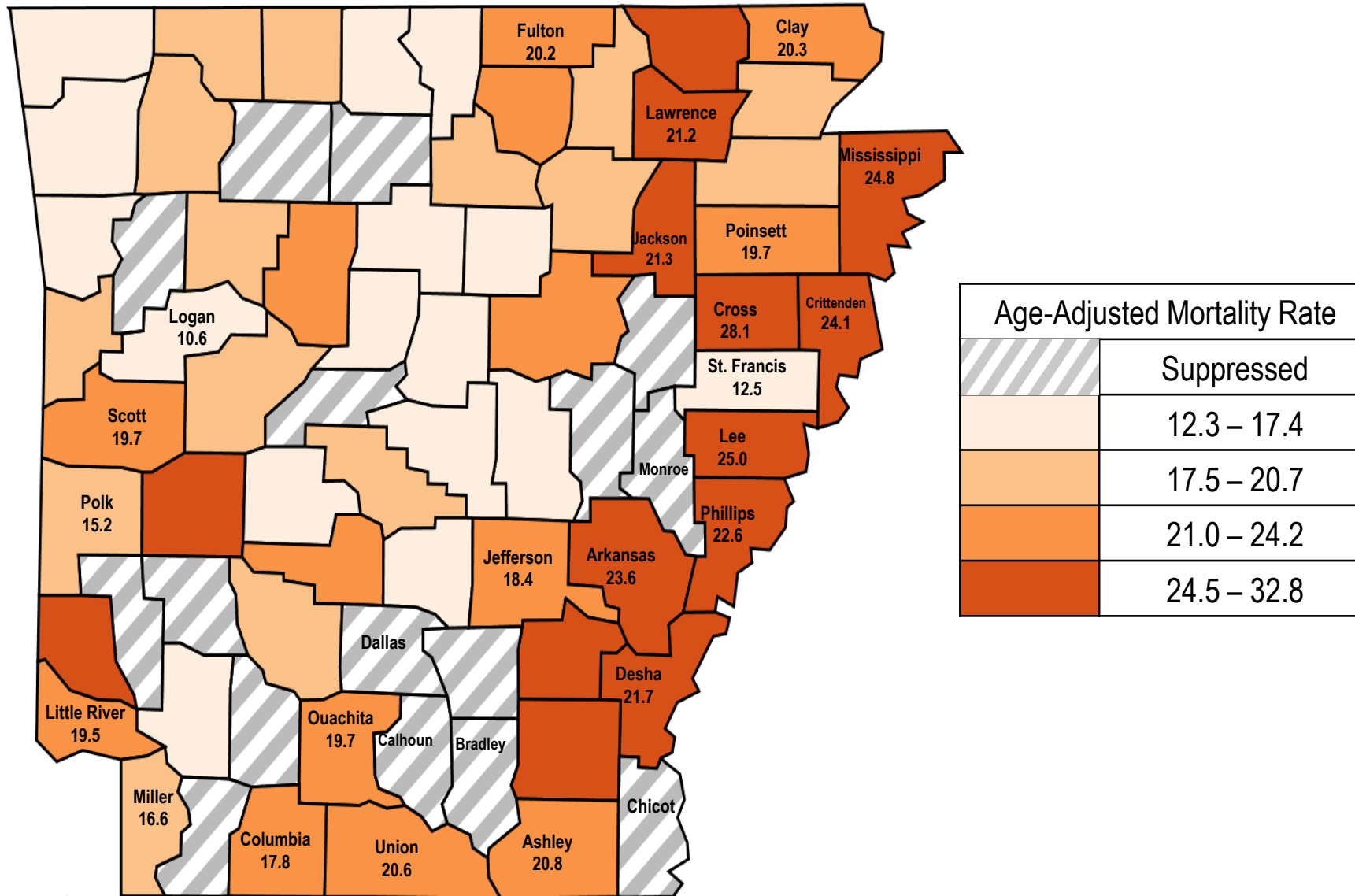
Arkansas 2020 Arkansas Red Counties



Sources:
(Arkansas) CDC WONDER Cancer Mortality Statistics.
(2020 Arkansas Red Counties) CDC WONDER Cancer Mortality Statistics, Underlying Cause of Death.



Map of Age-Adjusted Mortality Rate for Colorectal Cancer, Arkansas, 2016-2020



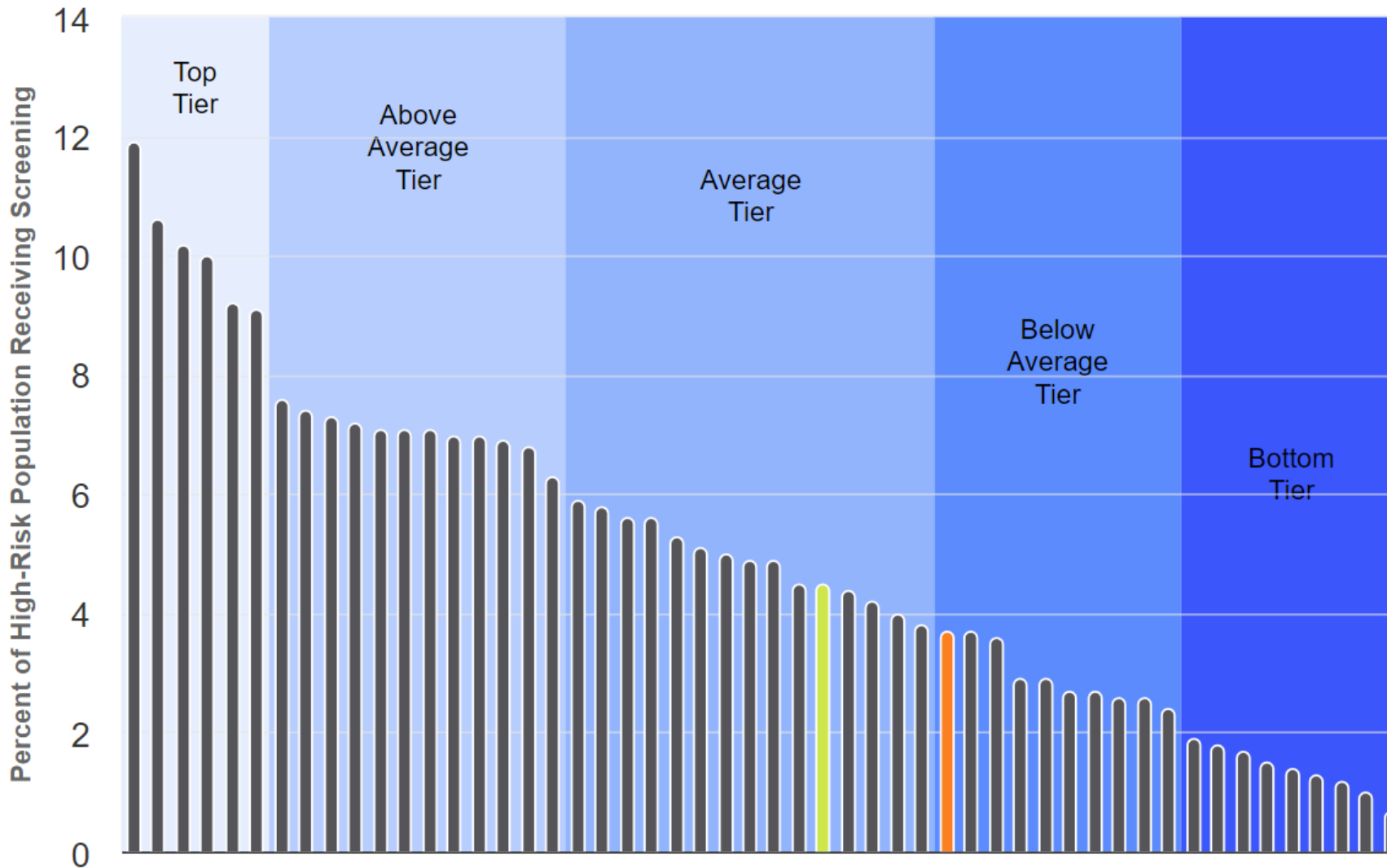
Selected Cancer: Lung & Bronchus

2016-2020 Cancer Data

2020 Arkansas Red Counties



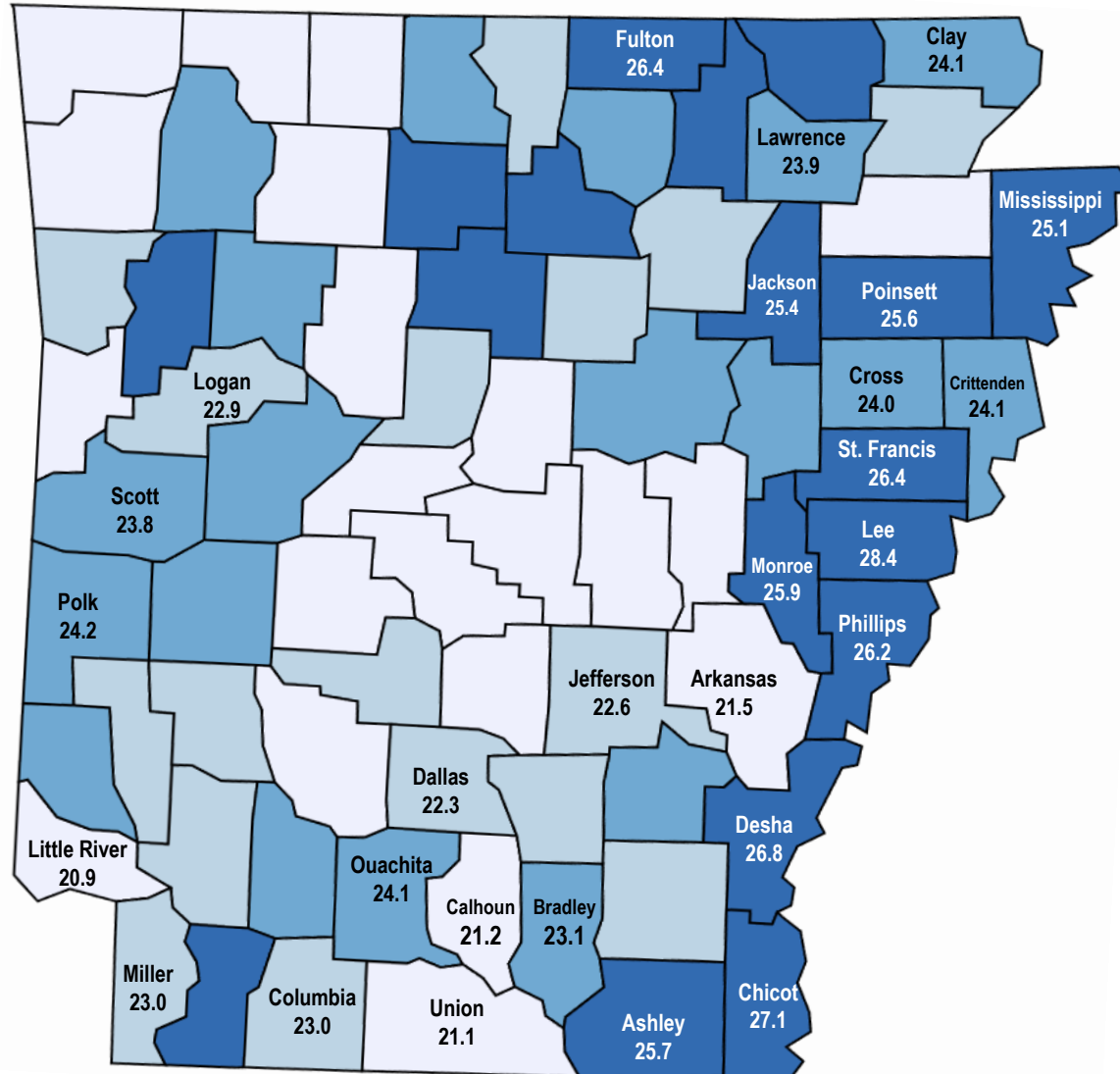
Lung cancer high-risk screening rate national comparison, 2021



	USPSTF Guidelines 2013-2021	USPSTF Guidelines 2021
Age	55-80 years	50-80 years
Smoking History	30 or more pack years (this means 1 pack a day for 30 years, 2 packs a day for 15 years, etc.)	20 or more pack years (this means 1 pack a day for 20 years, 2 packs a day for 10 years, etc.)
Smoking Status	Current smoker or quit within the last 15 years	

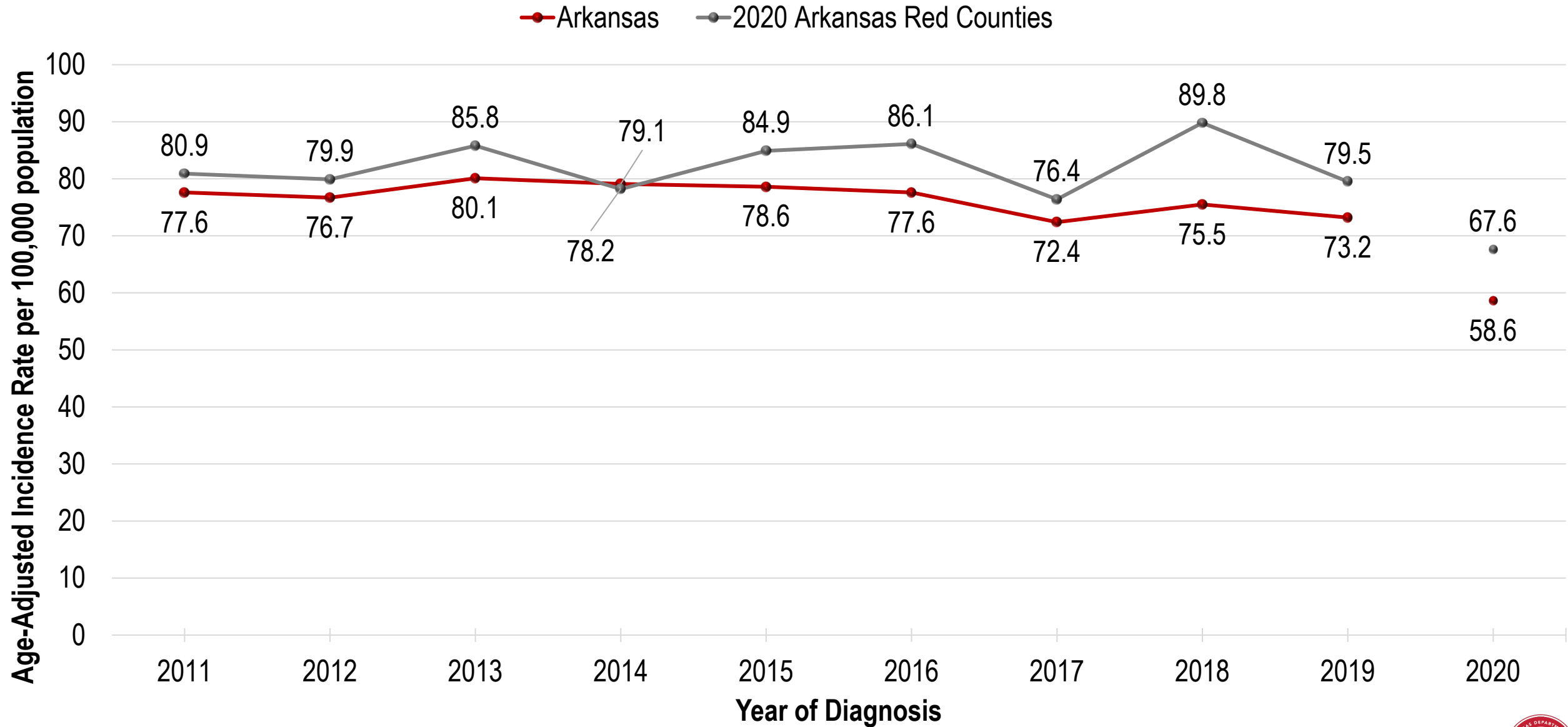
- In Arkansas, **3.7%** of those **at high risk** were screened
 - **Significantly lower** than the national rate of **4.5%**.
- Arkansas ranks **33rd** among all states, placing it in the **below average tier**.

Percent of current smokers among adults 18 years and older, BRFSS 2021



Percent (%) current smokers	
	15.5 – 21.6
	21.7 – 23.0
	23.1 – 24.5
	24.6 – 28.4

Age-Adjusted Incidence Rate Trendline for Lung & Bronchus Cancer, Arkansas and 2020 Arkansas Red Counties, 2011-2020

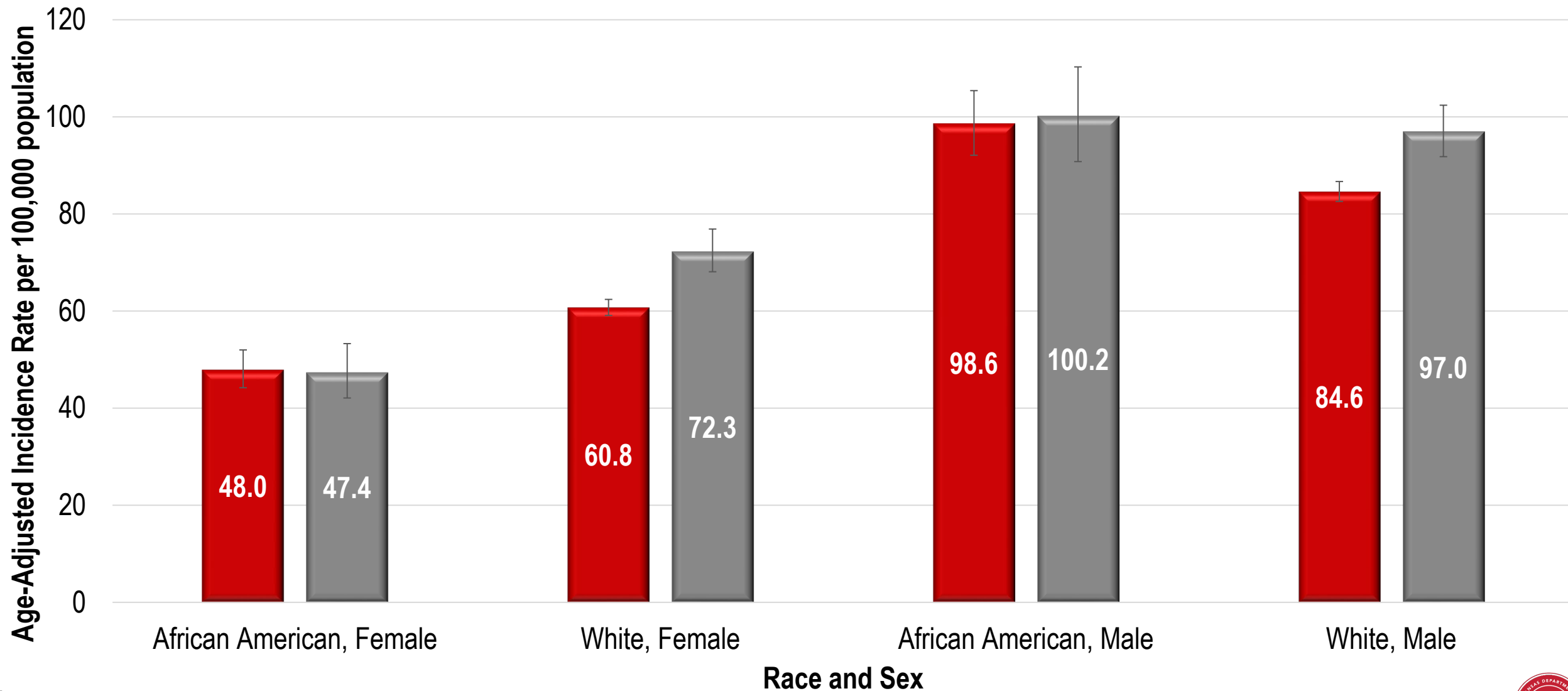


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 (2020 Arkansas Red Counties) Imported ACCR Dataset calculated by SEER*Stat software.



Age-Adjusted Incidence Rate of Lung & Bronchus Cancer by Race and Sex, Arkansas and 2020 Arkansas Red Counties, 2016-2020

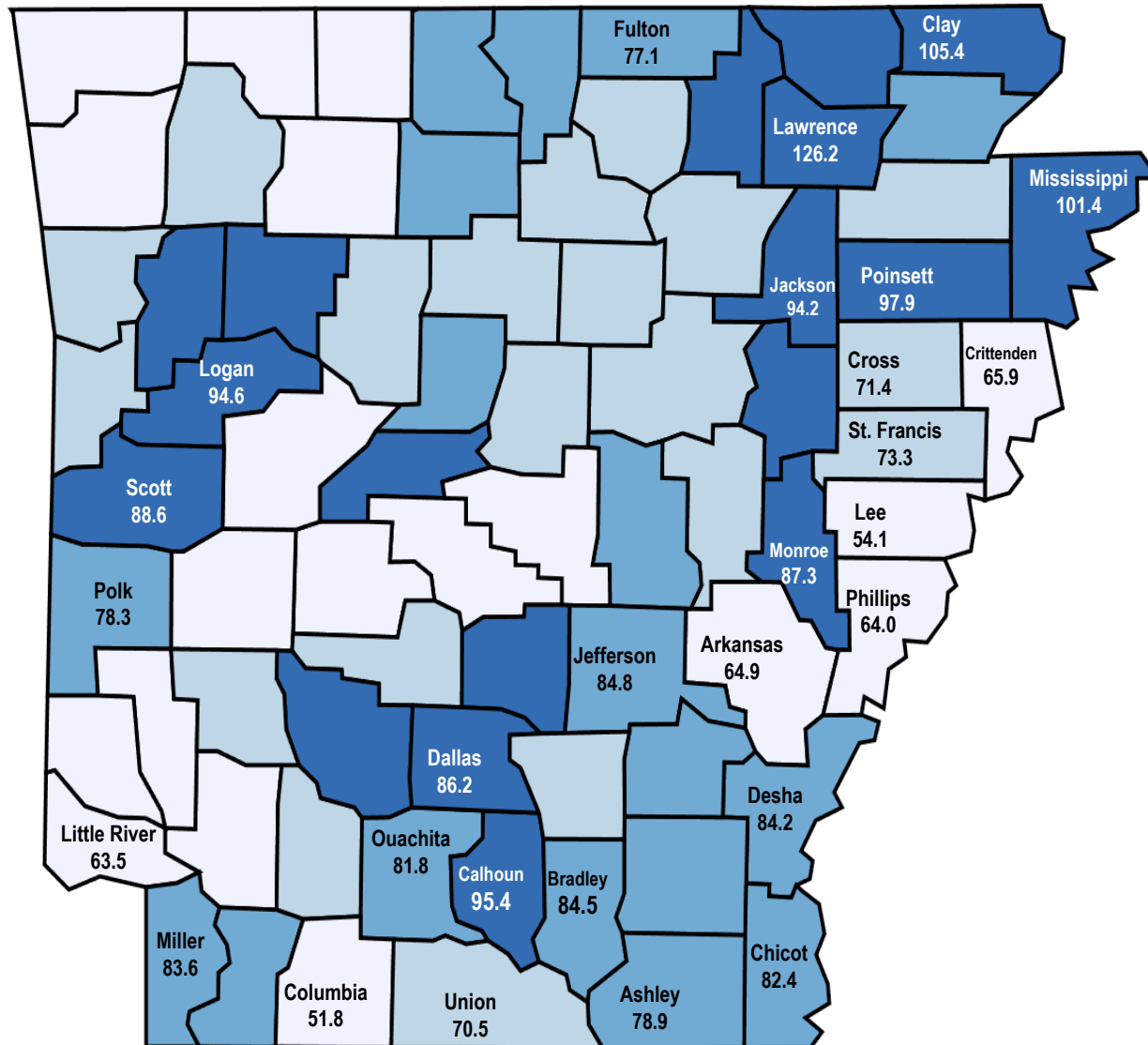
Arkansas 2020 Arkansas Red Counties



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(Arkansas) U.S. Cancer Statistics Public Use Database in SEER*Stat software: NPCR and SEER-U.S. Cancer Statistics Public Use.
(2020 Arkansas Red Counties) Imported ACCR Dataset calculated by SEER*Stat software.

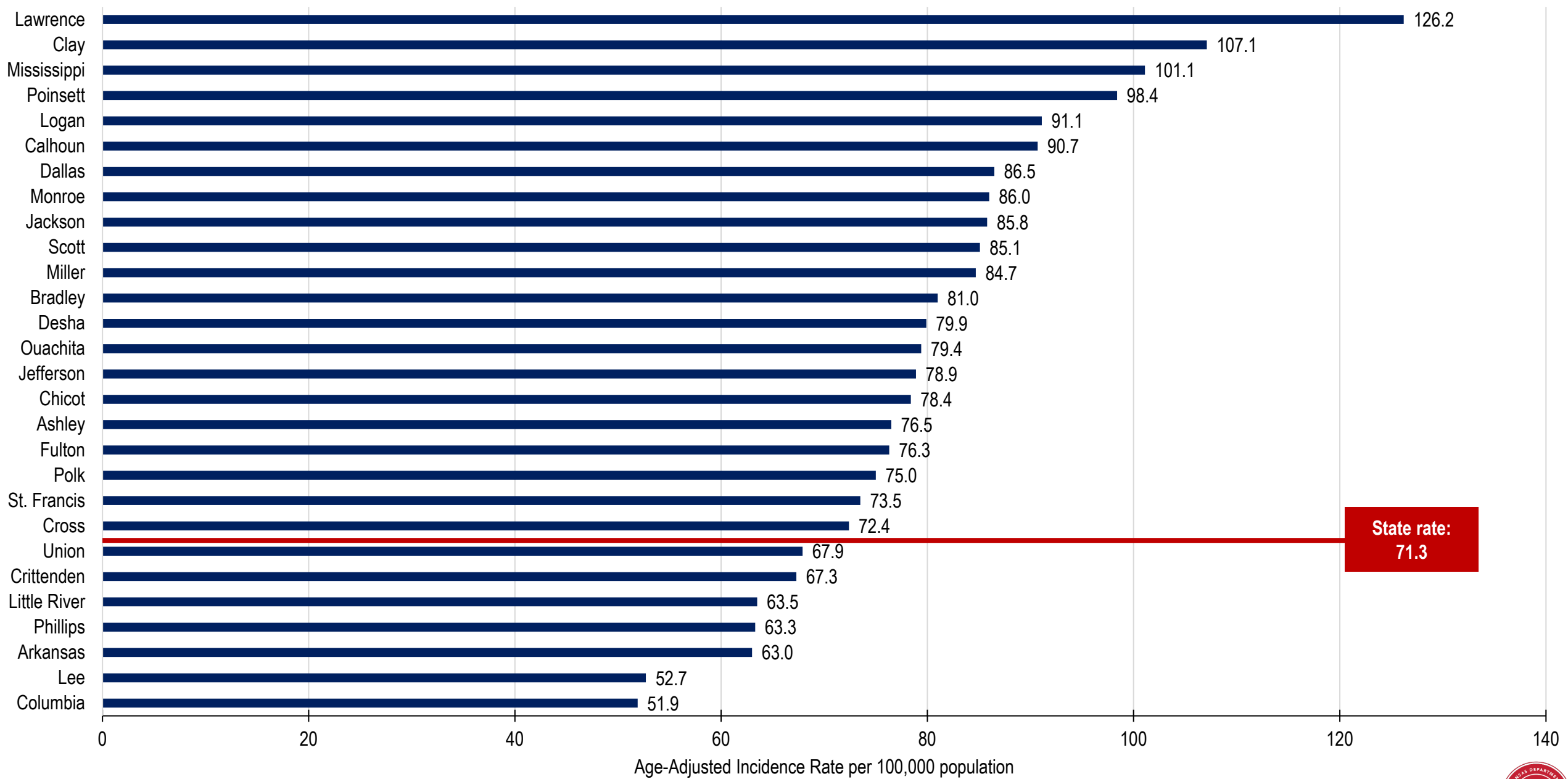


Map of Age-Adjusted Incidence Rate for Lung & Bronchus Cancer, Arkansas, 2016-2020



Age-Adjusted Incidence Rate	
	50.1 - 67.4
	68.8 - 76.7
	77.1 - 84.8
	86.2 - 126.2

Age-Adjusted Incidence Rate of Lung & Bronchus Cancer by Arkansas Red Counties, 2016-2020



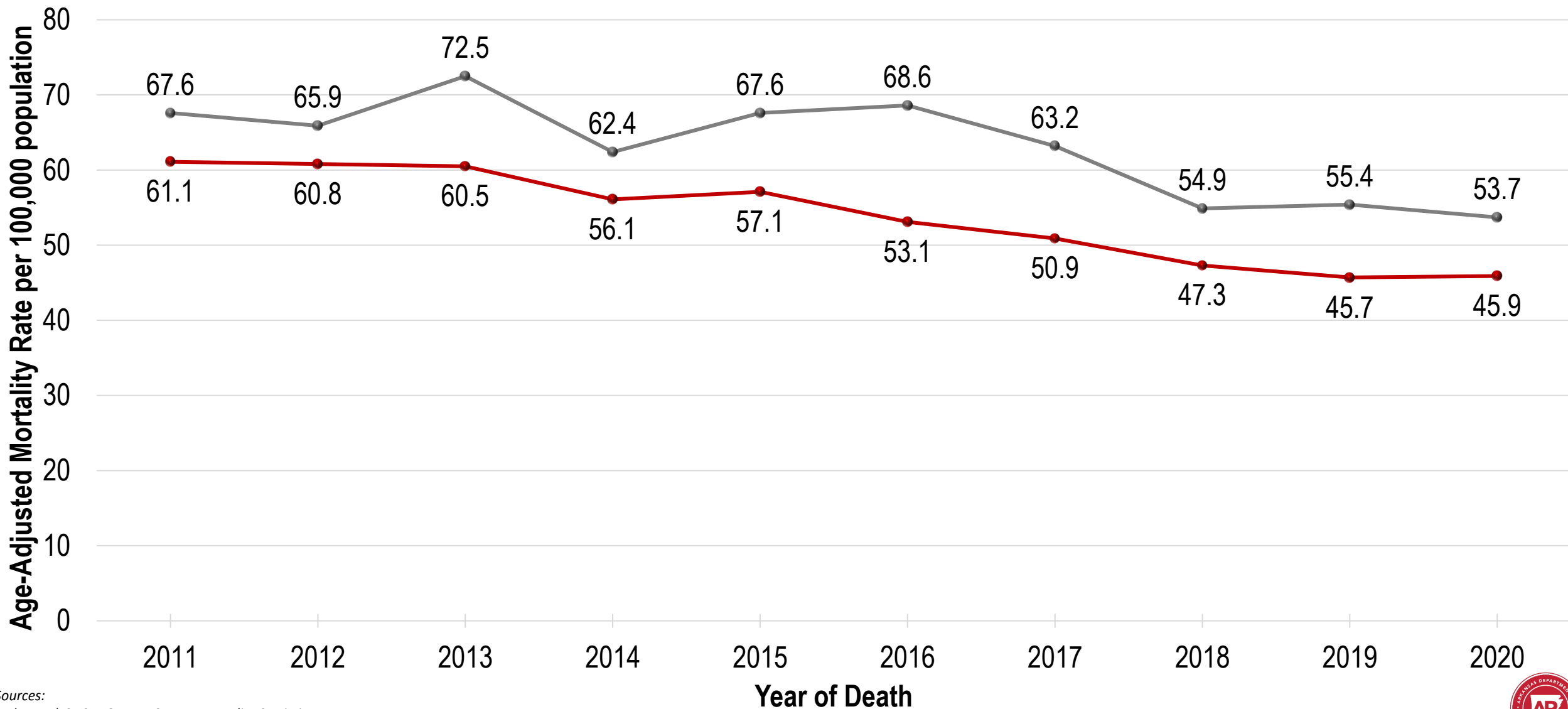
Sources:
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Age-Adjusted Mortality Rate Trendline for Lung & Bronchus Cancer, Arkansas and 2020

Arkansas Red Counties, 2011-2020

Arkansas 2020 Arkansas Red Counties

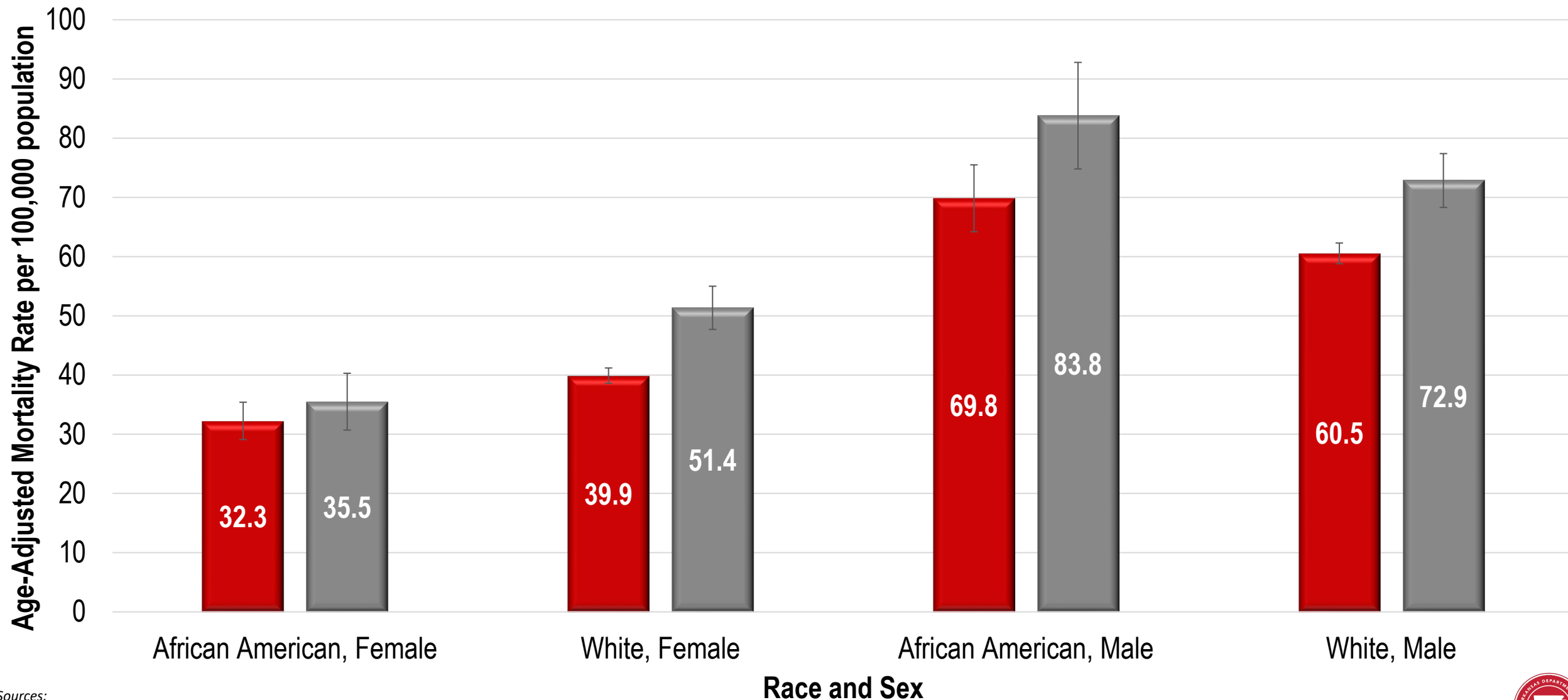


Sources:
(Arkansas) CDC WONDER Cancer Mortality Statistics.
(2020 Arkansas Red Counties) CDC WONDER Cancer Mortality Statistics, Underlying Cause of Death.



Age-Adjusted Mortality Rate of Lung and Bronchus Cancer by Race and Sex, Arkansas and 2020 Arkansas Red Counties, 2016-2020

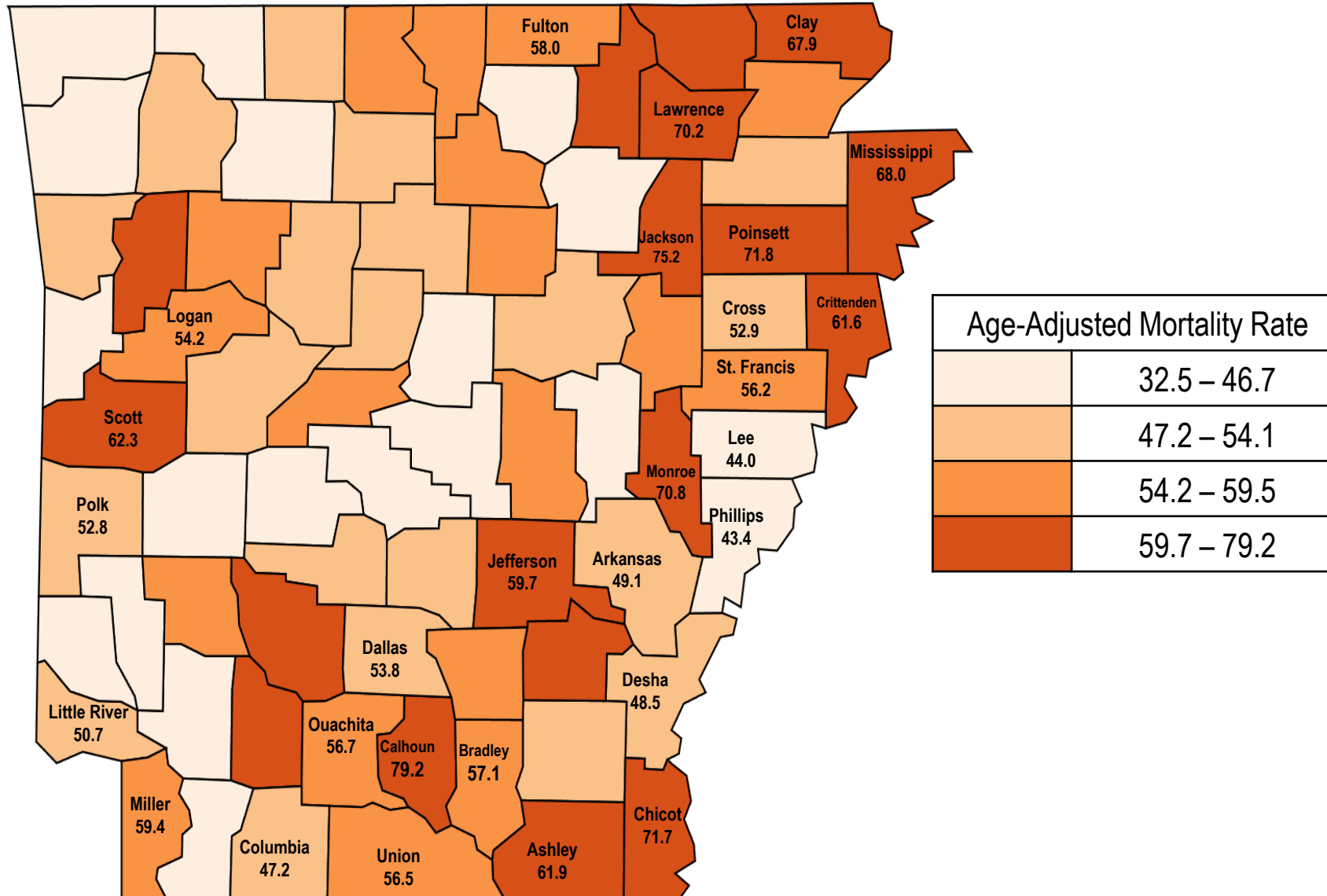
Arkansas 2020 Arkansas Red Counties



Sources:
(Arkansas) CDC WONDER Cancer Mortality Statistics.
(2020 Arkansas Red Counties) CDC WONDER Cancer Mortality Statistics, Underlying Cause of Death.



Map of Age-Adjusted Mortality Rate for Lung and Bronchus Cancer, Arkansas, 2016-2020



ACCR INVESTIGATES:

Health Behaviors Associated with Cancer among 2020 Arkansas Red Counties, 2016-2020



Which health behaviors/risk factors are associated to cancer?



- **Alcohol:** Defined only by cancer type
 - Moderate increased risk of some cancers among those who have **no more than one drink per day and binge drinkers** (those who consume 4 or more drinks for females and 5 or more drinks for males in one sitting)



- **Tobacco:** Defined only by cancer type
 - Long-term exposure to cigarettes (current smoker, at least one pack of cigarettes per day for at least 20 years, or have quit within the past 15 years), secondhand smoke, smokeless tobacco products



- **Excess body weight (**obesity**):** Defined only by cancer type
 - Increased risk among those overweight, obese, or severely obese (BMI \geq 25.0)



- **Physical inactivity:** Defined only by cancer type
 - Less than 1 hour of moderate activity daily or 30 minutes of vigorous activity.



- **Human papillomavirus (HPV) associated cancers:** Defined on occurrence in parts of the body AND cancer cell type where HPV is found.

Cancers associated by health behaviors

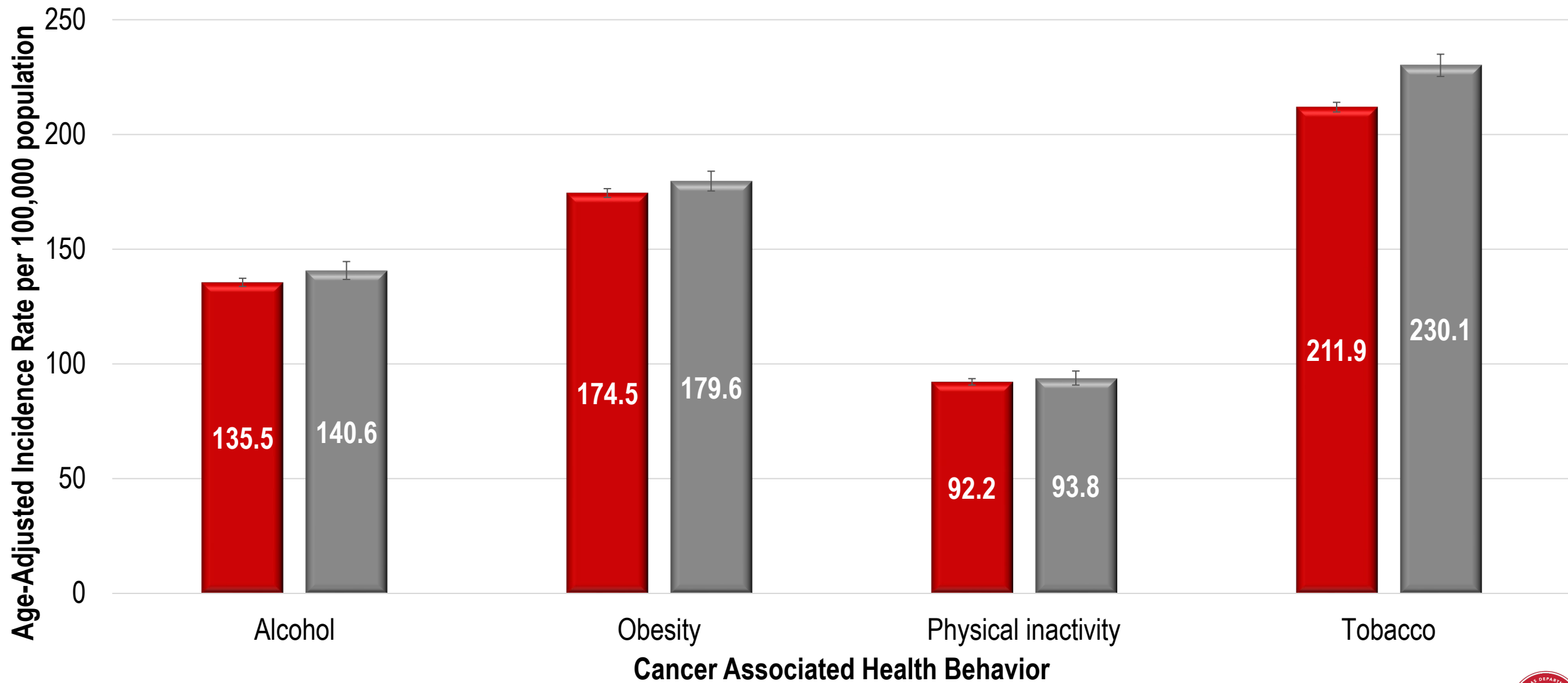


Physical Inactivity	Human Papillomavirus (HPV)	Alcohol	Tobacco		Obesity	
Colon	Cervix uteri	Female Breast	Cervix uteri	Colorectal	Colorectal	Female breast (postmenopausal)
Female breast (postmenopausal)	Vulva	Colorectal	Liver	Bladder	Liver	Ovary
Corpus and uterus, NOS	Vagina	Esophagus	Esophagus	Acute myeloid leukemia	Esophagus	Kidney
	Anus	Liver	Pancreas	Voice box (Larynx)	Gastric cardia	Meningioma
	Penis	Voice box (larynx)	Stomach	Kidney and Renal Pelvis	Gallbladder	Thyroid
	Oropharynx	Mouth and throat (lip, oral cavity, and pharynx)	Mouth and throat (lip, oral cavity, and pharynx)		Pancreas	Corpus uterus, NOS
			Trachea, Lung		Multiple myeloma	

NOTE: ACCR does not routinely collect information on weight, height (BMI), and the presence or absence of HPV in cancer tissues at the time of diagnosis.

Age-Adjusted Incidence Rate of Cancer Associated Health Behaviors, Arkansas and 2020 Arkansas Red Counties, 2016-2020

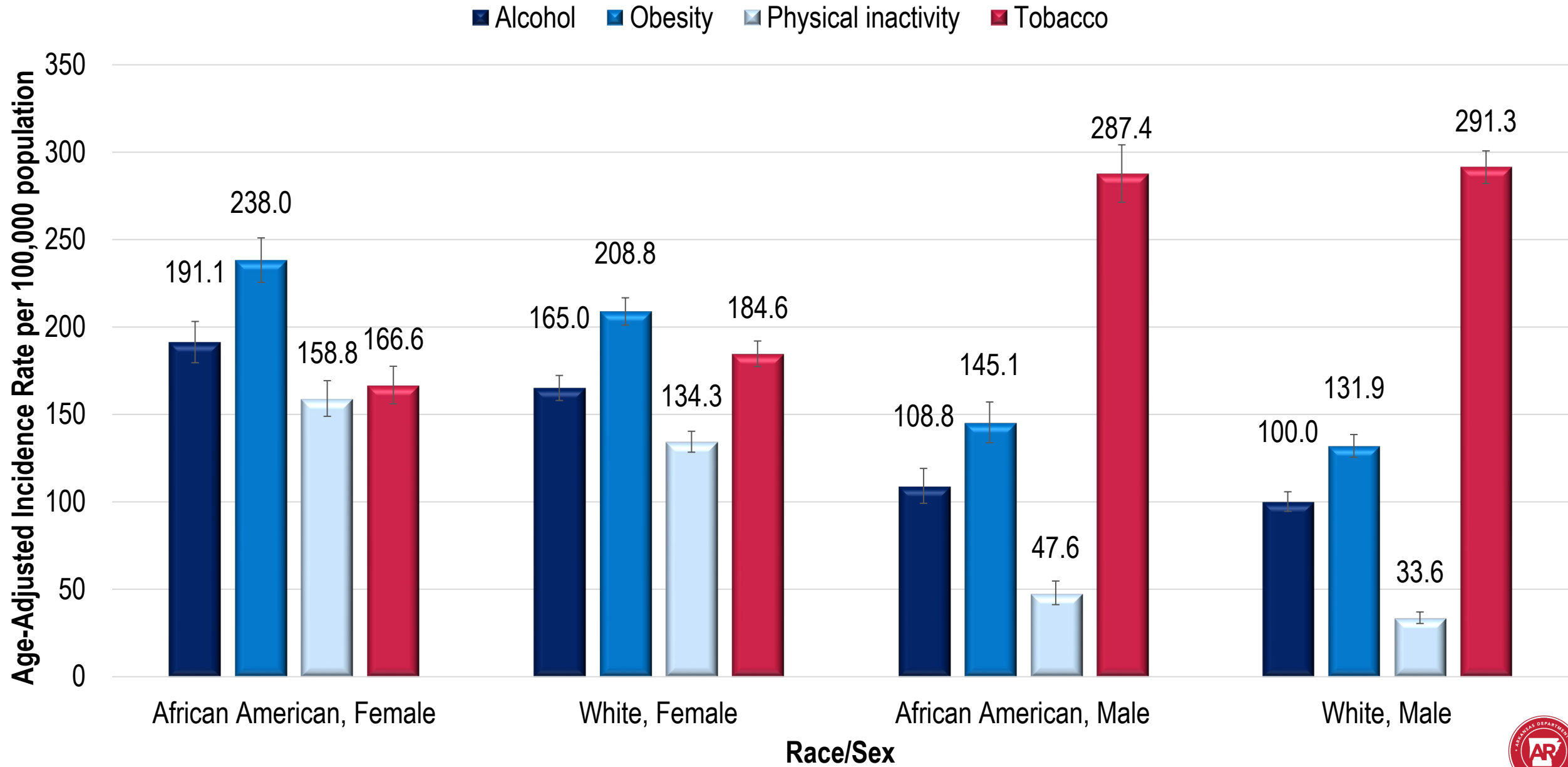
Arkansas 2020 Arkansas Red Counties



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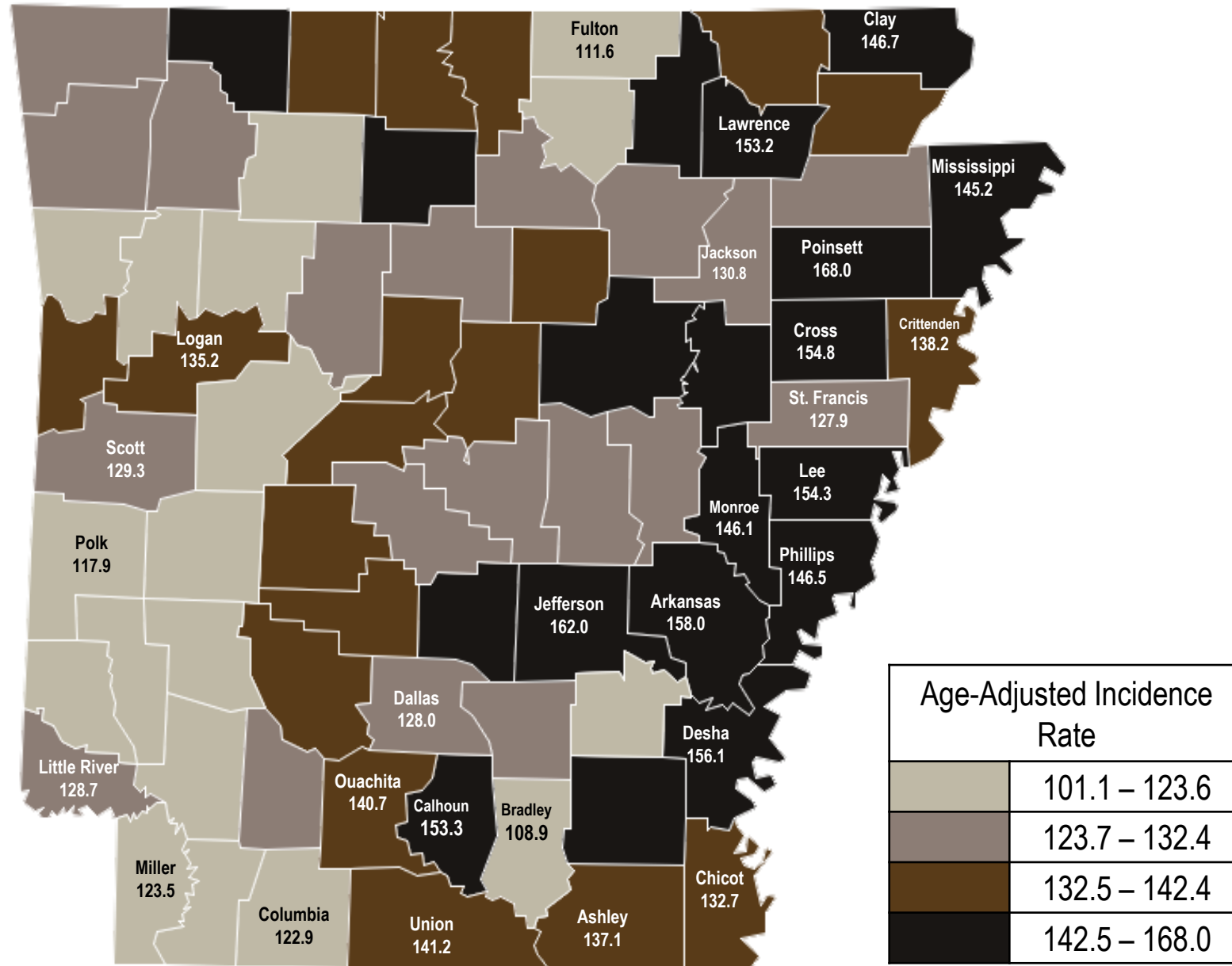
Age-Adjusted Incidence Rate of Health Behaviors among 2020 Arkansas Red Counties by Race/Sex, 2016-2020







Source: (2020 Arkansas Red Counties) Imported ACCR Dataset calculated by SEER*Stat software.



Age-Adjusted Incidence Rates of Alcohol Associated Cancers in Arkansas, 2016-2020



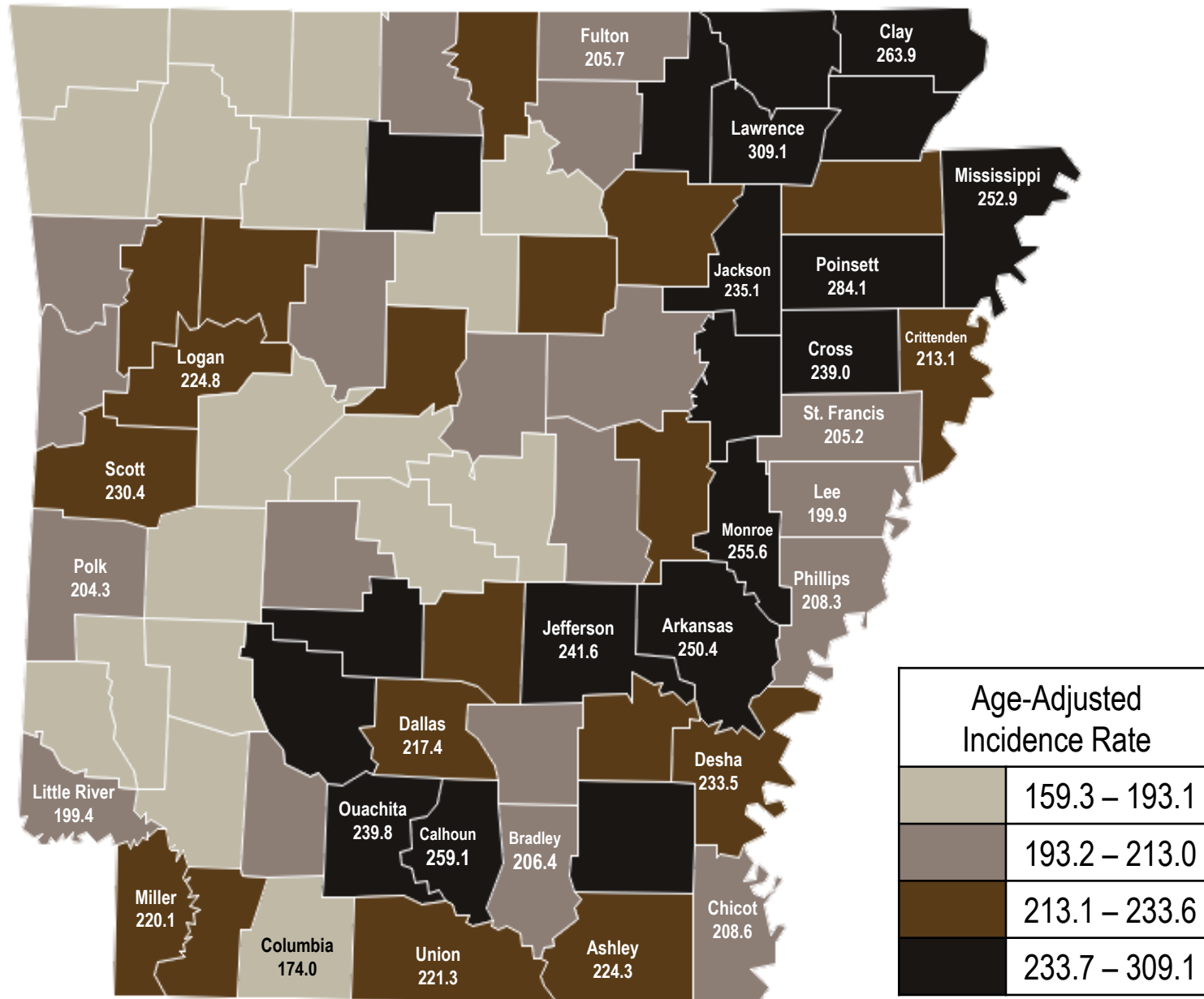
Age-Adjusted Incidence Rate	
	101.1 – 123.6
	123.7 – 132.4
	132.5 – 142.4
	142.5 – 168.0



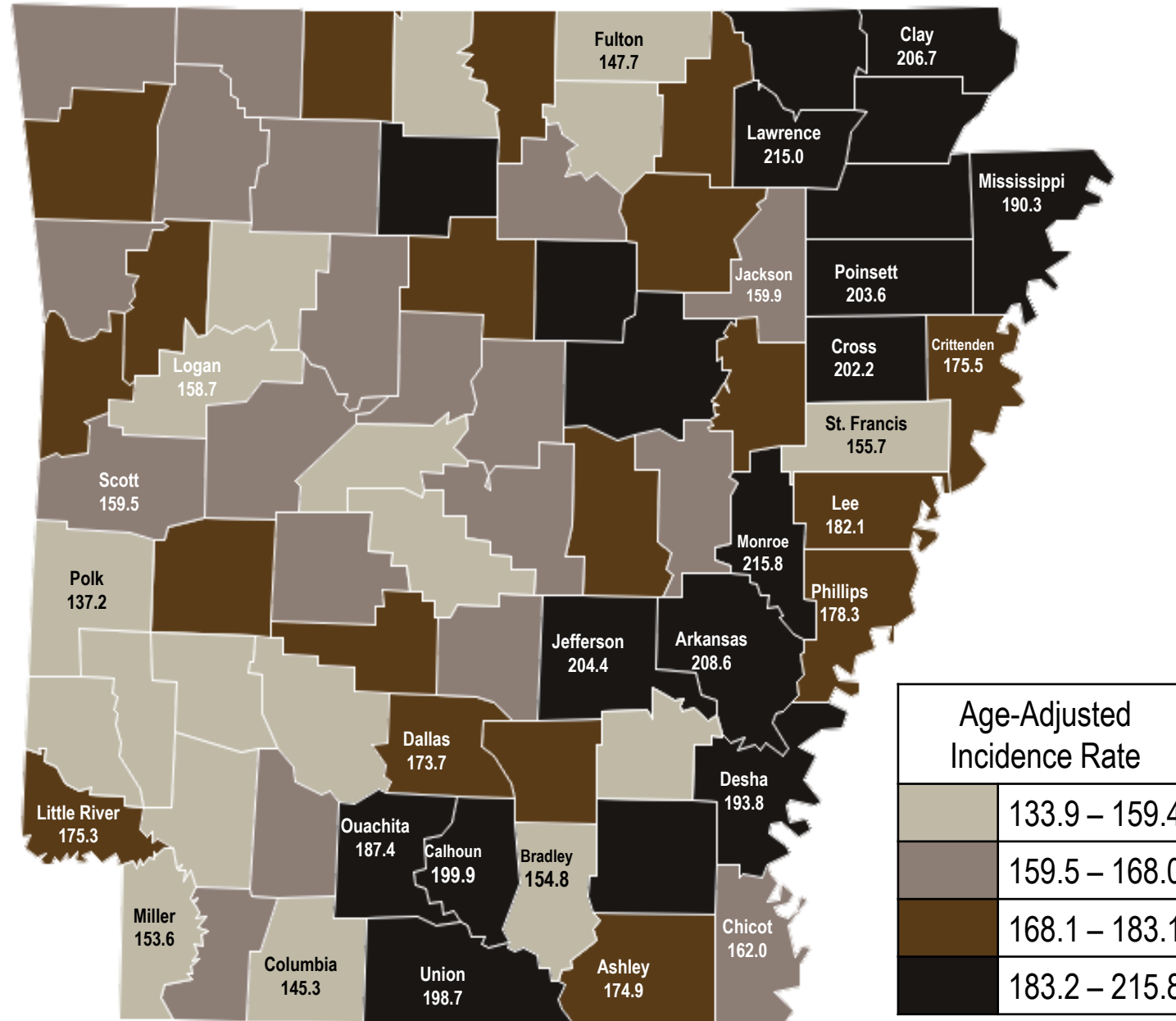
Map created by Daniela Ramirez Aguilar, MPH





Source: (2020 Arkansas Red Counties) Imported ACCR Dataset calculated by SEER*Stat software.

Age-Adjusted Incidence Rates of Tobacco Associated Cancers in Arkansas, 2016-2020



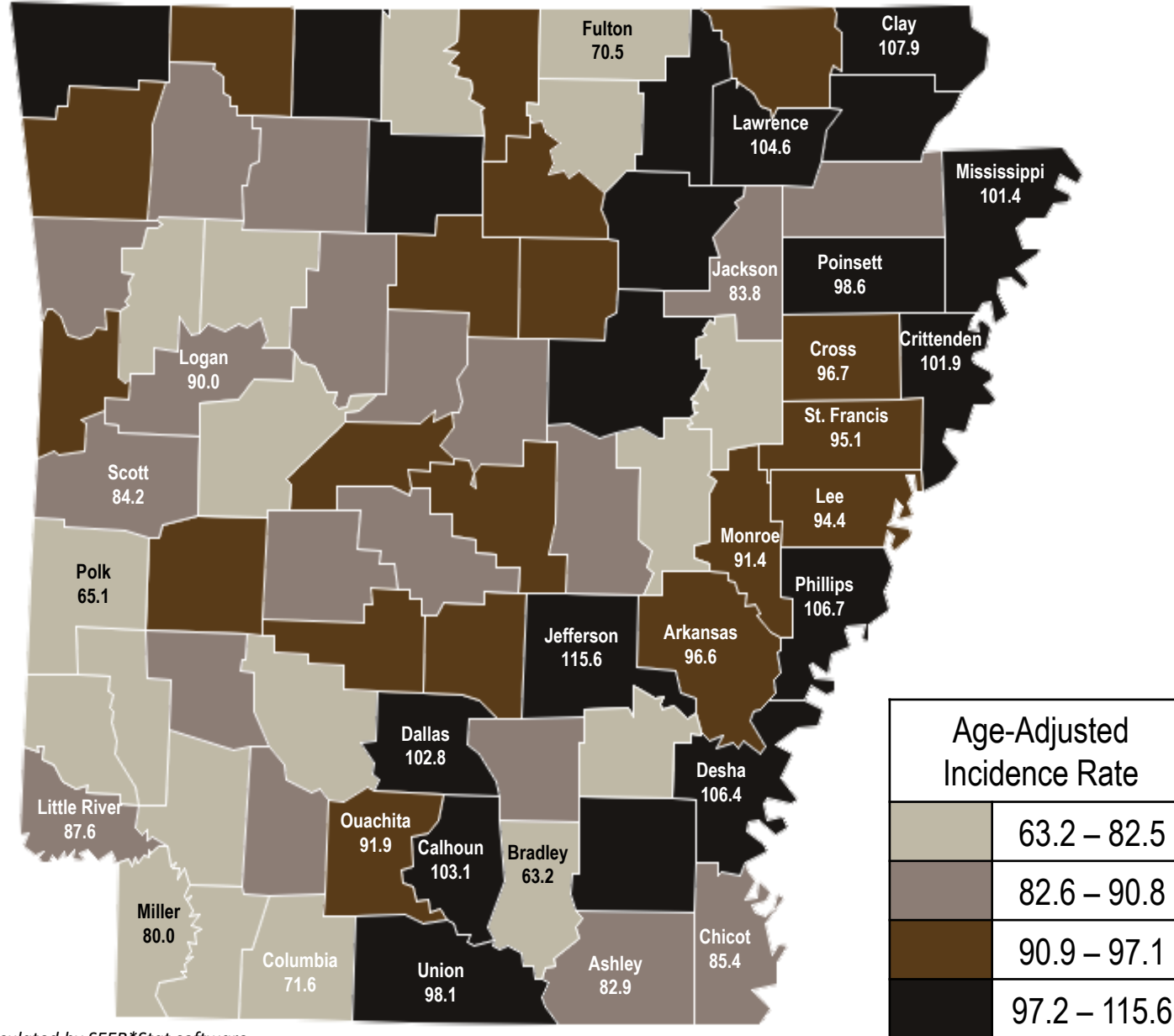
Age-Adjusted Incidence Rates of Obesity Associated Cancers in Arkansas, 2016-2020



Age-Adjusted Incidence Rate	
	133.9 – 159.4
	159.5 – 168.0
	168.1 – 183.1
	183.2 – 215.8



Age-Adjusted Incidence Rates of Physical Inactivity Associated Cancers in Arkansas, 2016-2020



Map created by Daniela Ramirez Aguilar, MPH

Source: (2020 Arkansas Red Counties) Imported ACCR Dataset calculated by SEER*Stat software.



~ The End ~

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