

# Cancers with Early Detection and Associated Risk Factors in Arkansas

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# Purpose



The purpose of this presentation is to provide descriptive statistics for incidence of cancers in Arkansas. Cancer data is presented for available patient demographics in Arkansas Central Cancer Registry's (ACCR) Database.

## Objectives:

- Compare Arkansas incidence rates for cancers with early detection test (lung & bronchus, breast, prostate, colorectal, and cervical cancer).
- Assess cancer screening prevalence in Arkansas using survey data (Behavioral Risk Factor Surveillance System or BRFSS).
- Examine groups in Arkansas with a high incidence rate to cancer-associated risk factors.

### DISCLAIMER:

*Arkansas Central Cancer Registry is supported by DP22-2202 Cooperative Agreement # 6 NU58DP007090-03-02 from the Centers for Disease Control and Prevention (CDC). Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the CDC. Additionally, the views expressed in this presentation are those of the presenter and not necessarily those of the Arkansas Department of Health.*

# What is added in this presentation?



- **Stage at Diagnosis** ([SEER Summary Definitions](#)):

Early Stage	Late Stage	Unstaged
Localized cancer is confined to the primary site.	<ul style="list-style-type: none"><li>➤ Regional cancer has spread directly beyond the primary site (regional extension) or to regional lymph nodes.</li><li>➤ Distant cancer has spread to other organs (distant extension) or remote lymph nodes.</li></ul>	Stage is unknown or unspecified.

- **Relative Cancer Survival** ([CDC USCS Definition and Calculation](#)):

- Measures the proportion of people with cancer who will be alive at a certain time after diagnosis, **given that they did not die from something other than their cancer** during that period of time.

- **More Arkansas groups:**

American Indians and Alaskan Natives (AI/AN)	Asians	Native Hawaiian and Pacific Islanders	Hispanics
0.6%	1.7%	0.5%	9.1%

(percent of population as of 2023)

# Which risk factors are cancer-associated and have readily available data?



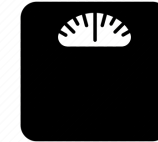
## Alcohol:

Modest increased risk of some cancers among those who have **no more than one drink per day and binge drinkers. Females who have 4 or more drinks, and Males who drink 5 or more drinks in one sitting.**



## Obesity (excess body weight):

Increased risk among those overweight, **obese, or severely obese.**



## Cancer-Associated Risk Factors

## Tobacco:

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.**



## Human papillomavirus (HPV):

Associated cancers are based on occurrence in parts of the body AND cancer cell type where HPV is found.



## Physical Inactivity:

Did not participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise in the past month.



# A few points to keep in mind before we dive in...



- **First and second years of the COVID-19 pandemic:**

- 2020: COVID-19 pandemic contributed to the decline in new cancer cases for many sites.
- 2021: Numbers of new cases diagnosed are still a little lower than expected for some cancer types but have returned to pre-pandemic counts for other cancer types.

- **Small number of cases/sample – wide confidence intervals**

- The fewer data points you have, the less information you have about the population, leading to a wider confidence interval.
- Implications for descriptive statistics: A wider interval means greater degree of uncertainty on the value.

- **Descriptive statistics**

- Serves to describe the burden of cancer by demographics/groups
- No conclusions or causative explanations are being offered
- To prompt for more questions and research

- **Cancer development**

- Most cancers can develop from a complex mix of many risk factors and can take different roles in cancer development and growth. Sometimes it can also develop in individuals without any risk factors.
- Nevertheless, risk factors identified in cancer research can help the patient and clinician become aware of their own risk by cancer type and which screening tests to consider, if available.



# WARNING:



May experience data fatigue

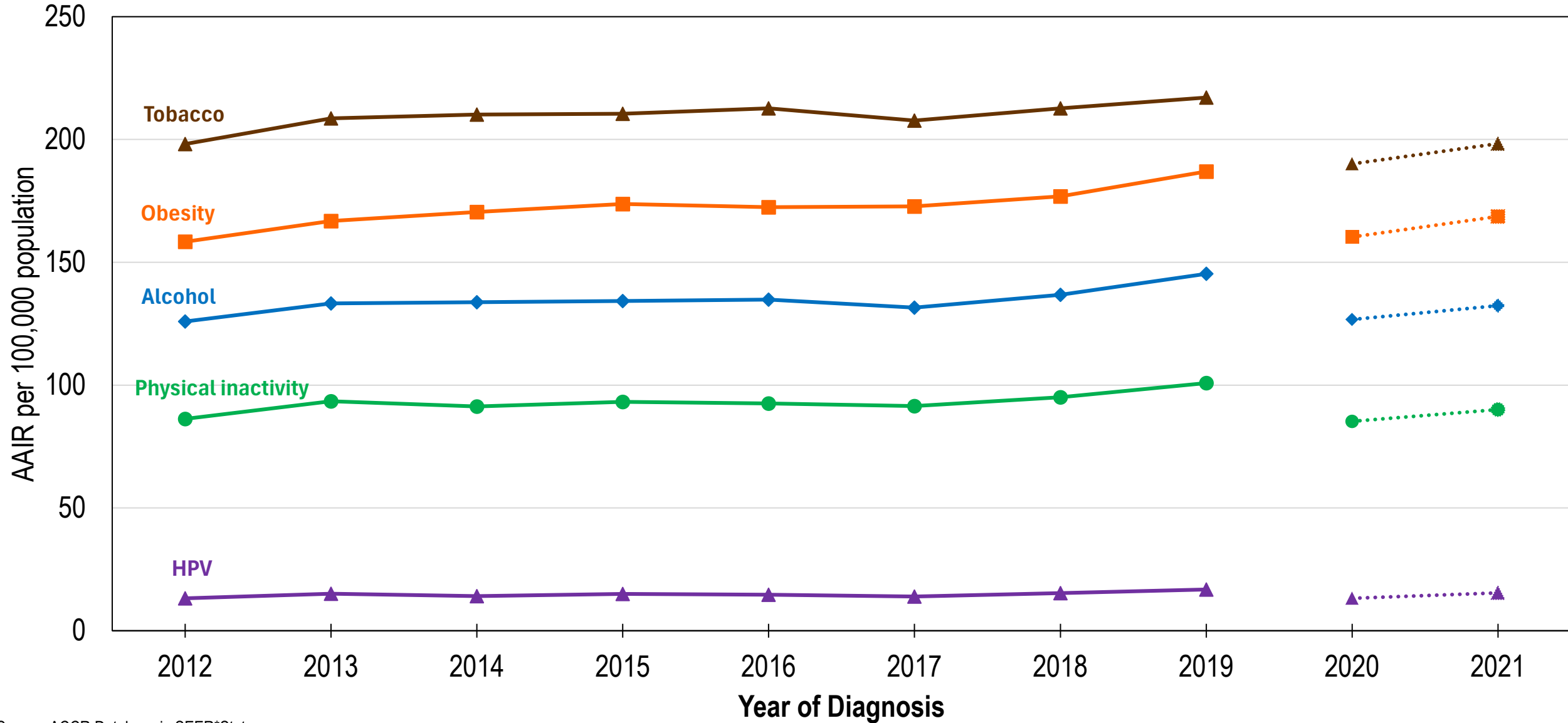
awake but at what cost



# Cancer-Associated Risk Factors Data

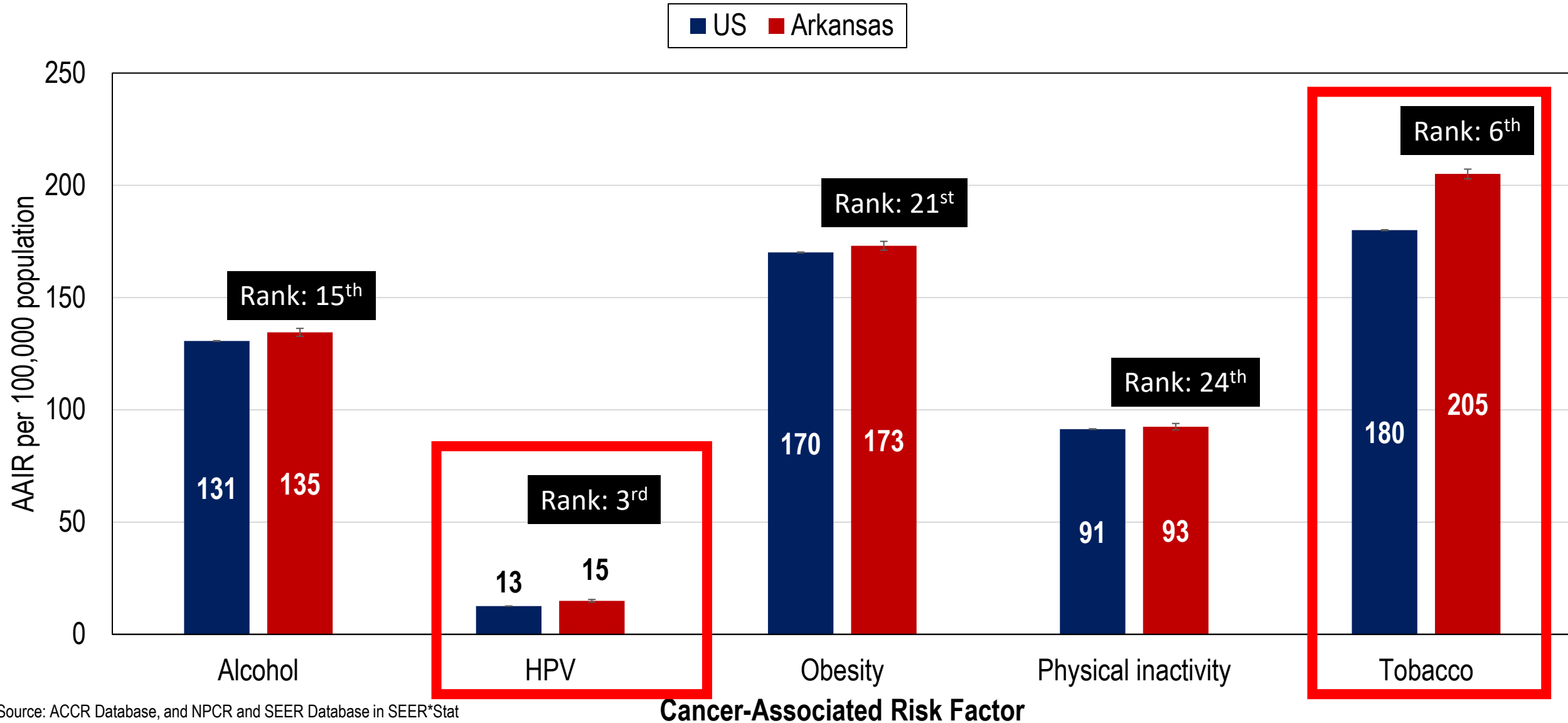


# Age-Adjusted Incidence Rate (AAIR) Trend of Cancer-Associated Risk Factors, Arkansas, 2012-2021



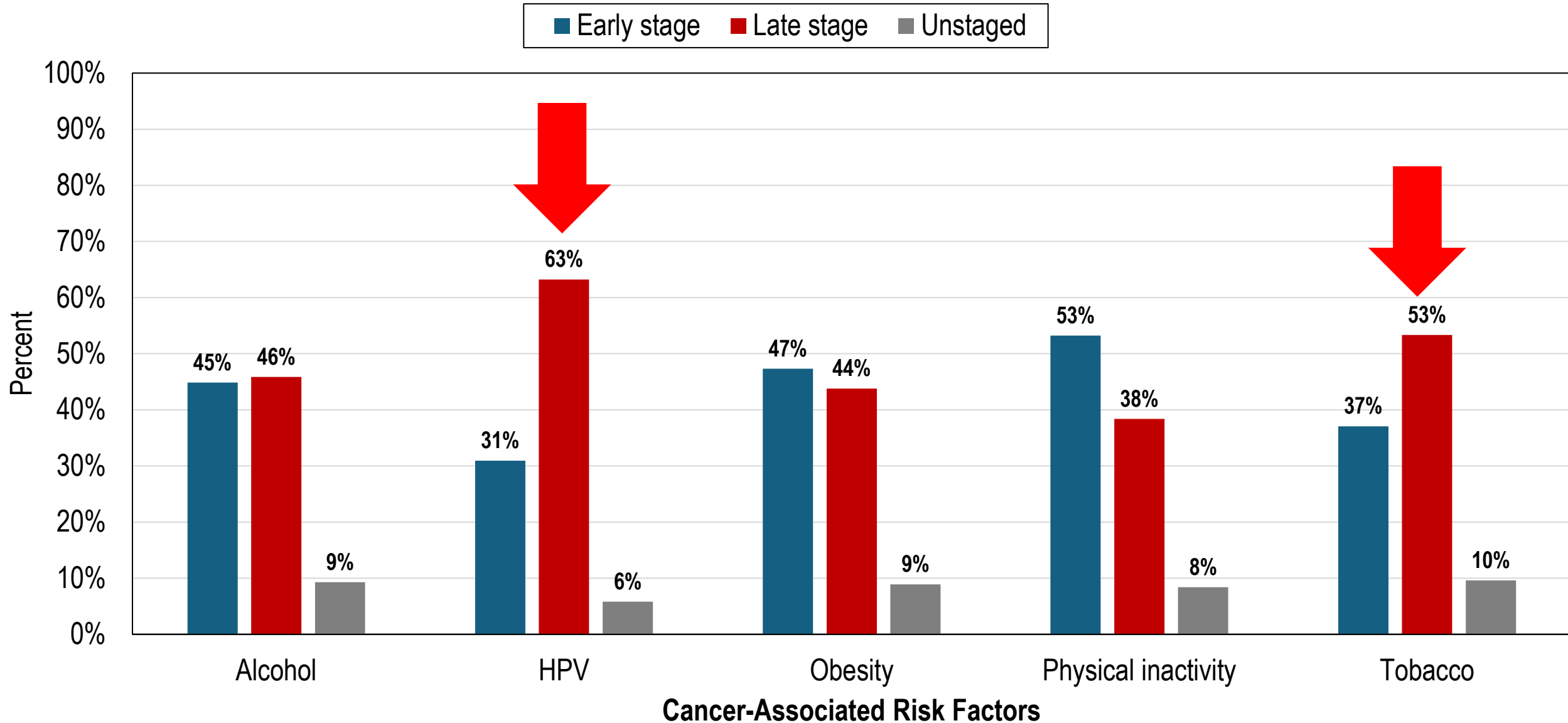


# Age-Adjusted Incidence Rate (AAIR) of Cancer-Associated Risk Factors, US and Arkansas, 2017-2021

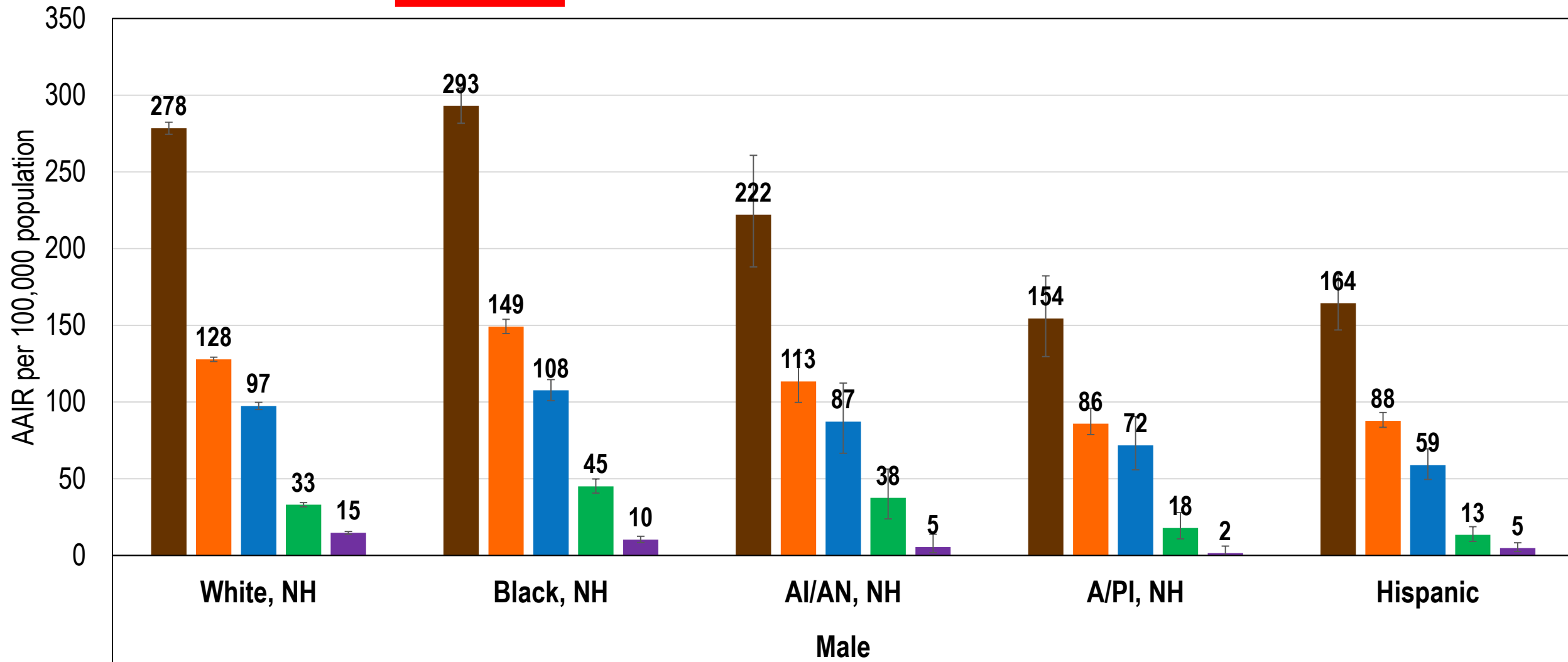


Source: ACCR Database, and NPCR and SEER Database in SEER\*Stat  
Note: Ranks are reflected as highest rank compared to other US states

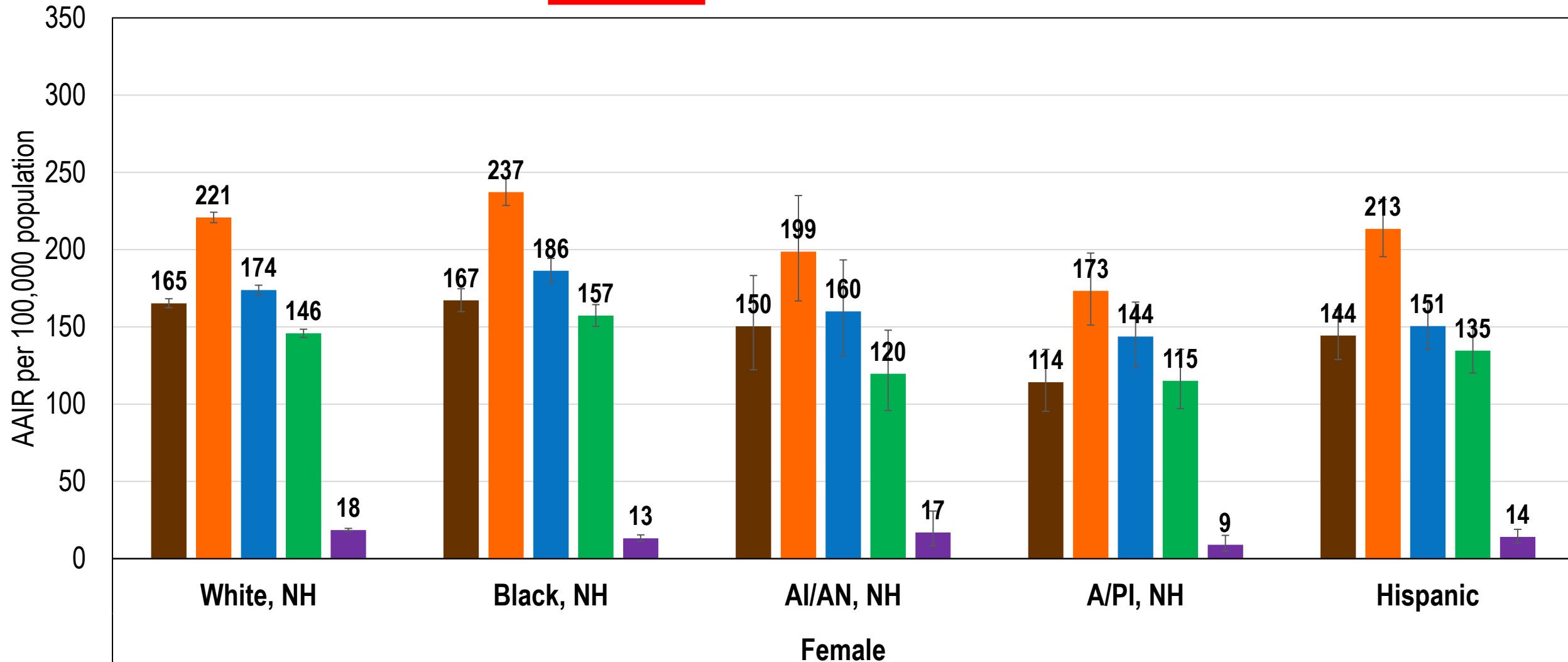
# Percent of Cancer-Associated Risk Factors by Stage at Diagnosis, Arkansas, 2017-2021



# Age-Adjusted Incidence Rate (AAIR) of Associated Cancer Risk Factors Among Males by Race and Ethnicity, Arkansas, 2017-2021



# Age-Adjusted Incidence Rate (AAIR) of Cancer-Associated Risk Factors Among Females by Race and Ethnicity, Arkansas, 2012-2021

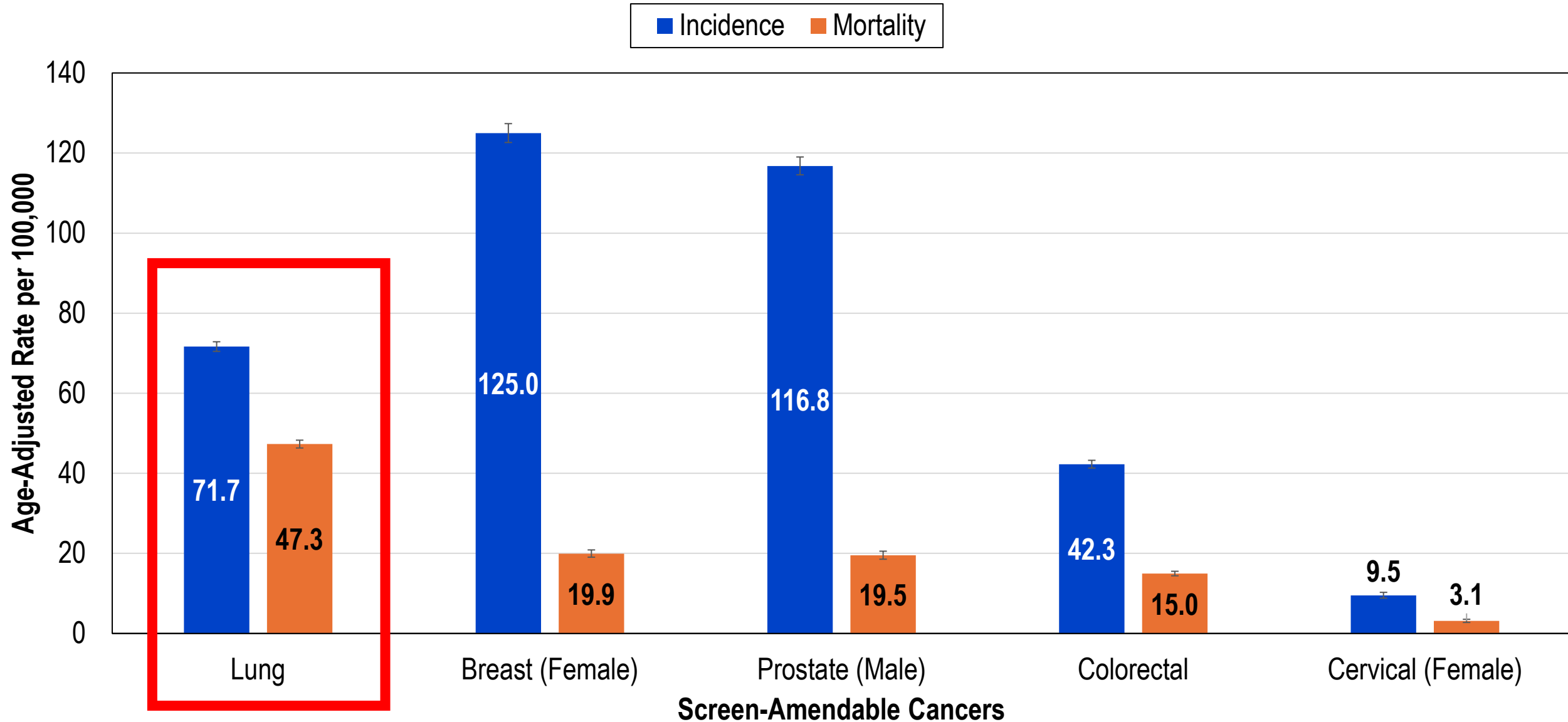


Source: ACCR Database in SEER\*Stat

# Cancers with Early Detection Tests

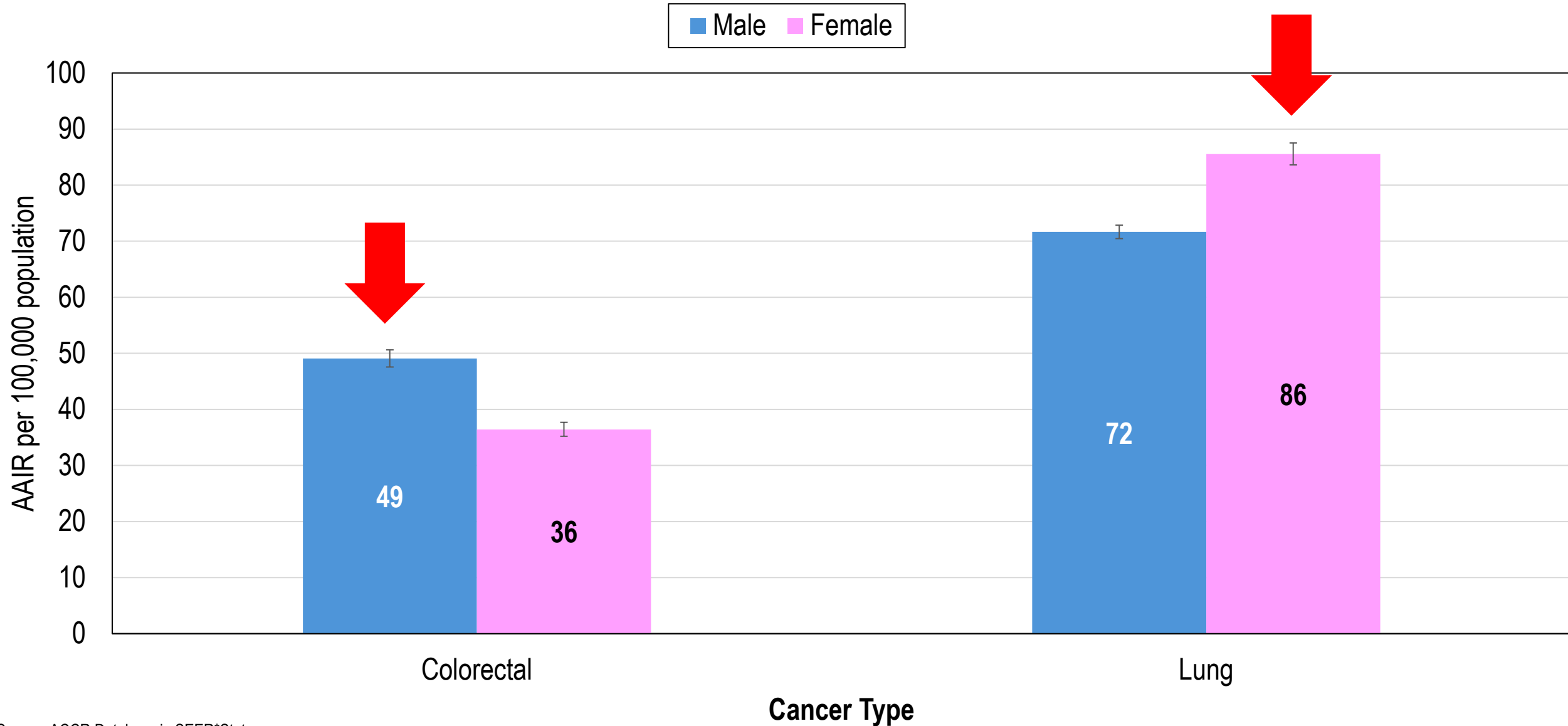


# Overall Age-Adjusted Incidence and Mortality Rates of Cancers with Early Detection Tests, Arkansas, 2017-2021

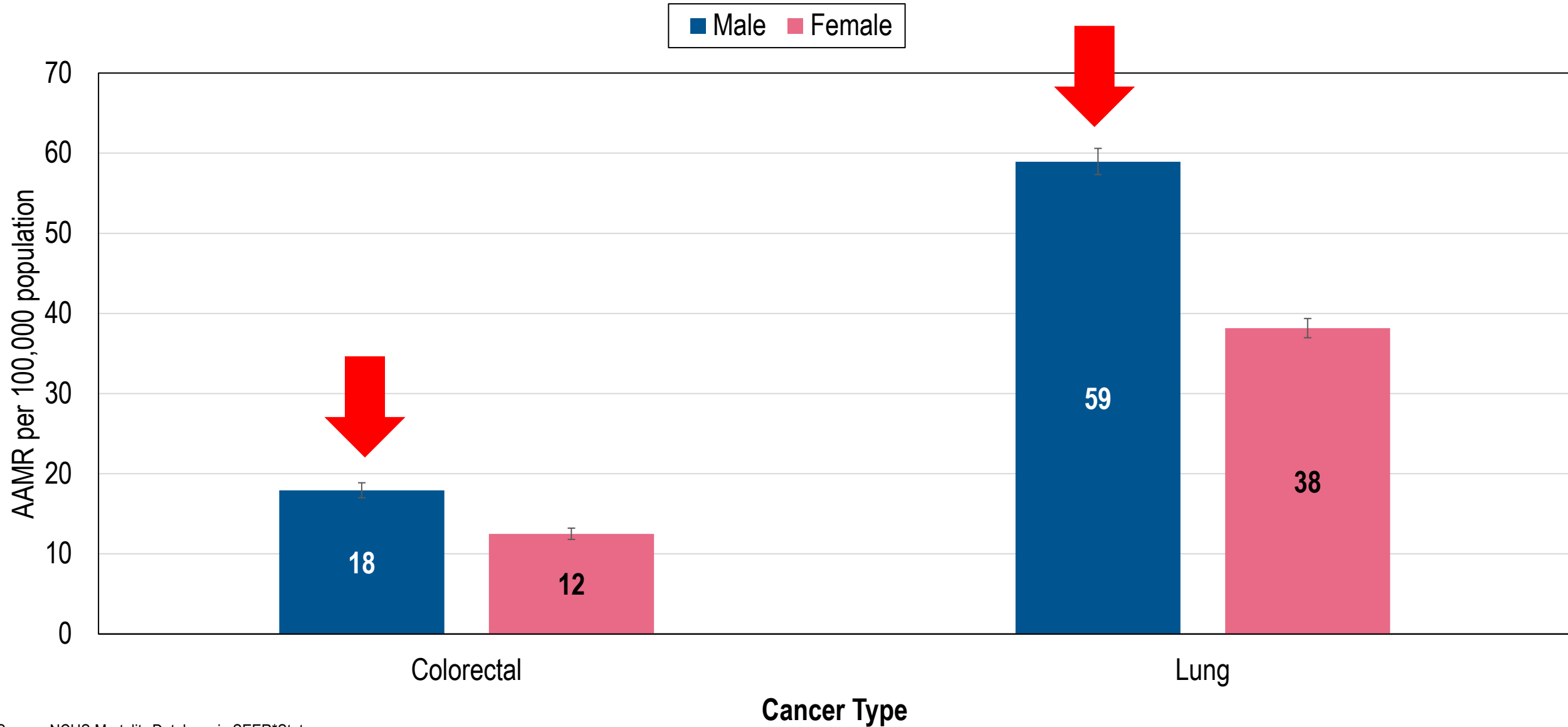


Source: Arkansas Database, and NCHS Mortality Database in SEER\*Stat

# Age-Adjusted Incidence Rate of Colorectal and Lung Cancer by Sex, Arkansas, 2017-2021



# Age-Adjusted Mortality Rate of Colorectal and Lung Cancer by Sex, Arkansas, 2017-2021

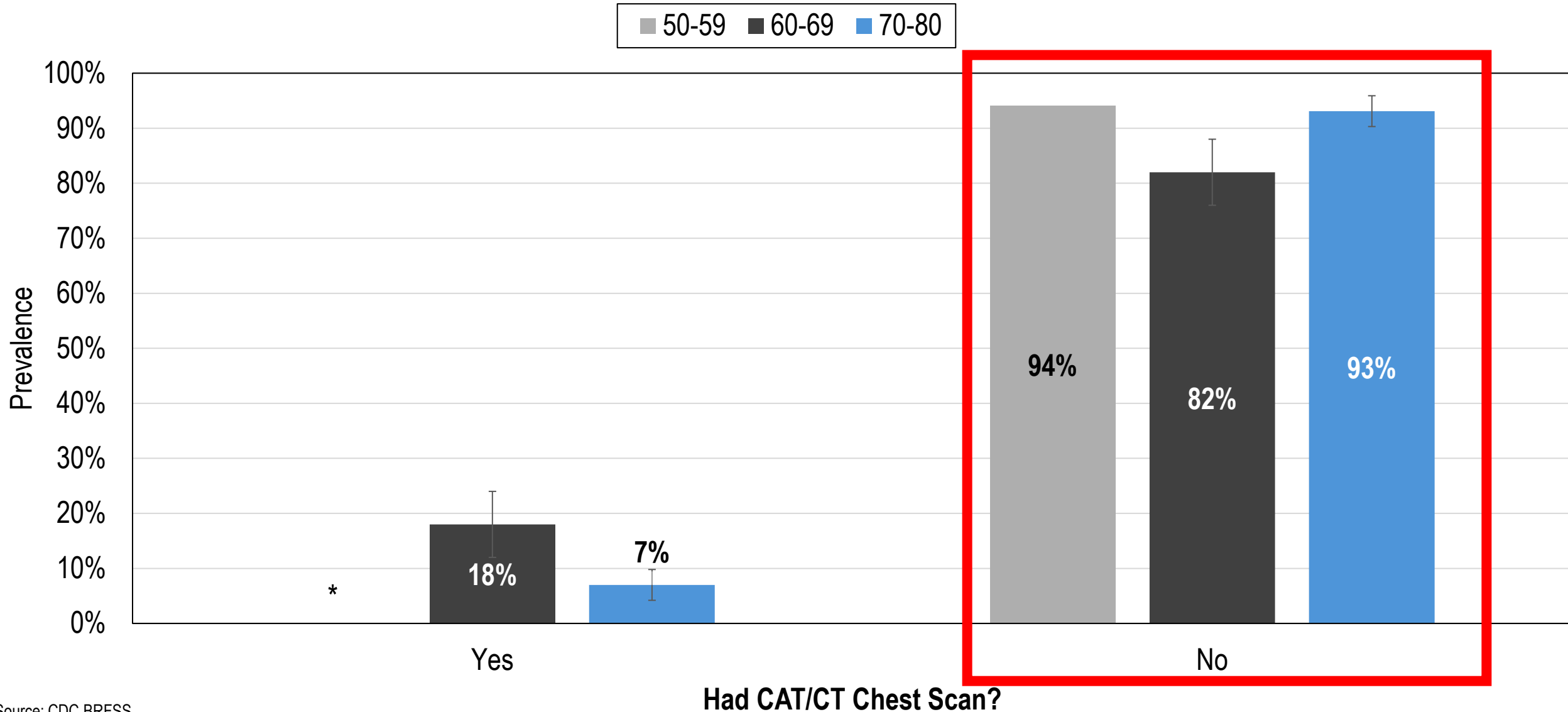




# Lung (& Bronchus) Cancer



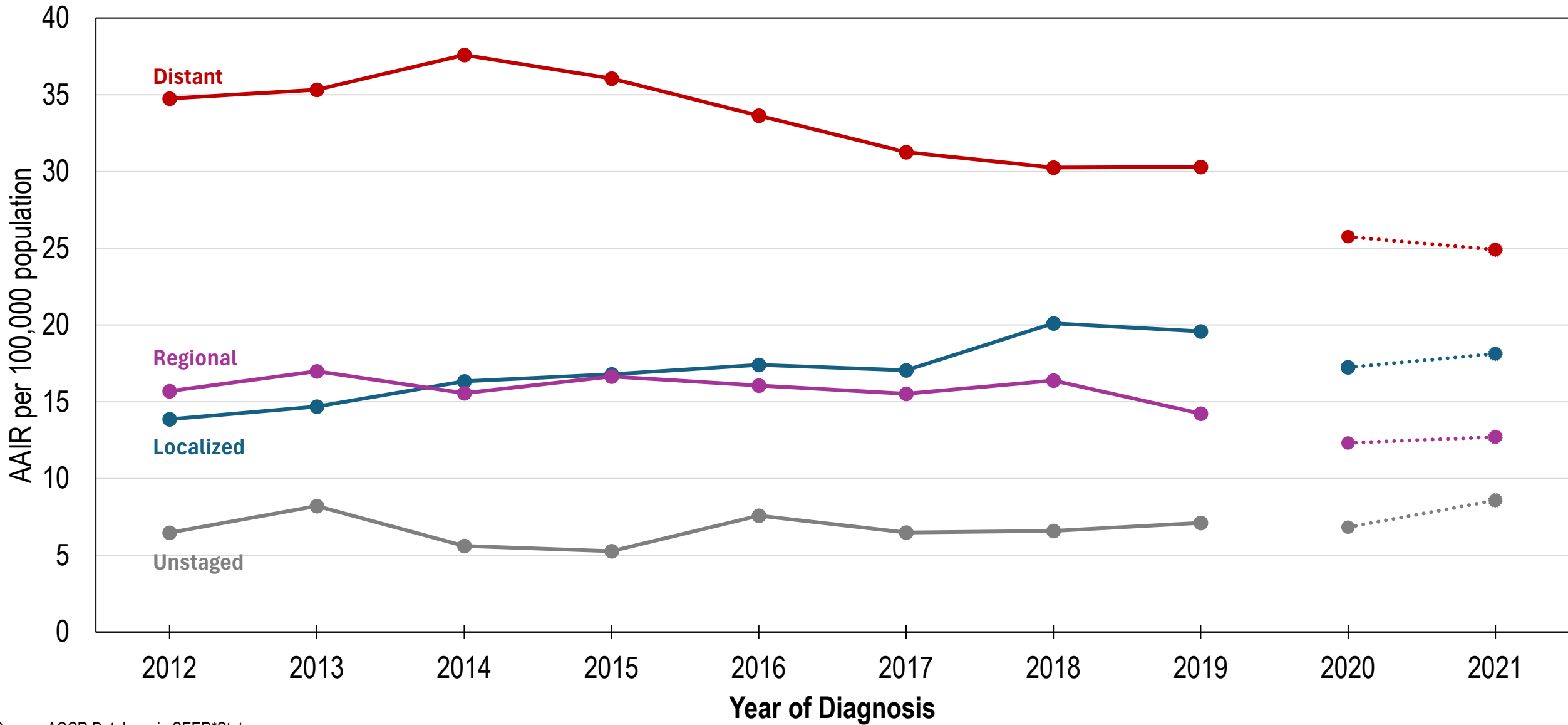
# Prevalence (%) of Adults who had a CAT/CT Chest Scan in the Last Year by Age Group, Arkansas, 2022



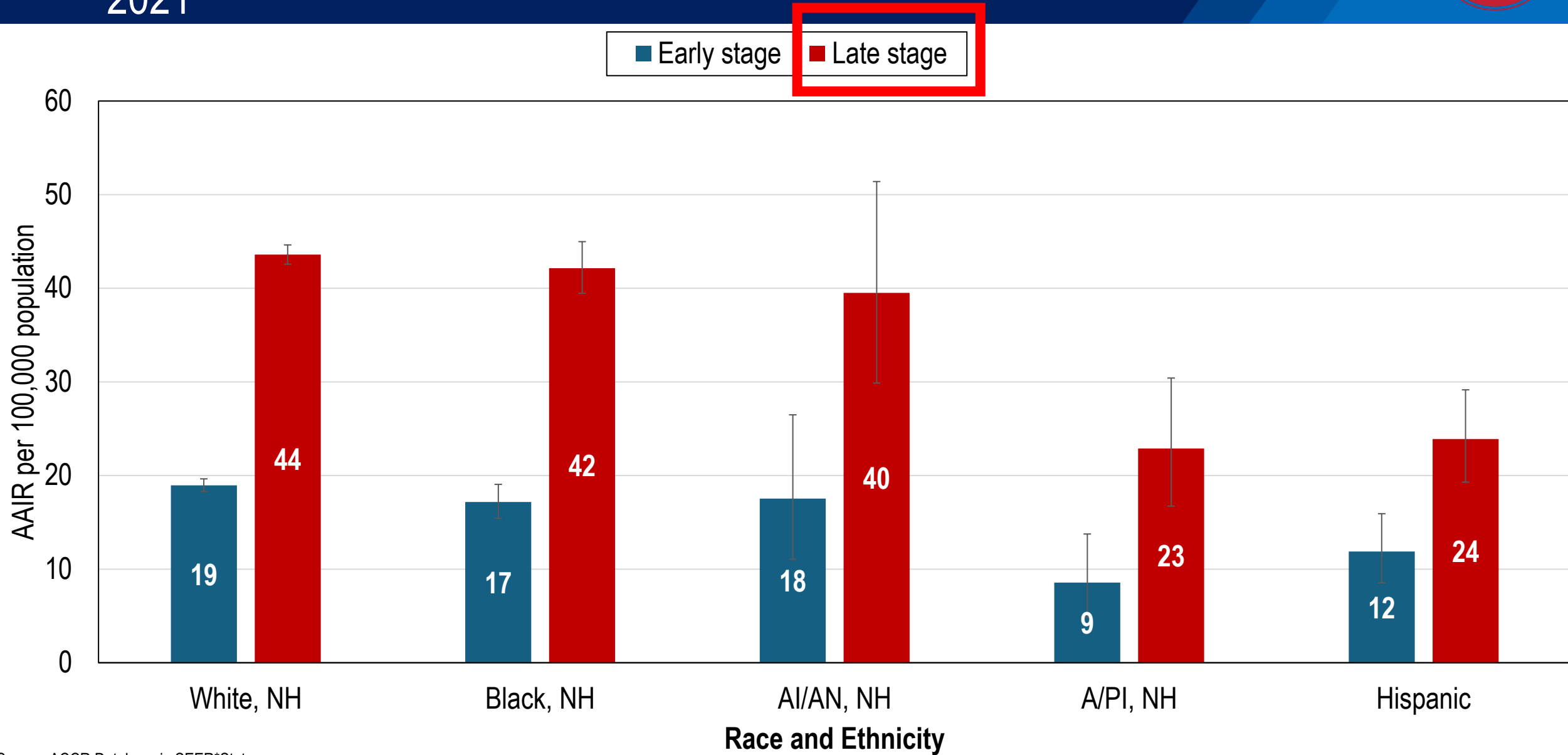
Source: CDC BRFSS

\*Age group '50-59' was removed due to Prevalence estimate not available if the unweighted sample size for the denominator was < 50 or the Relative Standard Error (RSE) is > 0.3

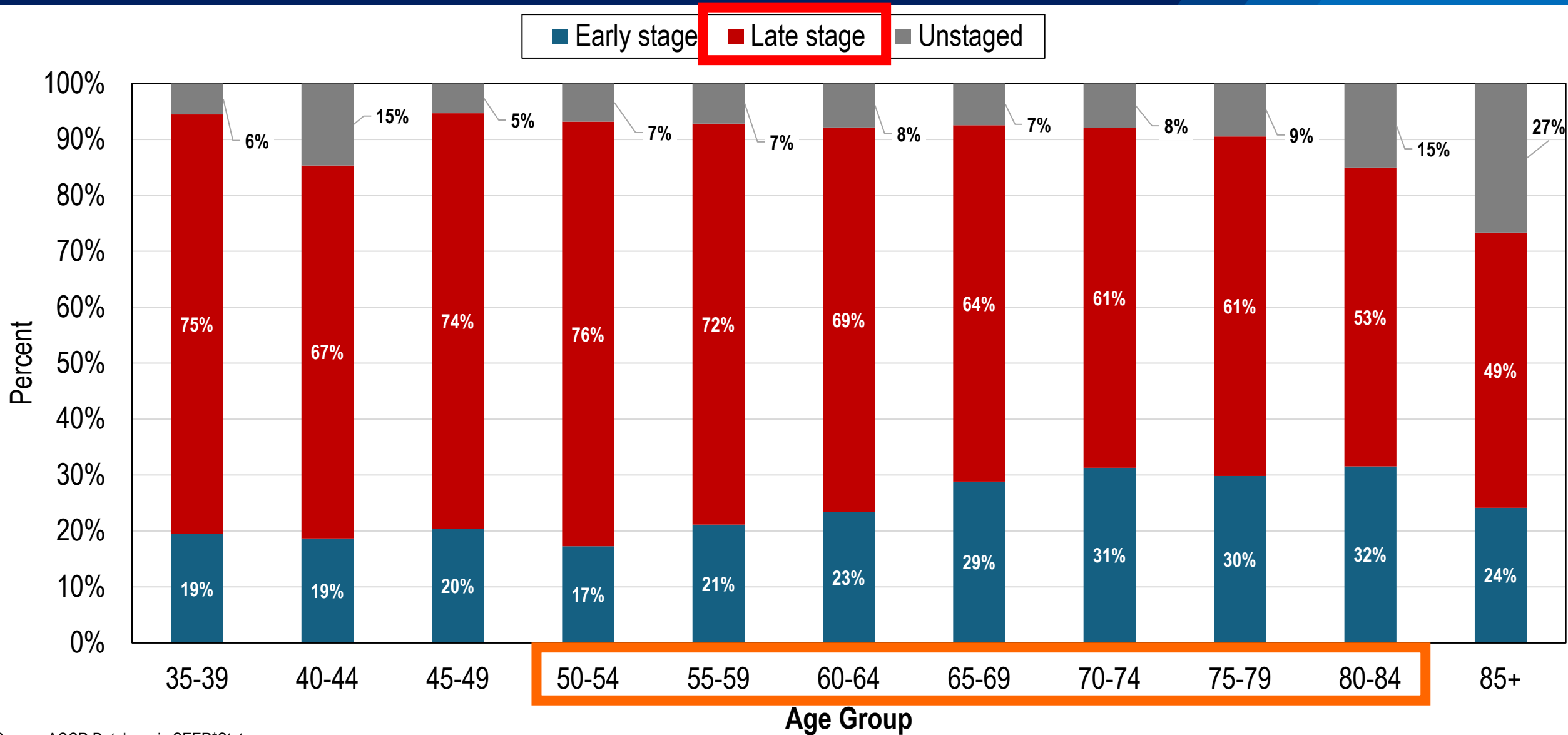
# Age-Adjusted Incidence Rate (AAIR) Trend of Lung Cancer by SEER Summary Stage, Arkansas, 2012-2021



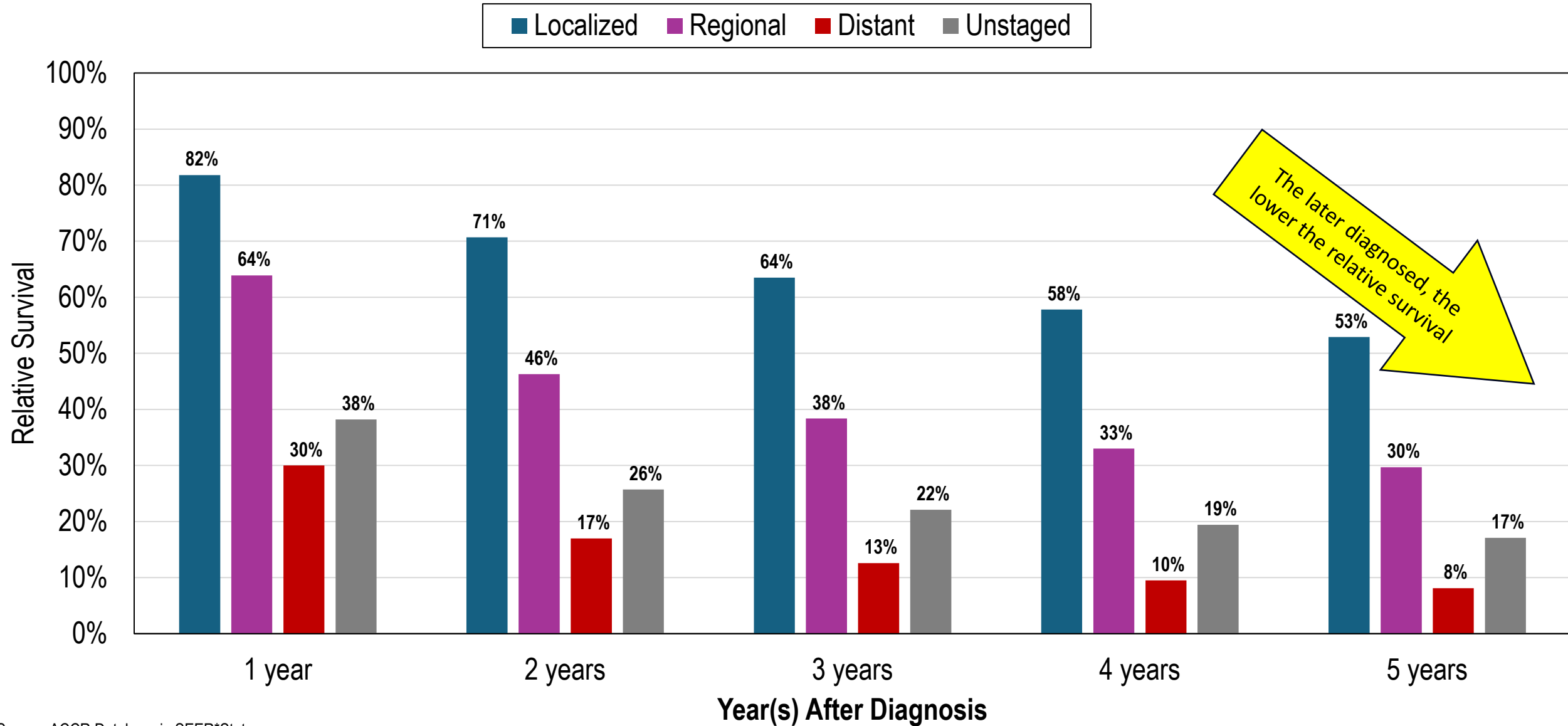
# Age-Adjusted Incidence Rate (AAIR) of Lung Cancer by Race, Ethnicity, and Stage at Diagnosis, Arkansas, 2017-2021



# Percentage of Lung Cancer by Age Group and Stage at Diagnosis, Arkansas, 2017-2021



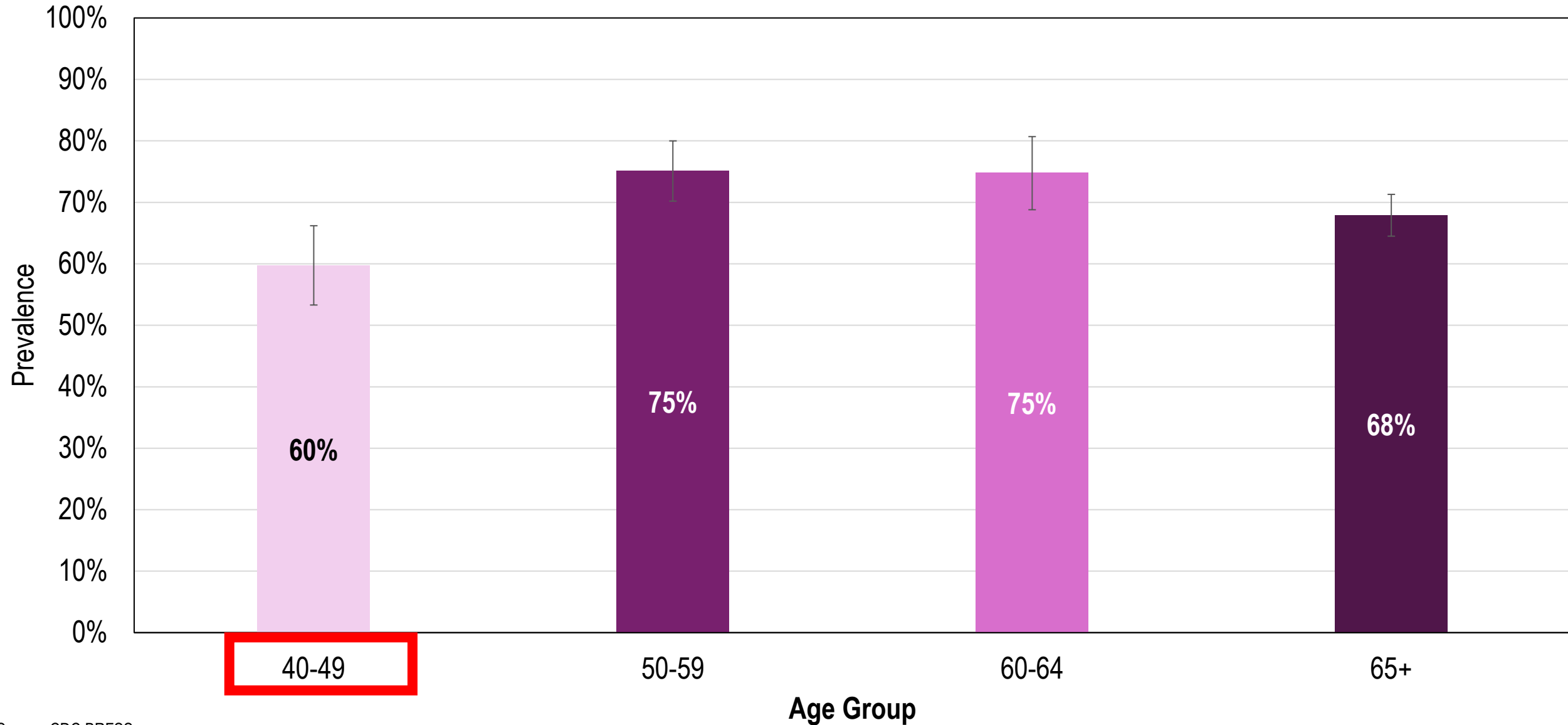
# Estimated 5-Year Relative Survival (%) of Lung Cancer By Stage at Diagnosis and Years After Diagnosis, Based on 2015-2021 ACCR Data



# Breast Cancer

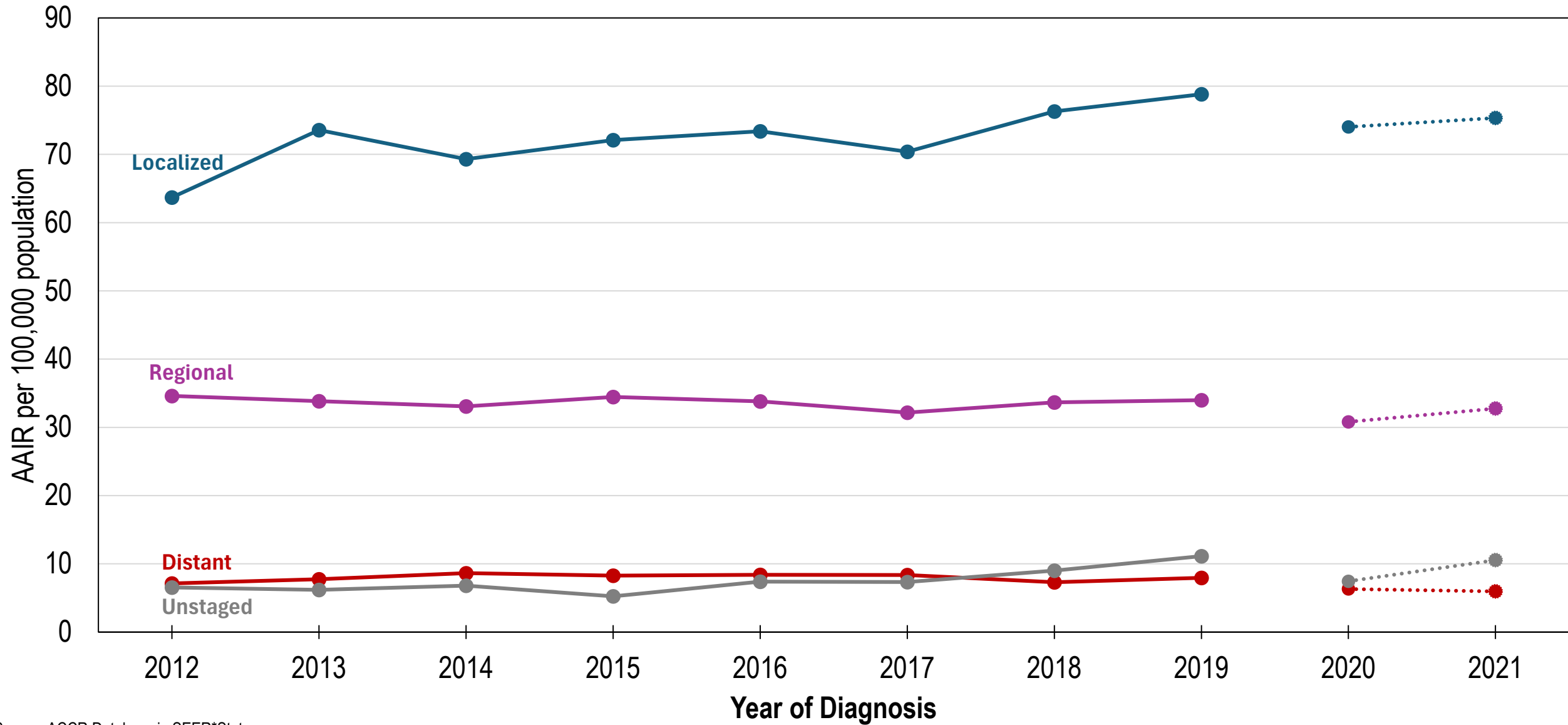


# Prevalence (%) of Females Aged 40+ who have had a Mammogram Within the Past 2 Years by Age Group, Arkansas, 2022

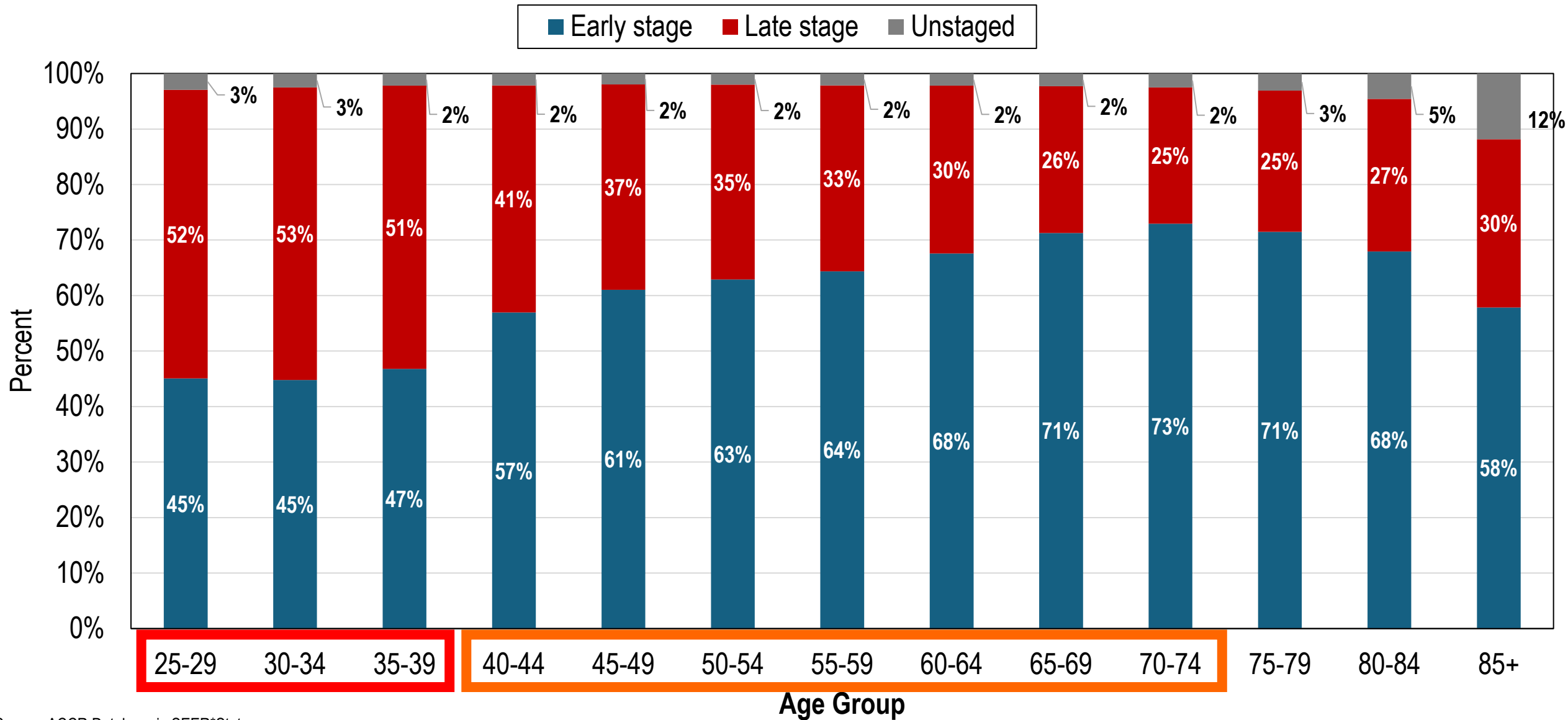




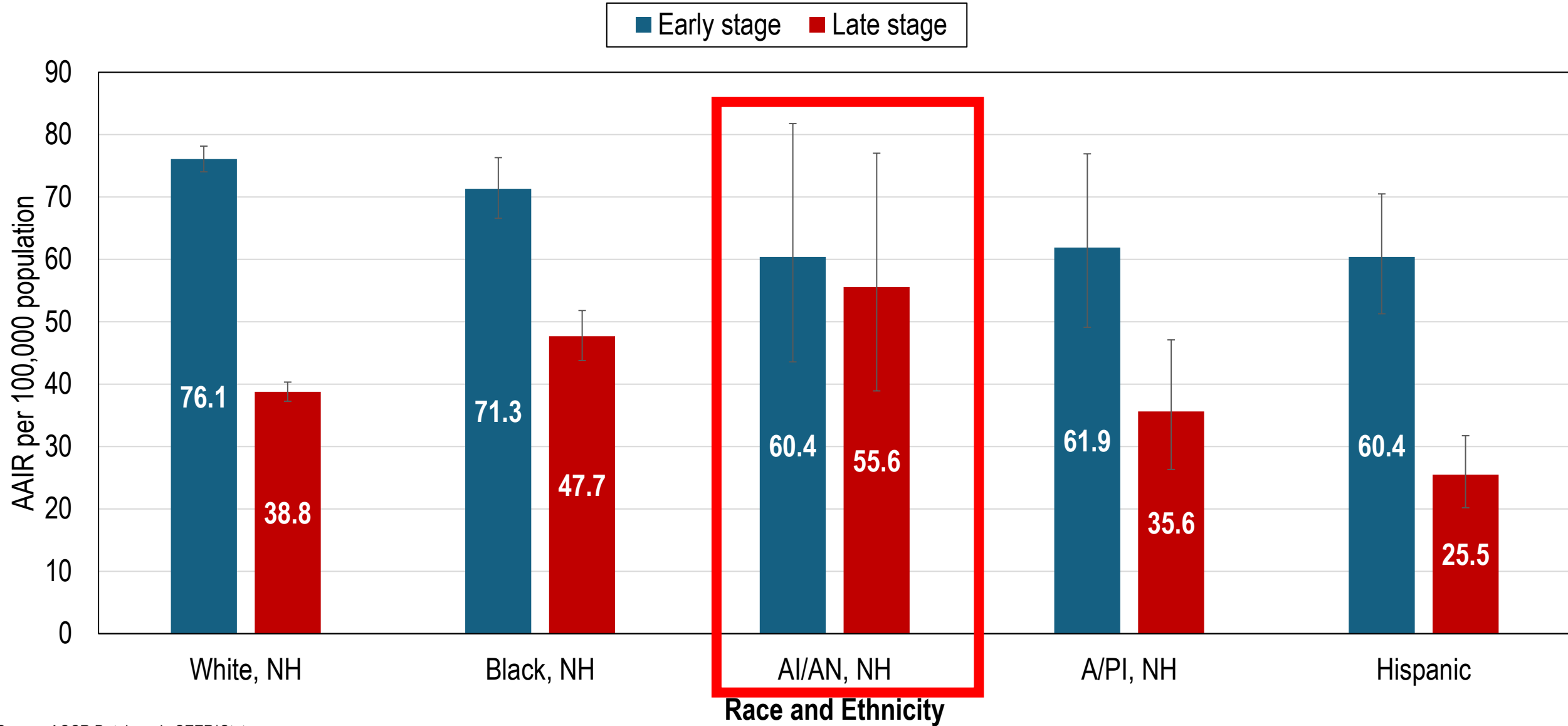
# Age-Adjusted Incidence Rate (AAIR) Trend of Breast Cancer among Females by Stage at Diagnosis, Arkansas, 2012-2021



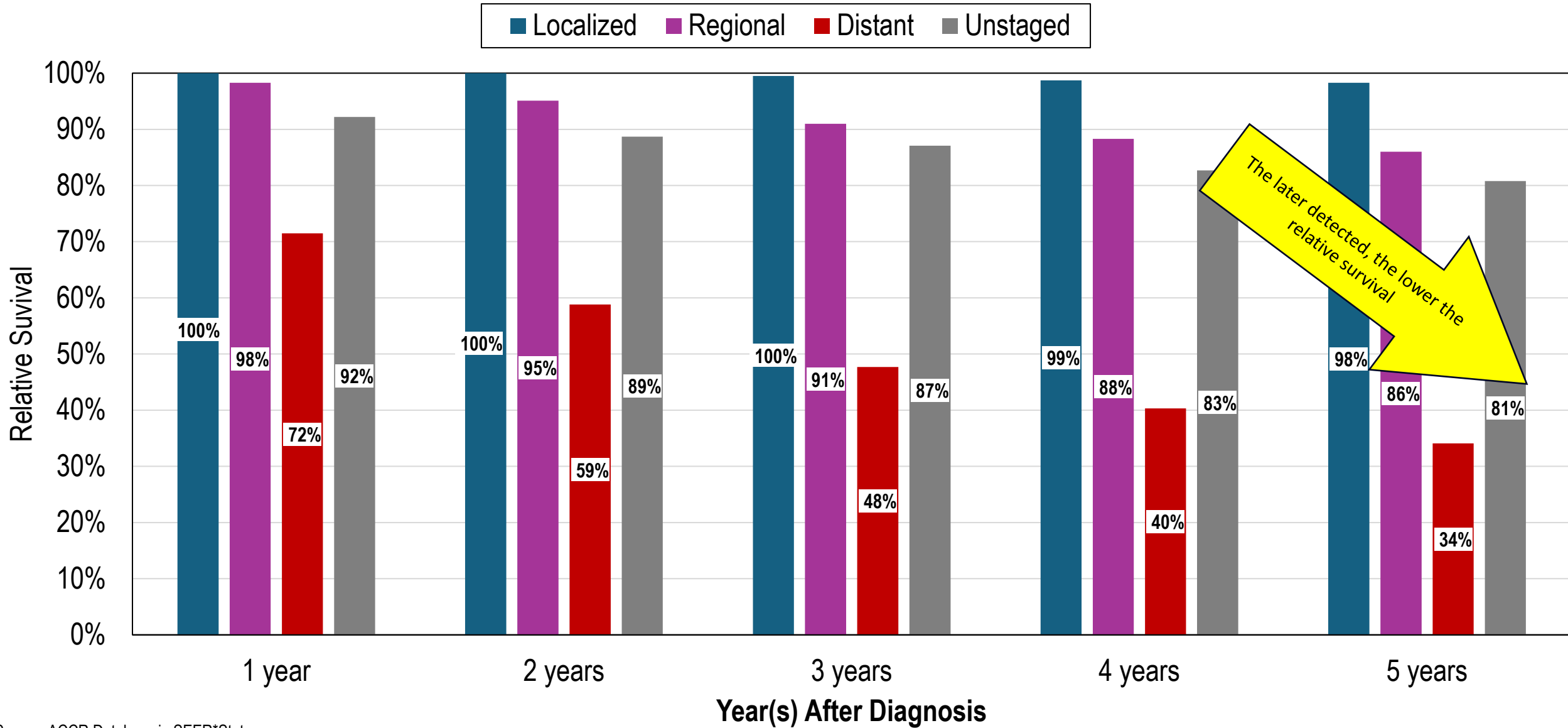
# Percent of Breast Cancer among Females by Age Group and Stage at Diagnosis, Arkansas, 2017-2021



# Age-Adjusted Incidence Rate (AAIR) of Breast Cancer among Females by Race, Ethnicity, and Stage at Diagnosis, Arkansas, 2017-2021



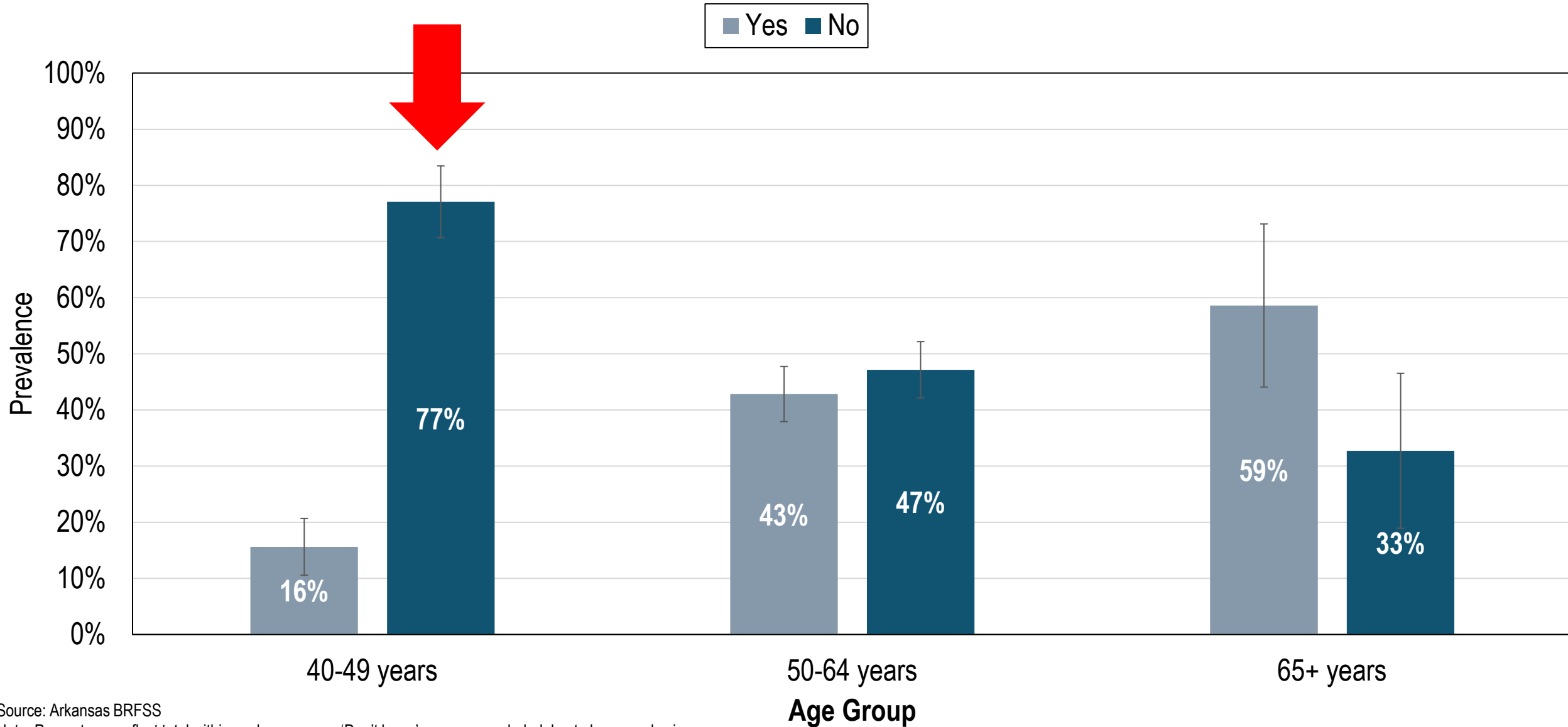
# Estimated 5-Year Relative Survival (%) of Breast Cancer among Females By Stage at Diagnosis and Years After Diagnosis, Based on 2015-2021 ACCR Data



# Prostate Cancer



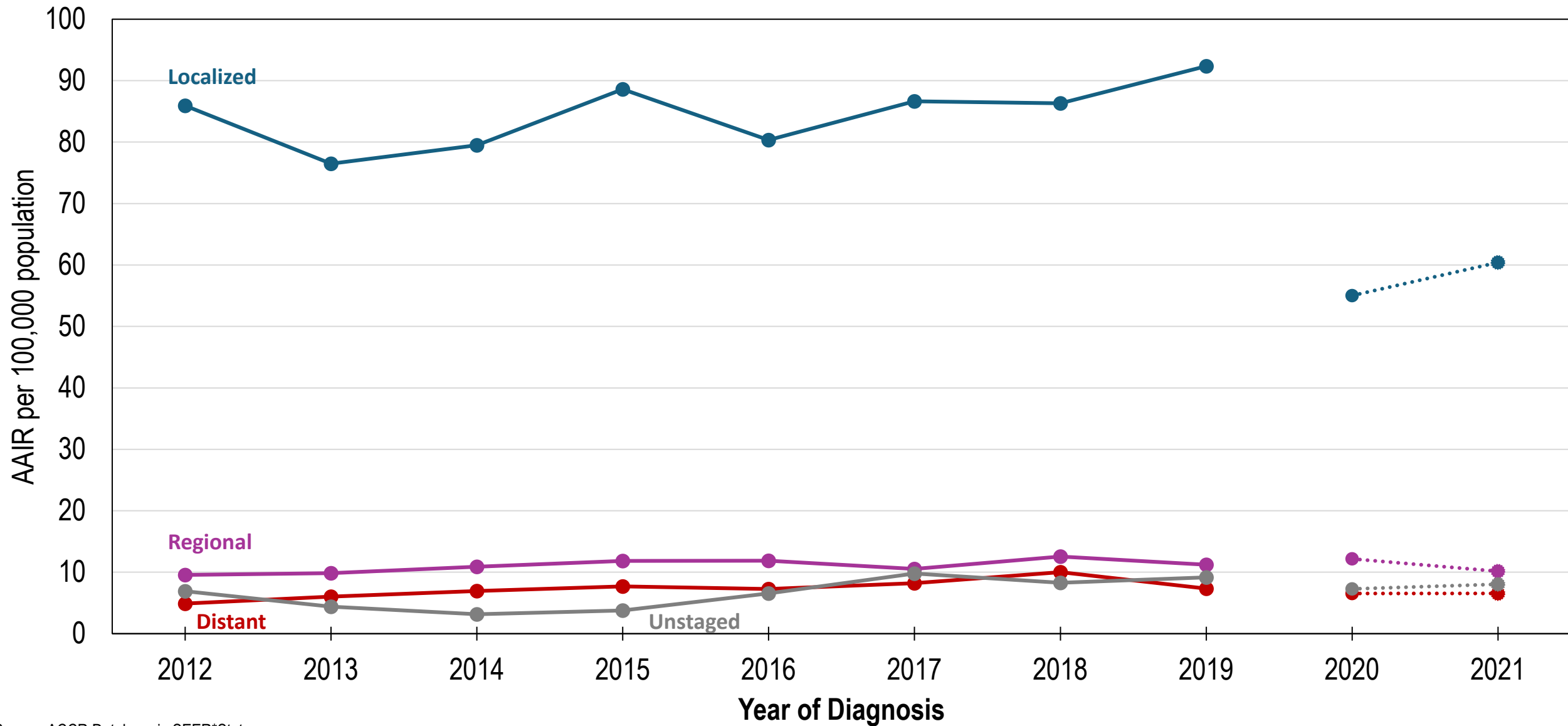
# Prevalence (%) of Males by Response to Have Ever had a PSA test by Age Group, Arkansas, 2022



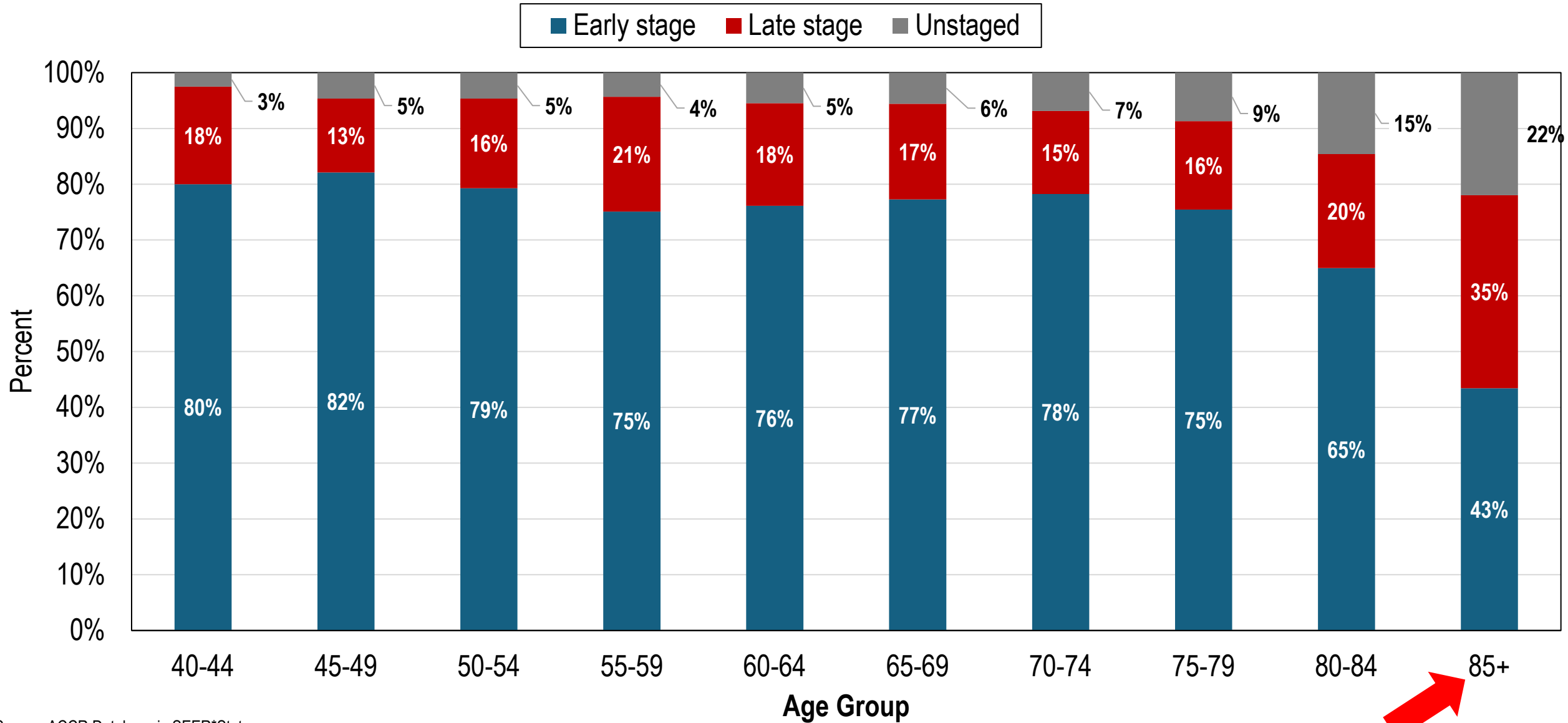
Source: Arkansas BRFSS

Note: Percentages reflect total within each age group. 'Don't know' response excluded due to low sample size.

# Age-Adjusted Incidence Rate (AAIR) Trend of Prostate Cancer among Males by SEER Summary Stage, Arkansas, 2012-2021

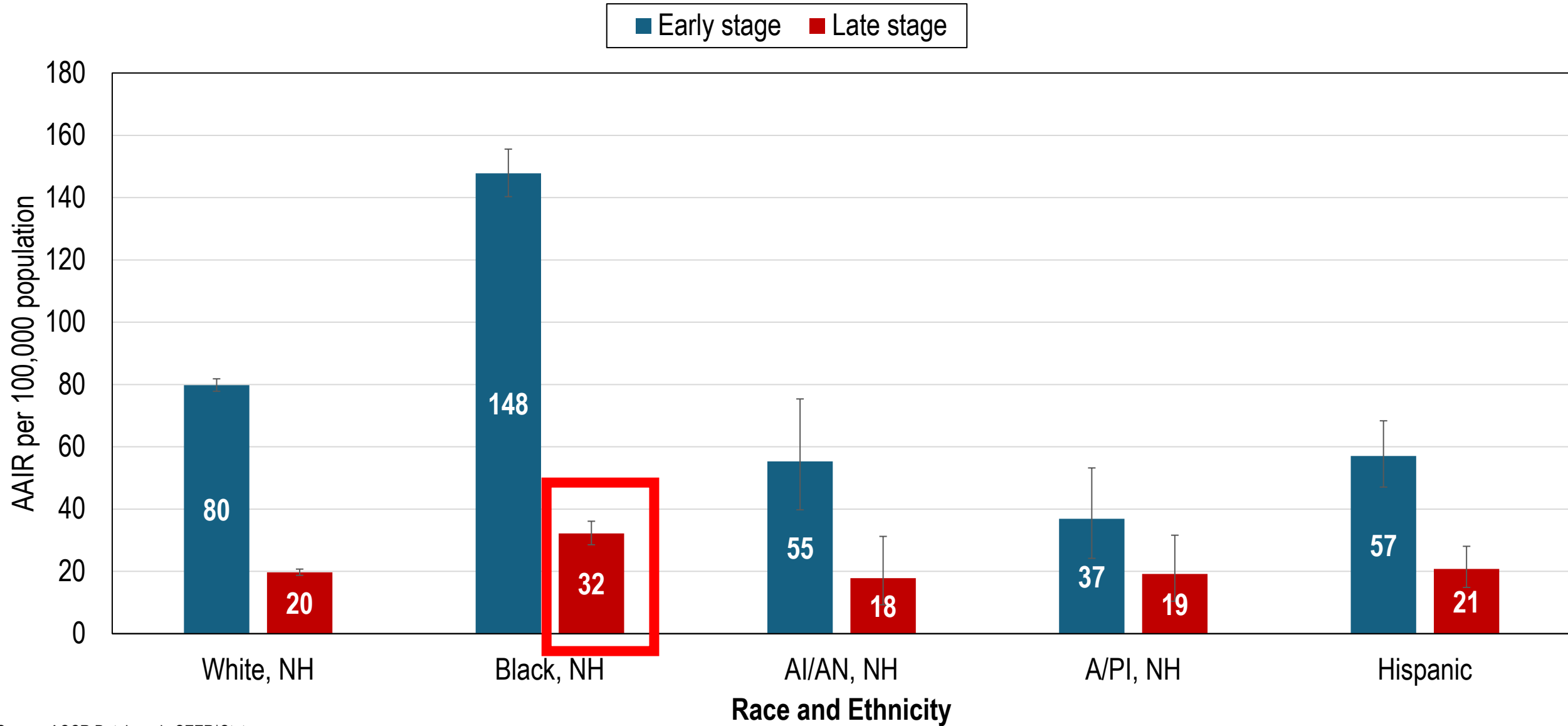


# Percent of Prostate Cancer among Males by Age Group and Stage at Diagnosis, Arkansas, 2017-2021

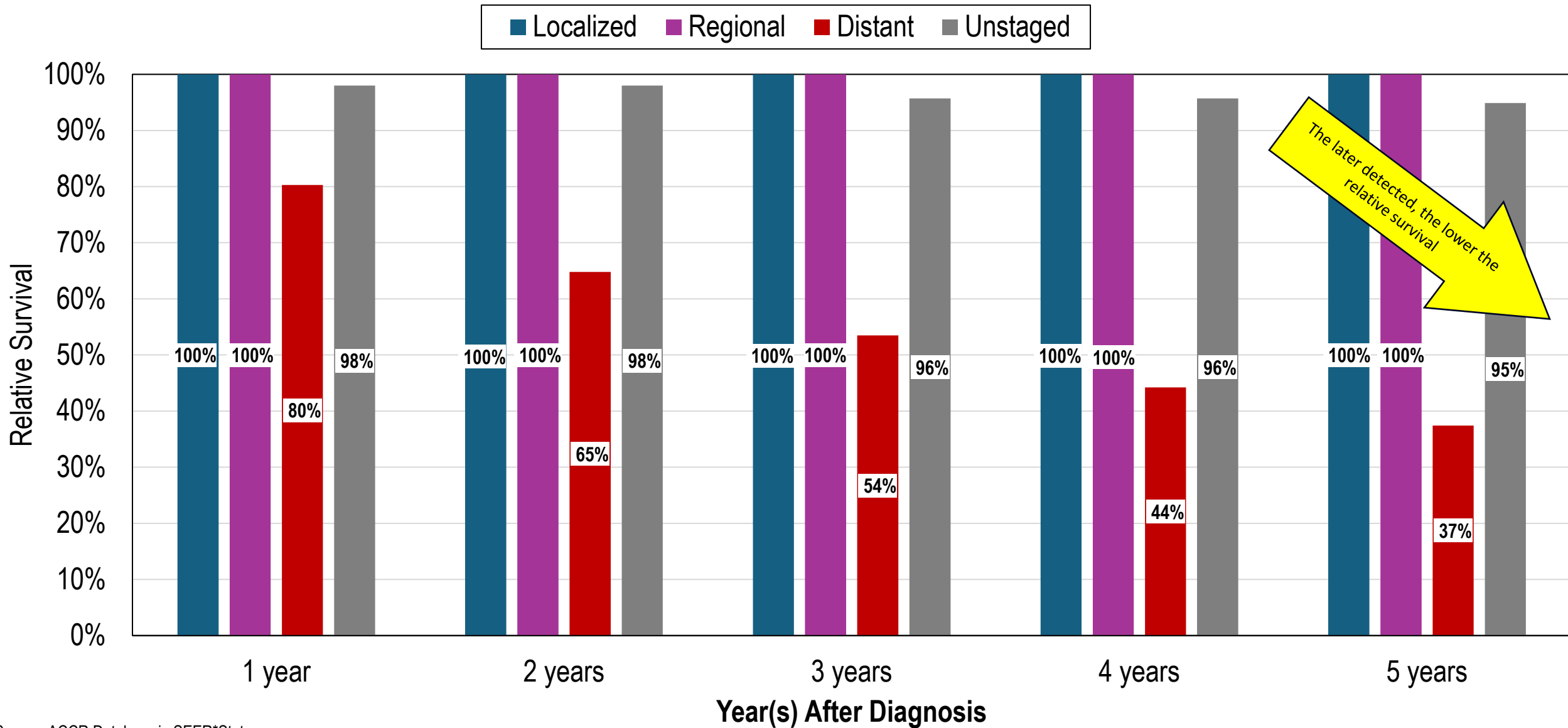




# Age-Adjusted Incidence Rate (AAIR) of Prostate Cancer among Males by Race, Ethnicity, and Stage at Diagnosis, Arkansas, 2017-2021

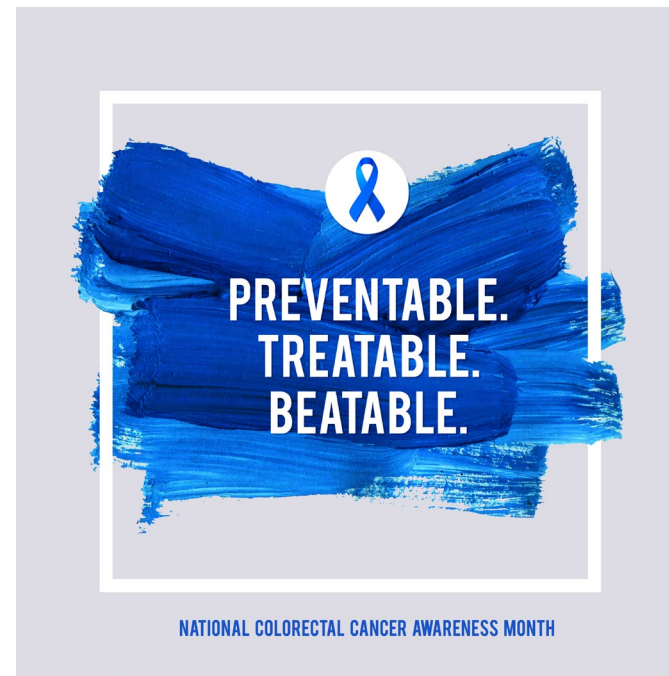


# Estimated 5-Year Relative Survival (%) of Prostate Cancer among Males By Stage at Diagnosis and Years After Diagnosis, Based on 2015-2021 Arkansas Data

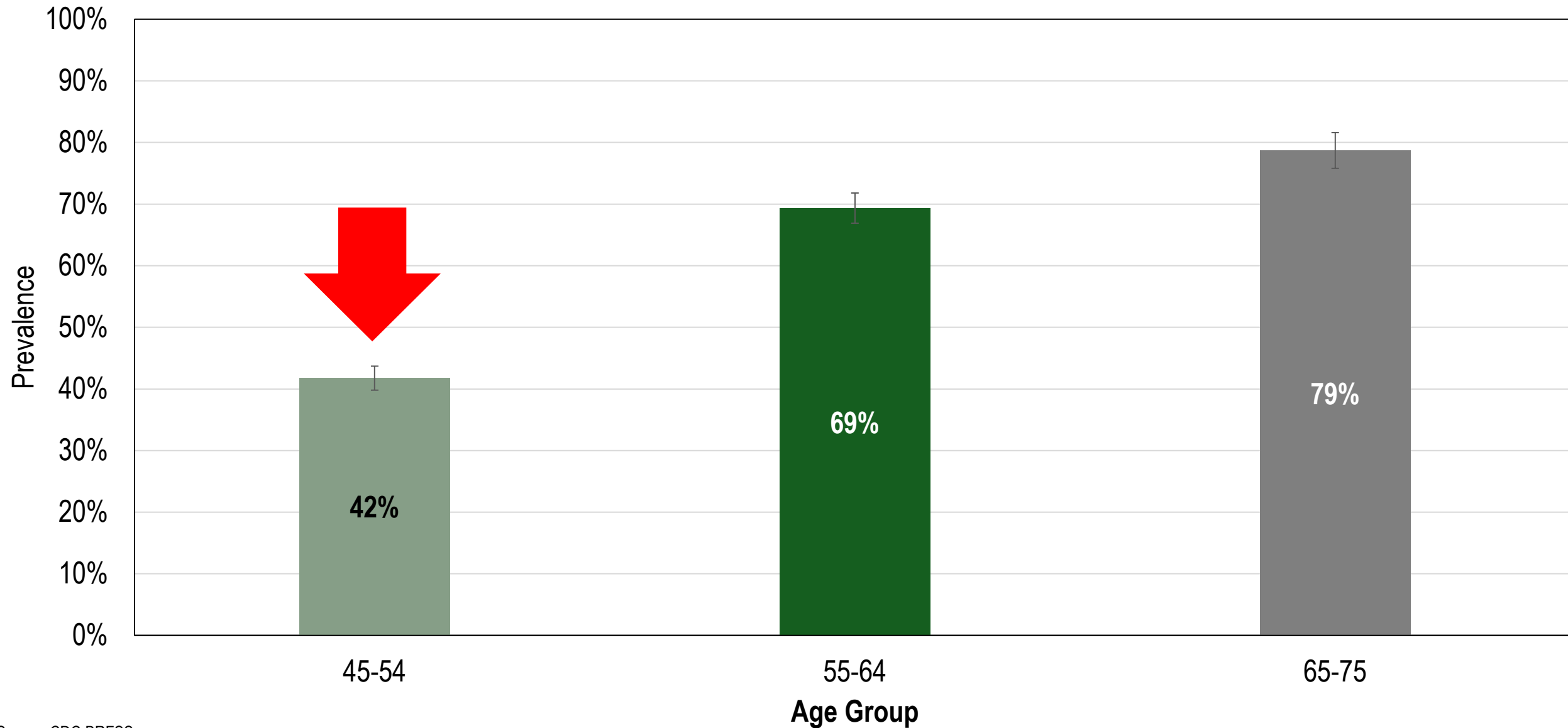




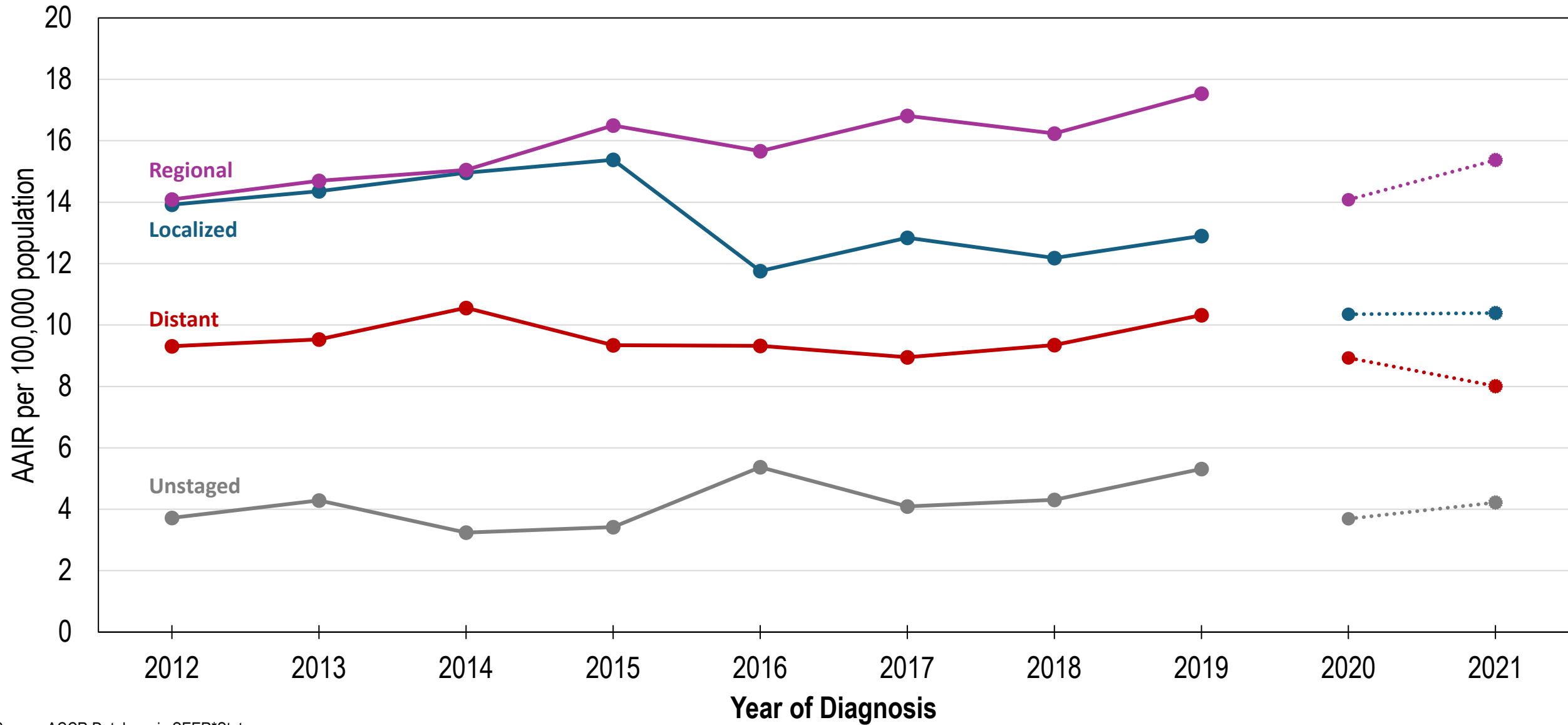
# Colorectal Cancer



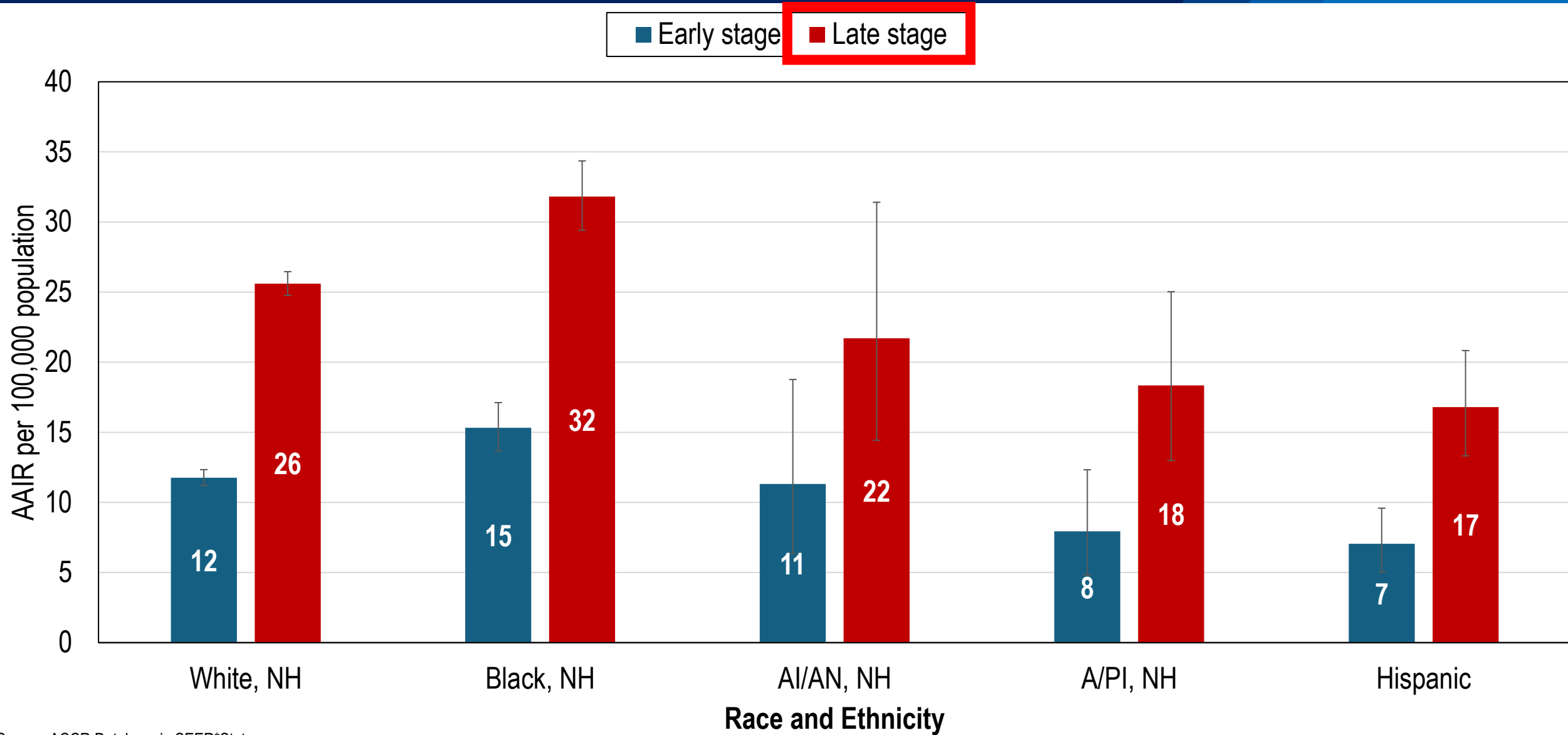
# Prevalence (%) of Adults who Received One or More of the Recommended CRC Tests within the Recommended Time Interval by Age Group, Arkansas, 2022



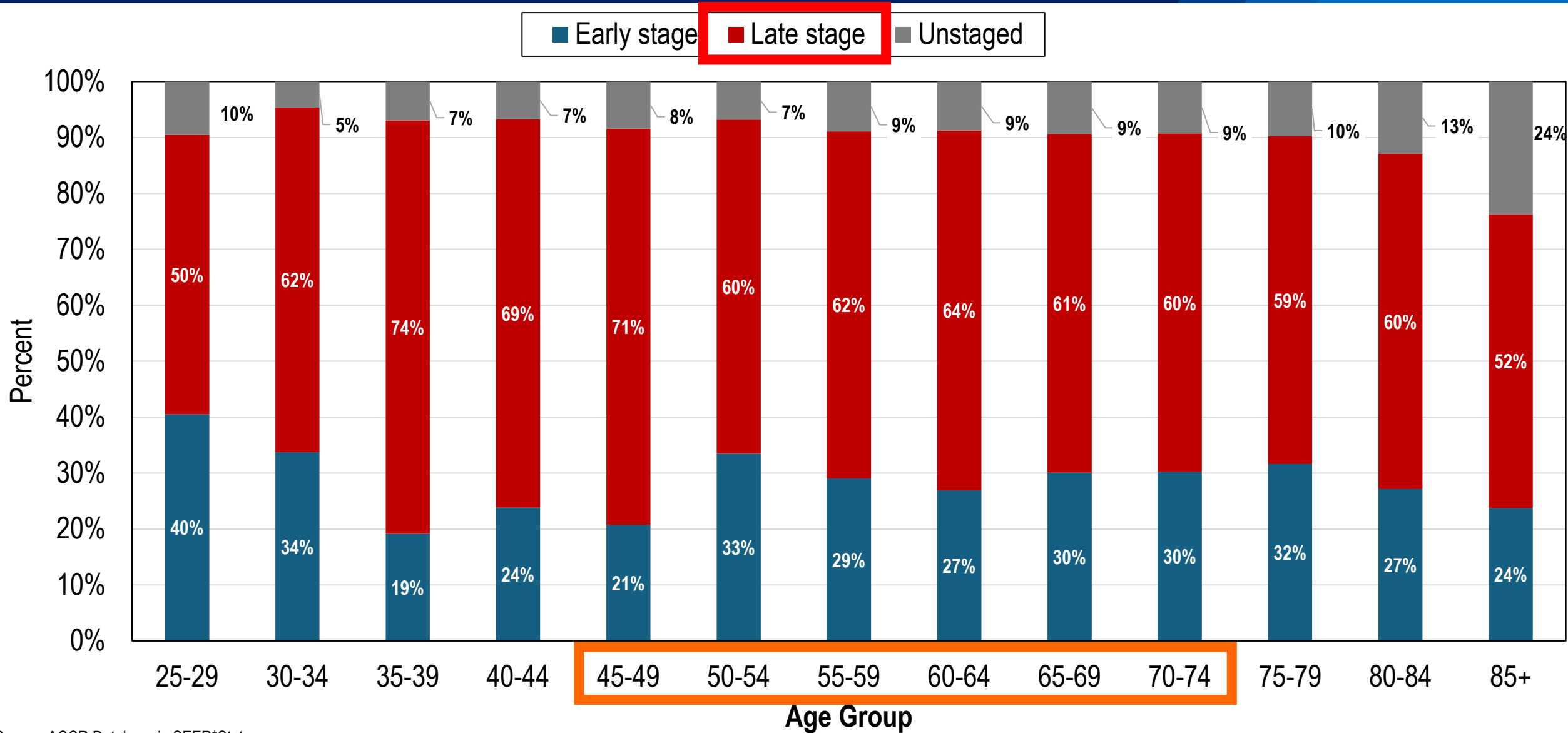
# Age-Adjusted Incidence Rate (AAIR) Trend of Colorectal Cancer by SEER Summary Stage, Arkansas, 2017-2021



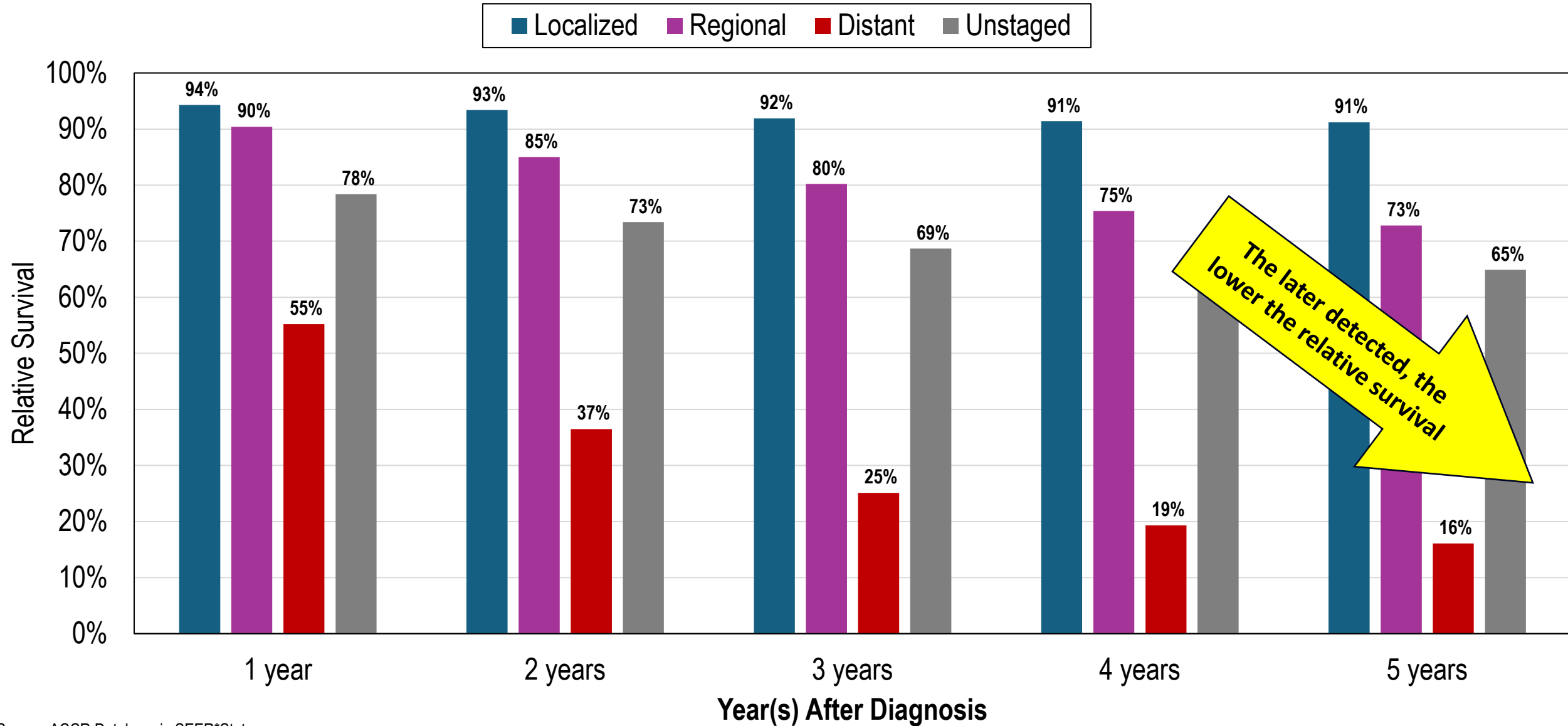
# Age-Adjusted Incidence Rate (AAIR) of Colorectal Cancer by Race, Ethnicity, and Stage at Diagnosis, Arkansas, 2017-2021



# Percent of Colorectal Cancer by Age Group and Stage at Diagnosis, Arkansas, 2017-2021



# Estimated 5-Year Relative Survival (%) of Colorectal Cancer By Stage at Diagnosis and Years After Diagnosis, Based on 2015-2021 Arkansas Data



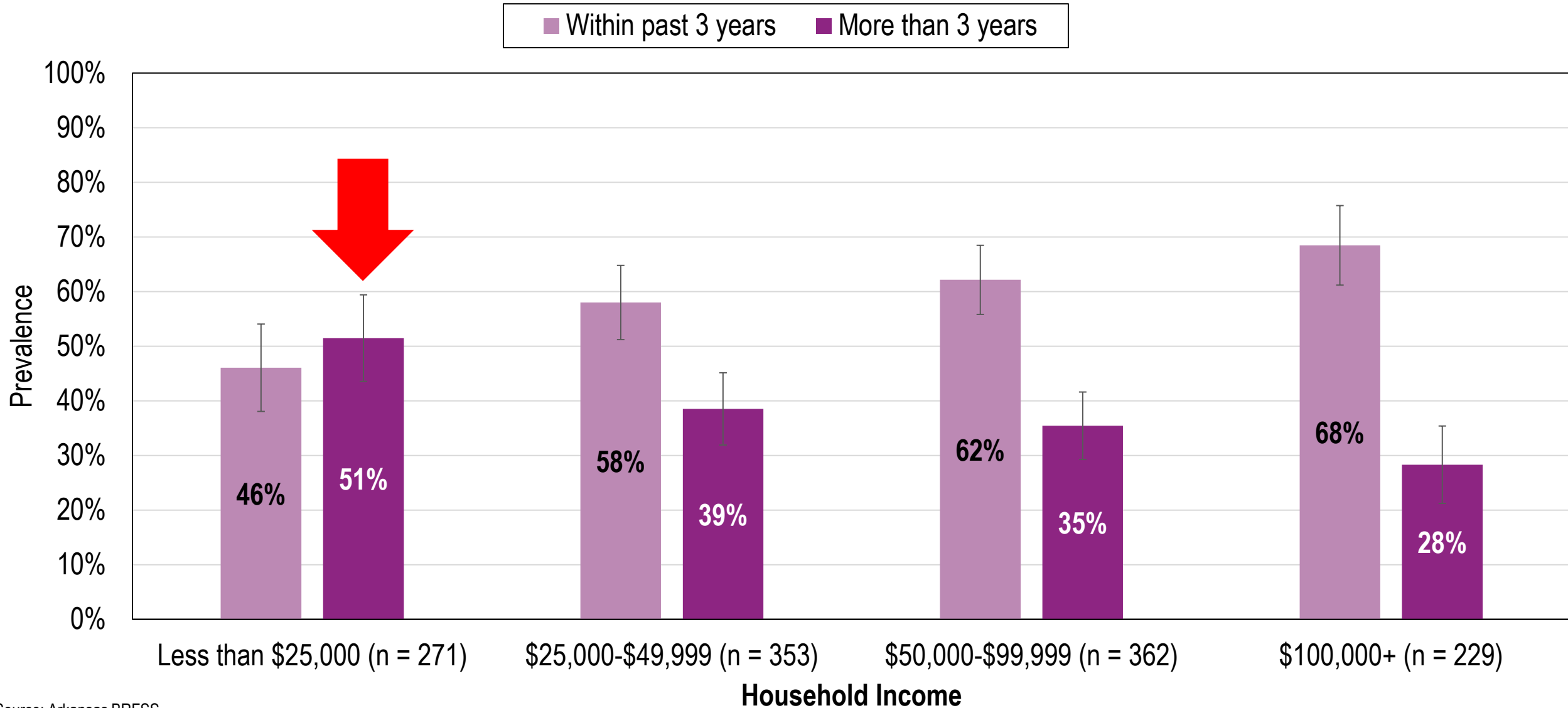




# Cervical Cancer



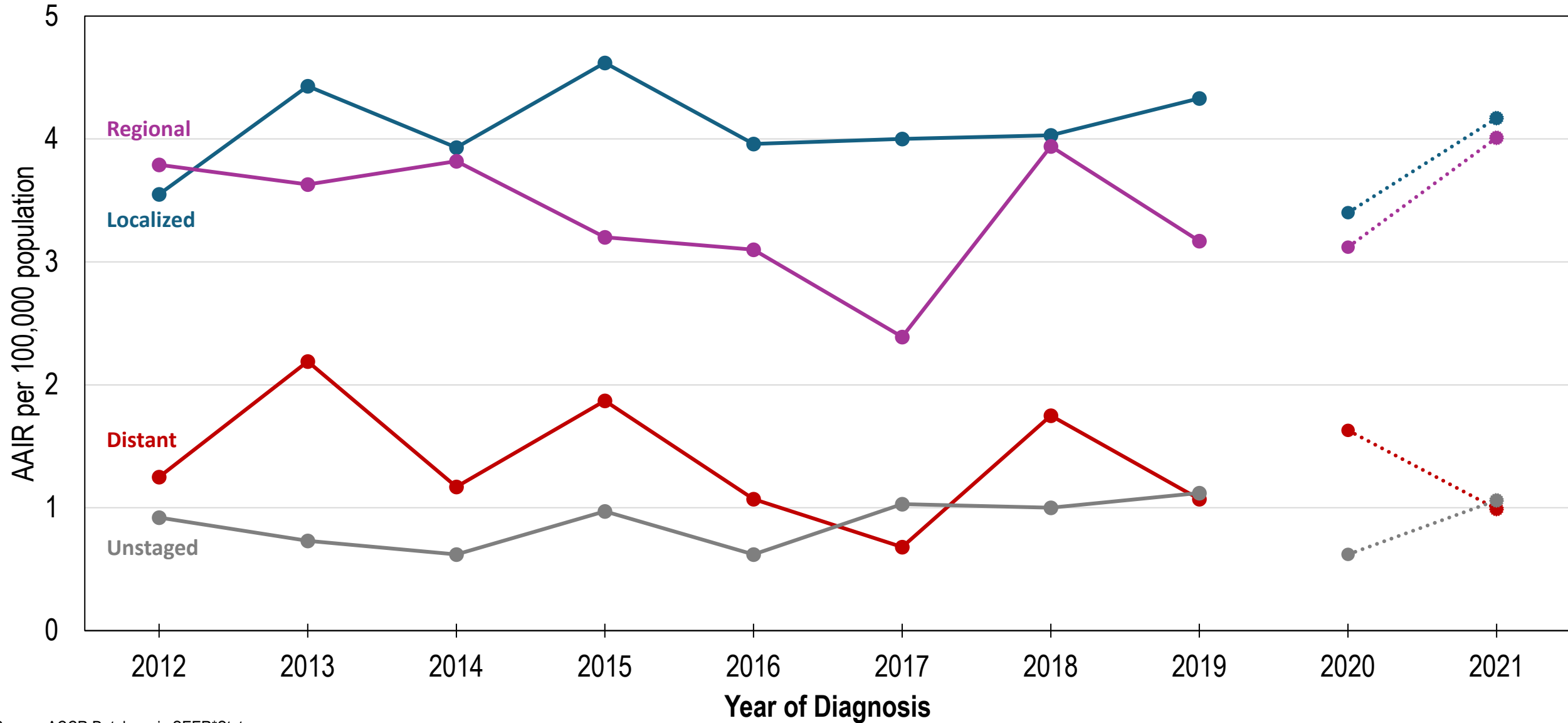
# Prevalence (%) of Females who had Cervical Cancer Screening Test by Response to Length of Time from Last test, and Household Income, Arkansas, 2022



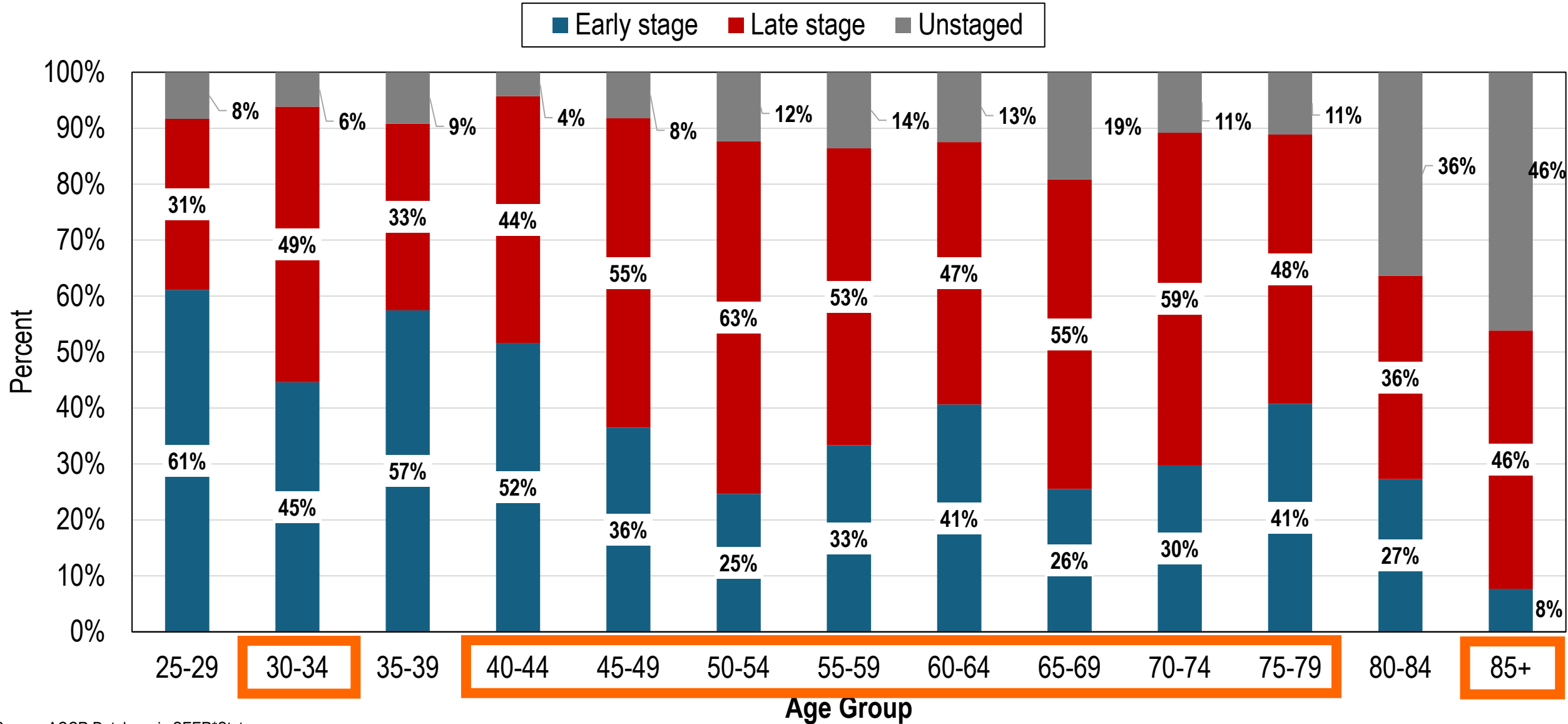
Source: Arkansas BRFSS

Note: Percentages reflect total within each household income group. 'Don't know' response excluded due to low sample size.

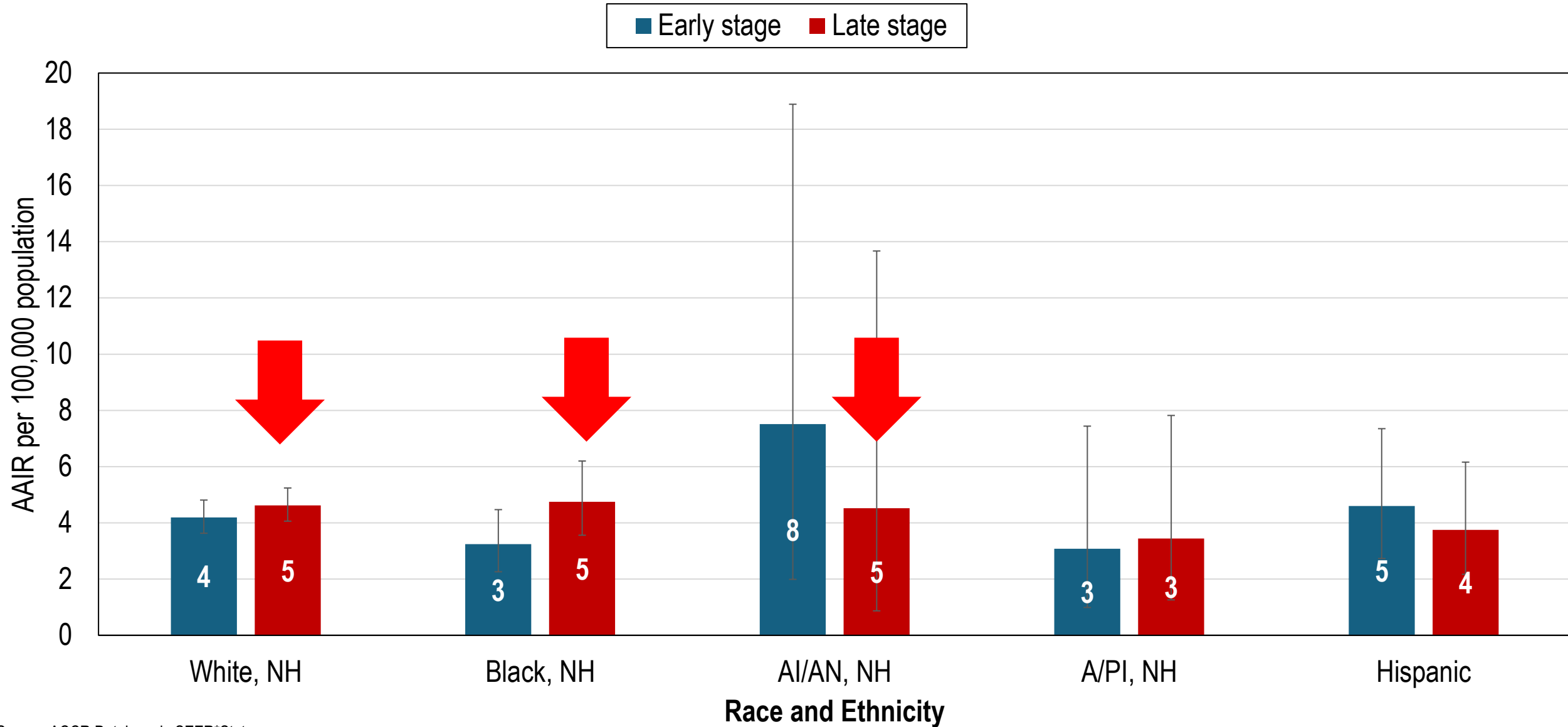
# Age-Adjusted Incidence Rate (AAIR) Trend of Cervical Cancer among Females by Stage at Diagnosis, Arkansas, 2017-2021



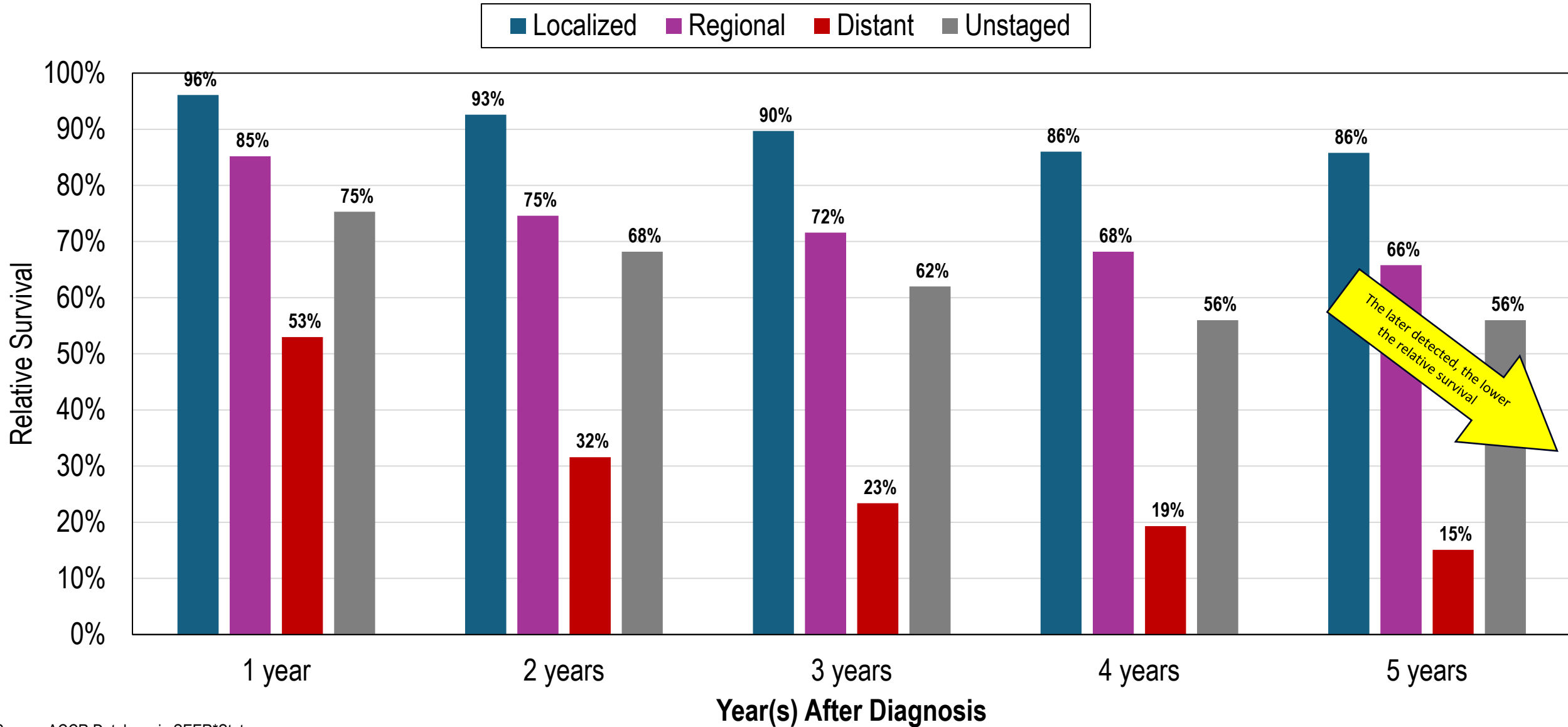
# Percent of Cervical Cancer among Females by Age Group and Stage at Diagnosis, Arkansas, 2017-2021



# Age-Adjusted Incidence Rate (AAIR) of Cervical Cancer by Race, Ethnicity, and Stage at Diagnosis, Arkansas, 2017-2021



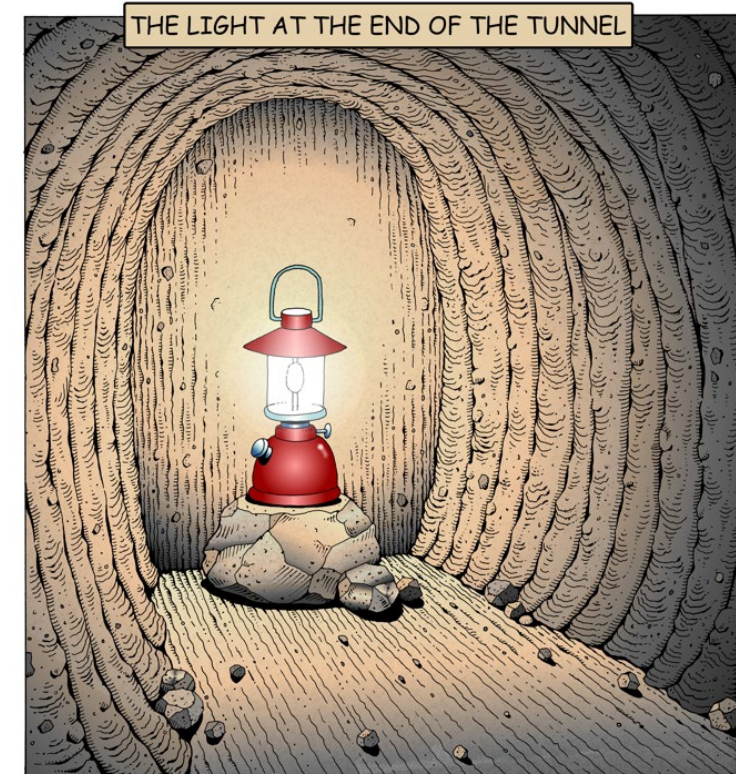
# Estimated 5-Year Relative Survival (%) of Cervical Cancer among Females By Stage at Diagnosis and Years After Diagnosis, Based on 2015-2021 Arkansas Data



# Final thoughts



- **Screening:** Early detection through screening is crucial for reducing mortality across cancers with early detection tests.
- **Mortality:** Lung has the highest death rate in Arkansas followed by breast cancer (female) and prostate cancer (male).
- **Incidence:** Breast cancer (females) has the highest incidence rates (possibly due to increase screening efforts) followed by prostate cancer (males).
- **Survival:** Prostate and breast cancer have the highest survival rates, especially when diagnosed early. Lung cancer remains the deadliest due to late-stage detection in most cases. Cervical cancer survival has improved which may be due to screening and HPV vaccination efforts.
- **Associated Cancer Risk Factors:** Continue efforts in addressing modifiable risk factors to potentially decrease risk of associated cancers.



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# More than data and numbers – Arkansans in remembrance



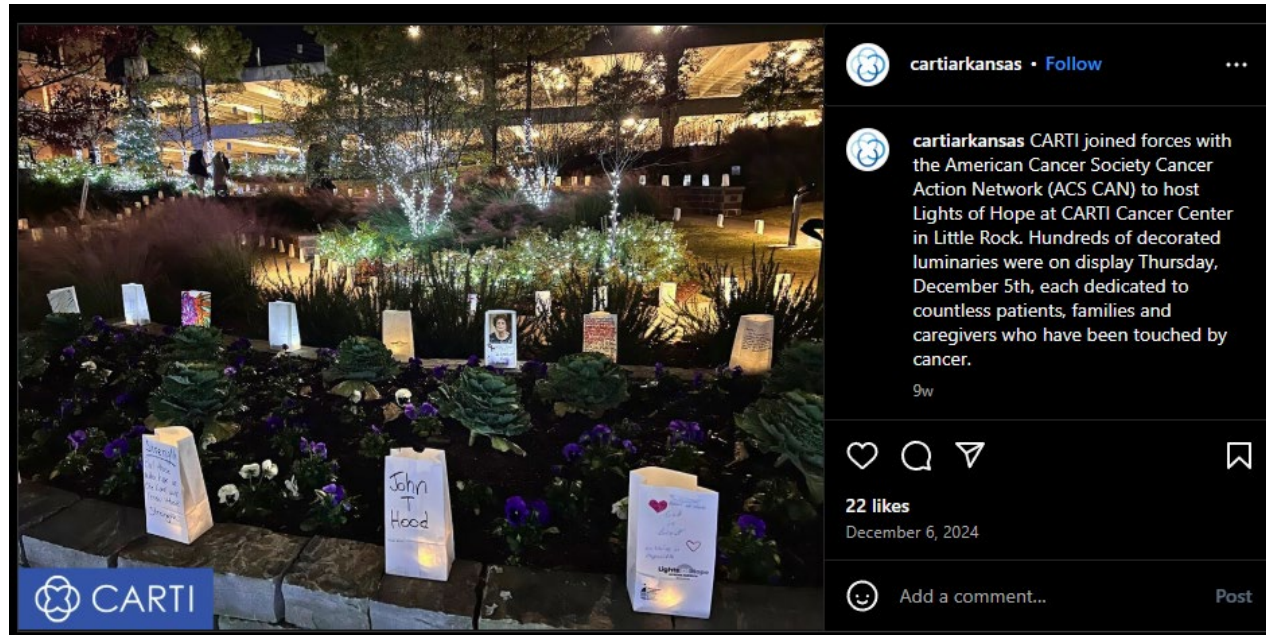
## India Lewis (1981-2018)

*“You created many basketball memories for those of us lucky enough to be in NWA when you were growing up, but will still always be most remembered by how you went out of (the) way to make my young daughter (and so many others) feel special.”*



Source: [5NEWS Web Staff, 2018](#)

## ‘Lights of Hope’ Event in Arkansas, 2024



Sources: [I. Gooden and K. Clay, KATC, Little Rock, 2024](#)  
Photo: [CARTI Instagram](#)

## William Earnest “Earnie” Blackley (1961-2020)

*“He was a dedicated leader of the law enforcement community; serving more than 30 years....Even after being diagnosed with stage 4 cancer only months after being elected to serve as Sheriff, he continued to work to keep his county safe.”*



Source: [White River Now, 2020](#)



# More than data and numbers – Arkansans with a message



“Getting told you have cancer is scary enough but for the doctor to look at me and say unfortunately it is aggressive...That word alone put in the same sentence as cancer upped that fear that much more.’

She decided to have a radical hysterectomy which saved her life but not having any children, that decision wasn’t easy.

‘Stay consistent with your check ups....If they say, “hey you are high risk. I recommend you come in more often”, do that. The earlier the better for sure.’

“[He] was very familiar with prostate cancer – his father, two older brothers and a brother-in-law were diagnosed. His younger brother was recently diagnosed at age 48....

**[He] is clear that no one should die from prostate cancer and he recommends that ALL men:**

1. Know your number
2. Know your family history
3. Stay in shape and make healthy choices

“For some patients, treatment requires an ostomy, a colostomy or an ileostomy. For [him]...it was an ileostomy...after a diagnosis of colorectal cancer.

‘Initially it was a parasite on my side, on my belly.... And I thought I've got to take care of this thing. I've got to take care of it, it's keeping me alive. And I named it.’ He ended up only having the secretly-named ileostomy bag for seven months.

Three years later, he had a follow-up colonoscopy and confirmed he was still cancer-free.

**"Don't sit on it like I did....Get in there and get it taken care of because if you don't, it could be bad. I'm lucky."**

# Thank you for your time and attention!

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