



Arkansas Department of Health

Cervical Cancer in Arkansas

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Cancer Epidemiologist

Risk Factors for Cervical Cancer

- Human papillomavirus (HPV) causes most cervical cancers
- Cigarette smoking
- Long-term use of oral contraceptives
- Multi-parity (multiple full-term pregnancies)
- Age <17 years at 1st full-term pregnancy
- Immunosuppression
- Poverty and low healthcare access
- Diethylstilbestrol used between 1940-1971 to prevent miscarriage
- Chlamydia infection
- Low fruit/vegetable diet and being overweight
- Family history of cervical cancer

Source: Arkansas Cancer Society Cervical Cancer Risk Factors, 2020: <http://www.cancer.org/cancer/cervicalcancer/detailedguide/cervical-cancer-risk-factors>



HPV

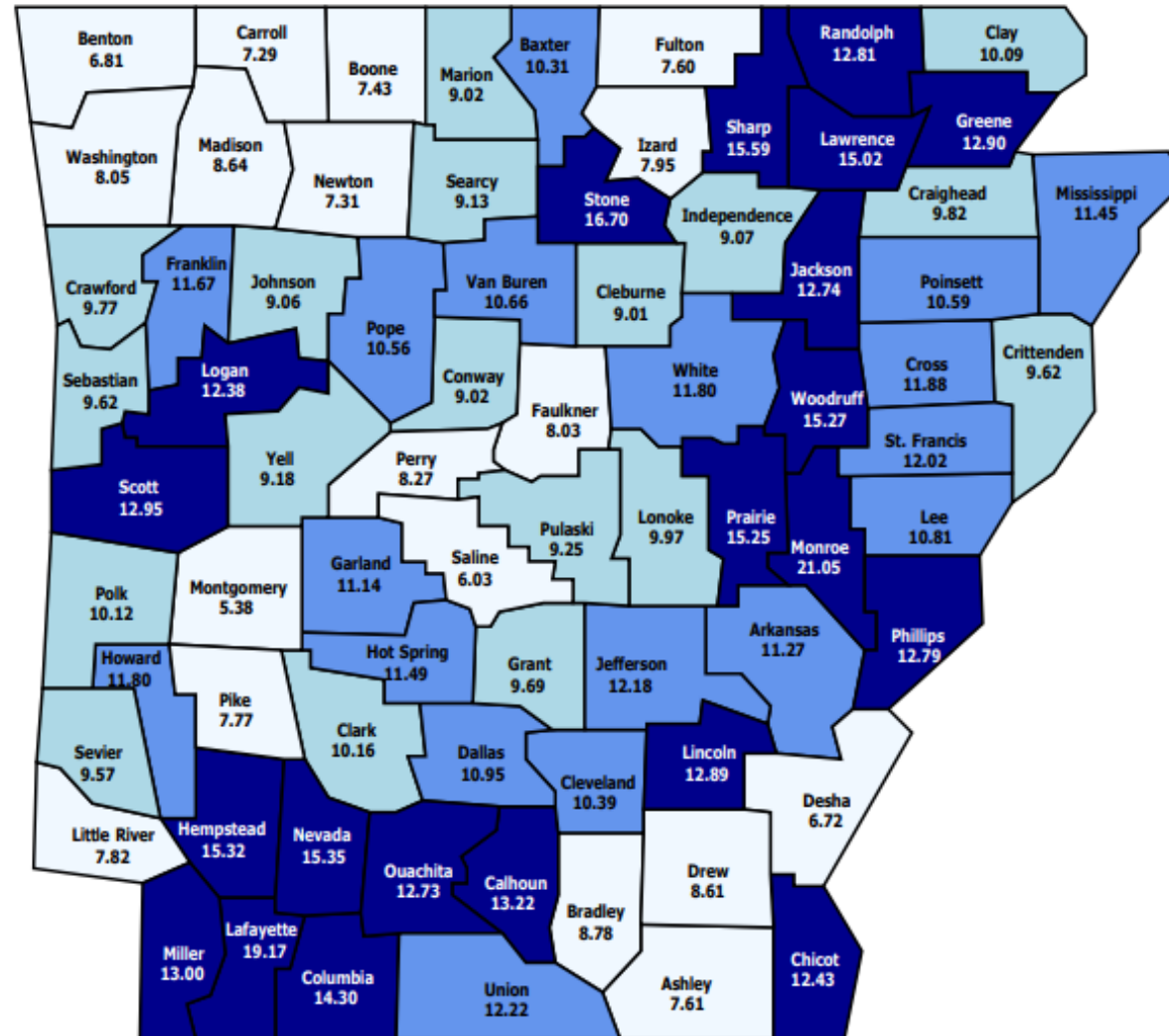
- CDC estimates that 90-91% of cervical cancers are attributable to HPV (any subtype)
- Cancer registries do not collect data on the presence or absence of HPV in cancer tissue.
- ACCR collect the cell types that are more likely to be caused by HPV so that we can estimate the burden. The estimated number of cervical cancers caused by HPV in AR during 2017 is 116.
- 7.4 per 100,000 age adjusted incidence rate.



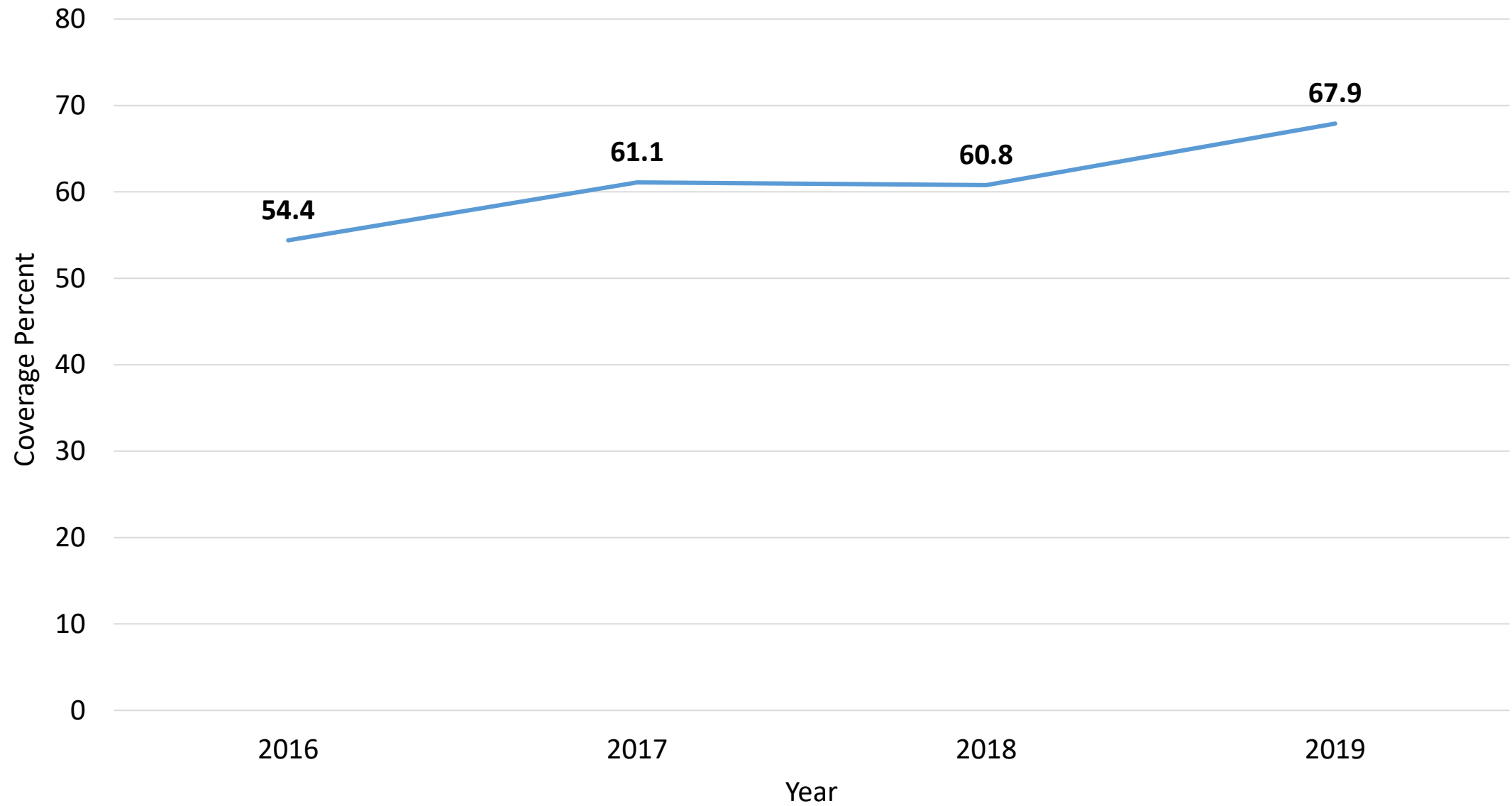
Year(s): 1997-2017

Detailed Data Summary Report




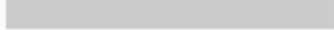


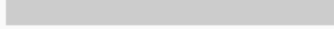

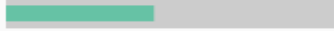



Sex=Female; Assc. Cancer=HPV for Cervix



HPV Vaccination Coverage Among Adolescents 13-17 years, Arkansas, National Immunization Survey, 2016-2019



HPV Vaccination Coverage Among Adolescents 13-17, Arkansas, National Immunization Survey-Teen (NIS-Teen), 2019

Filter		Data Notes	Vaccination Coverage for Selected Area(s)					
State	HHS Region or U.S.		Vaccinations/Groups	State/Region/U.S.	n	%	CI	Progress Toward Healthy People 2020 (red line)
Arizona	Region 1		HPV Vaccination Up-To-Date, Males and Females					
Arkansas	Region 2		Age					
AZ-Maricopa County	Region 2		13-17 Years	Arkansas	329	50.5	(±6.7)	0  100
AZ-Rest of State	Region 2		Poverty					
CA-Alameda County	Region 3		Living At or Above Poverty	Arkansas	256	48.4	(±7.7)	0  100
CA-Fresno County	Region 3		Living Below Poverty	Arkansas	63	56.7	(±14.2)	0  100
CA-Los Angeles County	Region 3		Unknown Poverty Status	Arkansas	NA	NA	NA	0  100
CA-Northern CA Counties	Region 3		Race/Ethnicity					
CA-Rest of State	Region 3		American Indian or Alaska Native only non-Hispanic	Arkansas	NA	NA	NA	0  100
CA-San Bernardino County	Region 3		Asian only non-Hispanic	Arkansas	NA	NA	NA	0  100
CA-San Diego County	Region 3		Black only non-Hispanic	Arkansas	NA	NA	NA	0  100
CA-Santa Clara County	Region 3		Hispanic	Arkansas	38	45.7	(±17.5)	0  100
California	Region 3		White only non-Hispanic	Arkansas	241	45.1	(±7.4)	0  100
CO-Denver	Region 3		Urbanicity					
CO-Rest of State	Region 3		Living In A Non MSA	Arkansas	131	45.4	(±10.4)	0  100
Clear ✖ Filter ✖			Living In An MSA Principal City	Arkansas	109	60.7	(±10.8)	0  100
			Living In An MSA Non Principal City	Arkansas	89	43.2	(±12.9)	0  100



HPV Vaccination Coverage Among Adolescents 13-17, Arkansas and United States, National Immunization Survey-Teen (NIS-Teen), 2019

Filter		Data Notes		Vaccination Coverage for Selected Area(s)					
State		Vaccinations/Groups	State/Region/U.S.	n	%	CI	Progress Toward Healthy People 2020 (red line)		
Arizona Arkansas AZ-Maricopa County AZ-Rest of State CA-Alameda County CA-Fresno County CA-Los Angeles County CA-Northern CA Counties CA-Rest of State CA-San Bernardino County CA-San Diego County CA-Santa Clara County California CO-Denver CO-Rest of State Clear ✗ Filter ✕			United States	7,743	71.2	(±1.7)	0	<div style="width: 71.2%;"><div style="width: 71.2%;"></div></div>	100
HHS Region or U.S. Region 3 Region 4 Region 5 Region 6 Region 7 Region 8 Region 9		HPV Vaccination Up-To-Date, Males and Females							
		Age							
		13-17 Years	Arkansas	329	50.5	(±6.7)	0	<div style="width: 50.5%;"><div style="width: 50.5%;"></div></div>	100
			United States	18,788	54.2	(±1.5)	0	<div style="width: 54.2%;"><div style="width: 54.2%;"></div></div>	100
		Poverty							
		Living At or Above Poverty	Arkansas	256	48.4	(±7.7)	0	<div style="width: 48.4%;"><div style="width: 48.4%;"></div></div>	100
			United States	15,325	53.4	(±1.7)	0	<div style="width: 53.4%;"><div style="width: 53.4%;"></div></div>	100
		Living Below Poverty	Arkansas	63	56.7	(±14.2)	0	<div style="width: 56.7%;"><div style="width: 56.7%;"></div></div>	100
			United States	2,803	58.3	(±4.0)	0	<div style="width: 58.3%;"><div style="width: 58.3%;"></div></div>	100
		Unknown Poverty Status	Arkansas	NA	NA	NA	0	<div style="width: 0%;"><div style="width: 0%;"></div></div>	100
			United States	660	52.4	(±7.2)	0	<div style="width: 52.4%;"><div style="width: 52.4%;"></div></div>	100
		Race/Ethnicity							
		American Indian or Alaska Native only non-Hispanic	Arkansas	NA	NA	NA	0	<div style="width: 0%;"><div style="width: 0%;"></div></div>	100
			United States	237	57.5	(±12.0)	0	<div style="width: 57.5%;"><div style="width: 57.5%;"></div></div>	100
		Asian only non-Hispanic	Arkansas	NA	NA	NA	0	<div style="width: 0%;"><div style="width: 0%;"></div></div>	100
			United States	607	64.7	(±7.1)	0	<div style="width: 64.7%;"><div style="width: 64.7%;"></div></div>	100
		Black only non-Hispanic	Arkansas	NA	NA	NA	0	<div style="width: 0%;"><div style="width: 0%;"></div></div>	100
			United States	1,367	54.3	(±4.5)	0	<div style="width: 54.3%;"><div style="width: 54.3%;"></div></div>	100
		Hispanic	Arkansas	38	45.7	(±17.5)	0	<div style="width: 45.7%;"><div style="width: 45.7%;"></div></div>	100
			United States	3,466	58.1	(±4.0)	0	<div style="width: 58.1%;"><div style="width: 58.1%;"></div></div>	100
		White only non-Hispanic	Arkansas	241	45.1	(±7.4)	0	<div style="width: 45.1%;"><div style="width: 45.1%;"></div></div>	100
			United States	11,883	51.6	(±1.7)	0	<div style="width: 51.6%;"><div style="width: 51.6%;"></div></div>	100



Screening and Early Detection



Early Detection

- The United States Prevention Services Task Force (USPSTF) recommends screening for cervical cancer every 3 years with cervical cytology alone in women aged 21 to 29 years. For women aged 30 to 65 years, the USPSTF recommends screening every 3 years with cervical cytology alone, every 5 years with high-risk human papillomavirus (hrHPV) testing alone, or every 5 years with hrHPV testing in combination with cytology (cotesting)..

Source: <https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/cervical-cancer-screening>



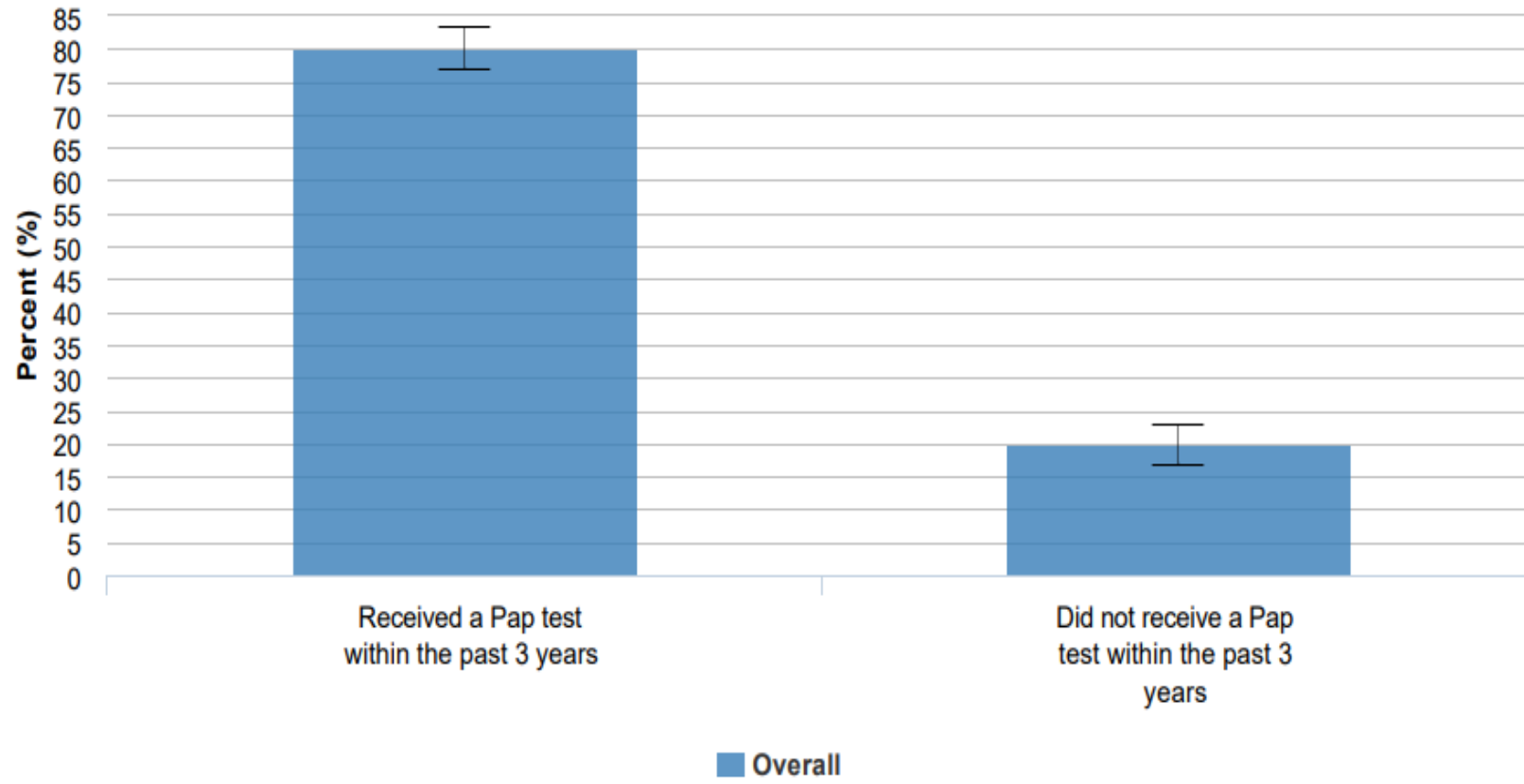
Arkansas - 2018

Women aged 21-65 who have had a pap test in the past three years (variable calculated from one or more BRFSS questions)

(Crude Prevalence)

View by: Overall

Response: (All)

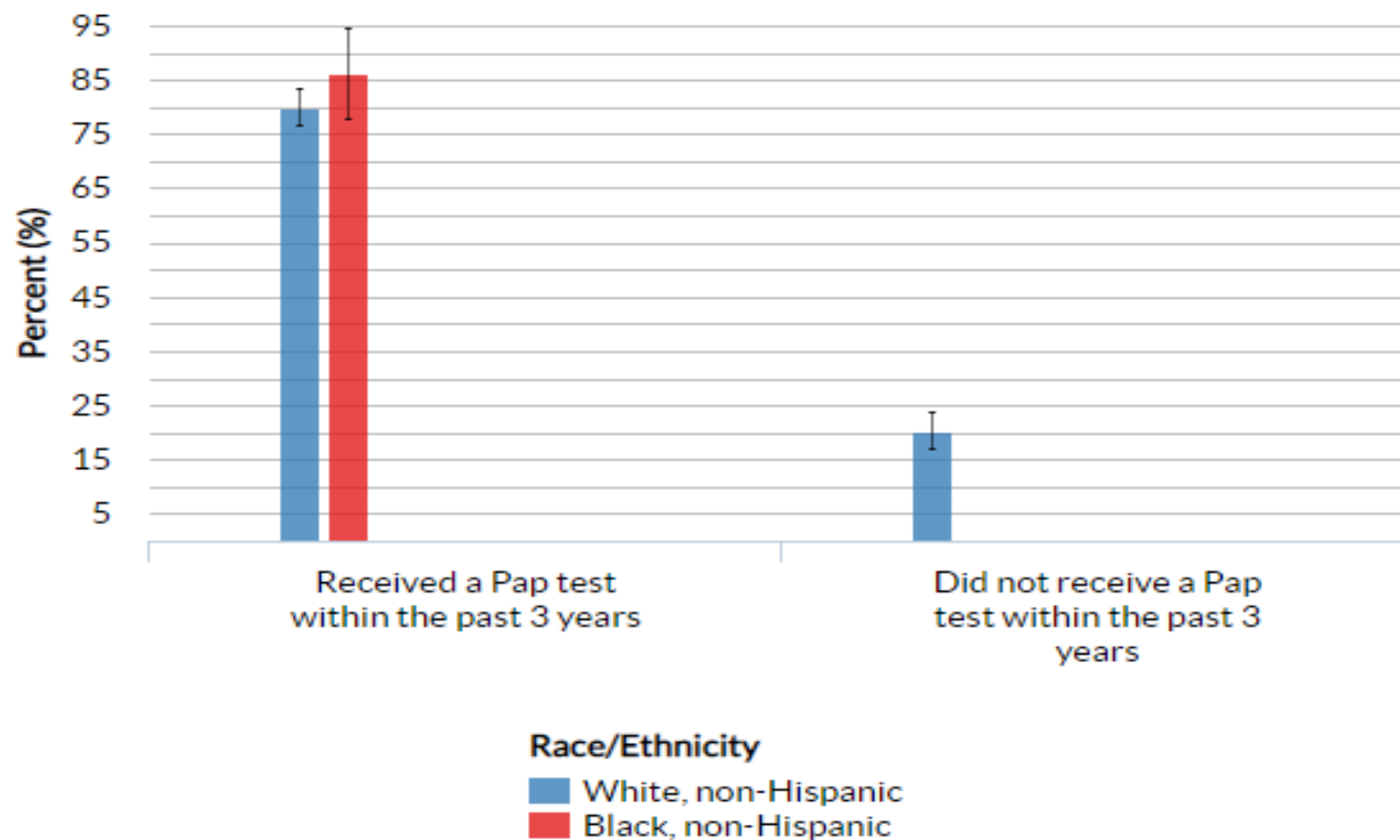


Arkansas - 2018

Women aged 21-65 who have had a pap test in the past three years (variable calculated from one or more BRFSS questions) (Crude Prevalence)

View by: Race/Ethnicity

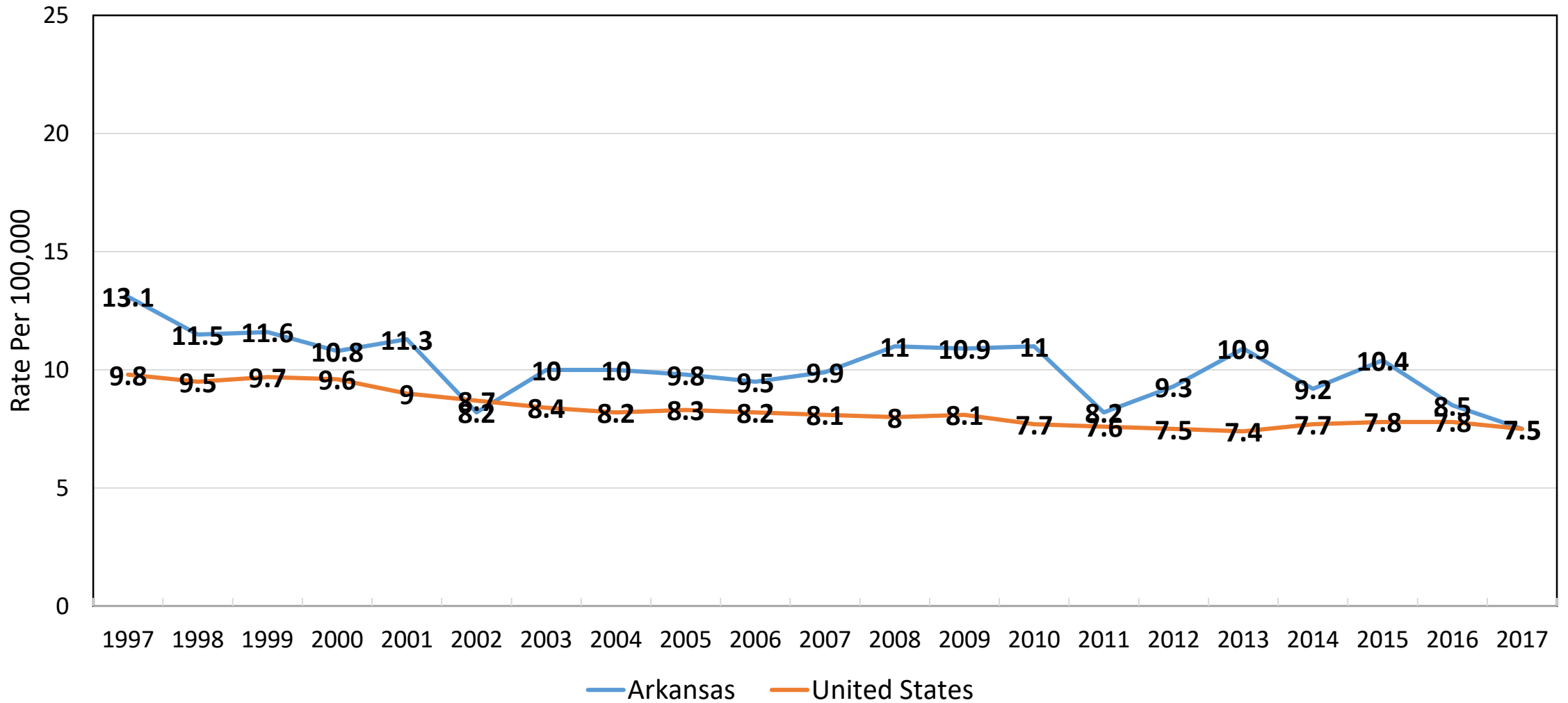
Response: (All)



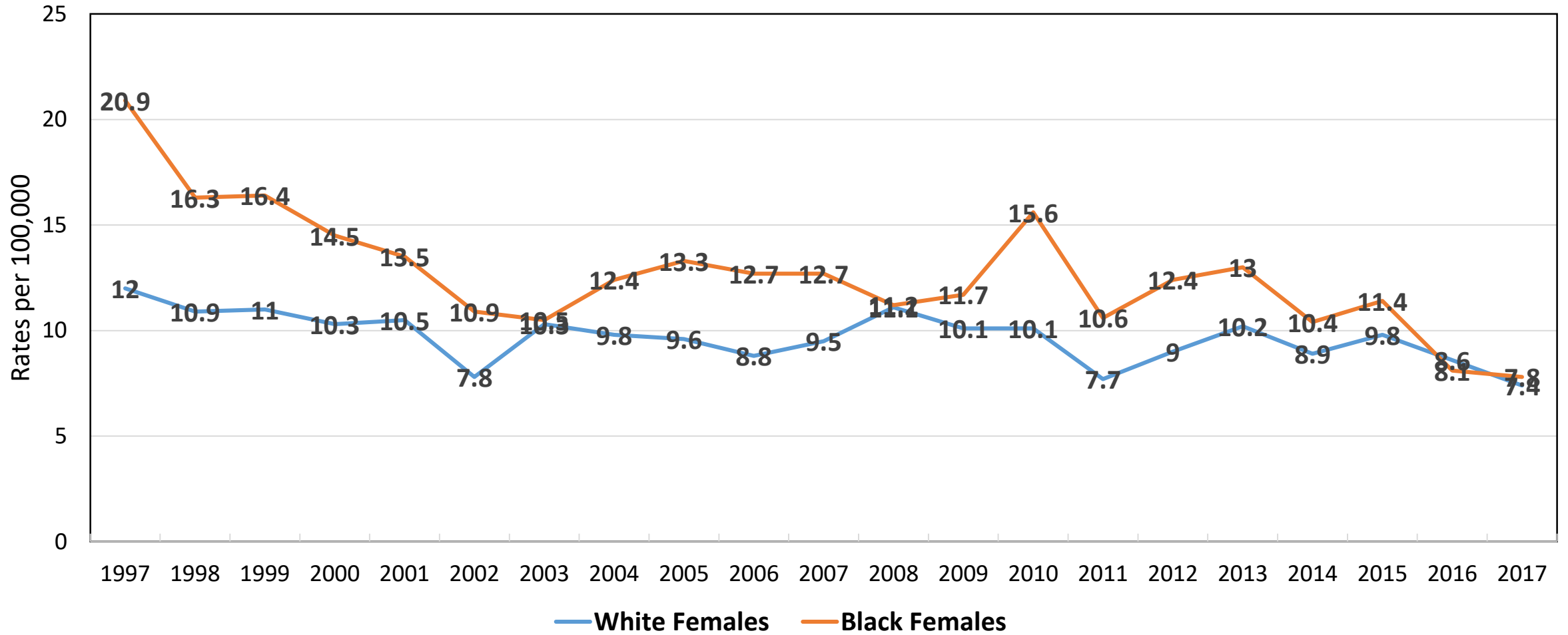
Incidence



Age-Adjusted Incidence Rate of Cervical Cancer, Arkansas and U.S., 1997-2017



Age-Adjusted Incidence Rates of Cervical Cancer, by Race, Arkansas, 1997-2017



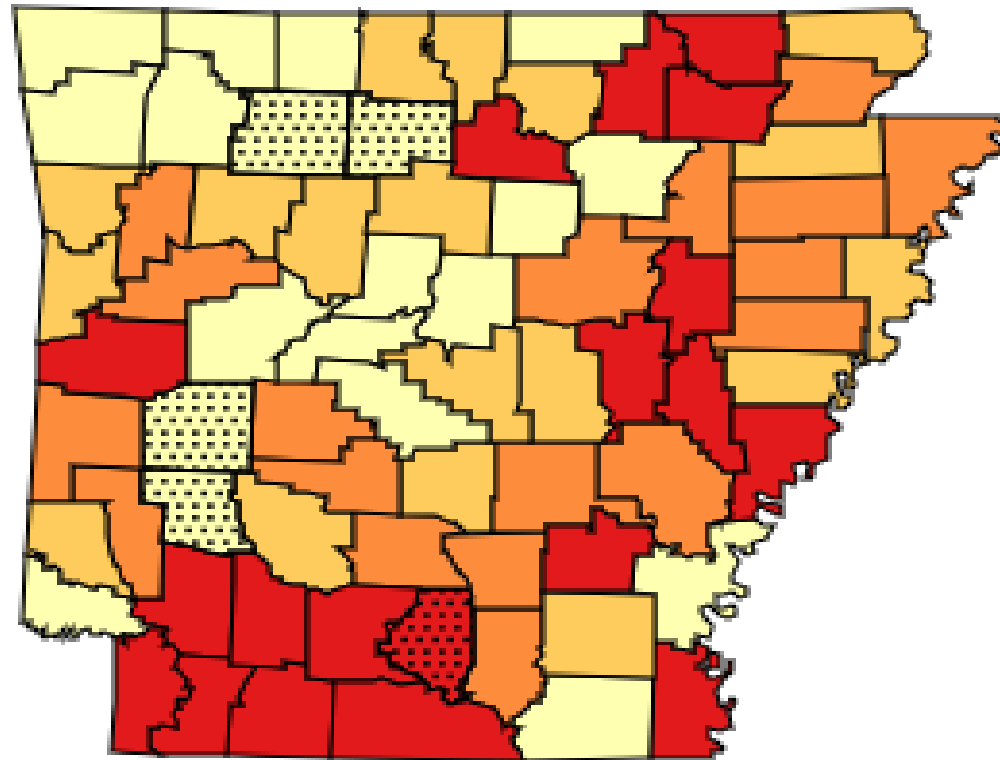
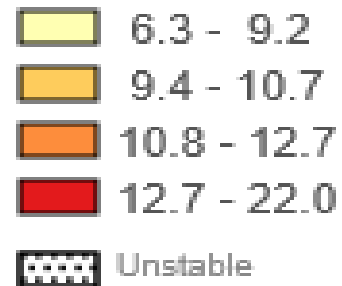
Age-Adjusted Invasive Cancer Incidence Rates in Arkansas

Cervix Uteri, 1997 - 2017

By County

Age-Adjusted to the 2000 U.S. Standard Million Population

Arkansas Rate: 10.1 / per 100,000



All rates per 100,000.

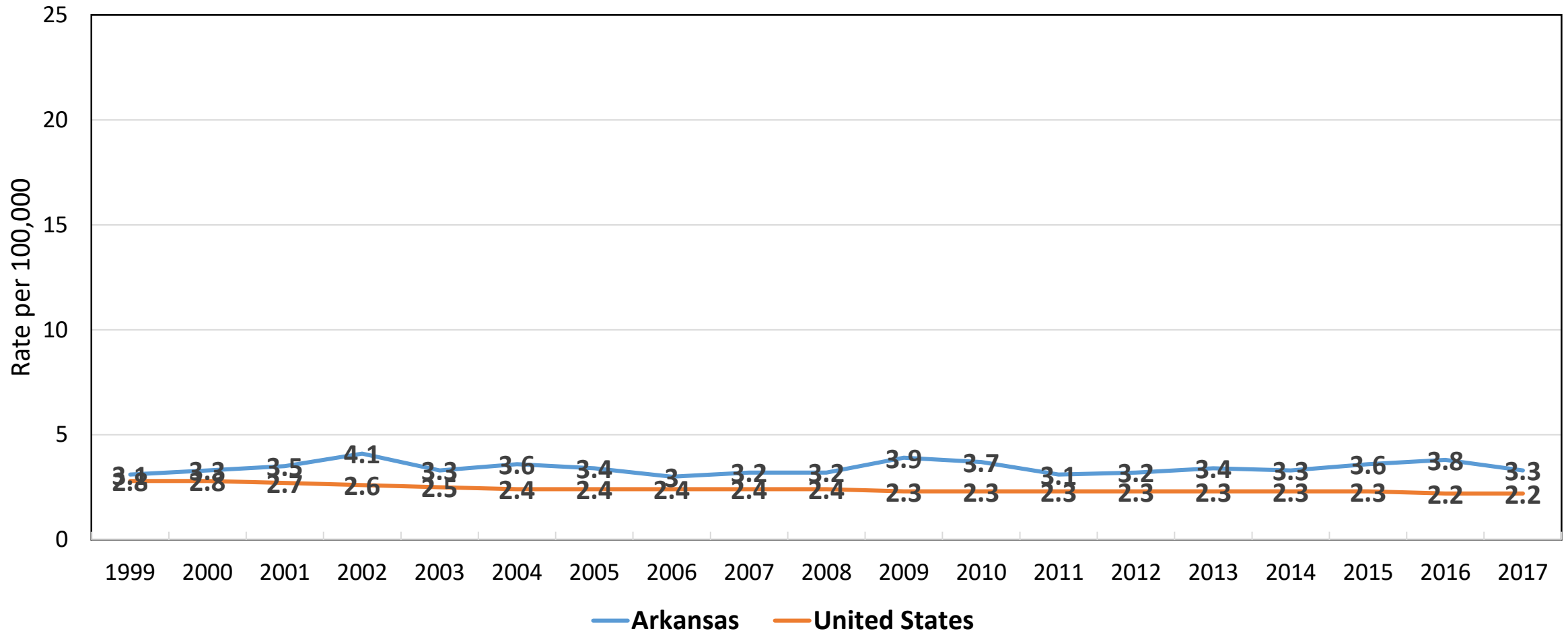
Data accessed January 6, 2021. Based on data released May 2020.

© 2021 Arkansas Cancer Registry.

Mortality



Age-Adjusted Mortality Rates of Cervical Cancer, Arkansas and U.S, 1999-2017



TOOLS ▾

Incidence rates, 2013-2017

Cervix, by race and ethnicity

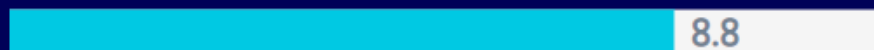
Hispanic



Non-Hispanic black



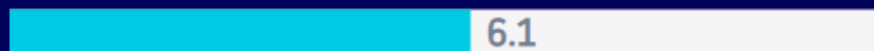
American Indian and Alaska Native



Non-Hispanic white



Asian and Pacific Islander



Average annual rate per 100,000, age adjusted to the 2000 US standard population.

Data sources: North American Association of Central Cancer Registries (NAACCR), 2020

TOOLS ▾

Death rates, 2014-2018

Cervix, by race and ethnicity

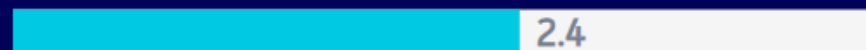
Non-Hispanic black



Hispanic



American Indian and Alaska Native



Non-Hispanic white



Asian and Pacific Islander



Average annual rate per 100,000, age adjusted to the 2000 US standard population. Rates for PR are for 2012-2016.

Data sources: National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention, 2020



Cervix

AT A GLANCE

Estimated new cases,
2021

14,480

Estimated deaths, 2021

4,290

Incidence rates, 2013-
2017

7.6

Average annual rate per 100,000,
age adjusted to the 2000 US
standard population.

Death rates, 2014-2018

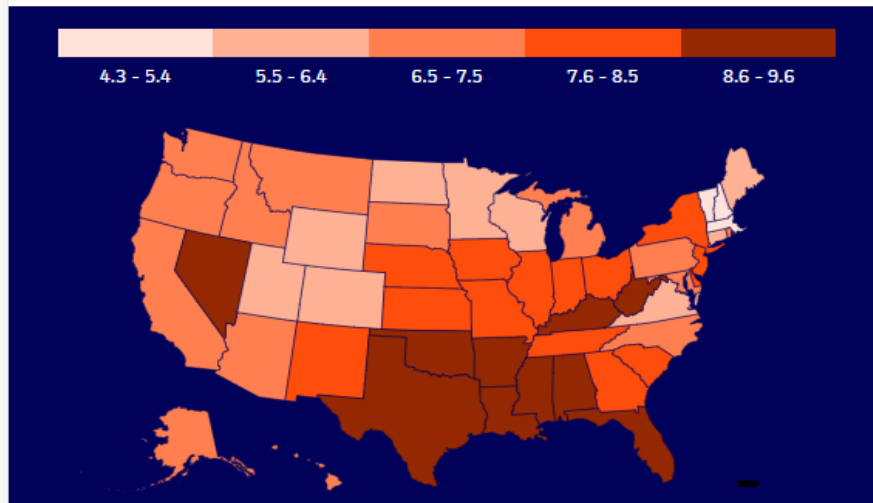
2.2

Average annual rate per 100,000,
age adjusted to the 2000 US
standard population. Rates for PR
are for 2012-2016.

TOOLS ▾

Incidence rates, 2013-2017

Cervix, by state



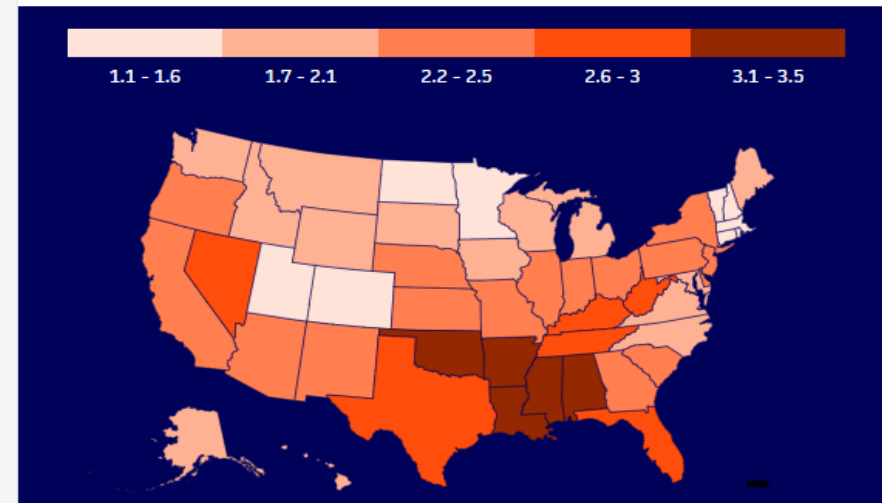
Average annual rate per 100,000, age adjusted to the
2000 US standard population.

Data sources: North American Association of Central Cancer Registries
(NAACCR), 2020

TOOLS ▾

Death rates, 2014-2018

Cervix, by state



Average annual rate per 100,000, age adjusted to the
2000 US standard population. Rates for PR are for 2012-
2016.

Data sources: National Center for Health Statistics (NCHS), Centers for Disease
Control and Prevention, 2020



Obesity and Cancer

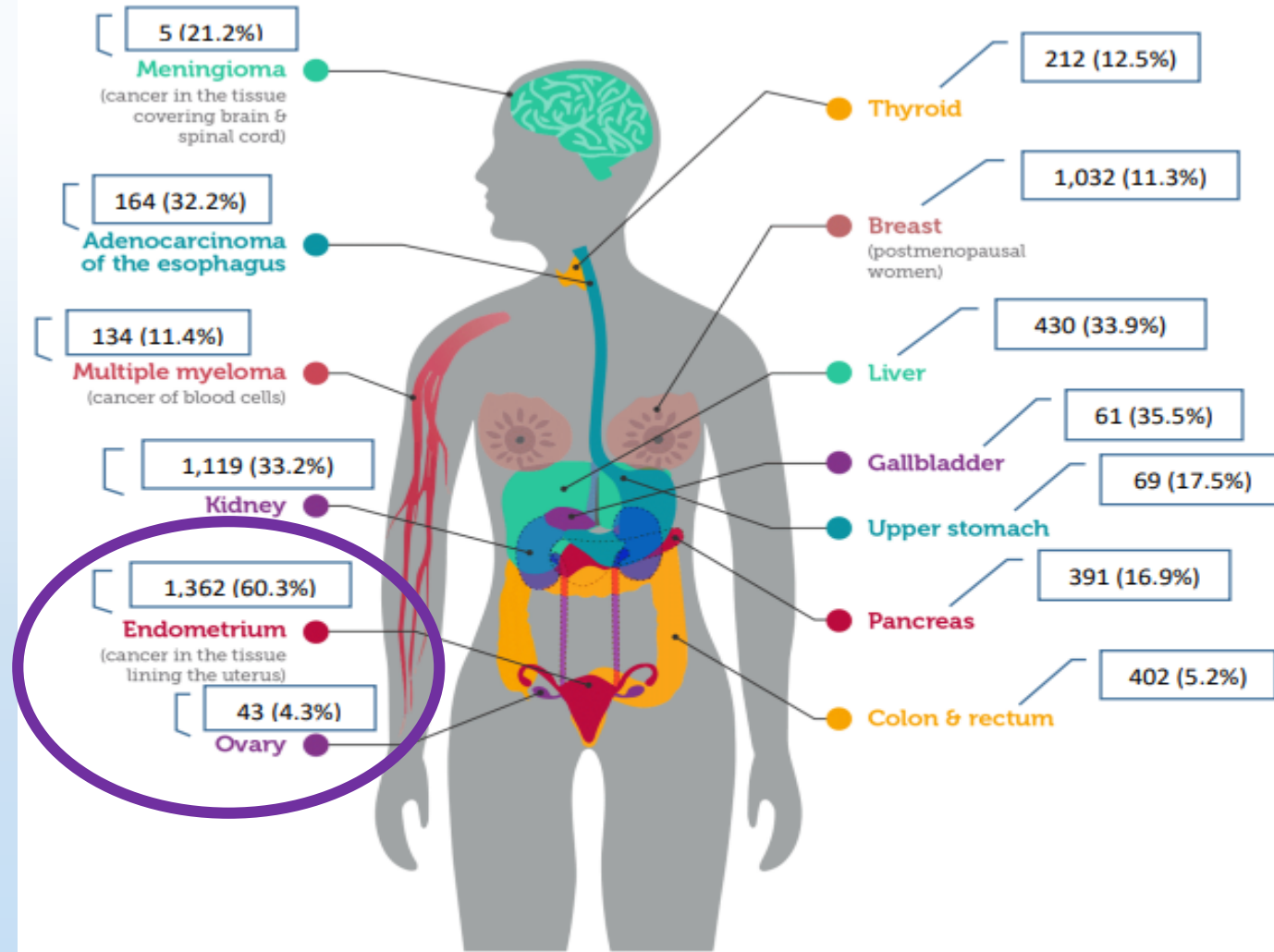
“Obesity is on its way to replacing tobacco as the number one preventable cause of cancer. We need to confront this growing problem and develop all the necessary tools to limit its impact.” - Clord Hudis, MD, 2013-2014 ASCO President



Obesity

- 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 2019, 33.2% of Arkansas adults aged 18 and older were considered overweight while 37.4% were considered obese.
- 13 cancers associated with overweight and obesity account for 17.4% of the overall cancers diagnosed among Arkansas adults aged 30 and older during 2013 – 2017. We used the same criteria, to get the following image that lists each cancer type and the estimated number and percent attributable to excess body weight in the state

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>



Other news

WHO's Global Strategy to Accelerate the Elimination of Cervical Cancer launched in November 2020.

Meeting the following targets by 2030 will place all countries on the path toward elimination:

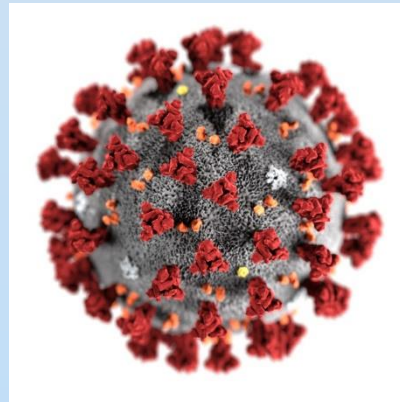
- **90%** of girls fully vaccinated with the HPV vaccine by 15 years of age
- **70%** of women screened using a high-performance test by age 35 and again by 45
- **90%** of women identified with cervical disease receive treatment (90% of women with pre-cancer treated and 90% of women with invasive cancer managed).



Other news continued

COVID 19 and Cervical Cancer

- The interruption of vaccination
- Screening and treatment services
- Border closures that reduced the availability of supplies and that prevent the transit of skilled biomedical engineers to maintain equipment
- New barriers preventing women in rural areas from travelling to referral centers for treatment
- School closures that interrupt school vaccine programs.



Cancer Challenges Amid a Pandemic, and a Glimpse at Arkansas Data

By Mallory Jayroe M.S CHES, Abby Holt MPH MLIS, Chris Fisher, Appathurai Balamurugan, MD, DrPH, DipABOM, FAAFP

Introduction

Coronavirus disease 2019, better known as COVID-19, is the name of an illness by a novel (new) type of coronavirus. It was first identified in China, and by March 20, 2020 there were more than 234,000 cases confirmed worldwide, and more than 9,800 registered deaths.¹ Following the initial outbreak, the World Health Organization (WHO) labeled it a pandemic. COVID-19 is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). This virus spreads through human-to-human transmission by respiratory droplets. There are many symptoms of COVID-19 which may appear 2 to 14 days after being infected.²

Those who have weakened immune systems can be at an increased risk of contracting COVID-19.³ This includes some cancer patients because of their weakened immune systems from the cancer itself, and its treatments like chemotherapy or a stem cell (bone marrow) transplant.² Cancer was deemed a risk factor for developing severe complications among COVID-19 patients, according to preliminary data analysis in China.⁴ However, those treated for cancer in the past are likely to have gained normal immune function back, and are, at this time, not at a higher risk but precautions should still be taken.² Precautions include regular handwashing, avoiding close contact, wearing a mask, covering a cough or sneeze, and cleaning and disinfecting surfaces. COVID-19 is a new virus, and there are continued efforts in learning the possible risks associated with cancer patients.

Screening and Treatment During COVID

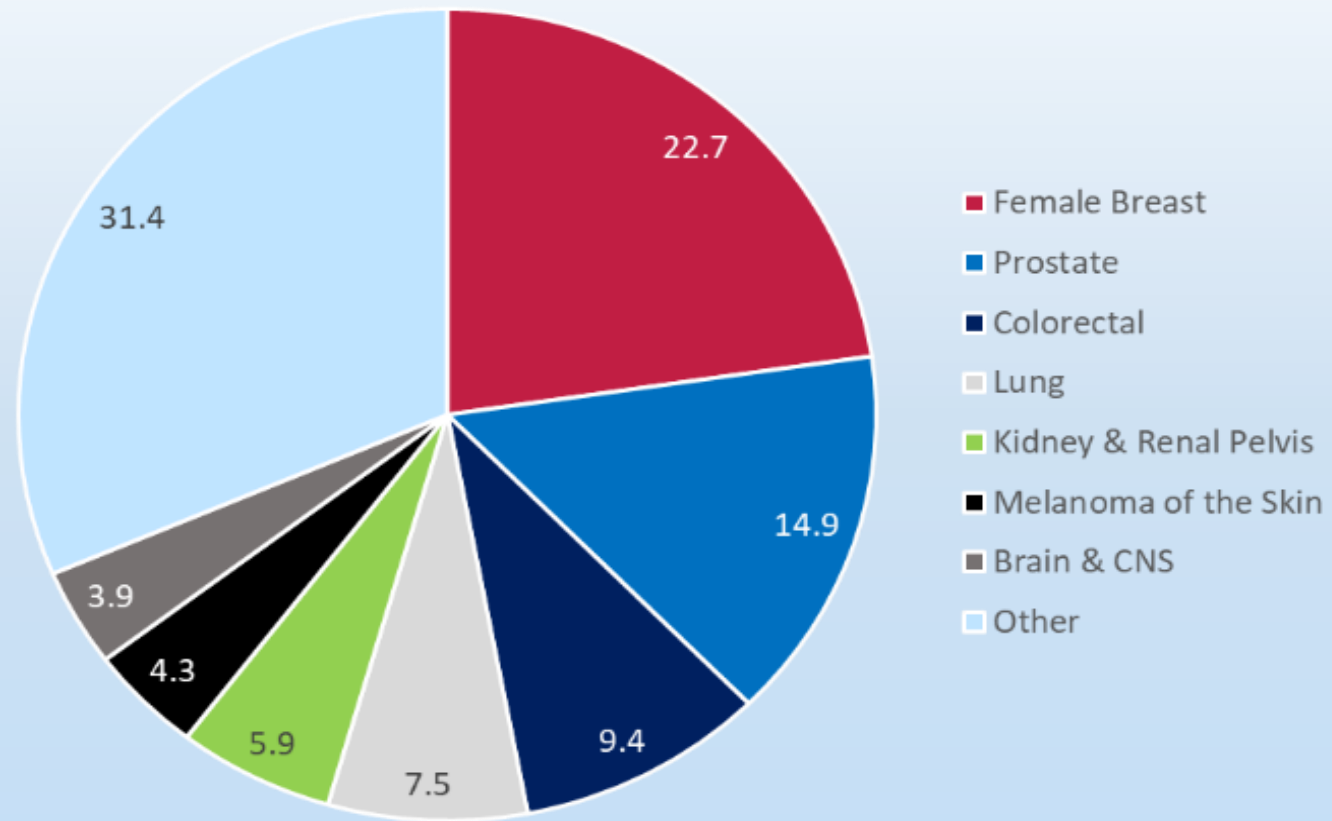
Cancer screenings are important for reducing cancer mortality by removing precancerous lesions or detecting cancer at early stages when treatment is most effective. During the start of the COVID-19 pandemic, elective procedures, such as cancer screenings, were paused to help reduce the risk of transmission of COVID-19 in health

of John Hopkins University in Baltimore, the concern is not about the delay in a few months of cervical cancer screening, the concern is for institutions to form a plan to deal with a surge in screening and new cancer cases when screening restarts.⁵ She still recommends that providers track delayed screening and send reminders to their patients. Another concern is patients skipping their screening entirely. This could become problematic because exams, like mammograms, are usually performed every 2 years, and if skipped or missed, could result in up to 4 years between tests, which means potential tumors could be larger at presentation.⁵

There is also concern for treatment during this pandemic. During normal times, there is fear and anxiety that play a major role in the course of a patient's disease.⁶ A retrospective study that looked at the effect of fear on female breast cancer patients' decision-making process found that the fear of contracting COVID-19 could have a great impact on treatment refusals.⁶ Treatment refusals can lead to treatment delays, which may eventually result in an increase in locally advanced breast cancer rates over an extended period.⁶ To date, there is no reliable data that could show the effect of the delayed oncological treatment, but rather, we must make educated predictions so clinicians can be prepared. Though states are starting to lift restrictions, this pandemic is still affecting every aspect of health care - including the management of cancer patients. Treatment like radiotherapy can be safely delivered during the COVID-19 pandemic, and therefore should continue along with other treatments deemed safe.⁷ There must be a balancing act between the risk of COVID-19 and succeeding mortality and the increased risk of mortality from delaying cancer treatment.⁷ It is important that oncologists work together to determine the effects of delaying standard treatment, and then work on planning patient management effectively during this pandemic. At this time, screenings and elective procedures have resumed,



Takeaways from the paper



*Cancer Patients Diagnosed with COVID-19 by Cancer Type, Arkansas, 1996 - 2020. Data from 2018-2020 are provisional.



Takeaways from the paper

- White males (71.6%) and females (75.5%) had a higher percentage of COVID-19 cases than black males (28.4%) and black females (24.5%).
- Of the cancer patients diagnosed with COVID-19, 45.4% were hospitalized, and of those hospitalized, 15.7% were intubated
- The data showed that to date, 91% of cancer patients diagnosed with COVID-19 are alive.
- Safe screenings and cancer treatment during the COVID-19 pandemic should continue at the pre-pandemic levels
- Continued monitoring of cancer patients diagnosed with COVID-19 is needed to fully understand the short and long term health effects on this patient population.



Questions?

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