

# Stage at Diagnosis For Selected Types of Cancer in Ohio

Revised October 2022

## Table of Contents

Introduction	1
Data Sources	2
Cervical Cancer	3
Colon and Rectum Cancer	12
Female Breast Cancer	20
Lung and Bronchus Cancer	28
Melanoma of the Skin	34
Oral Cavity and Pharynx Cancer	35
Prostate Cancer	36
Testicular Cancer	37
Screening Recommendations	38
Technical Notes	39
Sources of Data and Additional Information	40

## Introduction

Stage at diagnosis refers to the extent or spread of cancer from the site of origin. Numerous systems have been developed to provide specific rules for categorizing the extent or spread of cancer into distinct stages. These include the American Joint Commission on Cancer's (AJCC) TNM system (based on primary tumor [T], regional lymph nodes [N], and distant metastasis [M]), the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) Program's Extent of Disease (EOD) system, and the SEER Program's SEER summary stage, which is a staging system and that uses clinical and pathological information available in the medical record to characterize the potential growth and spread of cancer into one of five stages.

The staging system used in this report is based on the SEER summary stage. The five stages at which cancer is diagnosed are defined as follows:

***in situ*:** Noninvasive cancer that has not penetrated surrounding tissue.

**Local:** A malignant tumor confined entirely to the organ of origin.

**Regional:** A malignant tumor that has extended beyond the organ of origin directly into surrounding organs or tissues or into regional lymph nodes.

**Distant:** A malignant tumor that has spread to parts of the body (distant organs, tissues, and/or lymph nodes) remote from the primary tumor.

**Unstaged/Unknown:** Insufficient information is available to determine the stage or extent of the disease at diagnosis.

*In situ* and local stage cancers are known as "early stage" cancers, and regional and distant stage cancers are known as "late stage" cancers.

Stage at diagnosis of cancer is an important determinant of survival, with the earliest stages often leading to better prognoses. Early detection through screening is useful in determining the most beneficial treatment and increases the likelihood of long-term survival. This report presents relative survival, which is an estimate of the percentage of individuals who would be expected to survive the effects of their cancer.

To identify cancer at an early stage, screening methods have been developed for many types of cancer. Methods of screening vary by type of cancer, but may include self-examination, physical examination by a health professional, imaging (e.g., X-rays, ultrasound), and/or laboratory tests. The U.S. Preventive Services Task Force (USPSTF) reviews evidence regarding the effectiveness, accuracy, and the potential for harm to determine whether or not to recommend screening for a given cancer. This report concerning cancer stage at diagnosis in Ohio focuses on the four types of cancer for which the USPSTF gives Grade A or Grade B screening recommendations. Grade A is defined as a recommendation with a high certainty that the net benefit of screening is substantial, and Grade B is defined as a recommendation with a high certainty that the net benefit of screening is moderate or a moderate certainty that the net benefit is moderate to substantial.

These cancer types are: cervix; colon and rectum; female breast; and lung and bronchus. USPSTF screening recommendations for these four cancer sites are shown in Table A1. In addition, information about other types of cancer for which screening tests are available (melanoma of the skin, oral cavity and pharynx, prostate, and testis) is also presented.

The purpose of this report is to provide information to help prioritize areas and populations in Ohio for early detection and treatment programs, and to assist in the evaluation of these programs.

## Data Sources

Cancer incidence (new case) data presented in this report are from the Ohio Cancer Incidence Surveillance System (OCISS) at the Ohio Department of Health (ODH). OCISS, the central cancer registry for Ohio, collects cancer incidence data for all Ohio residents diagnosed with cancer, including data on cancer stage at diagnosis and variables to calculate cancer survival. All Ohio medical providers who diagnose or treat patients with cancer are required, by law, to report each case of cancer to OCISS within six months of diagnosis or first contact.

Cancer mortality (death) data were provided by the Bureau of Vital Statistics at ODH. The Bureau of Vital Statistics receives certificates of death from local vital statistics offices and from other states when an Ohio resident dies outside of Ohio.

Information about cancer screening behaviors (i.e., Pap testing, colon and rectum cancer screening, and mammography), are from the Ohio Behavioral Risk Factor Surveillance System (BRFSS). The Ohio BRFSS is an annual telephone survey conducted by ODH and supported by the Centers for Disease Control and Prevention (CDC). The Ohio BRFSS is the primary source of health information among Ohio residents ages 18 and older and is used to identify emerging health problems; track trends in health risk behaviors over time; and develop, monitor, and evaluate public health programs and policies.

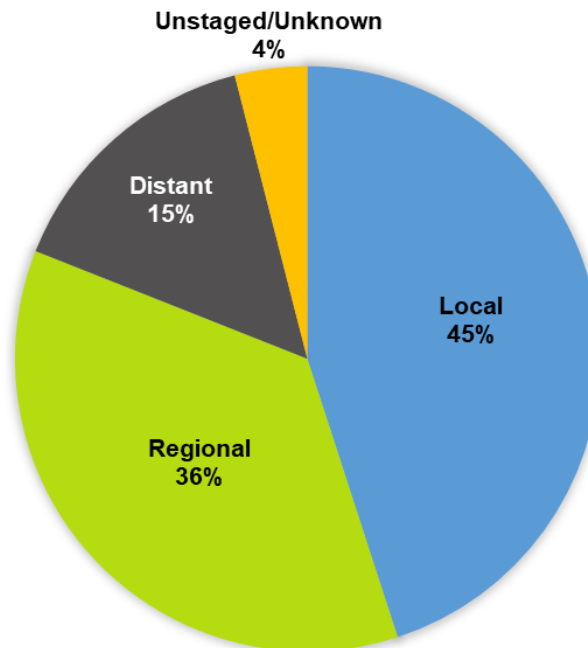
For comparisons to U.S. cancer incidence and mortality rates, an interactive website, SEER\*Explorer, was used (Surveillance Research Program, National Cancer Institute; Available from <https://seer.cancer.gov/explorer/>). SEER\*Explorer presents U.S. cancer incidence rates based on 21 central cancer registries reporting to the Surveillance, Epidemiology, and End Results (SEER) Program and U.S. mortality rates based on U.S. mortality files (National Center for Health Statistics, Centers for Disease Control and Prevention).

---

## Cervical Cancer

- New Cases** An average of 479 invasive cervical cancer cases were diagnosed each year in Ohio in 2014-2018 (Note: *in situ* cervical cancers are not required to be reported in Ohio). The 2014-2018 average annual, age-adjusted cervical cancer incidence rate in Ohio (7.9 per 100,000 women) is similar to the rate in the United States (7.5 per 100,000 women). Incidence rates have slightly decreased in both Ohio and the United States from 2009 to 2018.
- Deaths** The 2014-2018 average annual, age-adjusted cervical cancer mortality rate in Ohio (2.3 per 100,000 women) is also similar to that in the United States (2.2 per 100,000 women). Mortality rates have slightly decreased in both Ohio and the United States from 2009 to 2018.
- Screening** The USPSTF recommends screening for cervical cancer every three years with cervical cytology (Pap test) alone in women ages 21-29 years. For women ages 30-65 years, the USPSTF recommends screening every three years with cervical cytology alone, every five years with high-risk human papillomavirus (hrHPV) testing alone, or every five years with hrHPV testing in combination with cytology (co-testing).

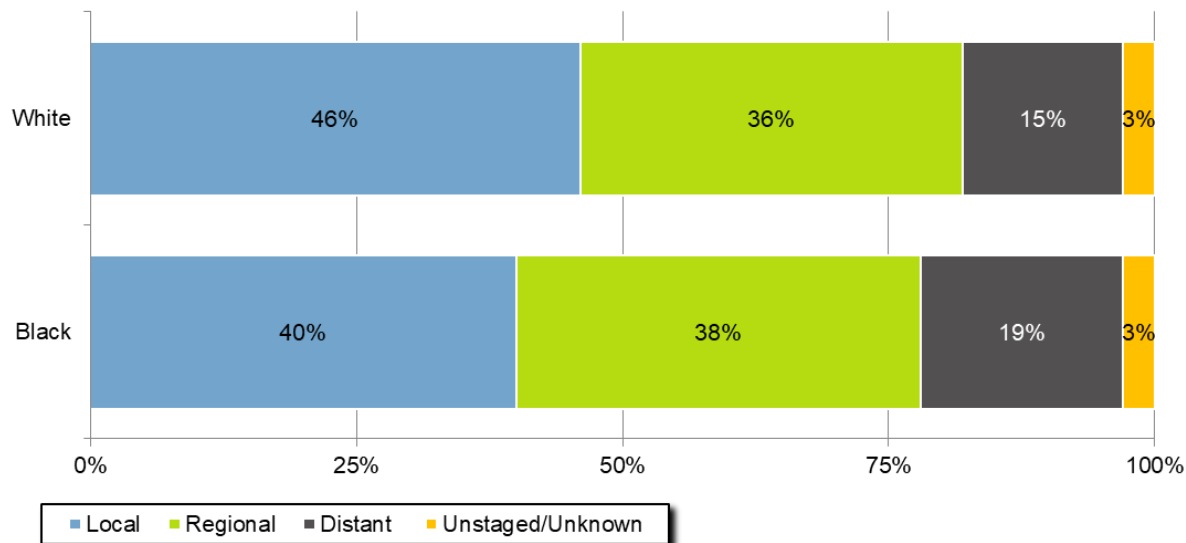
**Figure 1.1. Cervical Cancer: Proportion of Cases (%) by Stage at Diagnosis in Ohio, 2014-2018**



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

- Approximately half of cervical cancers in Ohio were diagnosed at either the regional or distant stage in 2014-2018.

**Figure 1.2. Cervical Cancer: Proportion of Cases (%) by Stage at Diagnosis and Race in Ohio, 2014-2018**

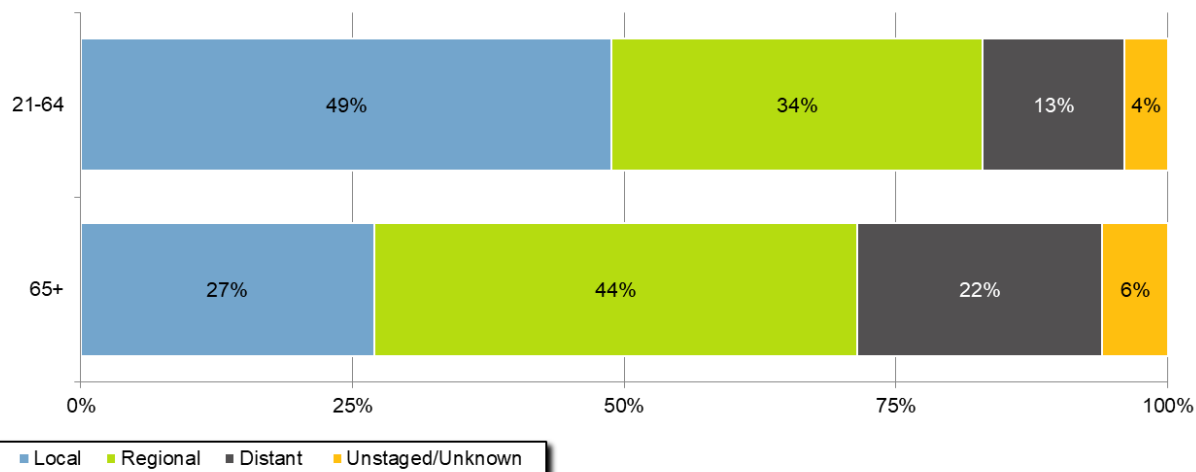


Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

Asian/Pacific Islander, American Indian/Alaskan Native, Other, and Unknown races are not presented due to small numbers.

- The percentage of cervical cancers diagnosed at the local stage was higher among white Ohioans than Black Ohioans, while the percentages of regional and distant stage cancers were higher among Black Ohioans than white Ohioans in 2014-2018.

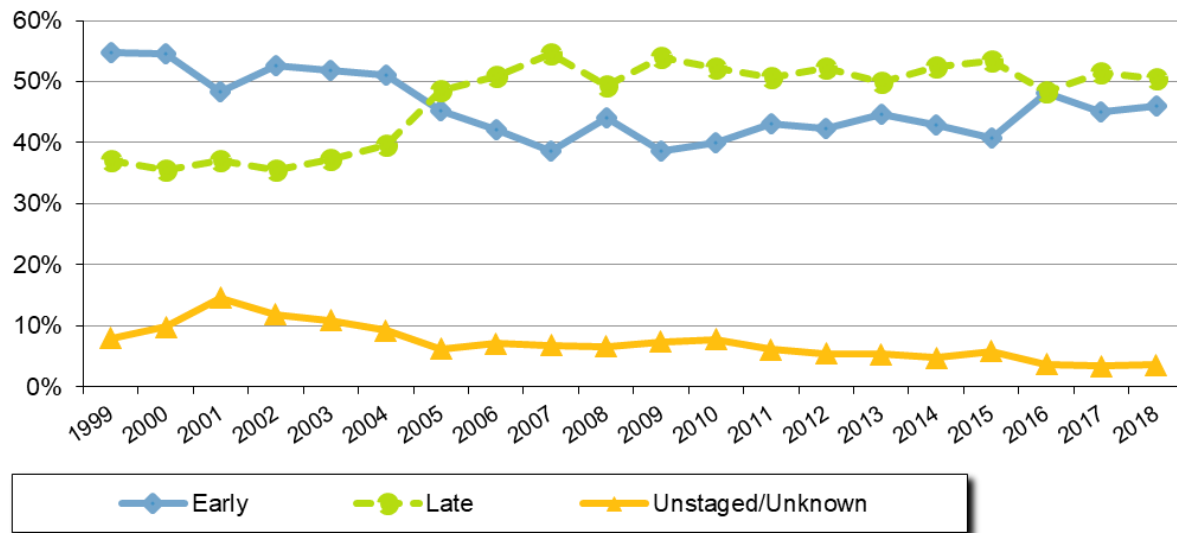
**Figure 1.3. Cervical Cancer: Proportion of Cases (%) by Stage at Diagnosis and Age Group in Ohio, 2014-2018**



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

- In Ohio in 2014-2018, the percentage of cervical cancers diagnosed at the local stage was higher among women ages 21-64 years, and the percentages diagnosed at the regional and distant stages were higher among women ages 65 years and older.

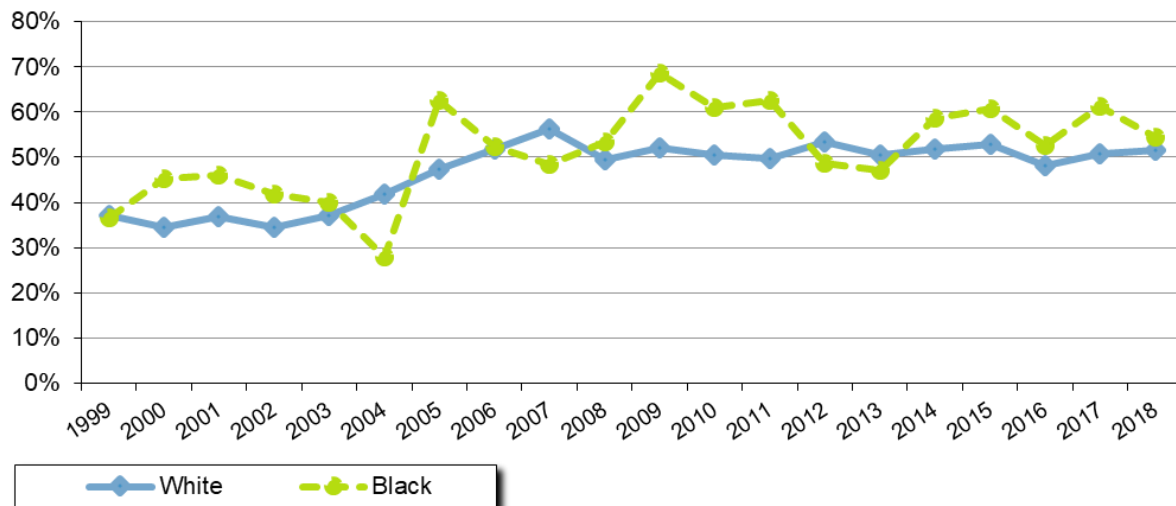
**Figure 1.4. Cervical Cancer: Trends in the Proportion of Cases (%) by Stage at Diagnosis in Ohio, 1999-2018**



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

- The proportion of cervical cancer cases diagnosed at an early stage decreased from 1999 to 2007, remained relatively stable from 2008 through 2015, then increased slightly in 2016-2018. The decrease in early stage cervical cancer from 1999 to 2007 was accompanied by an increase in the proportion diagnosed at a late stage.
- The proportion of cervical cancer cases that were unstaged/unknown stage decreased from 2001 to 2018.

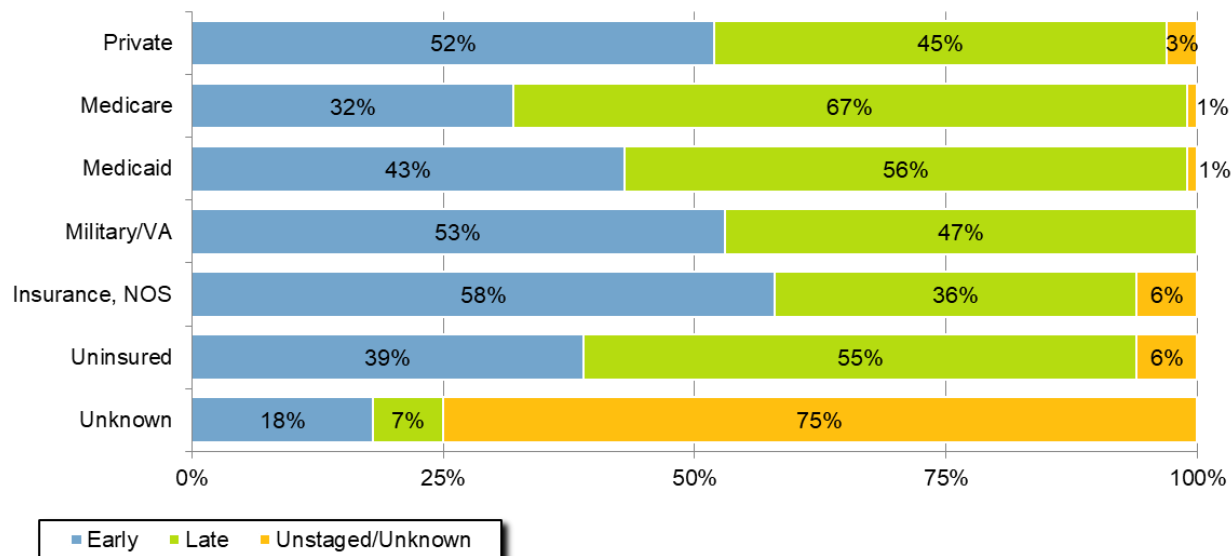
**Figure 1.5. Cervical Cancer: Trends in the Proportion of Cases (%) Diagnosed at a Late (Regional or Distant) Stage by Race in Ohio, 1999-2018**



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

- The proportion of cervical cancer cases diagnosed at a late stage was variable for both white and Black Ohioans but generally increased from 1999 to 2018.

**Figure 1.6. Cervical Cancer: Proportion of Cases (%) by Stage and Primary Payer (Insurance) at Diagnosis in Ohio, 2014-2018**



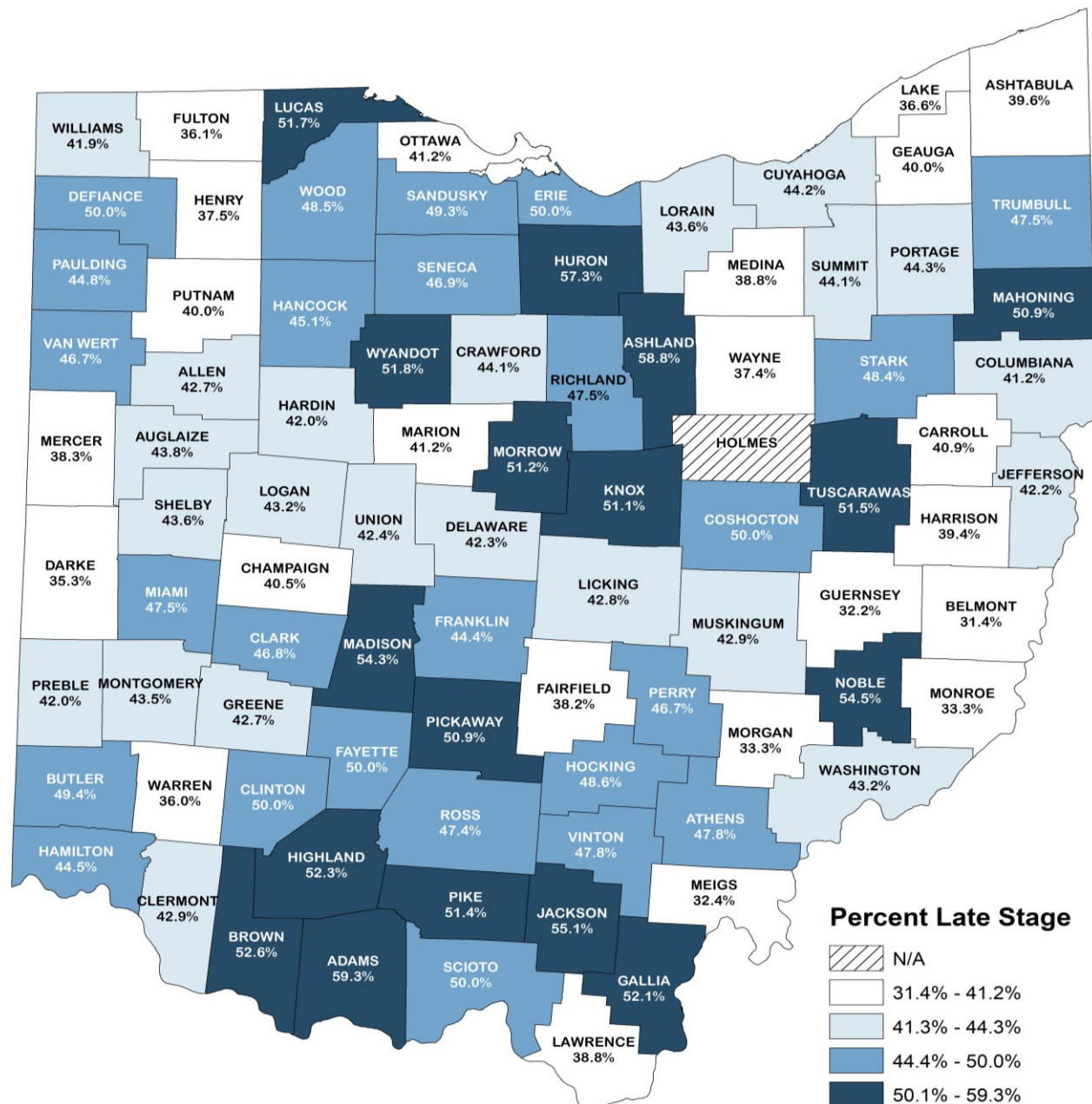
Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

VA = Veteran's Affairs.

NOS = Not otherwise specified.

- The proportion of cervical cancer cases diagnosed at a late stage varied by primary payer at diagnosis, with uninsured cases and cases with Medicare and Medicaid having the highest percentages diagnosed at a late stage.

**Figure 1.7. Cervical Cancer: Proportion of Cases (%) Diagnosed at a Late (Regional or Distant) Stage by County of Residence in Ohio, 2014-2018**



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

N/A: Proportion not presented when the count for 2014-2018 is less than five (i.e., the average annual count is less than one).

Each category represents approximately 25% of the 88 Ohio counties.

- The proportion of cervical cancer cases diagnosed at a late stage in 2014-2018 varied by Ohio county of residence, with higher proportions diagnosed at a late stage in some southern and rural counties.



**Table 1.1. Prevalence of Pap Testing (Past 3 Years) Among Women Ages 21-65 Years by Demographic Characteristics in Ohio, 2020**

Demographic Characteristics	Pap Test (Past 3 Years, Women 21-65)	
	Prevalence (%)	95% Confidence Interval
<b>Total</b>	77.4	75.3 - 79.5
<b>Age</b>		
21-24	57.2	48.2 - 66.2
25-34	81.4	76.8 - 85.9
35-44	81.7	77.9 - 85.5
45-54	80.6	76.9 - 84.4
55-65	74.6	71.0 - 78.1
<b>Race/Ethnicity</b>		
White, Non-Hispanic	76.3	74.0 - 78.6
Black, Non-Hispanic	85.1	78.6 - 91.5
Hispanic	77.4	64.3 - 90.6
Other, Non-Hispanic	77.1	63.8 - 90.3
Multi-Racial	80.2	69.2 - 91.1
<b>Annual Household Income</b>		
<\$15,000	71.0	63.2 - 78.8
\$15,000-\$24,999	70.4	63.9 - 76.9
\$25,000-\$34,999	75.5	67.8 - 83.3
\$35,000-\$49,999	75.4	69.2 - 81.5
\$50,000-\$74,999	80.2	75.2 - 85.3
\$75,000+	84.7	81.5 - 87.9
<b>Education</b>		
Less than High School	65.6	55.3 - 76.0
High School Diploma	75.2	71.1 - 79.3
Some College	74.9	71.1 - 78.7
College Graduate	84.6	82.0 - 87.2

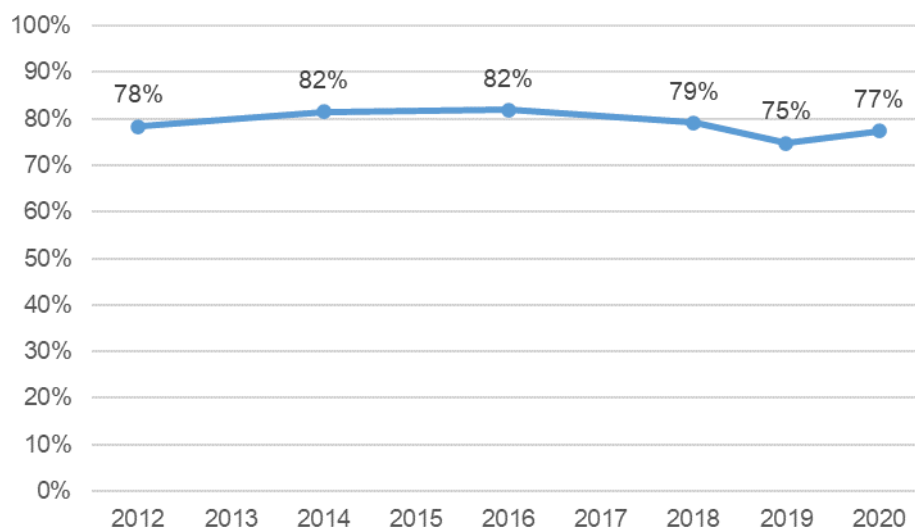
Source: 2020 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2021.

Pap testing is defined here as a women ages 21-65 years who reported having had a Pap test in the past three years.

- The prevalence of Pap testing within the past three years was 77.4% among Ohio women ages 21-65 years.
- The prevalence of Pap testing in the past three years among women ages 25-34, 35-44 and 45-54 years was significantly higher, compared with women ages 21-24 years.
- The prevalence of having had a Pap test in the past three years increased, in general, with increasing annual household income.
- College graduates were significantly more likely to have had a Pap test in the past three years, compared with those with some college or less education.



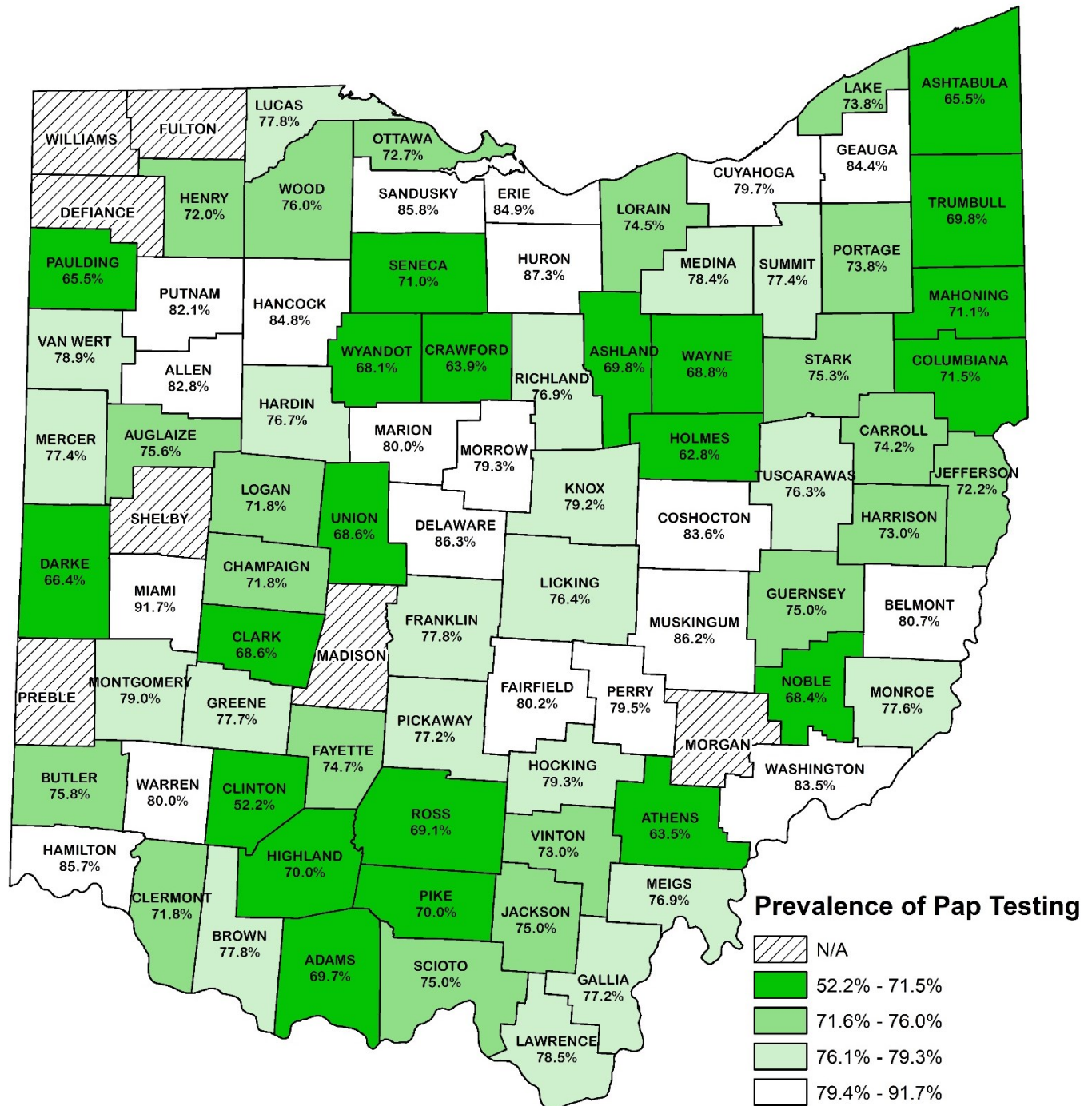
**Figure 1.8. Trend in Prevalence of Women Ages 18 and Older Who Reported Having Had a Pap Test in the Past Three Years in Ohio, 2012-2020**



Source: Ohio 2012-2020 Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2021.  
Pap testing is defined here as a women ages 21-65 years who reported having had a Pap test in the past three years.

- The prevalence of Pap testing among women ages 21-65 years in Ohio has been relatively stable from 2012 to 2020.

**Figure 1.9. Prevalence of Pap Testing in the Past Three Years among Women Ages 21-65 Years by County of Residence in Ohio, 2018-2020**



Source: 2018-2020 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2021.

N/A: Estimates based on fewer than 50 respondents or with a relative standard error greater than 30% are considered statistically unreliable and not reported.

Each category represents approximately 25% of the 88 Ohio counties.

Pap testing is defined here as a women ages 21-65 years who reported having had a Pap test in the past three years.

- The prevalence of Pap testing in the past three years among adult women ages 21-65 years was lower in rural counties in Ohio, with pockets of lower prevalence in southern and northeastern Ohio.

**Table 1.2. Cervical Cancer: Five-year Relative Survival (%) by Stage at Diagnosis and Race in Ohio, 2011-2017**

Five-year Relative Survival (%)			
Stage	Overall	White Female	Black Female
All Stages	68.6%	68.6%	63.2%
Localized	92.3%	92.6%	85.9%
Regional	60.5%	60.6%	55.6%
Distant	15.3%	14.4%	19.3%

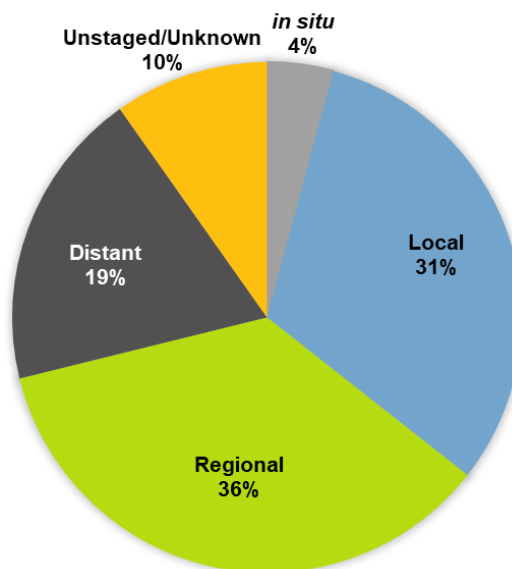
Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

- The five-year relative survival for cervical cancer decreased considerably with advancing stage at diagnosis, ranging from 92.3% among women diagnosed at the local stage to 15.3% among women diagnosed at the distant stage.
- The five-year relative survival for cervical cancer was lower overall for Black women, compared with white women.

## Colon and Rectum Cancer

- New Cases** An average of 5,914 invasive and 260 *in situ* colon and rectum cancer cases were diagnosed each year in Ohio in 2014-2018. The 2014-2018 average annual, age-adjusted colon and rectum cancer incidence rate in Ohio (41.3 per 100,000 persons) is slightly higher than the rate in the United States (37.8 per 100,000 persons). Incidence rates have decreased in both Ohio and the United States from 2009 to 2018.
- Deaths** The 2014-2018 average annual, age-adjusted colon and rectum cancer mortality rate in Ohio (15.2 per 100,000 persons) is also slightly higher than the U.S. mortality rate (13.7 per 100,000 persons). Mortality rates have decreased in both Ohio and the United States from 2009 to 2018.
- Screening** The USPSTF recommends screening for colon and rectum cancer among individuals ages 45-75 years. Several recommended screening tests are available including the high-sensitivity guaiac fecal occult blood test (HSgFOBT) or fecal immunochemical test (FIT) every year; stool DNA-FIT every one to three years; computed tomography colonography every five years; flexible sigmoidoscopy every five years; flexible sigmoidoscopy every 10 years with annual FIT; and colonoscopy screening every 10 years. Clinicians and patients may consider a variety of factors in deciding which test may be best for each person.

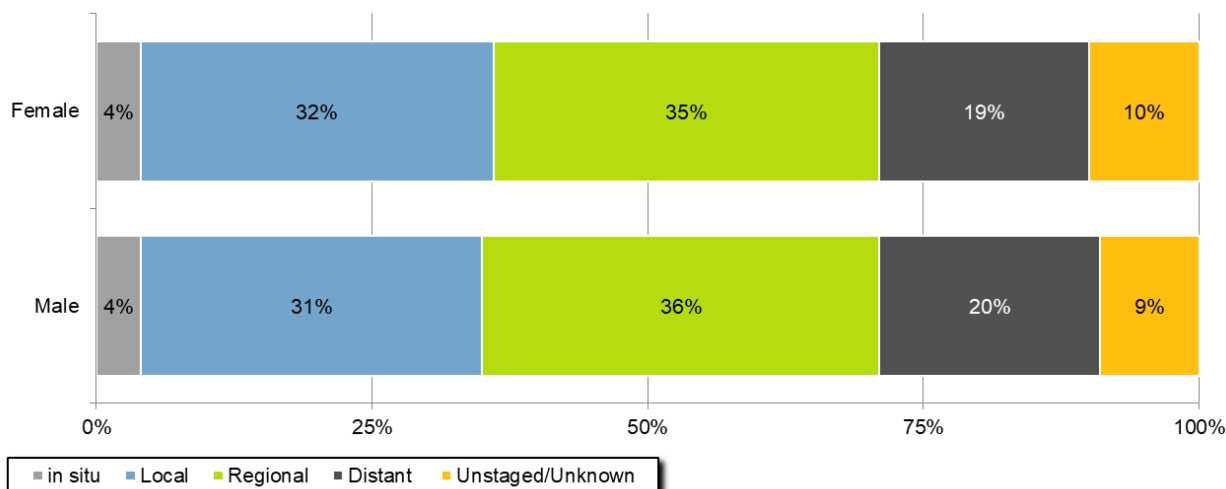
**Figure 2.1. Colon and Rectum Cancer: Proportion of Cases (%) by Stage at Diagnosis in Ohio, 2014-2018**



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

- More than half of colon and rectum cancers in Ohio were diagnosed at either the regional or distant stage in 2014-2018.

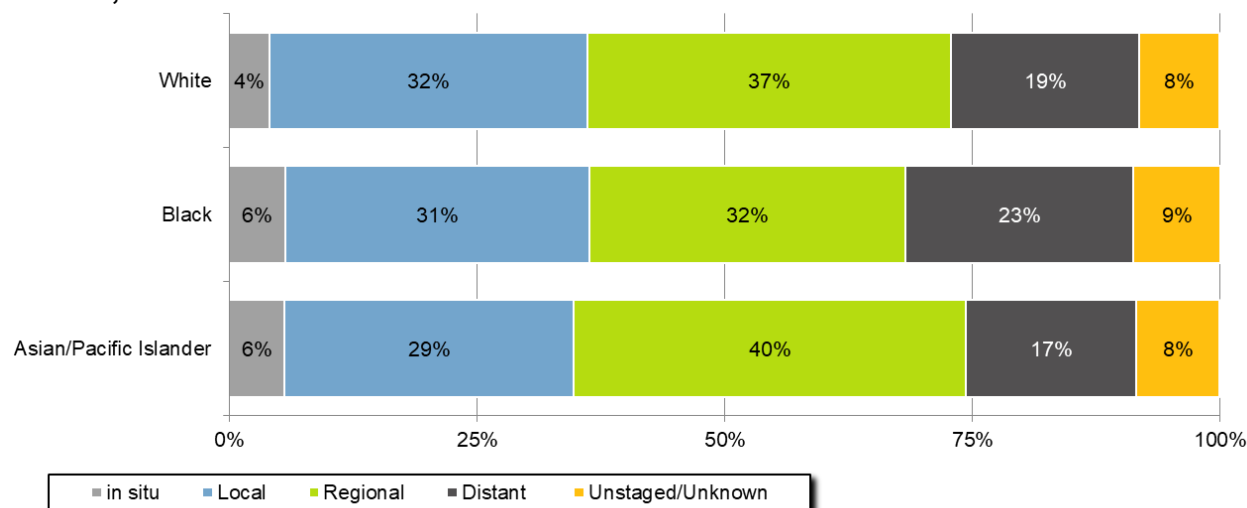
**Figure 2.2. Colon and Rectum Cancer: Proportion of Cases (%) by Stage at Diagnosis and Sex in Ohio, 2014-2018**



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

- The percentage of colon and rectum cancers diagnosed at each stage was similar among females and males in Ohio in 2014-2018.

**Figure 2.3. Colon and Rectum Cancer: Proportion of Cases (%) by Stage at Diagnosis and Race in Ohio, 2014-2018**

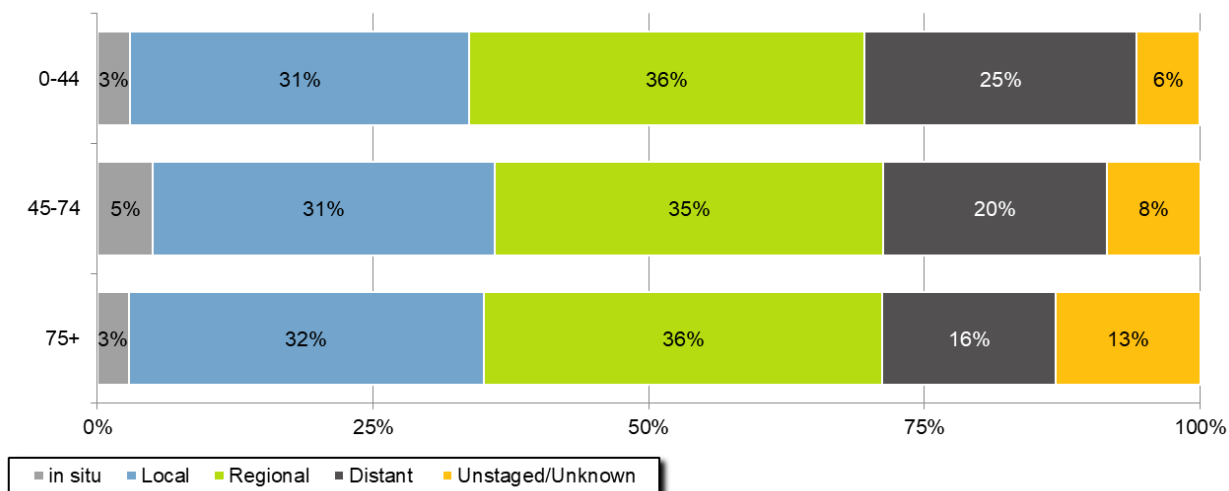


Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

American Indian/Alaskan Native, Other races, and Unknown races are not presented due to small numbers.

- In 2014-2018, the percentage of colon and rectum cancers diagnosed at the regional stage was highest among Asian/Pacific Islander Ohioans, whereas the percentage of colon and rectum cancers diagnosed at the distant stage was highest among Black Ohioans.

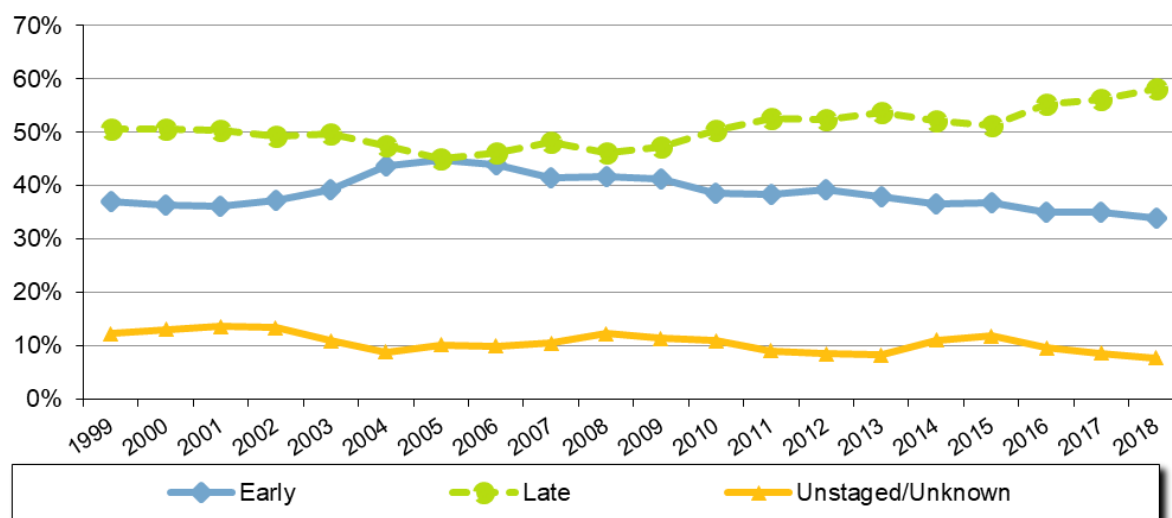
**Figure 2.4. Colon and Rectum Cancer: Proportion of Cases (%) by Stage at Diagnosis and Age Group in Ohio, 2014-2018**



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

- In Ohio in 2014-2018, the percentages of colon and rectum cancers diagnosed at the *in situ*, local, and regional stages were similar among those in different age groups, while the percentage diagnosed at the distant stage was higher among those ages 0-44 years.

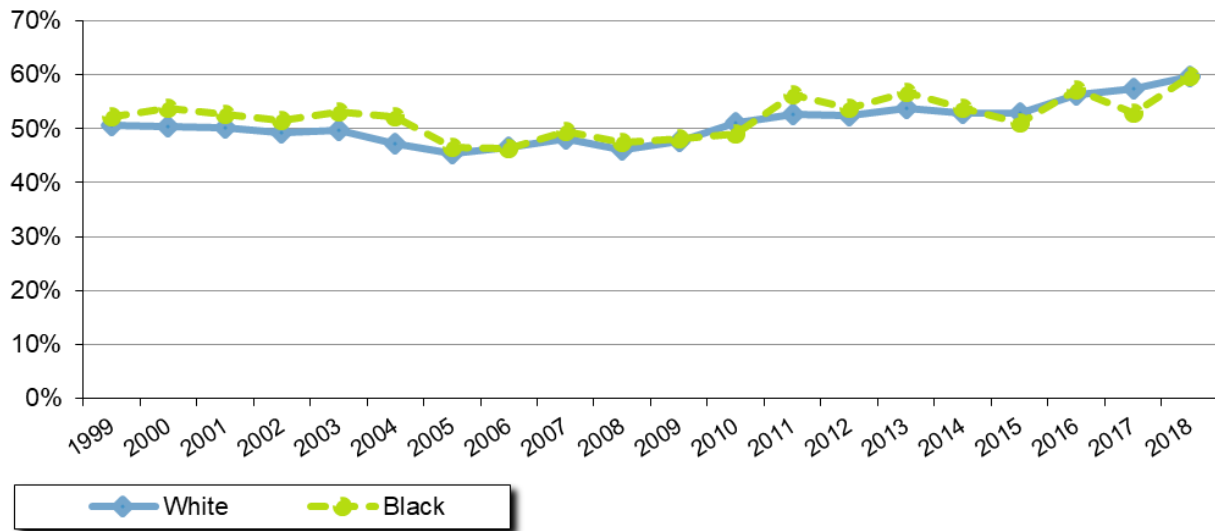
**Figure 2.5. Colon and Rectum Cancer: Trends in the Proportion of Cases (%) by Stage at Diagnosis in Ohio, 1999-2018**



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

- The proportion of colon and rectum cancer cases diagnosed at a late stage remained relatively stable, near 50%, from 1999 to 2015, then increased through 2018. The proportion diagnosed at an early stage was relatively stable from 1999 to 2001, then slightly increased through 2005, followed by a decrease through 2018.
- The proportion of colon and rectum cancer cases that were unstaged/unknown stage remained relatively stable, near 10%, from 1999 to 2018.

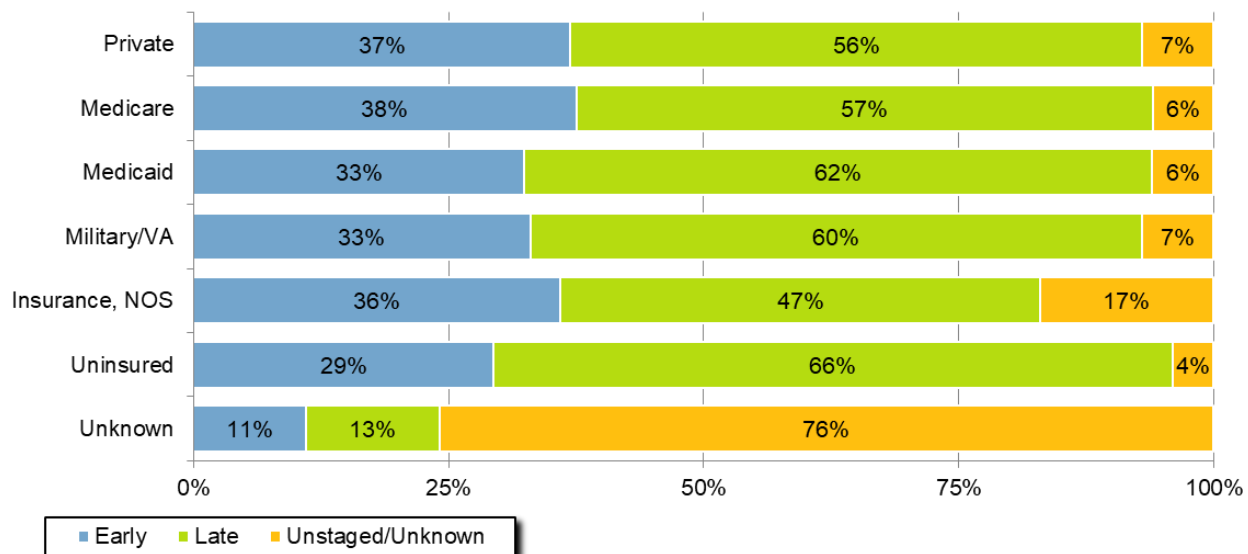
**Figure 2.6. Colon and Rectum Cancer: Trends in the Proportion of Cases (%) Diagnosed at Late (Regional or Distant) Stage by Race in Ohio, 1999-2018**



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

- The proportion of colon and rectum cancer cases diagnosed at a late stage was similar from 1999 to 2018 among white and Black Ohioans.

**Figure 2.7. Colon and Rectum Cancer: Proportion of Cases (%) by Stage and Primary Payer (Insurance) at Diagnosis in Ohio, 2014-2018**



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

VA = Veteran's Affairs.

NOS = Not Otherwise Specified.

- The proportion of colon and rectum cancer cases diagnosed at a late stage varied by primary payer at diagnosis, with uninsured cases and cases with Medicaid having the highest percentages diagnosed at a late stage.



**Percent Late Stage**

- 40.0% - 47.7%
- 47.8% - 50.1%
- 50.2% - 52.7%
- 52.8% - 61.3%

- The proportion of colon and rectum cancer cases diagnosed at a late stage varied by Ohio county of residence, with higher proportions diagnosed at a late stage in some counties in central and south-central Ohio.

**Table 2.1. Prevalence of Colon and Rectum Cancer Screening Among Adults Ages 50-75 Years by Demographic Characteristics in Ohio, 2020**

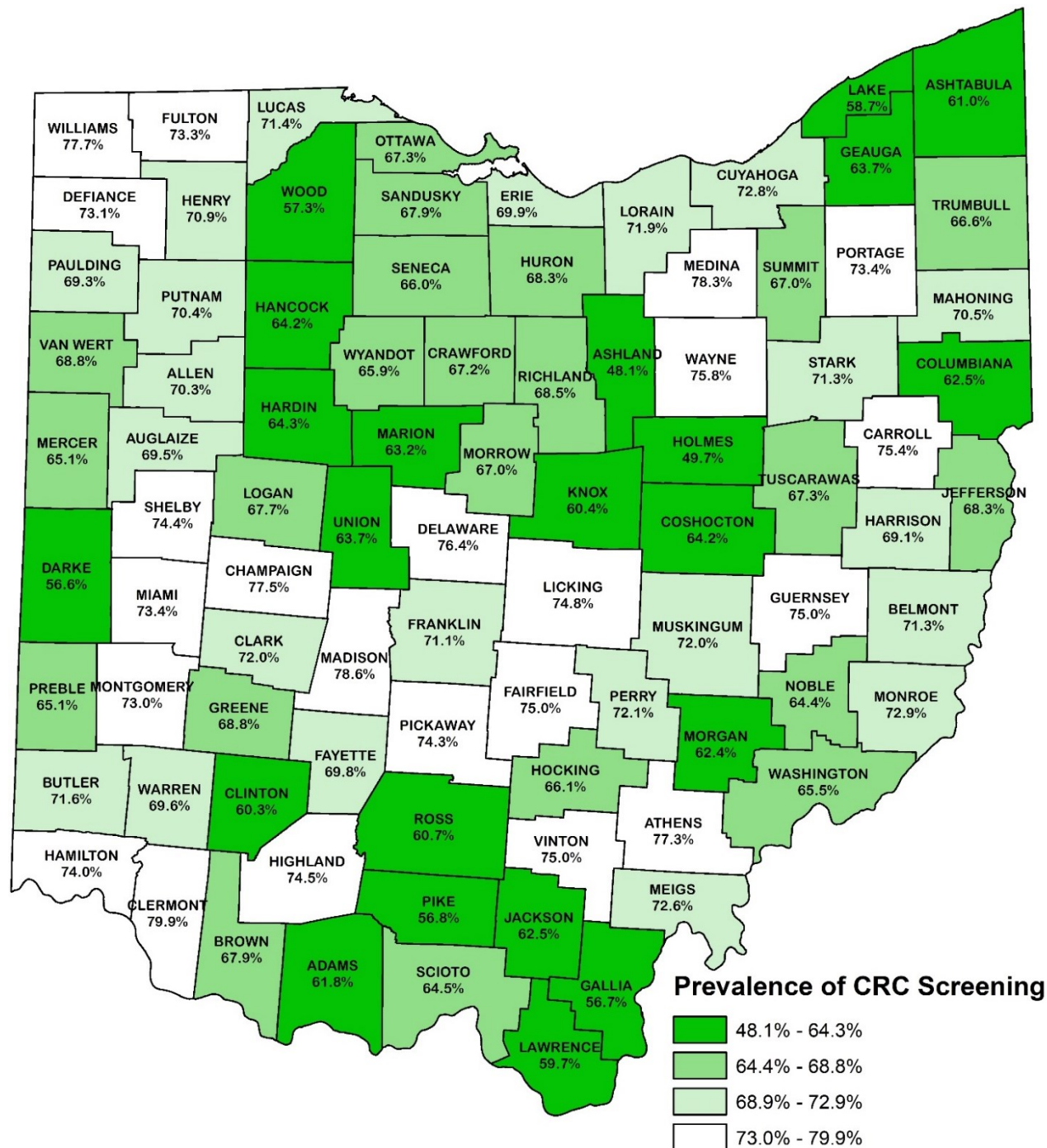
	<b>Colon and Rectum Cancer Screening (Adults 50-75)</b>	
<b>Demographic Characteristics</b>	<b>Prevalence (%)</b>	<b>95% Confidence Interval</b>
<b>Total</b>	74.2	72.7 - 75.7
<b>Age</b>		
50-54	54.3	50.1 - 58.4
55-64	75.2	72.9 - 77.5
65-75	83.2	81.2 - 85.1
<b>Sex</b>		
Male	72.4	70.1 - 74.7
Female	75.8	73.8 - 77.9
<b>Race/Ethnicity</b>		
White, Non-Hispanic	74.5	72.9 - 76.0
Black, Non-Hispanic	76.3	70.6 - 82.0
Hispanic	76.9	64.1 - 89.6
Other, Non-Hispanic	59.5	43.3 - 75.6
Multi-Racial	64.9	50.5 - 79.3
<b>Annual Household Income</b>		
<\$15,000	65.2	59.1 - 71.2
\$15,000-\$24,999	73.1	68.9 - 77.2
\$25,000-\$34,999	73.0	67.5 - 78.4
\$35,000-\$49,999	73.6	69.1 - 78.1
\$50,000-\$74,999	73.5	69.5 - 77.5
\$75,000+	76.4	73.6 - 79.2
<b>Education</b>		
Less than High School	63.2	56.3 - 70.1
High School Diploma	71.8	69.2 - 74.4
Some College	76.9	74.2 - 79.6
College Graduate	77.8	75.4 - 80.3

Source: 2020 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2021.

Colon and rectum cancer screening is defined here as an individual ages 50-75 years who reported having had a high-sensitivity fecal occult blood test (FOBT) in the past year; or a sigmoidoscopy in the past five years with an FOBT in the past three years; or a colonoscopy in the past 10 years.

- The prevalence of colon and rectum cancer screening was 74.2% among Ohioans ages 50-75 years in 2020.
- The prevalence of colon and rectum cancer screening increased significantly through each age group.
- In 2020, the prevalence of colon and rectum cancer screening did not significantly differ among males and females.
- The prevalence of colon and rectum cancer screening increased, in general, with increasing annual household income and education.

**Figure 2.9. Prevalence of Colon and Rectum Cancer Screening among Adults Ages 50-75 Years by County of Residence in Ohio, 2018-2020**



Source: 2018-2020 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2021.

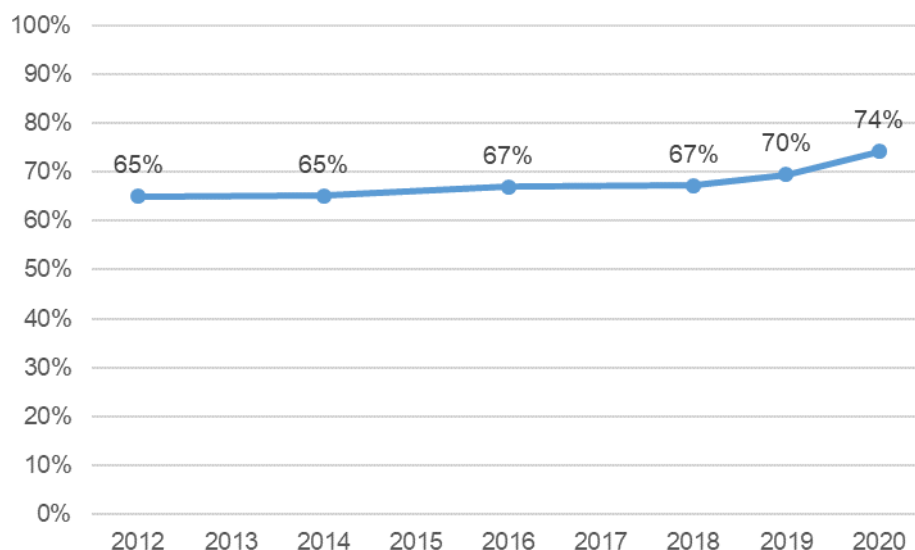
Each category represents approximately 25% of the 88 Ohio counties.

CRC = Colon and rectum cancer.

Colon and rectum cancer screening is defined here as an individual ages 50-75 years who reported having had a high-sensitivity fecal occult blood test (FOBT) in the past year; or a sigmoidoscopy in the past five years with an FOBT in the past three years; or a colonoscopy in the past 10 years.

- The prevalence of colon and rectum cancer screening among adults ages 50-75 years is lower in some rural counties in Ohio, compared with urban counties.

**Figure 2.10. Trend in Prevalence of Colon and Rectum Cancer Screening among Adults Ages 50-75 Years in Ohio, 2012- 2020**



Source: 2012-2020 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2021.

Colon and rectum cancer screening is defined here as an individual ages 50-75 years who reported having had a high-sensitivity fecal occult blood test (FOBT) in the past year; or a sigmoidoscopy in the past five years with an FOBT in the past three years; or a colonoscopy in the past 10 years.

- The prevalence of colon and rectum cancer screening increased from 2012 through 2020.

**Table 2.2. Colon and Rectum Cancer: Five-year Relative Survival (%) by Stage at Diagnosis and Race in Ohio, 2011-2017**

Five-year Relative Survival (%)					
Stage	Overall	White Male	White Female	Black Male	Black Female
All Stages	64.9%	64.3%	65.0%	68.6%	63.2%
Local	90.3%	89.9%	90.2%	90.8%	91.2%
Regional	73.1%	72.5%	74.7%	67.6%	70.1%
Distant	15.2%	14.7%	16.0%	15.3%	9.8%

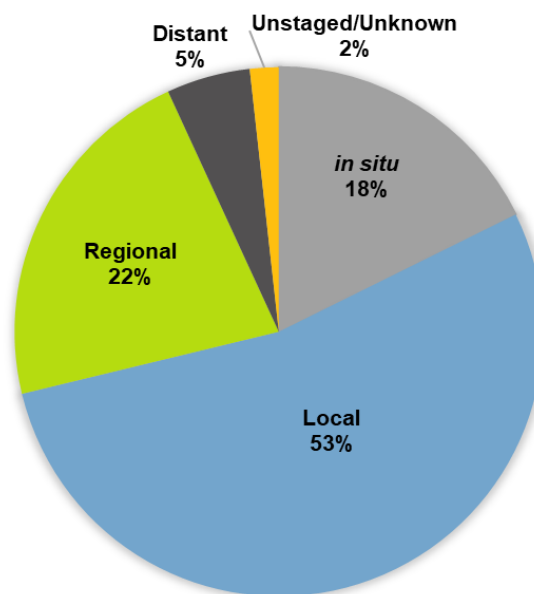
Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

- Five-year relative survival for those diagnosed with colon and rectum cancer decreased considerably with advancing stage at diagnosis.
- Five-year relative survival for colon and rectum cancer was similar by sex and race.

## Female Breast Cancer

- New Cases** An average of 9,703 invasive and 2,085 *in situ* female breast cancer cases were diagnosed each year in 2014-2018 in Ohio. The 2014-2018 average annual, age-adjusted female breast cancer incidence rate in Ohio (129.6 per 100,000 women) is similar to the rate in the United States (129.1 per 100,000 women). Incidence rates have slightly increased in Ohio from 2009 to 2018, whereas rates remained relatively stable during this period in the United States.
- Deaths** The average annual, age-adjusted female breast cancer mortality rate in Ohio (21.9 per 100,000 women) is slightly higher than that in the United States (20.1 per 100,000 women). Mortality rates have decreased in both Ohio and the United States from 2009 to 2018.
- Screening** For women ages 50-74 years, the USPSTF recommends mammography screening every two years.

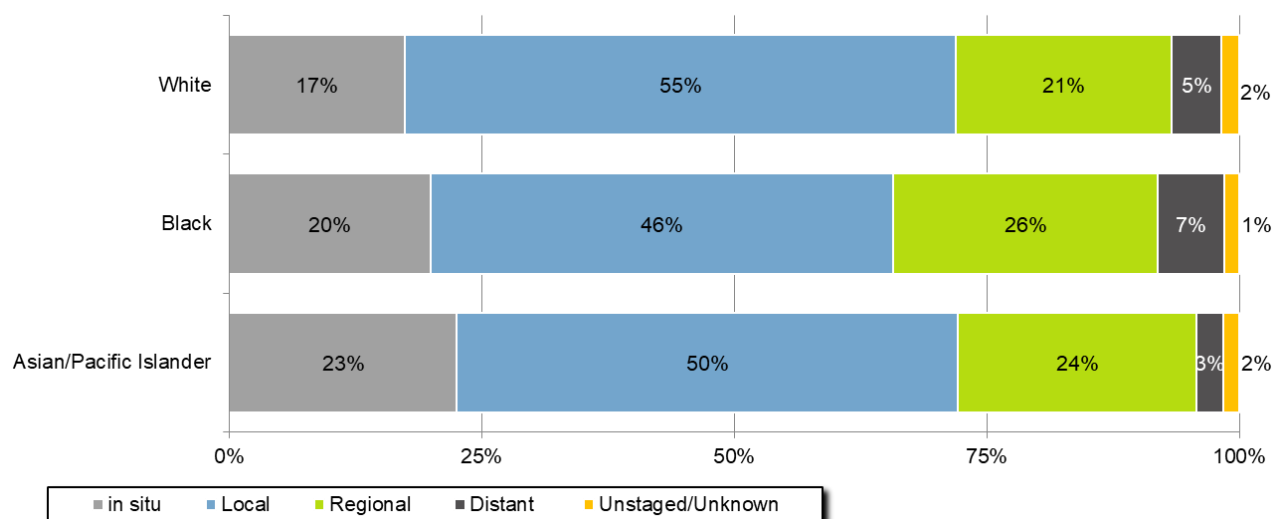
**Figure 3.1. Female Breast Cancer: Proportion of Cases (%) by Stage at Diagnosis in Ohio, 2014-2018**



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

- More than one quarter of female breast cancers in Ohio were diagnosed at either the regional or distant stage in 2014-2018.

**Figure 3.2. Female Breast Cancer: Proportion of Cases (%) by Stage at Diagnosis and Race in Ohio, 2014-2018**

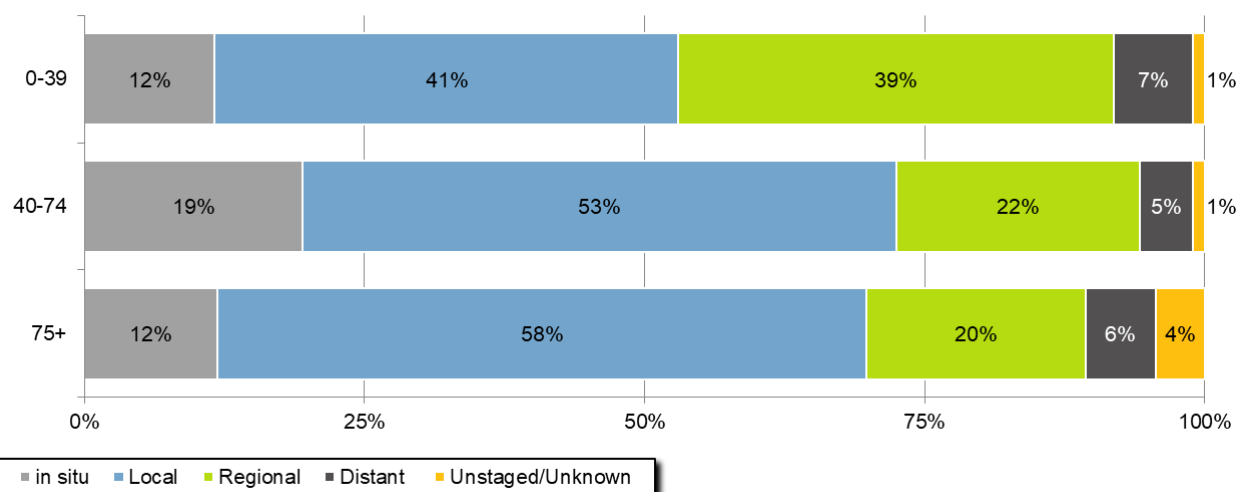


Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

American Indian/Alaskan Native, Other races, and Unknown races are not presented due to small numbers.

- There were slightly higher percentages of Black women in Ohio diagnosed at the regional and distant stages, compared with white and Asian/Pacific Islander women.

**Figure 3.3. Female Breast Cancer: Proportion of Cases (%) by Stage at Diagnosis and Age Group in Ohio, 2014-2018**

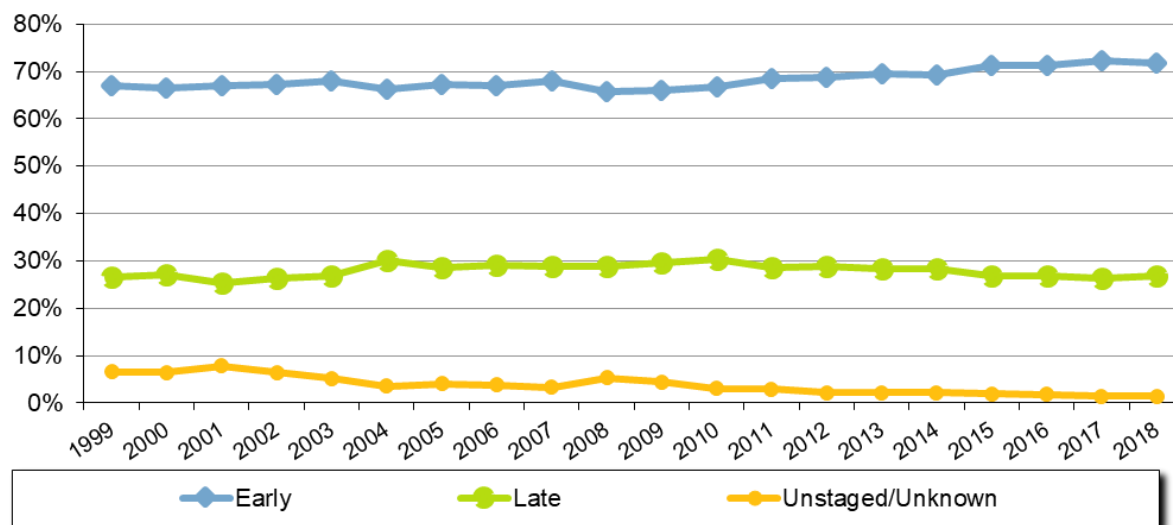


Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

- The percentage of Ohio women ages 0-39 years diagnosed with breast cancer at the regional and distant stages was greater than the percentage for women in older age groups, who were more commonly diagnosed at the local stage.



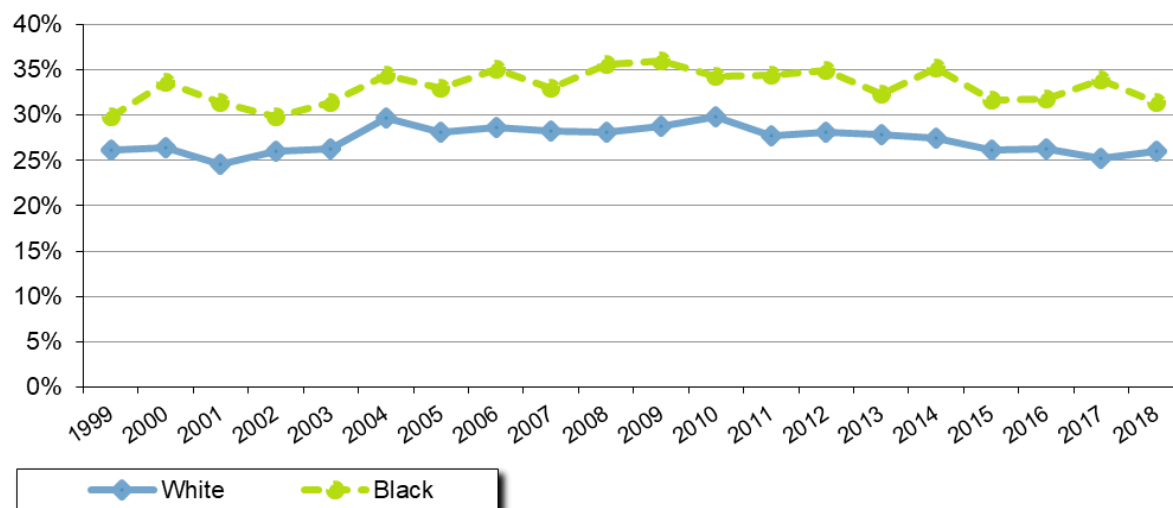
**Figure 3.4. Female Breast Cancer: Trends in the Proportion of Cases (%) by Stage at Diagnosis in Ohio, 1999-2018**



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

- The proportions of female breast cancer cases diagnosed at both an early and a late stage were relatively stable from 1999 to 2018. The proportion of female breast cancer cases that were unstaged/unknown stage slightly decreased from 1999 to 2018.

**Figure 3.5. Female Breast Cancer: Trends in the Proportion of Cases (%) Diagnosed at a Late (Regional or Distant) Stage by Race in Ohio, 1999-2018**

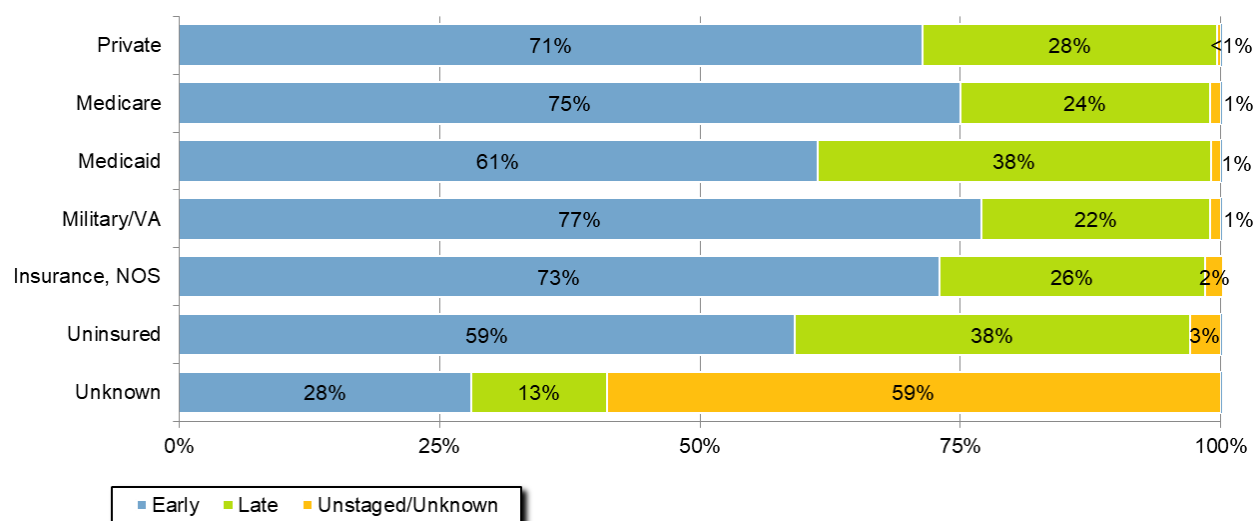


Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

- The proportion of female breast cancer cases diagnosed at a late stage was greater among Black women, compared with white women in Ohio each year from 1999 to 2018.
- From 1999 to 2018, the proportion of female breast cancer cases diagnosed at a late stage ranged from 25% to 30% for white women in Ohio and ranged from 30% to 36% for Black women in Ohio.



**Figure 3.6. Female Breast Cancer: Proportion of Cases (%) by Stage and Primary Payer (Insurance) at Diagnosis in Ohio, 2014-2018**



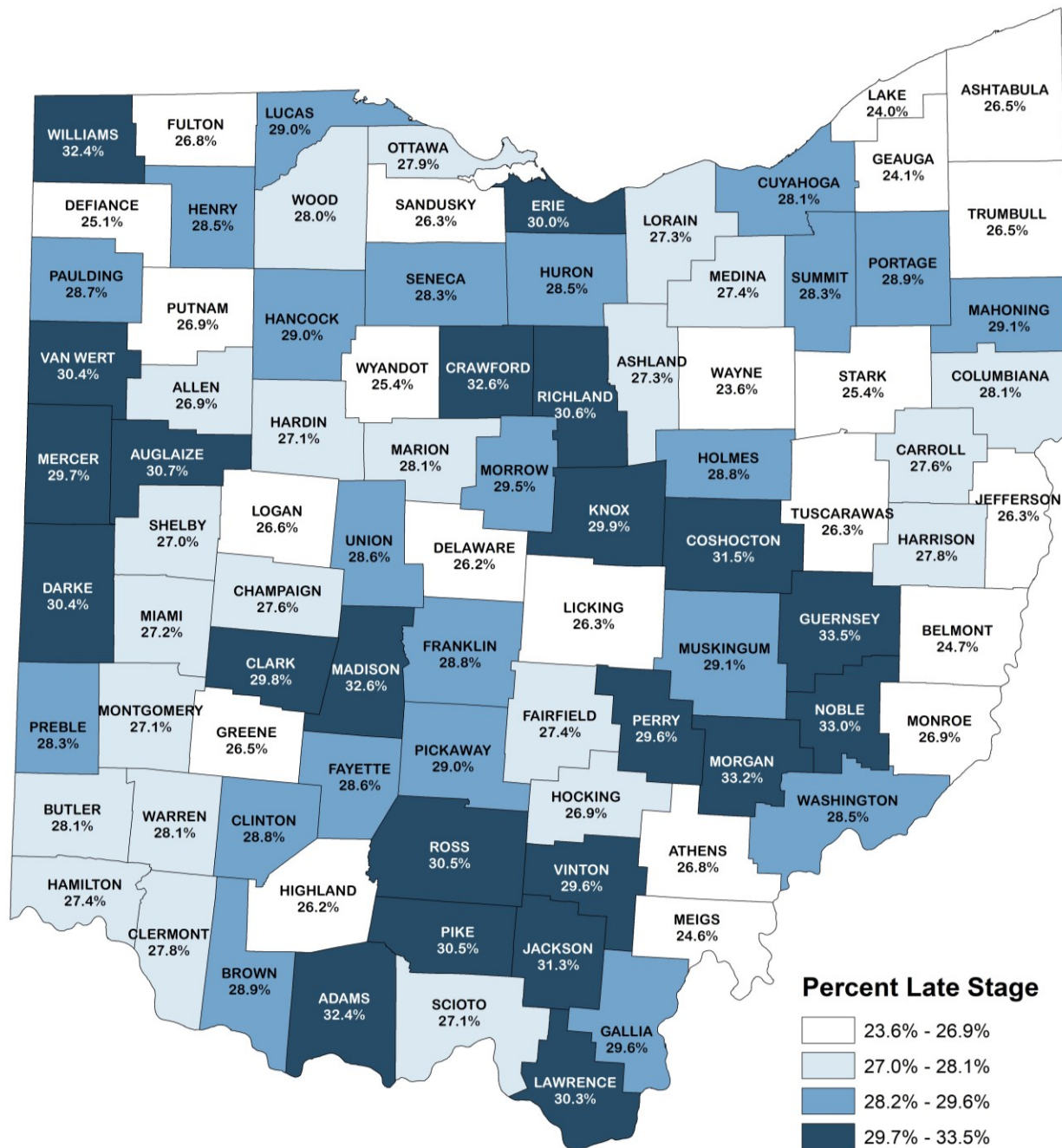
Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

VA = Veteran's Affairs.

NOS = Not Otherwise Specified.

- The proportion of female breast cancer cases diagnosed at a late stage varied by primary payer at diagnosis, with uninsured cases and cases with Medicaid having the highest percentages diagnosed at a late stage.

**Figure 3.7. Female Breast Cancer: Proportion of Cases (%) Diagnosed at a Late (Regional or Distant) Stage by County of Residence in Ohio, 2014-2018**



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.  
Each category represents approximately 25% of the 88 Ohio counties.

- The proportion of female breast cancer cases diagnosed at a late stage varied by Ohio county of residence, with higher proportions diagnosed at a late stage in some pockets of counties in western Ohio and the Appalachian region.

**Table 3.1. Prevalence of Mammography in the Past Two Years among Women Ages 50-74 Years by Demographic Characteristics in Ohio, 2020**

	<b>Mammogram Test (Past 2 Years, Women 50-74)</b>	
<b>Demographic Characteristics</b>	<b>Prevalence (%)</b>	<b>95% Confidence Interval</b>
<b>Total</b>	78.3	76.3 - 80.3
<b>Age</b>		
50-54	70.2	65.1 - 75.3
55-64	79.1	76.0 - 82.1
65-74	81.5	78.8 - 84.3
<b>Race/Ethnicity</b>		
White, Non-Hispanic	78.4	76.3 - 80.4
Black, Non-Hispanic	85.0	79.4 - 90.6
Hispanic	N/A	N/A - N/A
Other, Non-Hispanic	N/A	N/A - N/A
Multi-Racial	N/A	N/A - N/A
<b>Annual Household Income</b>		
<\$15,000	68.9	61.6 - 76.1
\$15,000-\$24,999	73.7	68.2 - 79.1
\$25,000-\$34,999	67.5	59.3 - 75.8
\$35,000-\$49,999	75.5	69.6 - 81.5
\$50,000-\$74,999	79.3	74.1 - 84.4
\$75,000+	86.0	82.9 - 89.2
<b>Education</b>		
Less than High School	70.2	61.5 - 79.0
High School Diploma	75.0	71.4 - 78.5
Some College	78.9	75.4 - 82.5
College Graduate	84.0	81.1 - 87.0

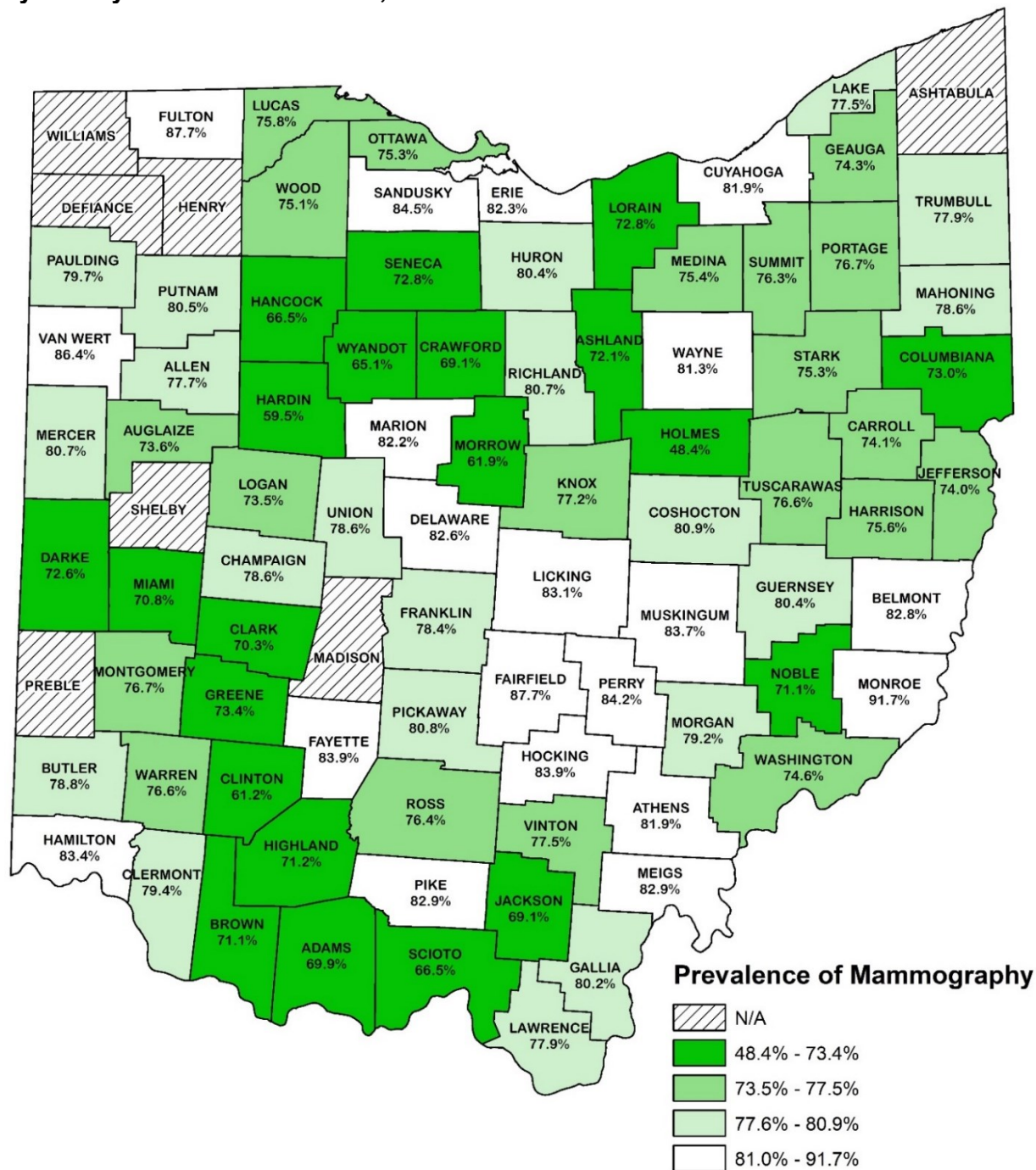
Source: 2020 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2021.

N/A: Estimate does not meet the reliability criteria for reporting set by the CDC.

Mammogram testing is defined here as a women ages 50-74 years who reported having had a mammogram in the past two years.

- The prevalence of mammography in the past two years among Ohio women ages 50-74 years was 78.3%.
- The prevalence of mammography in the past two years was significantly higher among women ages 55-64 and 65-74 years, compared with women ages 50-54 years.
- While the prevalence of mammography in the past two years was higher among Black, non-Hispanic women compared with white, non-Hispanic women, the difference was not statistically significant.
- The prevalence of mammography in the past two years was significantly higher among Ohio women in the highest income category (\$75,000+), compared with those earning less than \$50,000 per year.
- The prevalence of mammography in the past two years increased with increasing education, with a significantly higher prevalence among college graduates, compared with those with a high school diploma or less education.

**Figure 3.8. Prevalence of Mammography in the Past Two Years among Women Ages 50-74 Years by County of Residence in Ohio, 2018-2020**



Source: 2018-2020 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2021.

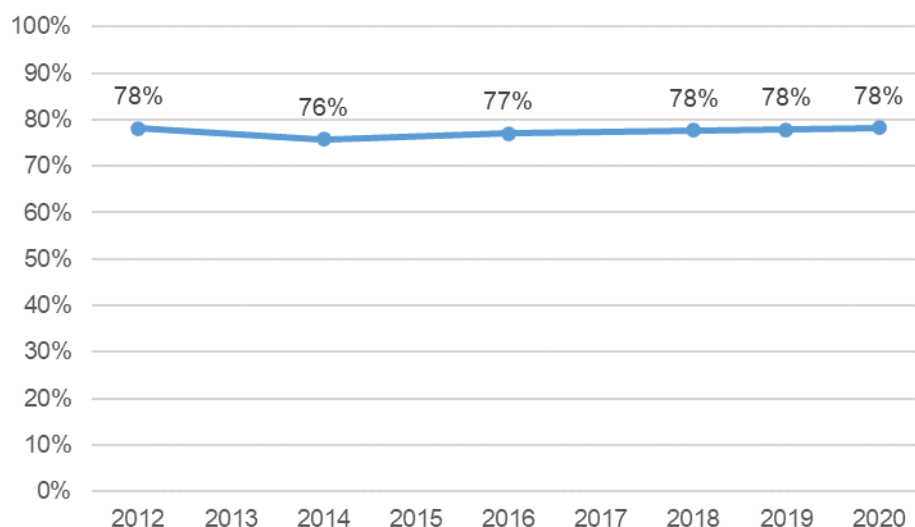
N/A: Estimates based on fewer than 50 respondents or with a relative standard error greater than 30% are considered statistically unreliable and not reported.

Each category represents approximately 25% of the 88 Ohio counties.

Mammogram testing is defined here as a women ages 50-74 years who reported having had a mammogram in the past two years.

- The prevalence of mammography in the past two years among women ages 50-74 years is lower in some rural counties in Ohio, compared with urban counties.

**Figure 3.9. Trend in Prevalence of Mammography among Women Ages 50-74 Years in Ohio, 2012-2020**



Source: 2012-2020 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2021.

Mammogram testing is defined here as a women ages 50-74 years who reported having had a mammogram in the past two years.

- The prevalence of mammography in the past two years was relatively stable from 2012 to 2020.

**Table 3.2. Female Breast Cancer: Five-year Relative Survival (%) by Stage at Diagnosis and Race in Ohio, 2011-2017**

Five-year Relative Survival (%)			
Stage	Overall	White Female	Black Female
All Stages	91.1%	92.0%	83.5%
Localized	100.0%	100.0%	96.0%
Regional	86.7%	87.6%	79.8%
Distant	30.5%	32.2%	19.7%

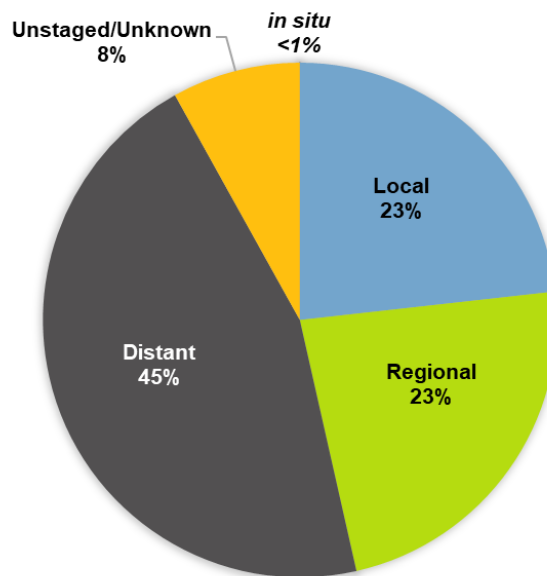
Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

- Five-year relative survival among women with female breast cancer decreased considerably with advancing stage at diagnosis, ranging from 100.0% among those diagnosed at the local stage to 30.5% among those diagnosed at the distant stage.
- Five-year relative survival was lower among Black women, compared with white women for each stage.

## Lung and Bronchus Cancer

- New Cases** An average of 10,058 invasive and 27 *in situ* lung and bronchus cancer cases were diagnosed each year in Ohio in 2014-2018. The average annual (2014-2018), age-adjusted lung and bronchus cancer incidence rate in Ohio (67.3 per 100,000) is 26.7% higher than the rate in the United States (53.1 per 100,000). Incidence rates have decreased in both Ohio and the United States from 2009 to 2018.
- Deaths** The average annual (2014-2018), age-adjusted lung and bronchus cancer mortality rate in Ohio (46.7 per 100,000) is 21.3% higher than that in the United States (38.5 per 100,000). Mortality rates have decreased in both Ohio and the United States from 2009 to 2018.
- Screening** The USPSTF recommends annual screening for lung cancer with low-dose computed tomography (LDCT) in adults ages 50-80 years who have a 20 pack-year smoking history and currently smoke or have quit within the past 15 years. Screening should be discontinued once a person has not smoked for 15 years or develops a health problem that substantially limits life expectancy or the ability or willingness to have curative lung surgery.

**Figure 4.1. Lung and Bronchus Cancer: Proportion of Cases (%) by Stage at Diagnosis in Ohio, 2014-2018**

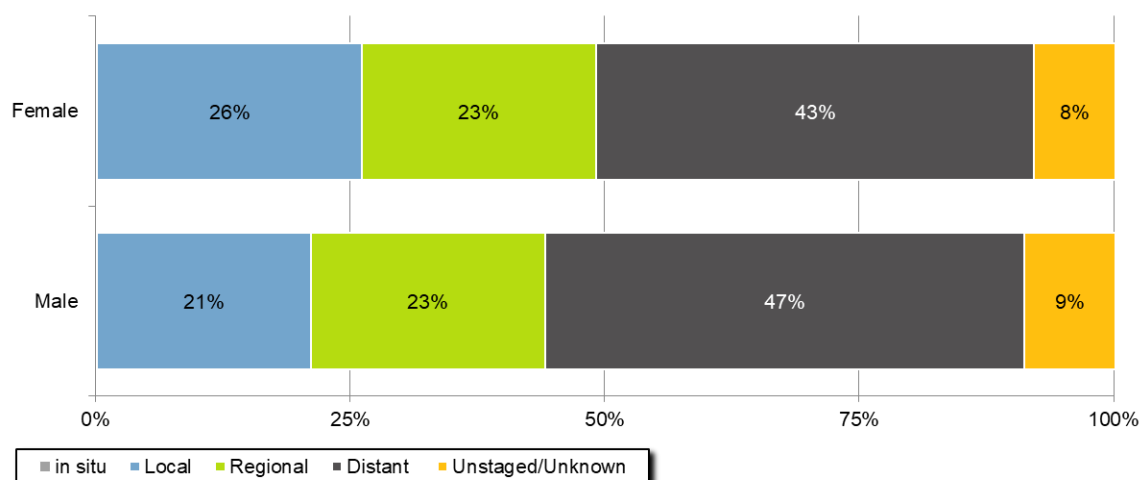


Source: Ohio Cancer Incidence Surveillance System, 2021.

- Approximately two-thirds of lung and bronchus cancers in Ohio were diagnosed at either the regional or distant stage in 2014-2018.



**Figure 4.2. Lung and Bronchus Cancer: Proportion of Cases (%) by Stage at Diagnosis and Sex in Ohio, 2014-2018**

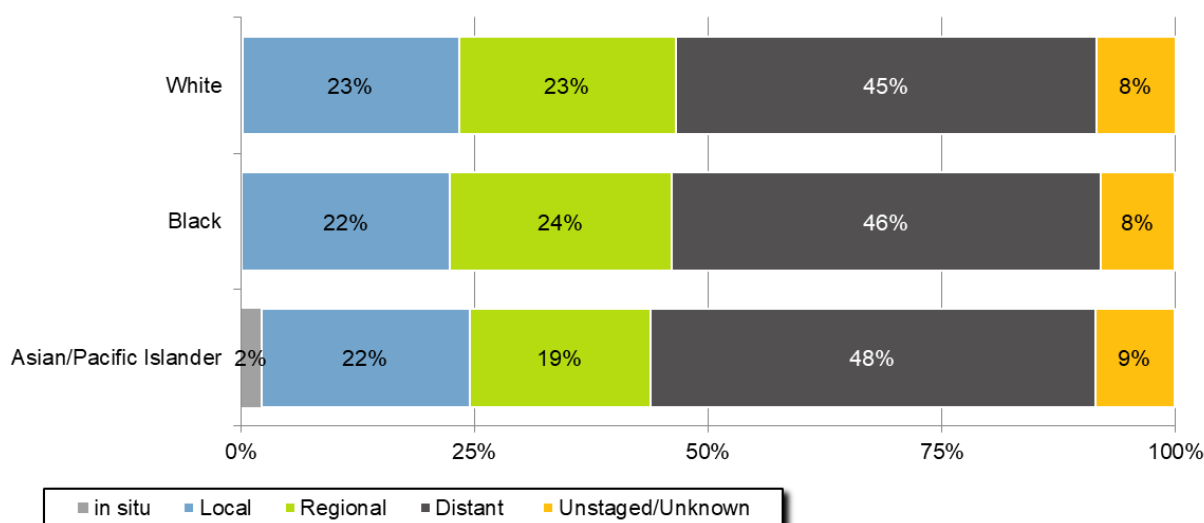


Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

The percent *in situ* was <1% for both males and females.

- There was a slightly higher percentage of lung and bronchus cancers diagnosed at the local stage among females, and a slightly higher percentage diagnosed at the distant stage among males.

**Figure 4.3. Lung and Bronchus Cancer: Proportion of Cases (%) by Stage at Diagnosis and Race in Ohio, 2014-2018**



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

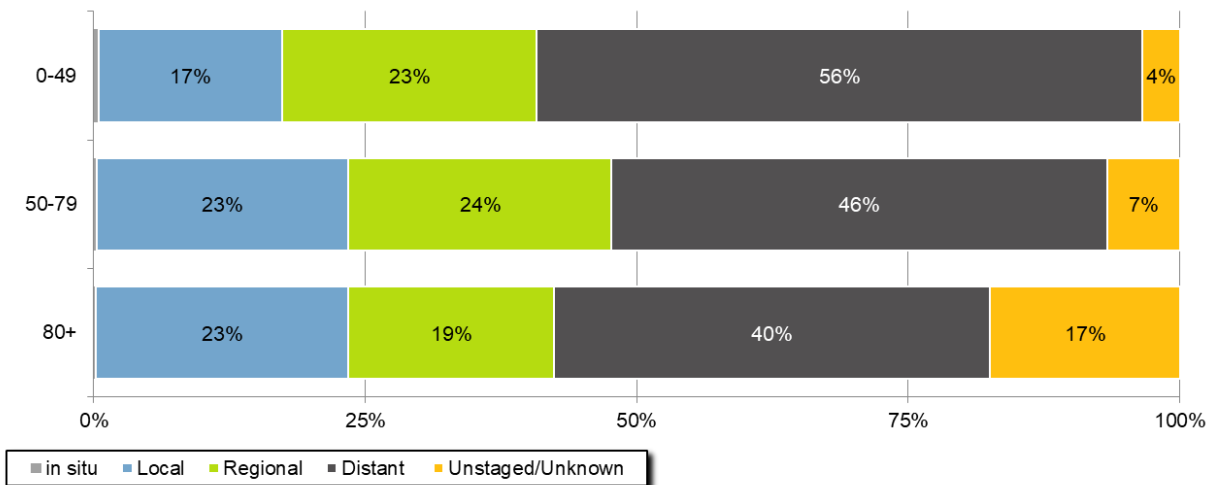
American Indian/Alaskan Native, Other races, and Unknown races are not presented due to small numbers.

The percent *in situ* was <1% for whites and Blacks.

- There were similar percentages of lung and bronchus cancers diagnosed at a late stage for white, Black, and Asian/Pacific Islander Ohioans.



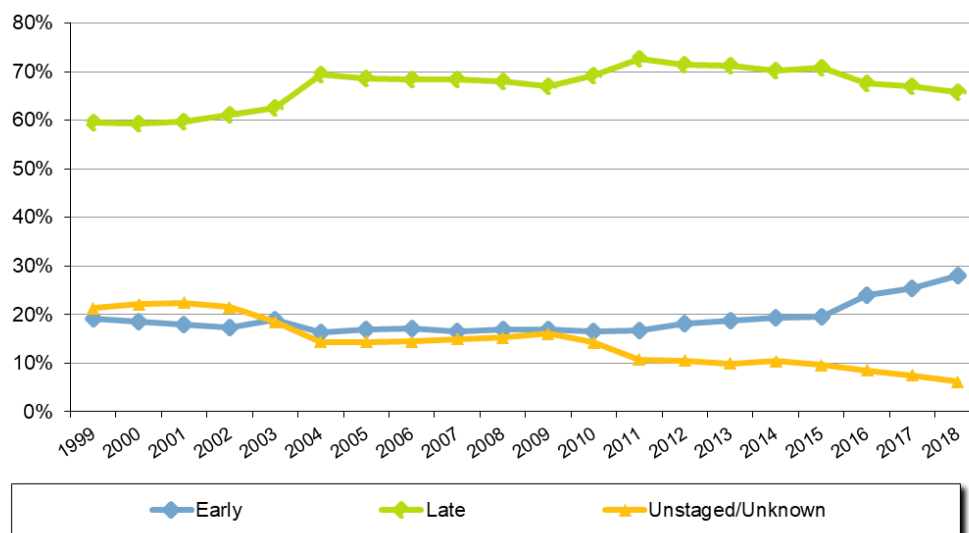
**Figure 4.4. Lung and Bronchus Cancer: Proportion of Cases (%) by Stage at Diagnosis and Age Group in Ohio, 2014-2018**



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.  
The percent *in situ* was <1% for each age group.

- The proportion of lung and bronchus cancer cases diagnosed at a late stage decreased with advancing age group, while the proportion that were unstaged/unknown stage increased.

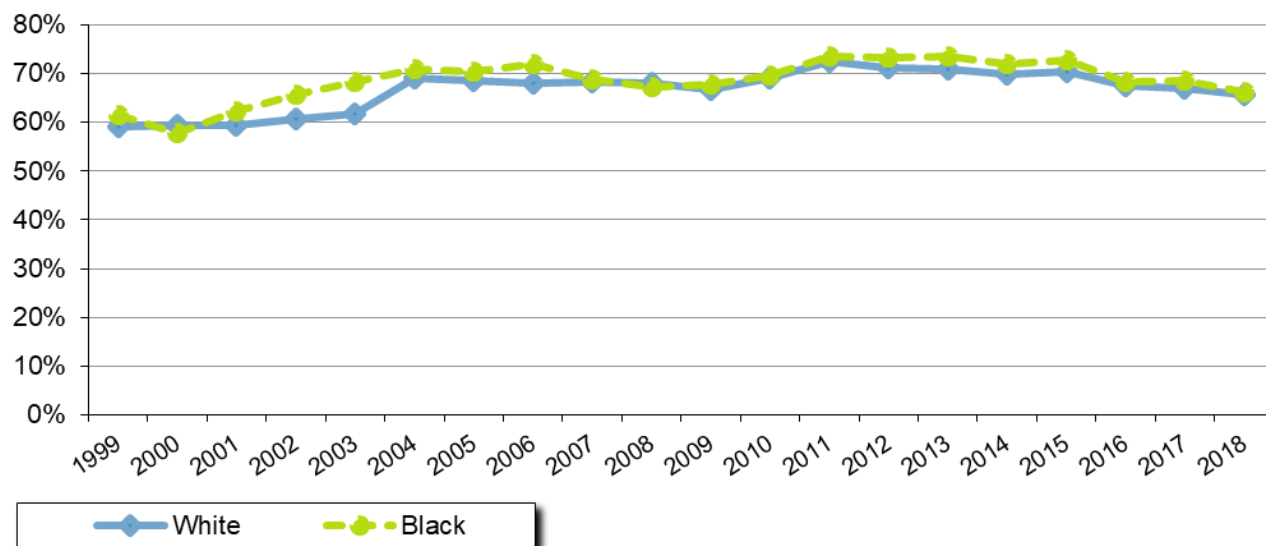
**Figure 4.5. Lung and Bronchus Cancer: Trends in the Proportion of Cases (%) by Stage at Diagnosis in Ohio, 1999-2018**



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

- The proportion of lung and bronchus cancer cases diagnosed at a late stage in Ohio increased from approximately 60% in 1999-2003 to approximately 70% in 2004-2018. This was accompanied by an increase in the proportion diagnosed at an early stage in 2016-2018.
- The proportion of lung and bronchus cancer cases that were unstaged/unknown stage decreased from 1999 to 2018.

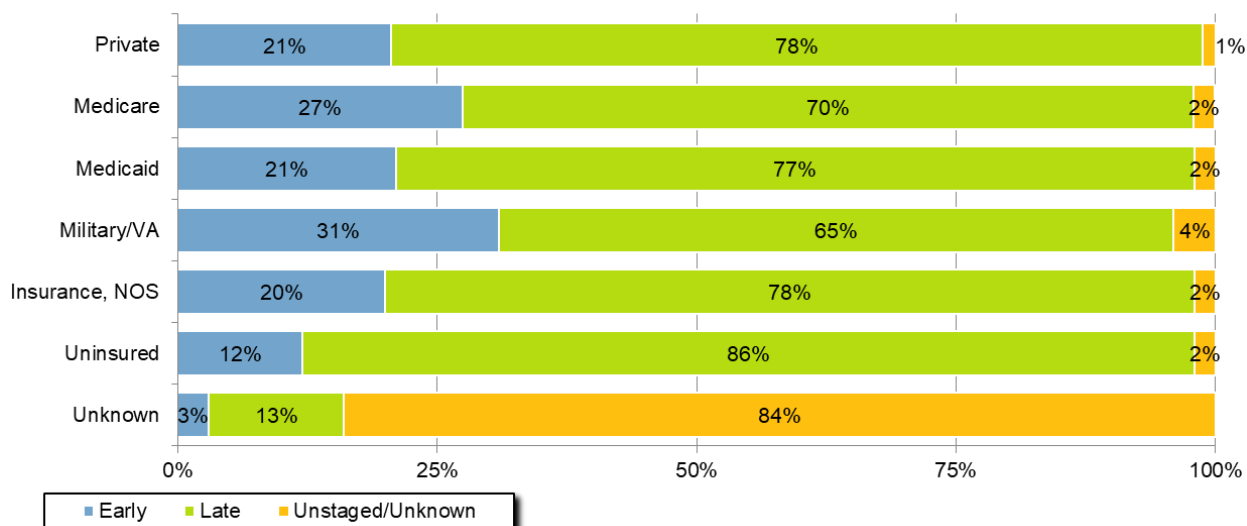
**Figure 4.6. Lung and Bronchus Cancer: Trends in the Proportion of Cases (%) Diagnosed at a Late (Regional or Distant) Stage by Race in Ohio, 1999-2018**



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

- The proportion of lung and bronchus cancer cases diagnosed at a late stage was similar among white and Black Ohioans from 1999 to 2018.

**Figure 4.7. Lung and Bronchus Cancer: Proportion of Cases (%) by Stage and Primary Payer (Insurance) at Diagnosis in Ohio, 2014-2018**



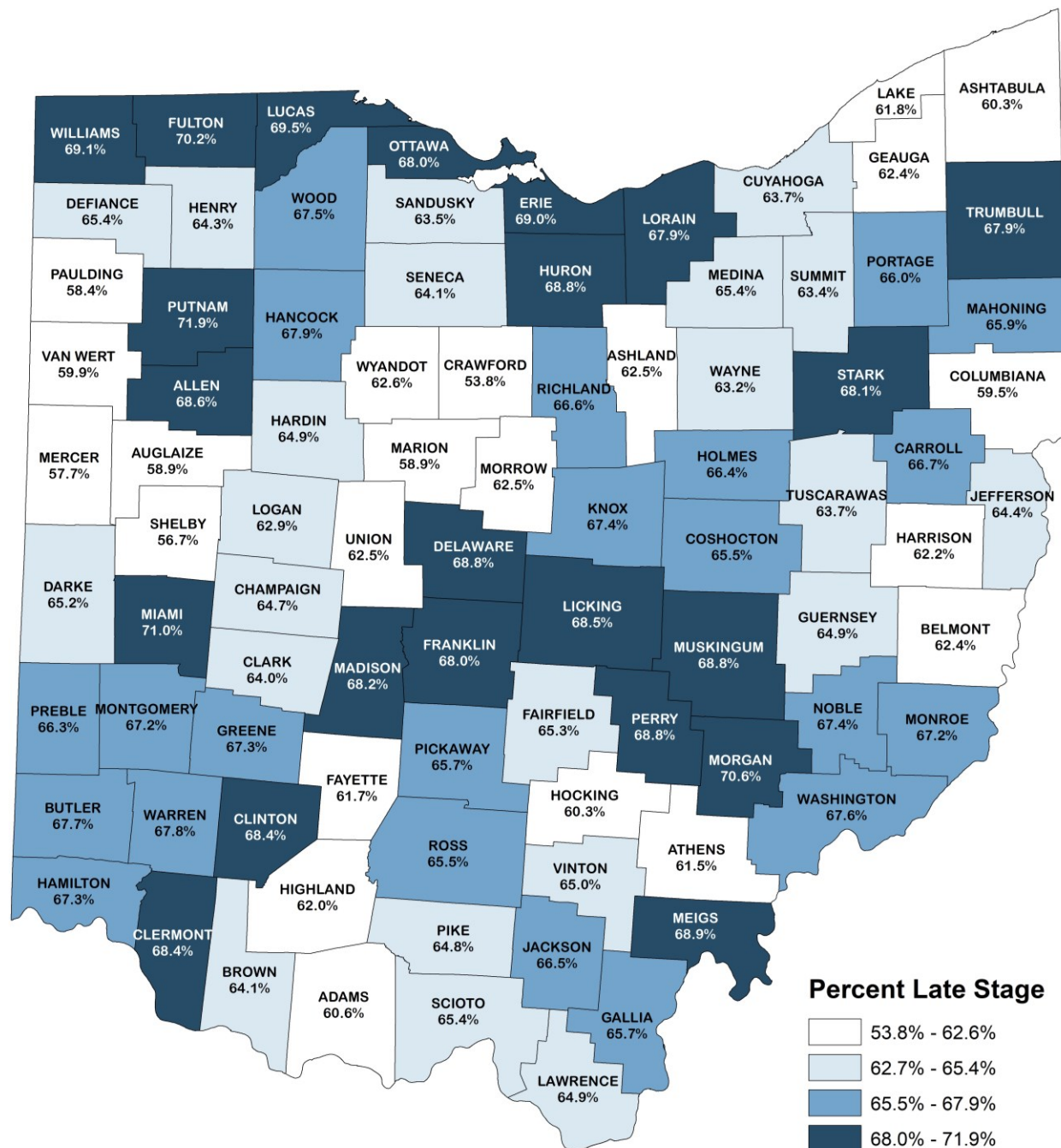
Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

VA = Veteran's Affairs.

NOS = Not Otherwise Specified.

- The proportion of lung and bronchus cancer cases diagnosed at a late stage was high across types of primary payer at diagnosis, with uninsured cases having the highest percentage diagnosed at a late stage.

**Figure 4.8. Lung and Bronchus Cancer: Proportion of Cases (%) Diagnosed at a Late (Regional or Distant) Stage by County of Residence in Ohio, 2014-2018**



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.  
Each category represents approximately 25% of the 88 Ohio counties.

- The proportion of lung and bronchus cancer cases diagnosed at a late stage varied by Ohio county of residence, with higher proportions diagnosed at a late stage in some pockets of counties in northern and central Ohio.

**Table 4.1. Lung and Bronchus Cancer: Five-year Relative Survival (%) by Stage at Diagnosis and Race in Ohio, 2011-2017**

Five-year Relative Survival (%)					
Stage	Overall	White Male	White Female	Black Male	Black Female
All Stages	21.3%	18.4%	24.3%	18.3%	25.5%
Localized	59.1%	54.3%	63.3%	53.1%	63.7%
Regional	30.7%	27.8%	33.6%	28.8%	36.6%
Distant	5.8%	4.8%	6.6%	6.6%	7.3%

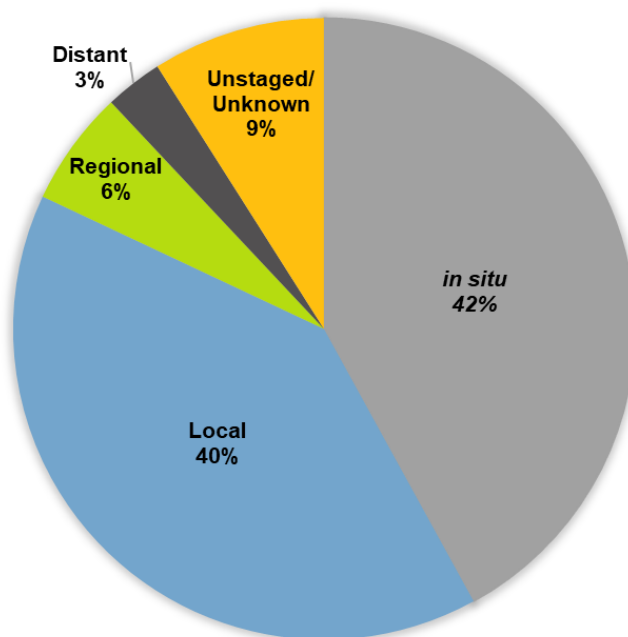
Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

- Five-year relative survival for those diagnosed with lung and bronchus cancer decreased considerably with advancing stage at diagnosis.
- For each stage at diagnosis, five-year relative survival was lower among males, compared with females, and was relatively similar for white and Black Ohioans.

## Melanoma of the Skin

- New Cases** An average of 3,043 invasive and 2,464 in situ melanoma of the skin cases were diagnosed each year in Ohio in 2014-2018. The average annual (2014-2018), age-adjusted melanoma of the skin incidence rate in Ohio (24.7 per 100,000) is 8.3% higher than the rate in the United States (22.8 per 100,000). Incidence rates have increased in both Ohio and the United States from 2009 to 2018.
- Deaths** The average annual, age-adjusted melanoma of the skin mortality rate in Ohio (2.7 per 100,000) is 22.7% higher than that in the United States (2.2 per 100,000). Mortality rates have decreased in both Ohio and the United States from 2009 to 2018.
- Screening** The USPSTF concludes that current evidence is insufficient to assess the benefits and harms of visual skin examination by a clinician to screen for skin cancer (including melanoma of the skin and non-melanoma skin cancer) in adults.

**Figure 5.1. Melanoma of the Skin: Proportion of Cases (%) by Stage at Diagnosis in Ohio, 2014-2018**



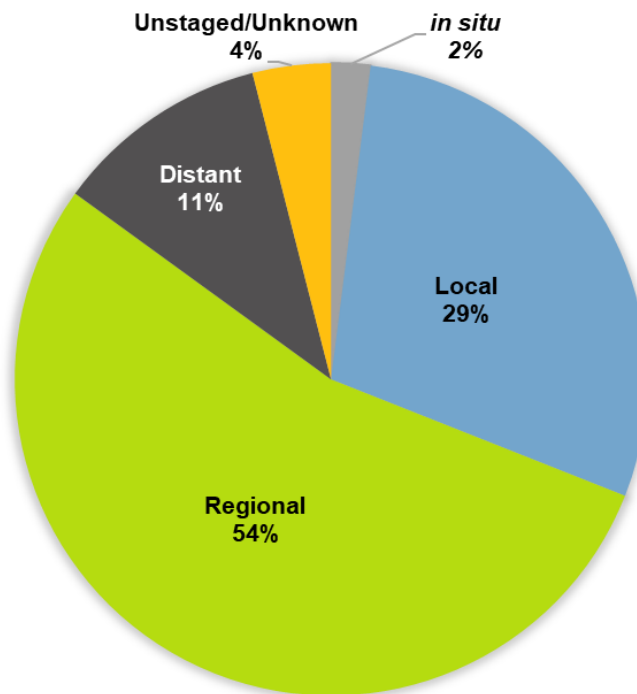
Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

- Approximately 9% of melanomas of the skin in Ohio were diagnosed at either the regional or distant stage in 2014-2018.

## Oral Cavity and Pharynx Cancer

- New Cases** An average of 1,791 invasive and 37 *in situ* oral cavity and pharynx cancer cases were diagnosed each year in Ohio in 2014-2018. The average annual (2014-2018), age-adjusted oral cavity and pharynx cancer incidence rate in Ohio (12.2 per 100,000) is slightly higher than the rate in the United States (11.5 per 100,000). Incidence rates have slightly increased in both Ohio and the United States from 2009 to 2018.
- Deaths** The average annual, age-adjusted oral cavity and pharynx cancer mortality rate in Ohio (2.8 per 100,000) is slightly higher than that in the United States (2.5 per 100,000). Mortality rates have remained relatively unchanged in both Ohio and the United States from 2009 to 2018.
- Screening** The USPSTF concludes that current evidence is insufficient to assess the benefits and harms of screening for oral cancer in asymptomatic adults.

**Figure 6.1. Oral Cavity and Pharynx Cancer: Proportion of Cases (%) by Stage at Diagnosis in Ohio, 2014-2018**



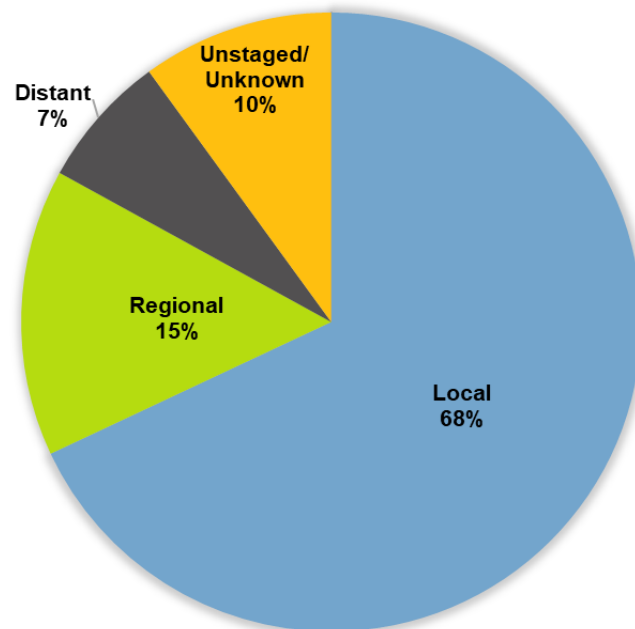
Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

- Approximately two-thirds of oral cavity and pharynx cancers in Ohio were diagnosed at either the regional or distant stage in 2014-2018.

## Prostate Cancer

- New Cases** An average of 7,754 invasive and 2 *in situ* prostate cancer cases were diagnosed each year in Ohio in 2014-2018. The average annual (2014-2018), age-adjusted prostate cancer incidence rate in Ohio (104.7 per 100,000) is slightly lower than the rate in the United States (111.3 per 100,000). Incidence rates have considerably decreased in both Ohio and the United States from 2009 to 2018.
- Deaths** The average annual, age-adjusted prostate cancer mortality rate in Ohio (19.2 per 100,000) is similar to that in the United States (18.9 per 100,000). Mortality rates have decreased in both Ohio and the United States from 2009 to 2018.
- Screening** For men ages 55-69 years, the USPSTF concludes that prostate cancer screening through prostate-specific antigen (PSA) testing should be an individual decision, based on discussions with their clinicians about the potential benefits and harms of testing. For men ages 70 years and older, the USPSTF does not recommend PSA screening for prostate cancer.

**Figure 7.1. Prostate Cancer: Proportion of Cases (%) by Stage at Diagnosis in Ohio, 2014-2018**



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

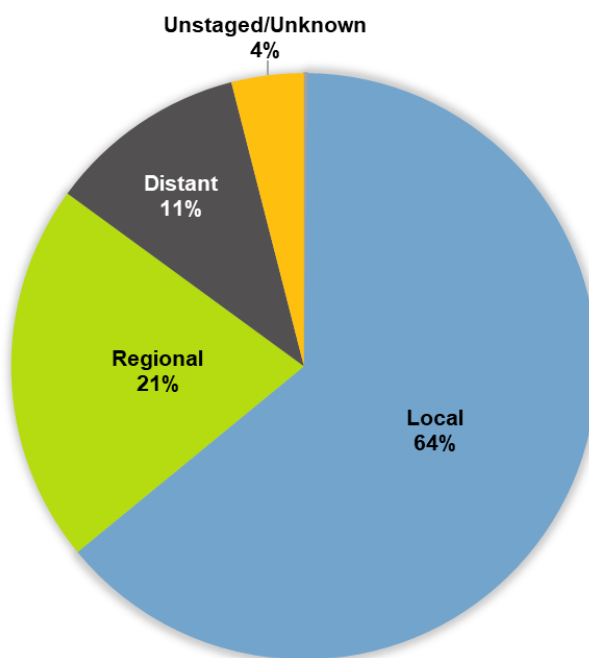
- Approximately 22% of prostate cancers in Ohio were diagnosed at either the regional or distant stage in 2014-2018.



## Testicular Cancer

- New Cases** An average of 311 invasive and 1 *in situ* testicular cancer cases were diagnosed each year in Ohio from 2014-2018. The average annual (2014-2018), age-adjusted testicular cancer incidence rate in Ohio (5.7 per 100,000) is similar to the rate in the United States (6.0 per 100,000). Incidence rates have remained relatively unchanged in Ohio and have slightly increased the United States from 2009 to 2018.
- Deaths** The average annual, age-adjusted testicular cancer mortality rate in Ohio (0.3 per 100,000) is identical to that in the United States. Mortality rates have remained relatively unchanged in both Ohio and the United States from 2009 to 2018.
- Screening** The USPSTF recommends against screening for testicular cancer in adolescent or adult men.

**Figure 8.1. Testicular Cancer: Proportion of Cases (%) by Stage at Diagnosis in Ohio, 2014-2018**



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

- Approximately one-third of testicular cancers in Ohio were diagnosed at either the regional or distant stage in 2014-2018.

**Table A.1. U.S. Preventive Services Task Force (USPSTF) Recommendations for the Early Detection of Cancer in Average Risk, Asymptomatic People**

Cancer Type	Age	Test or Procedure
<b>Cervix</b>	21-29	Cervical Cytology (Pap Test) every 3 years
	30-65	Cervical Cytology (Pap Test) Alone every 3 years, or High-Risk hrHPV Alone every 5 years, or Combination hrHPV and Cervical Cytology every 5 years
<b>Colon and Rectum</b>	45-75	Colonoscopy every 10 years, or Flexible Sigmoidoscopy every 5 years, or Fecal Immunochemical Test (FIT) every year, or High-Sensitivity Guaiac Fecal Occult Blood Test (HSgFOBT) every year, or Flexible Sigmoidoscopy every 10 years and FIT every year, or Stool DNA-FIT every 1-3 years, or Computed Tomography (CT) Colonography (Virtual Colonoscopy) every 5 years
<b>Female Breast</b>	50-74	Mammogram every 2 years
<b>Lung and Bronchus</b>	50-80	Low-dose Computed Tomography (LDCT)** every year

Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2021.

Sites included in this table are those for which the USPSTF has given a grade A or B recommendation.

\*\*Test is recommended for individuals who have a 20 pack-year smoking history and currently smoke or have quit within the past 15 years. Screening should be discontinued once a person has not smoked for 15 years or develops a health problem that substantially limits life expectancy or the ability or willingness to have curative lung surgery.

## Technical Notes

**Age-Adjusted Rate:** A summary rate that is a weighted average of age-specific rates, where the weights represent the age distribution of a standard population (direct adjustment). The incidence and mortality rates presented in this report were standardized to the age distribution of the 2000 U.S. Standard Population. Under the direct method, the population was first divided into 19 five-year age groups, i.e., <1, 1-4, 5-9, 10-14, 15-19...85+, and the age-specific rate was calculated for each age group. Each age-specific rate was then multiplied by the standard population proportion for the respective age group.

**Census Data:** The 2014-2018 rates were calculated using population estimates from the U.S. Census Bureau and National Center for Health Statistics. Population data were compiled from vintage 2019 bridged-race postcensal population estimates for July 1, 2010-July 1, 2019 (released July 9, 2020).

**Confidence Interval:** A range of values for a measure or estimate (e.g., prevalence) constructed so that the range has a specified probability of including the true value of the measure in the population. Prevalence estimates are presented in this report with 95% confidence intervals (CI).

**Incidence:** The number of cases diagnosed during a specified time period (e.g., 2014-2018). Cancer cases were coded to the International Classification of Diseases for Oncology, Third Edition (ICD-O-3).

**Invasive Cancer:** Cancer that has spread beyond the layer of cells where it first developed. Invasive cancers consist of those diagnosed at the local, regional, distant, and unstaged/unknown stages. Only invasive cancers were included in the calculation of incidence rates in this document, with the exception of *in situ* bladder cancers.

**Mortality:** The number of deaths during a specified time period (e.g., 2014-2018). Cancer deaths were coded using the International Statistical Classification of Diseases and Related Health Problems, Tenth Edition (ICD-10).

**Primary Payer at Diagnosis:** A cancer patient's insurance status at the time of diagnosis and/or treatment at a facility. Using codes from the North American Association of Central Cancer Registries (NAACCR), primary payer was recoded into the following groups:

**Private:** Private insurance (Managed Care, HMO, PPO); Private insurance, fee-for-service.

**Medicare:** Medicare/Medicare, NOS; Medicare with supplement, NOS; Medicare - Administered through a Managed Care plan; Medicare with private supplement; Medicare with Medicaid eligibility.

**Medicaid:** Medicaid; Medicaid - Administered through a Managed Care plan.

**Military/VA:** TRICARE; Military; Veterans Affairs (VA).

**Insurance, NOS (not otherwise specified):** Insured, type of insurance unknown.

**Uninsured:** Not insured; Not insured, self-pay.

**Unknown:** Insurance status unknown.

**Prevalence:** The proportion of people with a certain disease or characteristic at a given time.

**Rate:** The number of cases or deaths per unit of population (e.g., per 100,000 persons) during a specified time period (e.g., 2014-2018).

---

**Relative Survival:** The percentage of people who are alive at a designated time period (usually five years) after a cancer diagnosis divided by the percentage expected to be alive in the absence of cancer based on normal life expectancy. Relative survival does not distinguish between patients who have no evidence of cancer and those who have relapsed or are still in treatment. Relative survival data in this report were calculated using SEER\*Stat software version 8.3.9.

**Significant difference:** In statistics, describes a mathematical measure of difference between groups. The difference is said to be significant if it is greater than what might be expected to happen by chance alone. In this report, statistical significance between populations was determined by comparing CIs; if the CIs do not overlap, the difference is determined to be statistically significant.

**Stage at Diagnosis:** The extent or spread of the disease from the site of origin, often classified into the following stages:

***in situ*:** Noninvasive cancer that has not penetrated surrounding tissue.

**Local:** A malignant tumor confined entirely to the organ of origin.

**Regional:** A malignant tumor that has extended beyond the organ of origin directly into surrounding organs or tissues or into regional lymph nodes.

**Distant:** A malignant tumor that has spread to parts of the body (distant organs, tissues, and/or lymph nodes) remote from the primary tumor.

**Unstaged/Unknown:** Insufficient information is available to determine the stage or extent of the disease at diagnosis.

## Sources of Data and Additional Information

Ohio Cancer Incidence Surveillance System (OCISS):

<https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/ohio-cancer-incidence-surveillance-system>

Ohio Behavioral Risk Factor Surveillance System (BRFSS):

<https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/behavioral-risk-factor-surveillance-system/welcome-to>

Ohio Public Health Data Warehouse:

<http://publicapps.odh.ohio.gov/EDW/DataCatalog>

Ohio Department of Health Comprehensive Cancer Control Program

<https://odh.ohio.gov/know-our-programs/comprehensive-cancer-control-program/programs-odh>

U.S. Preventive Services Task Force

<https://www.uspreventiveservicestaskforce.org/uspstf/>

National Cancer Institute:

<http://www.cancer.gov>

American Cancer Society:

<http://www.cancer.org>

---

## To address comments and information requests:

Ohio Cancer Incidence Surveillance System (OCISS)

Ohio Department of Health

246 North High Street

Columbus, OH 43215

Phone: (614) 752-2689

E-mail: [ociss@odh.ohio.gov](mailto:ociss@odh.ohio.gov)

OCISS website: <https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/ohio-cancer-incidence-surveillance-system>

## Acknowledgements

Holly L. Sobotka, M.S.; John Kollman, M.S.; Emily Bunt, M.A.; Justina Sleesman, M.P.H.  
Ohio Department of Health

James L. Fisher, Ph.D.; Julie A. Stephens, M.S.; Ryan D. Baltic, M.P.H.; Electra D. Paskett, Ph.D.  
The Ohio State University

Sincere appreciation to the OCISS, cancer registrars, medical records technicians, and other health professionals who improve the collection and quality of cancer data in Ohio.

## Suggested Citation

*Stage at Diagnosis for Selected Types of Cancer in Ohio*. Ohio Cancer Incidence Surveillance System, Ohio Department of Health and The Ohio State University, Revised October 2022.

This report is public information. Reproduction and copying of this report for cancer prevention and control, education, and program planning are greatly encouraged. Citation of source, however, is appreciated.



The OCISS is supported in part by the State of Ohio and the Centers for Disease Control and Prevention (CDC), National Program of Cancer Registries, cooperative agreement number 6NU58DP003936. The contents are the sole responsibility of the authors and do not necessarily represent the official views of the CDC.