susan g. komen.

COMMUNITY PROFILE REPORT 2015

OHIO

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Introduction

About Susan G. Komen®

Susan G. Komen is the world's largest breast cancer organization, funding more breast cancer research than any other nonprofit while providing real-time help to those facing the disease. Since 1982, Komen has funded more than $889 million in research and provided $1.95 billion in funding to screening, education, treatment and psychosocial support programs serving millions of people in more than 30 countries worldwide. Komen was founded by Nancy G. Brinker, who promised her sister, Susan G. Komen, that she would end the disease that claimed Suzy's life.

Since 1982, Komen has contributed to many of the advances made in the fight against breast cancer and transformed how the world treats and talks about this disease and have helped turn millions of breast cancer patients into breast cancer survivors:

- **More early detection and effective treatment.** Currently, about 70 percent of women 40 and older receive regular mammograms, the single most effective screening tool to find breast cancer early. Since 1990, early detection and effective treatment have resulted in a 34 percent decline in breast cancer death in the US.
- **More hope.** In 1980, the five-year relative survival rate for women diagnosed with early stage breast cancer was about 74 percent. Today, it's 99 percent.
- **More research.** The federal government now devotes more than $850 million each year to breast cancer research, treatment and prevention, compared to $30 million in 1982.
- **More survivors.** Today, there are more than three million breast cancers survivors in the US.

Visit komen.org or call 1-877 GO KOMEN. Connect with us on social at ww5.komen.org/social.

Susan G. Komen Affiliate Network

Thanks to survivors, volunteers and activists dedicated to the fight against breast cancer, the Komen Affiliate Network is working to better the lives of those facing breast cancer in the local community. Through events like the Komen Race for the Cure® series, the local Komen Affiliates invest funds raised locally into community health programs to provide evidence-based breast health education and breast cancer screening, diagnostic and treatment programs, and contribute to the more than $889 million invested globally in research.

For more information or to connect with a local Affiliate, contact the following Komen Affiliates that are located in the State of Ohio as of February 2017:

Susan G. Komen® Columbus
929 Eastwind Drive, Suite 211
Westerville, OH 43081
614-297-8155
www.komencolumbus.org

Susan G Komen® Northeast Ohio
5350 Transportation Blvd., Suite 22
Cleveland, OH 44125
216- 292-CURE (2873)
www.komenneohio.org

Susan G Komen® Northwest Ohio
3100 West Central Avenue, Suite 235
Toledo, OH 43606
419-724-CURE (2873)
www.komennwohio.org

Susan G Komen® Southwest Ohio
6120 South Gilmore Road, Suite 206
Fairfield, OH 45014
513-671-9100
www.komenswohio.org

Purpose of the State Community Profile Report

The purpose of the Ohio Community Profile is to assess breast cancer burden within the state by identifying areas at highest risk of negative breast cancer outcomes. Through the Community Profile, populations most at-risk of dying from breast cancer and their demographic and socioeconomic characteristics can be identified; as well as, the needs and disparities that exist in availability, access and utilization of quality care.

The Community Profile consists of the following three sections:

- ***Quantitative Data:*** This section provides secondary data on breast cancer rates and trends that include incidence, deaths and late-stage diagnosis along with mammography screening proportions. This section also explores demographic, social and geographic characteristics that influence breast cancer outcomes such as race/ethnicity, socioeconomic status, educational attainment and insurance status.

- ***Health System Analysis:*** This section tells the story of the breast cancer continuum of care and the delivery of quality health care in the community. Key to this section is the observation of potential strengths and weaknesses in the health care system that could compromise a women's health as she works her way through the continuum of care (e.g., screening, diagnosis, treatment and follow-up/survivorship services).

- ***Public Policy Overview***: This section provides an overview of key breast cancer policies that affect the ability of at-risk women in accessing and utilizing quality care. This section covers the state's National Breast and Cervical Cancer Early Detection Program, the state's National Comprehensive Cancer Control Program and the Affordable Care Act.

Quantitative Data: Measuring Breast Cancer Impact in Local Communities

The purpose of the quantitative data report for the State of Ohio is to provide quantitative data from many credible sources and use the data to identify the highest priority areas in the state for evidence-based breast cancer programs.

The quantitative data report provides the following data at the state and county-level as well as for the United States:

- Female breast cancer incidence (new cases)
- Female breast cancer death rates
- Late-stage diagnosis
- Screening mammography proportions
- Population demographics (e.g. age, race/ethnicity)
- Socioeconomic indicators (e.g. income and education level)

The data provided in the report can be used to identify priorities within the state based on estimates of how long it would take an area to achieve Healthy People 2020 objectives for breast cancer late-stage diagnosis and death rates (Healthy People 2020, 2010).

Quantitative Data

This section of the report provides specific information on the major types of data that are included in the report.

Incidence Rates

"Incidence" means the number of new cases of breast cancer that develop in a specific time period.

If the breast cancer incidence rate increases, it may mean that more women are getting breast cancer. However, it could also mean that more breast cancers are being found because of an increase in screening.

The breast cancer incidence rate shows the frequency of new cases of breast cancer among women living in an area during a certain time period. Incidence rates may be calculated for all women or for specific groups of women (e.g. for Asian/Pacific Islander women living in the area).

How incidence rates are calculated

The female breast cancer incidence rate is calculated as the number of females in an area who were diagnosed with breast cancer divided by the total number of females living in that area. Incidence rates are usually expressed in terms of 100,000 people. For example, suppose there are 50,000 females living in an area and 60 of them are diagnosed with breast cancer during a

certain time period. Sixty out of 50,000 is the same as 120 out of 100,000. So the female breast cancer incidence rate would be reported as 120 per 100,000 for that time period.

Adjusting for age

Breast cancer becomes more common as women grow older. When comparing breast cancer rates for an area where many older people live to rates for an area where younger people live, it's hard to know whether the differences are due to age or whether other factors might also be involved.

To account for age, breast cancer rates are usually adjusted to a common standard age distribution. This is done by calculating the breast cancer rates for each age group (such as 45- to 49-year-olds) separately, and then figuring out what the total breast cancer rate would have been if the proportion of people in each age group in the population that's being studied was the same as that of the standard population.

Using age-adjusted rates makes it possible to spot differences in breast cancer rates caused by factors other than differences in age between groups of women.

Trends over time

To show trends (changes over time) in cancer incidence, data for the annual percent change in the incidence rate over a five-year period were included in the report. The annual percent change is the average year-to-year change of the incidence rate. It may be either a positive or negative number.

- A negative value means that the rates are getting lower.
- A positive value means that the rates are getting higher.
- A positive value (rates getting higher) may seem undesirable—and it generally is. However, it's important to remember that an increase in breast cancer incidence could also mean that more breast cancers are being found because more women are getting mammograms. So higher rates don't necessarily mean that there has been an increase in the occurrence of breast cancer.

Confidence intervals

Because numbers for breast cancer rates and trends are not exact, this report includes confidence intervals. A confidence interval is a range of values that gives an idea of how uncertain a value may be. It's shown as two numbers—a lower value and a higher one. It is very unlikely that the true rate is less than the lower value or more than the higher value.
For example, if a breast cancer incidence rate was reported as 120 per 100,000 women, with a confidence interval of 105 to 135, the real rate might not be exactly 120 per 100,000, but it's very unlikely that it's less than 105 or more than 135.

Breast cancer incidence rates and trends

Breast cancer incidence rates and trends are shown in Table 2.1 for:

- United States
- State of Ohio
- Each county of Ohio

For the State of Ohio, rates are also shown by race for Whites, Blacks/African-Americans, Asians and Pacific Islanders (API), and American Indians and Alaska Natives (AIAN). In addition, rates are shown by ethnicity for Hispanics/Latinas and women who are not Hispanic/Latina (regardless of their race).

The rates in Table 2.1 are shown per 100,000 females from 2005 to 2009.

Table 2.1. Female breast cancer incidence rates and trends

Population Group	Female Population (Annual Average)	# of New Cases (Annual Average)	Age-adjusted Incidence Rate /100,000	Confidence Interval of Age-adjusted Incidence Rate	Incidence Trend (Annual Percent Change)	Confidence Interval of Incidence Trend
US (states with available data)	145,332,861	198,602	122.1	121.9 : 122.4	-0.2%	-2.0% : 1.7%
Ohio	5,889,869	8,319	120.8	119.7 : 122.0	-0.1%	-0.9% : 0.8%
White	4,997,258	7,304	120.1	118.8 : 121.3	0.2%	-0.8% : 1.2%
Black/African-American	770,143	849	119.8	116.2 : 123.5	-1.2%	-5.8% : 3.6%
AIAN	18,470	6	36.2	23.9 : 52.7	-1.4%	-23.8% : 27.7%
API	103,999	53	62.4	54.7 : 70.8	3.7%	-8.2% : 17.0%
Non-Hispanic/ Latina	5,737,328	8,263	121.6	120.4 : 122.8	0.0%	-1.0% : 1.0%
Hispanic/ Latina	152,541	55	63.1	55.6 : 71.4	-8.0%	-31.4% : 23.3%
Adams County	14,471	17	100.8	80.3 : 125.1	-1.5%	-38.1% : 56.8%
Allen County	53,181	76	119.8	107.8 : 132.9	-5.0%	-19.0% : 11.5%
Ashland County	27,233	38	116.4	100.1 : 134.8	-2.2%	-23.6% : 25.1%
Ashtabula County	51,442	72	111.8	100.3 : 124.3	1.6%	-8.3% : 12.5%
Athens County	32,338	33	116.7	99.4 : 136.1	-1.5%	-27.2% : 33.3%
Auglaize County	23,245	36	125.9	107.7 : 146.3	0.8%	-15.5% : 20.1%
Belmont County	35,076	62	124.3	110.3 : 139.8	-6.6%	-16.7% : 4.8%
Brown County	22,420	24	95.3	78.9 : 114.2	-6.1%	-22.7% : 14.1%
Butler County	183,894	230	120.2	113.3 : 127.4	4.5%	-4.4% : 14.2%
Carroll County	14,555	19	105.1	84.7 : 129.3	-8.8%	-18.9% : 2.4%
Champaign County	20,198	29	123.3	103.7 : 145.6	3.4%	-10.5% : 19.6%
Clark County	72,327	114	126.9	116.4 : 138.2	2.2%	NA
Clermont County	98,196	120	112.3	103.4 : 121.7	-5.0%	-13.5% : 4.3%
Clinton County	21,541	32	133.8	113.7 : 156.4	-4.2%	-22.6% : 18.7%
Columbiana County	54,361	81	112.1	101.2 : 123.8	3.9%	-7.8% : 17.1%
Coshocton County	18,808	25	102.4	84.8 : 122.8	7.3%	-22.9% : 49.5%

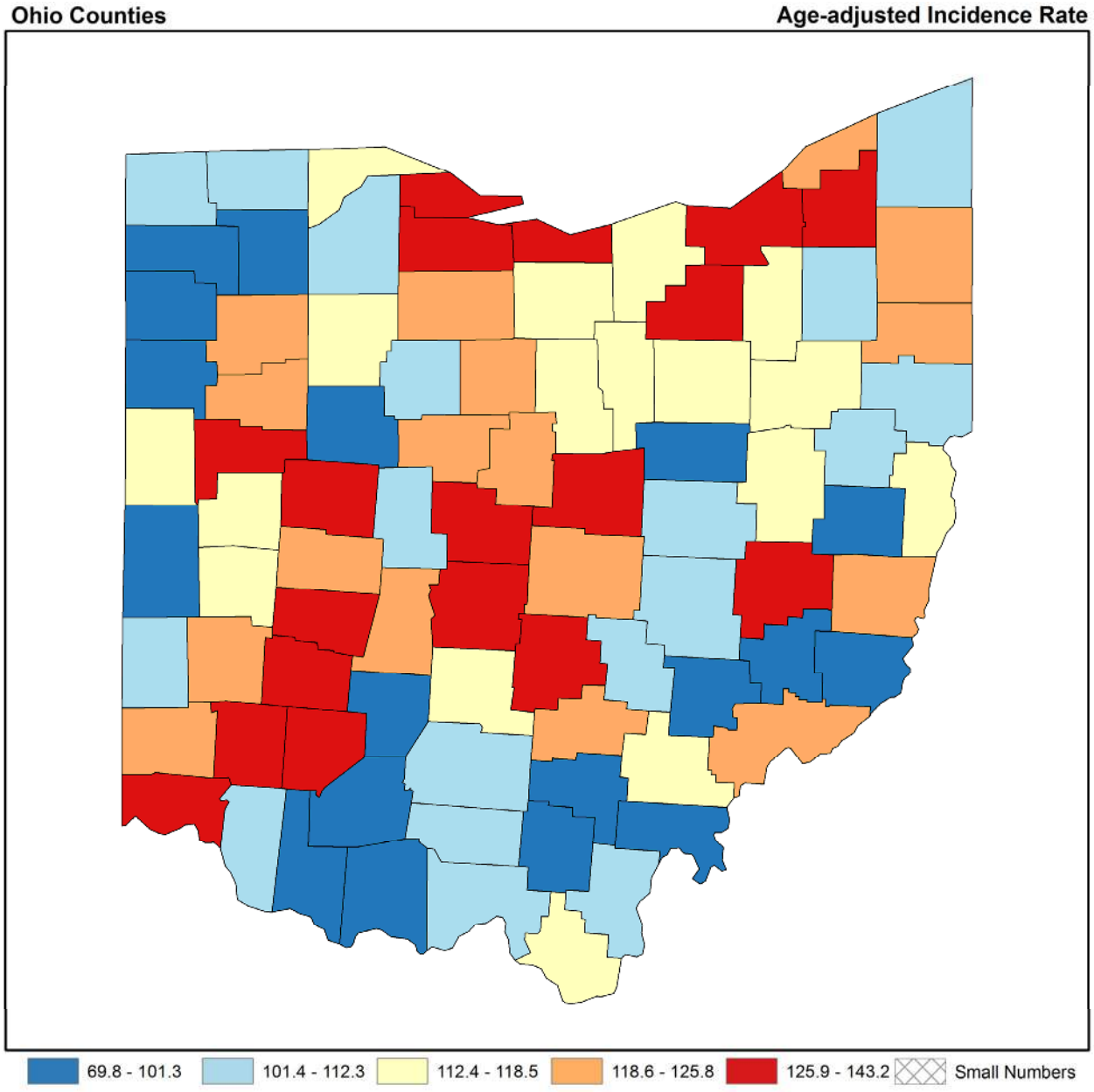
Population Group	Female Population (Annual Average)	# of New Cases (Annual Average)	Age-adjusted Incidence Rate /100,000	Confidence Interval of Age-adjusted Incidence Rate	Incidence Trend (Annual Percent Change)	Confidence Interval of Incidence Trend
Crawford County	23,015	35	119.2	101.8 : 138.8	4.8%	-5.0% : 15.6%
Cuyahoga County	686,125	1,092	127.8	124.4 : 131.4	0.6%	-2.5% : 3.8%
Darke County	26,959	33	98.6	83.8 : 115.4	-1.4%	-14.6% : 13.9%
Defiance County	19,828	19	81.2	65.5 : 99.6	1.1%	-17.5% : 23.9%
Delaware County	81,426	113	143.2	131.3 : 155.8	2.0%	NA
Erie County	39,582	67	132.8	118.6 : 148.4	-1.5%	-10.9% : 9.0%
Fairfield County	71,782	103	130.4	119.3 : 142.2	-5.6%	-9.9% : -1.0%
Fayette County	14,651	17	92.7	73.7 : 115.4	-13.6%	-32.3% : 10.2%
Franklin County	579,496	730	128.6	124.4 : 132.9	-1.0%	-4.4% : 2.5%
Fulton County	21,786	28	108.6	91.0 : 128.8	-15.6%	-39.6% : 17.8%
Gallia County	15,721	21	111.3	90.6 : 135.6	9.3%	-4.5% : 25.1%
Geauga County	47,550	75	126.8	113.9 : 140.8	-0.5%	-15.1% : 16.6%
Greene County	81,227	121	133.7	123.1 : 145.1	1.1%	-17.0% : 23.2%
Guernsey County	20,703	35	139.3	119.1 : 162.1	-4.6%	-18.0% : 11.0%
Hamilton County	418,611	629	131.3	126.7 : 136.1	2.1%	-0.7% : 5.1%
Hancock County	38,336	52	117.6	103.4 : 133.2	-5.7%	-29.6% : 26.2%
Hardin County	16,184	17	96.3	76.6 : 119.6	15.1%	-3.1% : 36.9%
Harrison County	8,036	11	97.9	72.7 : 129.6	30.0%	7.8% : 56.8%
Henry County	14,493	15	87.3	68.5 : 109.9	16.1%	-19.8% : 68.2%
Highland County	22,183	26	97.4	81.1 : 116.2	-2.0%	-12.5% : 9.7%
Hocking County	14,624	20	121.8	99.0 : 148.5	17.7%	-5.0% : 45.8%
Holmes County	21,027	17	85.6	68.1 : 106.1	-2.1%	-9.0% : 5.2%
Huron County	30,551	41	117.5	101.7 : 135.0	7.7%	-8.5% : 26.7%
Jackson County	16,966	20	98.8	80.4 : 120.4	0.5%	-13.8% : 17.2%
Jefferson County	36,647	54	113.3	99.6 : 128.5	6.8%	NA
Knox County	30,576	48	139.2	121.8 : 158.3	7.8%	2.8% : 13.2%
Lake County	117,435	187	125.8	117.7 : 134.4	-1.0%	-5.2% : 3.4%
Lawrence County	32,289	46	116.2	101.4 : 132.7	-2.2%	-31.6% : 40.1%
Licking County	82,846	118	123.6	113.7 : 134.2	-0.5%	-9.3% : 9.1%
Logan County	23,389	39	136.9	118.1 : 158.0	5.8%	-7.9% : 21.5%
Lorain County	151,797	204	112.8	105.9 : 120.1	-2.1%	-8.8% : 5.0%
Lucas County	229,944	291	113.5	107.7 : 119.6	-7.2%	-15.6% : 2.1%
Madison County	19,319	28	123.7	103.9 : 146.3	6.4%	-11.5% : 27.9%
Mahoning County	126,178	209	123.1	115.4 : 131.2	4.6%	0.3% : 9.1%
Marion County	31,666	46	119.0	103.9 : 135.8	1.6%	-12.4% : 17.7%
Medina County	85,491	127	131.0	120.8 : 141.7	1.0%	-3.5% : 5.7%
Meigs County	12,034	13	86.2	66.2 : 110.8	2.1%	-23.4% : 36.0%
Mercer County	20,491	28	114.1	95.4 : 135.5	-8.9%	-31.5% : 21.2%

Population Group	Female Population (Annual Average)	# of New Cases (Annual Average)	Age-adjusted Incidence Rate /100,000	Confidence Interval of Age-adjusted Incidence Rate	Incidence Trend (Annual Percent Change)	Confidence Interval of Incidence Trend
Miami County	51,885	73	115.3	103.6 : 128.1	-8.3%	-19.1% : 4.0%
Monroe County	7,452	9	86.0	62.6 : 116.4	3.3%	-37.4% : 70.5%
Montgomery County	281,205	410	120.1	114.9 : 125.5	0.1%	-8.2% : 9.1%
Morgan County	7,597	9	89.7	64.9 : 121.6	10.7%	-12.9% : 40.8%
Morrow County	17,321	24	122.7	101.5 : 147.2	-4.4%	-37.0% : 45.1%
Muskingum County	44,498	57	106.2	94.0 : 119.7	-1.0%	-10.9% : 9.9%
Noble County	6,179	6	69.8	46.5 : 101.8	-1.4%	-49.7% : 93.3%
Ottawa County	21,064	38	131.8	112.9 : 153.2	2.8%	-14.2% : 23.3%
Paulding County	9,967	12	100.9	76.8 : 130.5	-7.7%	-24.8% : 13.3%
Perry County	17,872	22	106.5	87.2 : 128.9	-0.9%	-28.8% : 38.1%
Pickaway County	25,661	34	113.9	97.2 : 132.7	3.9%	-15.3% : 27.4%
Pike County	14,456	18	108.1	86.8 : 133.2	-9.8%	-14.8% : -4.6%
Portage County	81,250	94	107.9	98.2 : 118.2	2.5%	-14.7% : 23.2%
Preble County	21,405	30	112.3	94.9 : 132.2	-2.7%	-23.1% : 23.1%
Putnam County	17,403	24	122.4	101.3 : 146.7	9.1%	NA
Richland County	62,620	95	118.5	107.8 : 130.0	-3.7%	-12.8% : 6.4%
Ross County	36,456	48	109.3	95.7 : 124.2	-5.9%	-22.1% : 13.9%
Sandusky County	31,271	50	130.5	114.5 : 148.1	-0.8%	-20.0% : 22.9%
Scioto County	39,885	50	102.0	89.5 : 115.9	1.2%	-6.0% : 9.0%
Seneca County	28,764	43	119.8	104.1 : 137.4	3.8%	-15.2% : 26.9%
Shelby County	24,689	32	114.9	97.6 : 134.5	2.9%	-16.6% : 26.9%
Stark County	194,576	284	115.5	109.4 : 121.9	3.4%	-5.1% : 12.7%
Summit County	281,044	400	118.2	113.0 : 123.6	-2.9%	-8.0% : 2.5%
Trumbull County	110,247	176	121.1	112.9 : 129.7	-0.2%	-6.3% : 6.3%
Tuscarawas County	47,155	70	115.5	103.4 : 128.7	6.1%	-3.1% : 16.1%
Union County	26,069	27	108.4	90.5 : 128.8	-1.6%	-14.6% : 13.5%
Van Wert County	14,983	18	94.7	75.7 : 117.3	4.4%	-16.6% : 30.9%
Vinton County	6,763	7	98.8	69.1 : 137.2	12.2%	-24.4% : 66.3%
Warren County	101,424	135	128.8	119.2 : 139.0	-0.1%	-9.8% : 10.7%
Washington County	31,918	49	118.9	104.0 : 135.4	3.5%	-6.0% : 14.0%
Wayne County	57,691	78	117.1	105.7 : 129.5	6.7%	-1.8% : 16.0%
Williams County	19,289	25	105.2	87.2 : 126.1	1.0%	-17.2% : 23.2%
Wood County	64,075	73	108.1	97.2 : 120.0	-8.6%	-25.7% : 12.4%
Wyandot County	11,485	15	109.6	85.9 : 138.2	-7.1%	-31.9% : 26.8%

NA – data not available.
SN – data suppressed due to small numbers (15 cases or fewer for the 5-year data period).
Data are for years 2005-2009.
Rates are in cases per 100,000.
Age-adjusted rates are adjusted to the 2000 US standard population.
Source: NAACCR – CINA Deluxe Analytic File.

Map of incidence rates

Figure 2.1 shows a map of breast cancer incidence rates for the counties in Ohio. When the numbers of cases used to compute the rates are small (15 cases or fewer for the 5-year data period), those rates are unreliable and are shown as "small numbers" on the map.



*Map with counties labeled is available in Appendix.
Data are for years 2005-2009.
Rates are in cases per 100,000.
Age-adjusted rates are adjusted to the 2000 US standard population.
Source: NAACCR – CINA Deluxe Analytic File.

Figure 2.1. Female breast cancer age-adjusted incidence rates

Conclusions: Breast cancer incidence rates and trends

Overall, the breast cancer incidence rate in the State of Ohio was slightly lower than that observed in the US as a whole and the incidence trend was similar to the US as a whole.

For the United States, breast cancer incidence in Blacks/African-Americans is similar to Whites overall. The most recent estimated breast cancer incidence rates for APIs and AIANs were lower than for Non-Hispanic Whites and Blacks/African-Americans. The most recent estimated incidence rates for Hispanics/Latinas were lower than for Non-Hispanic Whites and Blacks. For the State of Ohio, the incidence rate was about the same among Blacks/African-Americans and Whites, lower among APIs than Whites, and significantly lower among AIANs than Whites. The incidence rate among Hispanics/Latinas was significantly lower than among Non-Hispanics/Latinas.

The following counties had an incidence rate **significantly higher** than the state as a whole:

- Cuyahoga County (Komen Northeast Ohio)
- Delaware County (Komen Columbus)
- Franklin County (Komen Columbus)
- Greene County (Komen Southwest Ohio)
- Hamilton County (Komen Southwest Ohio)

The incidence rate was significantly lower in the following counties:

- Brown County (Komen Southwest Ohio)
- Darke County (Komen Southwest Ohio)
- Defiance County (Komen Northwest Ohio)
- Fayette County (Komen Columbus)
- Hardin County (Komen Northwest Ohio)
- Henry County (Komen Northwest Ohio)
- Highland County (Komen Southwest Ohio)
- Holmes County (Komen Northeast Ohio)
- Lucas County (Komen Northwest Ohio)
- Meigs County (Komen Columbus)
- Monroe County (Komen Columbus)
- Noble County (Komen Columbus)
- Portage County (Komen Northeast Ohio)
- Scioto County (Komen Columbus)
- Van Wert County (Komen Northwest Ohio)

Significantly less favorable trends in breast cancer incidence rates were observed in the following counties:

- Harrison County (Komen Northeast Ohio)
- Knox County (Komen Columbus)

Significantly more favorable trends in breast cancer incidence rates were observed in the following counties:

- Fairfield County (Komen Columbus)
- Pike County (Komen Columbus)

The rest of the counties had incidence rates and trends that were not significantly different than the state as a whole or did not have enough data available.

It's important to remember that an increase in breast cancer incidence could also mean that more breast cancers are being found because more women are getting mammograms.

Death Rates

A fundamental goal is to reduce the number of women dying from breast cancer.

Death rate trends should always be negative: death rates should be getting lower over time.

The breast cancer death rate shows the frequency of death from breast cancer among women living in a given area during a certain time period. Like incidence rates, death rates may be calculated for all women or for specific groups of women (e.g. Black/African-American women).

How death rates are calculated

The death rate is calculated as the number of women from a particular geographic area who died from breast cancer divided by the total number of women living in that area.
Like incidence rates, death rates are often shown in terms of 100,000 women and adjusted for age.

Death rate trends

As with incidence rates, data are included for the annual percent change in the death rate over a five-year period.

The meanings of these data are the same as for incidence rates, with one exception. Changes in screening don't affect death rates in the way that they affect incidence rates. So a negative value, which means that death rates are getting lower, is always desirable. A positive value, which means that death rates are getting higher, is always undesirable.

Confidence intervals

As with incidence rates, this report includes the confidence interval of the age-adjusted breast cancer death rates and trends because the numbers are not exact. The confidence interval is shown as two numbers—a lower value and a higher one. It is very unlikely that the true rate is less than the lower value or more than the higher value.

Breast cancer death rates and trends

Breast cancer death rates and trends are shown in Table 2.2 for:

- United States
- State of Ohio
- Each county of Ohio

For the state, rates are also shown by race for Whites, Blacks/African-Americans, Asians and Pacific Islanders (API), and American Indians and Alaska Natives (AIAN). In addition, rates are shown by ethnicity for Hispanics/Latinas and women who are not Hispanic/Latina (regardless of their race).

The rates in Table 2.2 are shown per 100,000 females from 2006 to 2010. The HP2020 death rate target is included for reference.

Table 2.2. Female breast cancer death rates and trends

Population Group	Female Population (Annual Average)	# of Deaths (Annual Average)	Age-adjusted Death Rate /100,000	Confidence Interval of Age-adjusted Death Rate	Death Trend (Annual Percent Change)	Confidence Interval of Death Rate Trend
US	154,540,194	40,736	22.6	22.5 : 22.7	-1.9%	-2.0% : -1.8%
HP2020	-	-	20.6*	-	-	-
Ohio	5,895,383	1,820	24.8	24.3 : 25.3	-1.9%	-2.1% : -1.7%
White	4,991,612	1,583	24.1	23.6 : 24.7	-2.0%	-2.2% : -1.8%
Black/African-American	777,425	226	31.6	29.7 : 33.5	-1.1%	-1.7% : -0.5%
AIAN	18,860	SN	SN	SN	SN	SN
API	107,486	10	13.4	9.6 : 17.9	1.9%	-1.6% : 5.5%
Non-Hispanic/ Latina	5,735,899	1,808	24.9	24.4 : 25.5	-1.9%	-2.1% : -1.7%
Hispanic/ Latina	159,483	8	9.3	6.6 : 12.7	-6.7%	-12.2% : -0.9%
Adams County	14,469	5	28.9	18.6 : 43.0	2.8%	-0.1% : 5.8%
Allen County	53,038	16	22.7	17.8 : 28.6	-2.5%	-4.4% : -0.6%
Ashland County	27,252	9	25.7	18.7 : 34.6	-2.6%	-5.3% : 0.2%
Ashtabula County	51,211	18	25.7	20.5 : 31.8	-1.8%	-3.5% : -0.1%
Athens County	32,363	6	18.7	12.4 : 27.1	-4.1%	-6.7% : -1.4%
Auglaize County	23,217	11	37.6	28.1 : 49.4	0.6%	-1.4% : 2.6%
Belmont County	35,007	12	19.9	15.0 : 26.3	-2.6%	-4.3% : -0.9%
Brown County	22,491	6	24.3	16.5 : 34.7	-2.7%	-4.3% : -1.0%
Butler County	185,683	49	24.7	21.6 : 28.0	-1.3%	-2.2% : -0.3%
Carroll County	14,518	4	19.4	11.8 : 30.6	-2.0%	-5.3% : 1.5%
Champaign County	20,247	6	23.7	15.9 : 34.2	-2.4%	-5.5% : 0.8%
Clark County	71,971	26	27.1	22.5 : 32.4	-1.2%	-2.9% : 0.6%

Population Group	Female Population (Annual Average)	# of Deaths (Annual Average)	Age-adjusted Death Rate /100,000	Confidence Interval of Age-adjusted Death Rate	Death Trend (Annual Percent Change)	Confidence Interval of Death Rate Trend
Clermont County	99,042	22	21.1	17.4 : 25.5	-2.5%	-3.8% : -1.1%
Clinton County	21,564	7	28.2	19.6 : 39.3	0.4%	-3.2% : 4.0%
Columbiana County	54,122	16	20.4	16.1 : 25.6	-3.3%	-4.8% : -1.8%
Coshocton County	18,754	6	24.5	16.1 : 35.8	-2.0%	-4.0% : 0.1%
Crawford County	22,826	5	14.7	9.3 : 22.5	-4.5%	-6.9% : -2.0%
Cuyahoga County	680,385	236	25.6	24.1 : 27.2	-2.1%	-2.5% : -1.7%
Darke County	26,933	10	27.2	20.1 : 36.3	-1.7%	-3.6% : 0.3%
Defiance County	19,836	6	23.9	15.9 : 34.7	-1.9%	-5.1% : 1.4%
Delaware County	84,110	18	23.2	18.5 : 28.6	-2.4%	-4.2% : -0.5%
Erie County	39,476	16	30.9	24.4 : 38.7	-1.4%	-3.5% : 0.8%
Fairfield County	72,571	23	28.6	23.6 : 34.4	-0.9%	-2.5% : 0.6%
Fayette County	14,690	5	28.7	18.6 : 42.7	NA	NA
Franklin County	585,597	161	27.7	25.8 : 29.7	-1.7%	-2.4% : -1.0%
Fulton County	21,739	8	27.9	19.7 : 38.6	0.8%	-2.0% : 3.6%
Gallia County	15,711	4	23.1	14.2 : 35.7	-2.1%	-6.3% : 2.4%
Geauga County	47,538	14	23.1	18.0 : 29.4	-2.4%	-4.2% : -0.6%
Greene County	81,738	20	21.7	17.6 : 26.4	-2.4%	-4.1% : -0.7%
Guernsey County	20,615	7	24.6	17.1 : 34.7	-0.1%	-3.1% : 3.1%
Hamilton County	417,528	135	26.3	24.3 : 28.4	-1.9%	-2.6% : -1.1%
Hancock County	38,439	13	26.1	20.0 : 33.7	-2.0%	-3.9% : -0.2%
Hardin County	16,187	4	21.5	13.2 : 33.4	-1.8%	-4.5% : 1.0%
Harrison County	8,022	SN	SN	SN	SN	SN
Henry County	14,402	4	22.1	13.5 : 34.6	NA	NA
Highland County	22,255	7	24.8	17.2 : 34.9	-2.7%	-5.2% : -0.3%
Hocking County	14,666	5	25.1	15.8 : 38.3	0.9%	-2.8% : 4.7%
Holmes County	21,107	5	22.2	14.0 : 33.5	-6.1%	-9.4% : -2.7%
Huron County	30,483	8	22.3	15.9 : 30.6	-1.7%	-4.2% : 0.9%
Jackson County	16,965	5	22.7	14.2 : 34.5	-2.5%	-5.8% : 0.9%
Jefferson County	36,449	14	26.1	20.1 : 33.4	-1.5%	-2.9% : -0.0%
Knox County	30,816	8	23.6	16.8 : 32.2	-2.7%	-4.9% : -0.5%
Lake County	117,658	45	27.7	24.1 : 31.7	-1.2%	-2.6% : 0.1%
Lawrence County	32,256	12	28.1	21.5 : 36.4	-0.2%	-2.5% : 2.2%
Licking County	83,659	27	27.9	23.3 : 33.1	-0.7%	-2.0% : 0.5%
Logan County	23,359	6	21.7	14.8 : 31.1	-2.2%	-4.6% : 0.3%

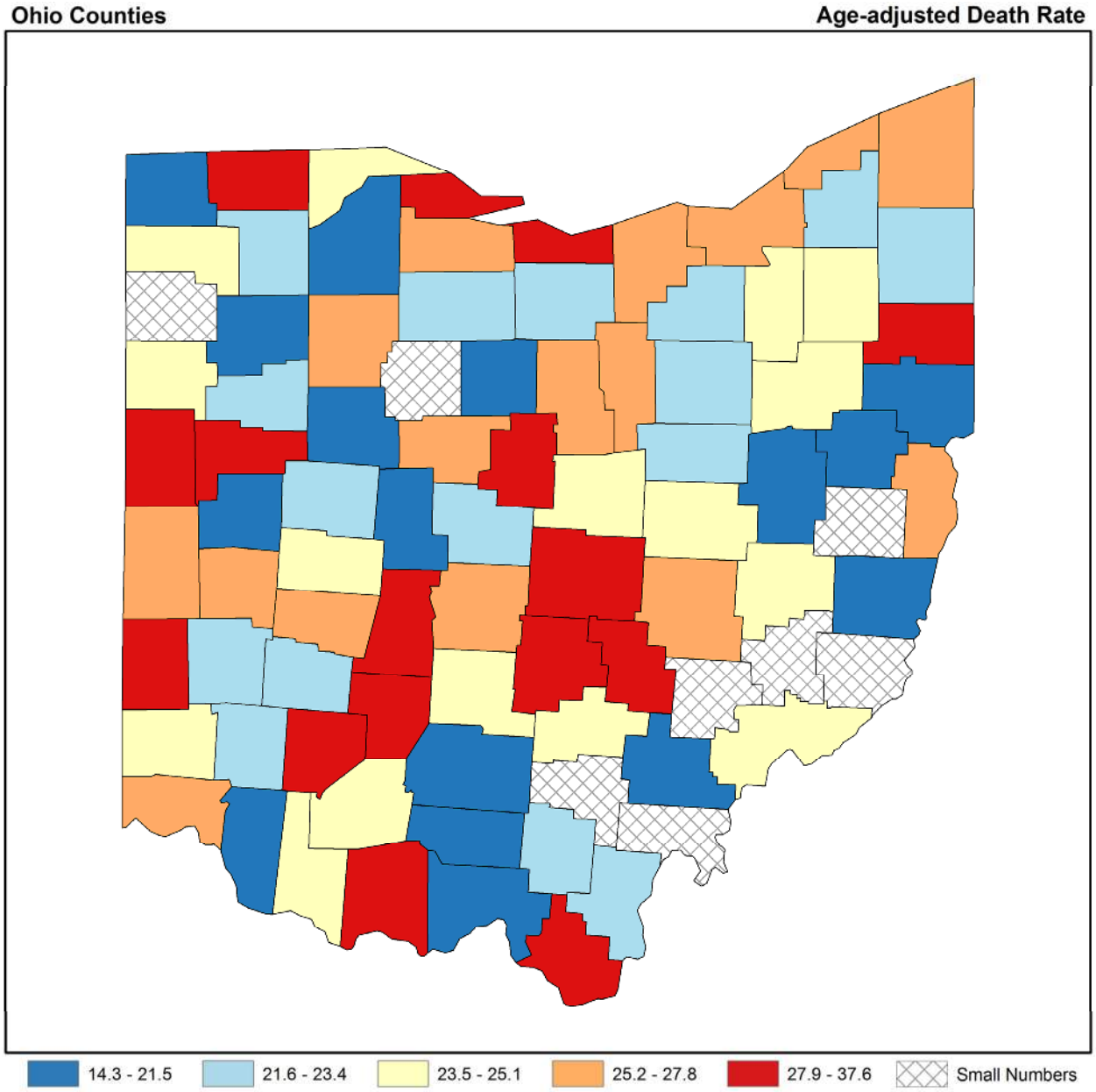
Population Group	Female Population (Annual Average)	# of Deaths (Annual Average)	Age-adjusted Death Rate /100,000	Confidence Interval of Age-adjusted Death Rate	Death Trend (Annual Percent Change)	Confidence Interval of Death Rate Trend
Lorain County	152,434	52	27.5	24.2 : 31.1	-2.1%	-3.1% : -1.2%
Lucas County	229,078	69	25.0	22.4 : 27.8	-2.2%	-3.1% : -1.3%
Madison County	19,476	7	28.2	19.3 : 39.8	-1.8%	-4.5% : 1.1%
Mahoning County	125,084	54	28.6	25.1 : 32.4	-1.2%	-2.1% : -0.3%
Marion County	31,627	11	25.9	19.2 : 34.2	-2.6%	-4.5% : -0.7%
Medina County	86,273	22	21.8	17.8 : 26.4	-2.2%	-3.4% : -1.0%
Meigs County	12,044	SN	SN	SN	SN	SN
Mercer County	20,476	8	29.9	21.0 : 41.6	1.4%	-1.7% : 4.6%
Miami County	51,983	16	25.2	19.9 : 31.5	-0.9%	-2.8% : 1.0%
Monroe County	7,415	SN	SN	SN	SN	SN
Montgomery County	280,037	85	23.3	21.1 : 25.7	-2.3%	-3.0% : -1.7%
Morgan County	7,582	SN	SN	SN	SN	SN
Morrow County	17,377	7	33.2	22.7 : 47.0	-28.1%	-70.1% : 73.0%
Muskingum County	44,492	15	27.2	21.3 : 34.3	-1.6%	-3.3% : 0.2%
Noble County	6,195	SN	SN	SN	SN	SN
Ottawa County	21,046	10	29.9	21.6 : 40.8	0.1%	-2.7% : 3.0%
Paulding County	9,944	SN	SN	SN	SN	SN
Perry County	17,961	6	28.1	18.7 : 40.7	-1.8%	-4.6% : 1.0%
Pickaway County	25,996	7	24.7	17.3 : 34.2	-3.3%	-5.7% : -0.9%
Pike County	14,481	3	18.4	10.7 : 30.0	-1.7%	-5.5% : 2.2%
Portage County	81,682	21	24.1	19.7 : 29.3	-2.1%	-3.5% : -0.6%
Preble County	21,381	8	30.3	21.6 : 41.5	-0.4%	-2.9% : 2.1%
Putnam County	17,348	4	19.2	11.6 : 30.1	NA	NA
Richland County	62,269	23	27.7	22.8 : 33.5	-0.9%	-2.1% : 0.3%
Ross County	36,636	8	17.6	12.4 : 24.2	-2.2%	-4.9% : 0.5%
Sandusky County	31,158	11	27.8	20.9 : 36.4	-0.7%	-2.8% : 1.3%
Scioto County	40,014	11	20.8	15.5 : 27.5	-2.0%	-4.5% : 0.6%
Seneca County	28,636	9	21.7	15.5 : 29.7	-1.4%	-3.9% : 1.3%
Shelby County	24,724	6	20.8	14.0 : 29.8	NA	NA
Stark County	194,429	65	23.9	21.3 : 26.7	-1.8%	-2.7% : -0.8%
Summit County	280,592	89	24.7	22.4 : 27.1	-1.8%	-2.7% : -0.9%
Trumbull County	109,408	37	22.1	18.9 : 25.7	-1.4%	-2.9% : 0.1%
Tuscarawas County	47,136	10	14.3	10.5 : 19.2	-3.8%	-5.6% : -2.1%
Union County	26,678	5	19.3	12.1 : 29.2	-4.2%	-7.0% : -1.3%

Population Group	Female Population (Annual Average)	# of Deaths (Annual Average)	Age-adjusted Death Rate /100,000	Confidence Interval of Age-adjusted Death Rate	Death Trend (Annual Percent Change)	Confidence Interval of Death Rate Trend
Van Wert County	14,912	5	24.3	15.0 : 37.6	-0.5%	-3.9% : 2.9%
Vinton County	6,769	SN	SN	SN	SN	SN
Warren County	103,239	23	22.4	18.5 : 26.9	-1.2%	-2.6% : 0.2%
Washington County	31,816	11	24.7	18.5 : 32.6	-1.5%	-3.5% : 0.6%
Wayne County	57,814	16	21.6	17.1 : 27.1	-3.4%	-5.2% : -1.5%
Williams County	19,207	5	18.5	11.7 : 28.1	-2.5%	-5.4% : 0.5%
Wood County	64,118	14	19.1	14.8 : 24.2	-3.1%	-4.4% : -1.7%
Wyandot County	11,451	SN	SN	SN	SN	SN

*Target as of the writing of this report.
NA – data not available.
SN – data suppressed due to small numbers (15 deaths or fewer for the 5-year data period).
Data are for years 2006-2010.
Rates are in deaths per 100,000.
Age-adjusted rates are adjusted to the 2000 US standard population.
Source of death rate data: CDC – NCHS death data in SEER*Stat.
Source of death trend data: NCI/CDC State Cancer Profiles.

Map of death rates

Figure 2.2 shows a map of breast cancer death rates for the counties in Ohio. When the numbers of deaths used to compute the rates are small (15 cases or fewer for the five-year data period), those rates are unreliable and are shown as "small numbers" on the map.



*Map with counties labeled is available in Appendix.
Data are for years 2006-2010.
Rates are in deaths per 100,000.
Age-adjusted rates are adjusted to the 2000 US standard population.
Source: CDC – NCHS death data in SEER*Stat.

Figure 2.2. Female breast cancer age-adjusted death rates

Conclusions: Breast cancer death rates and trends

Overall, the breast cancer death rate in the State of Ohio was significantly higher than that observed in the US as a whole and the death rate trend was similar to the US as a whole.

For the United States, breast cancer death rates in Blacks/African-Americans are substantially higher than in Whites overall. The most recent estimated breast cancer death rates for APIs and AIANs were lower than for Non-Hispanic Whites and Blacks/African-Americans. The most recent estimated death rates for Hispanics/Latinas were lower than for Non-Hispanic Whites and Blacks. For the State of Ohio, the death rate was significantly higher among Blacks/African-Americans than Whites and significantly lower among APIs than Whites. There were not enough data available within the state to report on AIANs so comparisons cannot be made for this racial group. The death rate among Hispanics/Latinas was significantly lower than among Non-Hispanics/Latinas.

The following counties had a death rate **significantly higher** than the state as a whole:

- Auglaize County (Komen Northwest Ohio)
- Franklin County (Komen Columbus)

The death rate was significantly lower in the following counties:

- Crawford County (Komen Northwest Ohio)
- Meigs County (Komen Columbus)
- Ross County (Komen Columbus)
- Tuscarawas County (Komen Northeast Ohio)
- Wood County (Komen Northwest Ohio)

Significantly less favorable trends in breast cancer death rates were observed in the following counties:

- Adams County (Komen Southwest Ohio)
- Auglaize County (Komen Northwest Ohio)

Significantly more favorable trends in breast cancer death rates were observed in the following county:

- Holmes County (Komen Northeast Ohio)

The rest of the counties had death rates and trends that were not significantly different than the state as a whole or did not have enough data available.

Late-Stage Diagnosis

People with breast cancer have a better chance of survival if their disease is found early and treated.

The stage of cancer indicates the extent of the disease within the body. Most often, the higher the stage of the cancer, the poorer the chances for survival will be.

If a breast cancer is determined to be regional or distant stage, it's considered a late-stage diagnosis.

Medical experts agree that it's best for breast cancer to be detected early. Women whose breast cancers are found at an early stage usually need less aggressive treatment and do better overall than those whose cancers are found at a late-stage (US Preventive Services Task Force, 2009).

How late-stage breast cancer incidence rates are calculated

For this report, late-stage breast cancer is defined as regional or distant stage using the Surveillance, Epidemiology and End Results (SEER) Summary Stage definitions (SEER Summary Stage, 2001). State and national reporting usually uses the SEER Summary Stage. It provides a consistent set of definitions of stages for historical comparisons.

The late-stage breast cancer incidence rate is calculated as the number of women with regional or distant breast cancer in a particular geographic area divided by the number of women living in that area.

Like incidence and death rates, late-stage incidence rates are often shown in terms of 100,000 women and adjusted for age.

Proportion of late-stage diagnoses

Another way to assess the impact of late-stage breast cancer diagnosis on a community is to look at the proportion (percentage) of breast cancers that are diagnosed at late-stage. By lowering the proportion of female breast cancer cases that are diagnosed at late-stage in a given community, it is reasonable to expect that the community will observe a lower breast cancer death rate.

A change in the proportion of late-stage breast cancer cases can be a good indicator of the direction the breast cancer death rate will move over time. In addition, the proportion of late-stage breast cancer is an indicator of the success of early detection efforts (Taplin et al., 2004). So, in addition to the late-stage breast cancer incidence rate, this report includes the late-stage breast cancer proportion (the ratio of late-stage cases to total cases). Note that the late-stage incidence rate may go down over time yet the late-stage proportion may not if the overall incidence rate is declining as well.

How late-stage breast cancer proportions are calculated

The late-stage breast cancer proportion is the ratio between the number of cases diagnosed at regional or distant stages and the total number of breast cancer cases that have been diagnosed and staged in a particular geographic area. It is important to note that cases with unknown stage are excluded from this calculation. However, assuming the size and distribution of cases with unknown stage does not change significantly, the late-stage proportion can be a very good indicator of the need for or effectiveness of early detection interventions.

Confidence intervals

As with incidence and death rates, this report includes the confidence interval of the late-stage incidence rates and trends, and the late-stage proportions and trends because the numbers are not exact. The confidence interval is shown as two numbers—a lower value and a higher one. It is very unlikely that the true rate is less than the lower value or more than the higher value.

Late-stage breast cancer incidence, proportions and trends

Late-stage breast cancer incidence rates, proportions and trends are shown in Tables 2.3 and 2.4 for:

- United States
- State of Ohio
- Each county of Ohio

For the State of Ohio, rates are also shown by race for Whites, Blacks/African-Americans, Asians and Pacific Islanders (API), and American Indians and Alaska Natives (AIAN). In addition, rates are shown by ethnicity for Hispanics/Latinas and women who are not Hispanic/Latina (regardless of their race).

The rates in Table 2.3 are shown per 100,000 females from 2005 to 2009. The HP2020 late-state incidence rate target is included for reference.

Table 2.3. Female breast cancer late-stage incidence rates and trends

Population Group	Female Population (Annual Average)	# of New Late-stage Cases (Annual Average)	Age-adjusted Late-stage Incidence rate /100,000	Confidence Interval of Age-adjusted Incidence Rate	Late stage Trend (Annual Percent Change)	Confidence Interval of Late-stage Trend
US (states with available data)	145,332,861	70,218	43.7	43.5 : 43.8	-1.2%	-3.1% : 0.8%
HP2020	-	-	41.0*	-	-	-
Ohio	5,889,869	2,972	44.0	43.3 : 44.7	0.6%	-0.5% : 1.7%
White	4,997,258	2,554	43.0	42.2 : 43.8	0.8%	-1.0% : 2.6%
Black/African-American	770,143	363	50.9	48.6 : 53.3	0.4%	-4.3% : 5.3%
AIAN	18,470	SN	SN	SN	SN	SN
API	103,999	19	21.7	17.4 : 26.8	-0.1%	-23.3% : 30.0%
Non-Hispanic/ Latina	5,737,328	2,952	44.3	43.6 : 45.1	0.7%	-0.3% : 1.8%
Hispanic/ Latina	152,541	21	22.6	18.3 : 27.6	-10.1%	-36.9% : 28.1%
Adams County	14,471	7	39.3	27.0 : 55.7	5.9%	-50.6% : 127.1%
Allen County	53,181	32	50.9	43.1 : 59.8	2.7%	NA
Ashland County	27,233	14	44.2	34.1 : 56.4	9.5%	-11.6% : 35.7%
Ashtabula County	51,442	27	43.0	35.9 : 51.1	0.5%	-22.5% : 30.3%
Athens County	32,338	10	35.1	25.8 : 46.7	-6.9%	-38.1% : 39.9%
Auglaize County	23,245	14	51.9	40.1 : 66.0	2.3%	-16.7% : 25.5%
Belmont County	35,076	24	48.4	39.8 : 58.6	-8.4%	-31.9% : 23.4%
Brown County	22,420	7	31.0	21.7 : 43.0	-0.2%	-32.4% : 47.4%
Butler County	183,894	83	43.6	39.4 : 48.0	2.0%	-1.7% : 5.8%
Carroll County	14,555	6	34.6	23.5 : 49.6	7.4%	-27.8% : 59.6%
Champaign County	20,198	10	43.0	31.6 : 57.3	11.7%	-18.2% : 52.6%
Clark County	72,327	43	49.7	43.0 : 57.1	3.3%	-11.7% : 20.8%
Clermont County	98,196	44	41.1	35.8 : 47.0	-6.6%	-19.7% : 8.7%
Clinton County	21,541	10	42.8	31.7 : 56.6	4.6%	-19.2% : 35.5%
Columbiana County	54,361	28	39.0	32.6 : 46.2	4.1%	-21.8% : 38.7%
Coshocton County	18,808	11	47.5	35.5 : 62.4	0.8%	-30.4% : 45.9%
Crawford County	23,015	16	56.6	44.6 : 71.0	0.8%	-18.3% : 24.3%
Cuyahoga County	686,125	389	47.0	44.9 : 49.2	2.6%	-1.6% : 7.0%
Darke County	26,959	14	41.7	32.2 : 53.3	-0.8%	-9.7% : 8.9%
Defiance County	19,828	8	31.9	22.3 : 44.3	1.1%	-40.6% : 72.0%
Delaware County	81,426	37	45.2	38.8 : 52.3	4.7%	-8.9% : 20.3%
Erie County	39,582	26	53.9	44.7 : 64.6	6.1%	-15.9% : 33.9%
Fairfield County	71,782	34	43.0	36.7 : 50.0	-7.9%	-20.8% : 7.2%
Fayette County	14,651	4	23.6	14.5 : 36.4	-9.1%	-36.9% : 30.8%
Franklin County	579,496	263	45.8	43.3 : 48.4	-2.0%	-5.6% : 1.6%
Fulton County	21,786	9	37.5	27.4 : 50.1	-23.2%	-51.4% : 21.5%

Population Group	Female Population (Annual Average)	# of New Late-stage Cases (Annual Average)	Age-adjusted Late-stage Incidence rate /100,000	Confidence Interval of Age-adjusted Incidence Rate	Late stage Trend (Annual Percent Change)	Confidence Interval of Late-stage Trend
Gallia County	15,721	8	47.2	33.6 : 64.4	5.9%	-14.5% : 31.2%
Geauga County	47,550	22	37.6	30.7 : 45.6	0.0%	-11.6% : 13.0%
Greene County	81,227	43	47.8	41.5 : 54.8	-2.6%	-26.3% : 28.7%
Guernsey County	20,703	17	69.3	55.1 : 86.1	-7.2%	-23.0% : 12.0%
Hamilton County	418,611	216	46.2	43.4 : 49.0	2.2%	-2.2% : 6.8%
Hancock County	38,336	17	40.2	32.1 : 49.7	-5.7%	-23.8% : 16.6%
Hardin County	16,184	7	41.2	28.7 : 57.2	35.2%	5.0% : 74.1%
Harrison County	8,036	4	37.8	22.7 : 60.0	16.3%	-37.6% : 116.7%
Henry County	14,493	6	35.6	24.2 : 50.7	5.5%	-29.2% : 57.1%
Highland County	22,183	8	29.0	20.4 : 40.2	28.9%	-14.8% : 94.8%
Hocking County	14,624	5	32.2	21.0 : 47.5	5.4%	-39.7% : 84.4%
Holmes County	21,027	5	23.5	14.8 : 35.2	-15.4%	-45.6% : 31.4%
Huron County	30,551	14	41.9	32.7 : 53.1	8.0%	-14.4% : 36.3%
Jackson County	16,966	9	44.4	32.4 : 59.7	6.8%	-12.0% : 29.7%
Jefferson County	36,647	20	43.8	35.3 : 54.0	7.9%	-11.6% : 31.7%
Knox County	30,576	15	44.3	34.5 : 56.0	7.5%	-5.3% : 22.0%
Lake County	117,435	61	41.8	37.2 : 46.9	-0.4%	-11.8% : 12.4%
Lawrence County	32,289	15	41.4	32.5 : 52.1	-4.2%	-30.1% : 31.4%
Licking County	82,846	38	40.5	34.9 : 46.8	4.4%	-19.0% : 34.5%
Logan County	23,389	15	53.1	41.7 : 66.7	20.0%	-5.7% : 52.7%
Lorain County	151,797	72	40.9	36.7 : 45.4	0.9%	NA
Lucas County	229,944	109	43.3	39.7 : 47.1	-5.4%	-18.0% : 9.3%
Madison County	19,319	13	57.7	44.4 : 73.8	11.9%	-28.9% : 76.0%
Mahoning County	126,178	76	46.6	41.9 : 51.8	5.2%	2.1% : 8.3%
Marion County	31,666	20	53.1	43.0 : 65.0	0.7%	-22.9% : 31.4%
Medina County	85,491	44	45.0	39.2 : 51.5	1.5%	-10.6% : 15.2%
Meigs County	12,034	3	23.6	13.5 : 38.5	13.3%	-26.2% : 73.8%
Mercer County	20,491	9	40.7	29.6 : 54.6	-7.7%	-42.8% : 48.8%
Miami County	51,885	26	42.3	35.2 : 50.5	-10.7%	-25.7% : 7.5%
Monroe County	7,452	4	40.3	24.9 : 63.0	21.0%	-6.7% : 57.0%
Montgomery County	281,205	148	44.4	41.2 : 47.8	-1.8%	-6.2% : 2.7%
Morgan County	7,597	4	40.1	24.2 : 63.3	16.0%	-44.9% : 144.3%
Morrow County	17,321	10	53.4	39.7 : 70.4	-7.7%	-45.6% : 56.7%
Muskingum County	44,498	24	46.9	38.8 : 56.3	6.6%	-3.3% : 17.5%
Noble County	6,179	SN	SN	SN	SN	SN
Ottawa County	21,064	12	49.1	37.1 : 64.0	-8.9%	-25.8% : 11.8%
Paulding County	9,967	5	44.6	28.9 : 66.1	-13.0%	NA

Population Group	Female Population (Annual Average)	# of New Late-stage Cases (Annual Average)	Age-adjusted Late-stage Incidence rate /100,000	Confidence Interval of Age-adjusted Incidence Rate	Late stage Trend (Annual Percent Change)	Confidence Interval of Late-stage Trend
Perry County	17,872	10	49.0	36.2 : 65.1	-1.4%	-37.1% : 54.7%
Pickaway County	25,661	11	36.7	27.7 : 47.9	4.1%	-17.2% : 31.0%
Pike County	14,456	6	36.6	24.6 : 52.5	-29.0%	-51.8% : 4.4%
Portage County	81,250	35	40.1	34.3 : 46.7	1.7%	-22.2% : 33.0%
Preble County	21,405	10	38.8	28.7 : 51.5	-2.8%	-35.3% : 46.0%
Putnam County	17,403	8	39.6	27.9 : 54.7	14.8%	-3.3% : 36.3%
Richland County	62,620	32	40.2	34.0 : 47.2	-9.9%	-29.9% : 15.8%
Ross County	36,456	18	41.9	33.6 : 51.6	7.4%	-19.3% : 42.9%
Sandusky County	31,271	17	46.2	36.6 : 57.6	-13.8%	-37.3% : 18.4%
Scioto County	39,885	22	44.4	36.3 : 53.9	-0.1%	-15.1% : 17.6%
Seneca County	28,764	15	43.3	34.0 : 54.5	4.6%	-23.6% : 43.2%
Shelby County	24,689	12	45.2	34.5 : 58.3	22.1%	-15.5% : 76.3%
Stark County	194,576	97	40.4	36.8 : 44.3	2.2%	-9.8% : 15.8%
Summit County	281,044	143	43.3	40.2 : 46.7	-5.7%	-15.6% : 5.5%
Trumbull County	110,247	58	40.4	35.7 : 45.5	8.2%	-5.8% : 24.3%
Tuscarawas County	47,155	23	40.2	33.0 : 48.4	3.0%	-23.0% : 37.9%
Union County	26,069	10	43.0	31.9 : 56.7	5.2%	-13.5% : 28.1%
Van Wert County	14,983	8	43.3	30.5 : 59.7	14.6%	-29.2% : 85.7%
Vinton County	6,763	SN	SN	SN	SN	SN
Warren County	101,424	50	46.9	41.2 : 53.2	-1.7%	-17.3% : 16.9%
Washington County	31,918	17	44.5	35.3 : 55.5	14.9%	-3.4% : 36.6%
Wayne County	57,691	23	34.3	28.2 : 41.4	9.8%	-9.8% : 33.6%
Williams County	19,289	11	46.6	34.7 : 61.4	2.7%	-19.5% : 31.1%
Wood County	64,075	27	41.6	34.8 : 49.3	-4.8%	-20.1% : 13.5%
Wyandot County	11,485	6	45.6	30.7 : 65.5	-4.1%	-46.8% : 72.6%

* Target as of the writing of this report.
NA – data not available.
SN – data suppressed due to small numbers (15 cases or fewer for the 5-year data period).
Data are for years 2005-2009.
Rates are in cases per 100,000.
Age-adjusted rates are adjusted to the 2000 US standard population.
Source: NAACCR – CINA Deluxe Analytic File.

Table 2.4. Female breast cancer late-stage proportion and trends and distant-stage proportion for women age 50-74

Population Group	# of New Staged Cases (Annual Average)	# of Cases Diagnosed at Late-stage (Annual Average)	Proportion Diagnosed at Late-stage	Confidence Interval of Late-stage Proportion	Late-stage Proportion Trend (Annual Percent Change)	Confidence Interval of Late-stage Proportion Trend	Proportion Diagnosed at Distant-stage
US	111,487	39,543	35.5%	35.3% : 35.6%	-1.4%	-1.7% : -1.1%	5.6%
Ohio	4,549	1,694	37.2%	36.6% : 37.9%	0.7%	-1.7% : 3.1%	5.7%
White	4,003	1,458	36.4%	35.8% : 37.1%	0.1%	-2.6% : 2.9%	5.5%
Black/African-American	459	204	44.4%	42.4% : 46.4%	4.2%	1.2% : 7.3%	7.3%
AIAN	3	2	52.9%	29.2% : 76.7%	NA	NA	SN
API	29	10	33.6%	25.9% : 41.2%	-4.1%	-37.4% : 47.0%	6.2%
Non-Hispanic/Latina	4,519	1,684	37.3%	36.6% : 37.9%	0.7%	-1.7% : 3.0%	5.7%
Hispanic/Latina	30	10	34.2%	26.6% : 41.8%	4.0%	-6.7% : 15.8%	SN
Adams County	10	4	41.2%	27.7% : 54.7%	15.2%	-22.1% : 70.3%	SN
Allen County	39	18	47.4%	40.4% : 54.4%	12.1%	-4.2% : 31.1%	5.2%
Ashland County	20	8	37.6%	28.2% : 47.1%	22.3%	-13.3% : 72.4%	4.0%
Ashtabula County	39	17	42.1%	35.2% : 49.0%	1.6%	-24.8% : 37.3%	8.6%
Athens County	18	6	33.7%	23.9% : 43.5%	-10.7%	-18.8% : -1.9%	7.9%
Auglaize County	15	5	35.5%	24.8% : 46.3%	11.9%	-14.6% : 46.5%	5.3%
Belmont County	34	13	39.1%	31.7% : 46.4%	-2.4%	-28.7% : 33.4%	2.4%
Brown County	14	4	27.5%	17.0% : 38.1%	7.1%	-8.9% : 25.7%	SN
Butler County	128	47	36.9%	33.1% : 40.6%	-2.0%	-6.7% : 2.9%	5.3%
Carroll County	11	4	38.2%	25.3% : 51.0%	6.6%	-23.9% : 49.4%	7.3%
Champaign County	16	5	30.9%	20.8% : 40.9%	8.0%	-12.1% : 32.6%	SN
Clark County	61	22	36.4%	31.0% : 41.8%	1.2%	-26.1% : 38.6%	3.9%
Clermont County	69	26	38.0%	32.9% : 43.1%	-1.4%	-18.1% : 18.7%	5.8%
Clinton County	18	6	34.1%	24.3% : 43.8%	-0.5%	-26.8% : 35.2%	4.4%
Columbiana County	42	17	39.5%	32.9% : 46.1%	0.8%	-8.5% : 11.0%	5.7%
Coshocton County	13	6	47.8%	35.8% : 59.7%	-12.1%	-23.8% : 1.5%	SN
Crawford County	19	9	47.4%	37.5% : 57.4%	-3.6%	-31.3% : 35.3%	6.2%
Cuyahoga County	588	220	37.5%	35.7% : 39.2%	0.9%	-3.8% : 5.8%	6.6%
Darke County	17	8	48.3%	37.8% : 58.8%	-4.9%	-24.2% : 19.4%	9.2%
Defiance County	10	4	35.3%	22.2% : 48.4%	-3.8%	-30.0% : 32.2%	SN
Delaware County	65	21	32.5%	27.4% : 37.6%	1.9%	-26.6% : 41.4%	4.3%
Erie County	36	13	34.8%	27.9% : 41.7%	1.6%	-21.0% : 30.8%	7.7%
Fairfield County	59	21	35.2%	29.7% : 40.6%	0.7%	-20.4% : 27.3%	7.2%
Fayette County	11	4	33.3%	20.8% : 45.9%	-7.0%	-27.4% : 19.1%	7.4%
Franklin County	390	145	37.1%	35.0% : 39.3%	-1.0%	-5.7% : 3.9%	5.5%
Fulton County	14	5	37.1%	25.8% : 48.5%	2.7%	-21.7% : 34.6%	SN

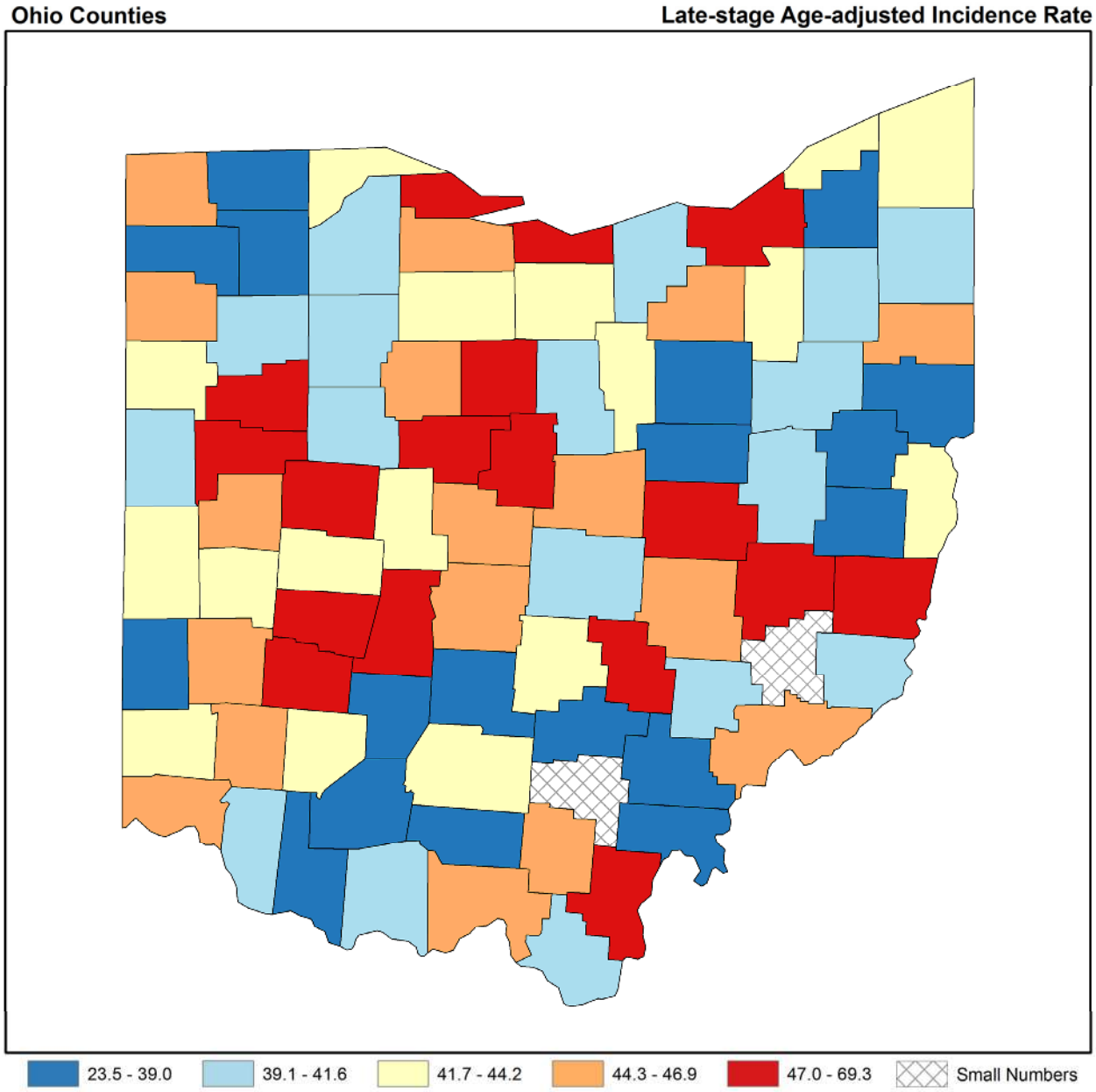
Population Group	# of New Staged Cases (Annual Average)	# of Cases Diagnosed at Late-stage (Annual Average)	Proportion Diagnosed at Late-stage	Confidence Interval of Late-stage Proportion	Late-stage Proportion Trend (Annual Percent Change)	Confidence Interval of Late-stage Proportion Trend	Proportion Diagnosed at Distant-stage
Gallia County	11	4	37.0%	24.2% : 49.9%	14.9%	-1.0% : 33.3%	SN
Geauga County	41	13	31.2%	24.9% : 37.6%	-1.1%	-28.7% : 37.1%	4.9%
Greene County	69	27	39.6%	34.4% : 44.7%	-3.8%	-12.5% : 5.7%	6.1%
Guernsey County	20	9	48.0%	38.1% : 57.9%	3.8%	-10.8% : 20.9%	SN
Hamilton County	338	126	37.3%	35.0% : 39.6%	1.0%	-7.3% : 10.1%	5.0%
Hancock County	29	11	39.6%	31.6% : 47.6%	-3.0%	-20.4% : 18.3%	6.3%
Hardin County	10	5	46.9%	33.0% : 60.9%	15.7%	-3.7% : 39.1%	SN
Harrison County	5	2	41.7%	21.9% : 61.4%	NA	NA	SN
Henry County	9	4	44.7%	30.5% : 58.9%	1.6%	-22.2% : 32.8%	12.8%
Highland County	14	4	28.2%	17.7% : 38.6%	31.9%	-14.6% : 103.6%	12.7%
Hocking County	11	3	30.2%	17.8% : 42.5%	7.3%	-29.3% : 62.8%	SN
Holmes County	9	3	30.4%	17.1% : 43.7%	-2.2%	-47.2% : 81.3%	SN
Huron County	21	8	38.1%	28.8% : 47.4%	-0.4%	-17.3% : 20.0%	6.7%
Jackson County	13	6	47.7%	35.5% : 59.8%	5.8%	-8.1% : 21.8%	9.2%
Jefferson County	26	9	36.4%	28.1% : 44.7%	-8.7%	-19.7% : 3.8%	7.0%
Knox County	28	8	29.7%	22.1% : 37.3%	8.2%	0.4% : 16.6%	5.1%
Lake County	101	33	32.9%	28.8% : 37.0%	0.1%	-8.6% : 9.6%	5.9%
Lawrence County	26	9	33.6%	25.4% : 41.8%	0.8%	-21.3% : 29.1%	7.8%
Licking County	71	21	30.1%	25.3% : 34.8%	1.3%	NA	4.2%
Logan County	24	10	42.5%	33.7% : 51.3%	-1.3%	-32.5% : 44.4%	SN
Lorain County	110	40	36.8%	32.8% : 40.8%	2.9%	-10.2% : 17.9%	6.4%
Lucas County	158	61	38.8%	35.4% : 42.2%	-2.1%	-15.5% : 13.4%	6.7%
Madison County	16	8	48.8%	38.0% : 59.6%	-5.9%	-27.2% : 21.7%	4.9%
Mahoning County	107	43	40.2%	36.0% : 44.3%	2.0%	-7.3% : 12.2%	5.8%
Marion County	26	12	45.0%	36.5% : 53.6%	4.7%	-19.4% : 35.9%	4.6%
Medina County	74	26	35.0%	30.1% : 39.8%	-4.0%	-14.0% : 7.2%	5.1%
Meigs County	7	2	25.7%	11.2% : 40.2%	NA	NA	SN
Mercer County	15	5	34.7%	23.9% : 45.4%	-1.1%	-21.1% : 24.0%	8.0%
Miami County	40	15	36.3%	29.7% : 43.0%	-7.6%	-25.1% : 14.0%	6.5%
Monroe County	5	3	60.0%	40.8% : 79.2%	-5.5%	-15.9% : 6.2%	SN
Montgomery County	237	92	38.6%	35.8% : 41.4%	0.6%	-9.5% : 11.8%	6.9%
Morgan County	5	2	50.0%	30.0% : 70.0%	NA	NA	SN
Morrow County	13	6	47.0%	34.9% : 59.0%	-6.5%	-33.1% : 30.8%	7.6%
Muskingum County	29	13	45.6%	37.5% : 53.6%	-1.5%	-19.3% : 20.2%	4.1%
Noble County	SN	SN	SN	SN	SN	SN	SN
Ottawa County	22	7	30.0%	21.4% : 38.6%	-15.5%	-37.6% : 14.6%	7.3%
Paulding County	7	3	45.5%	28.5% : 62.4%	-12.8%	-57.8% : 80.4%	SN

Population Group	# of New Staged Cases (Annual Average)	# of Cases Diagnosed at Late-stage (Annual Average)	Proportion Diagnosed at Late-stage	Confidence Interval of Late-stage Proportion	Late-stage Proportion Trend (Annual Percent Change)	Confidence Interval of Late-stage Proportion Trend	Proportion Diagnosed at Distant-stage
Perry County	12	5	43.5%	31.2% : 55.9%	-8.5%	-20.6% : 5.4%	9.7%
Pickaway County	21	8	37.1%	27.9% : 46.4%	-2.5%	-22.5% : 22.7%	4.8%
Pike County	11	3	32.1%	19.5% : 44.6%	-15.8%	-33.8% : 7.0%	SN
Portage County	54	22	40.6%	34.7% : 46.4%	0.3%	-6.4% : 7.4%	4.8%
Preble County	19	6	30.1%	20.8% : 39.4%	1.2%	-24.8% : 36.1%	6.5%
Putnam County	15	5	31.5%	20.9% : 42.2%	10.5%	-17.2% : 47.5%	5.5%
Richland County	55	19	35.0%	29.4% : 40.6%	1.4%	-9.2% : 13.1%	4.0%
Ross County	28	10	35.9%	28.0% : 43.8%	37.6%	5.4% : 79.7%	4.9%
Sandusky County	29	10	36.4%	28.5% : 44.2%	-8.4%	NA	6.3%
Scioto County	28	11	39.6%	31.4% : 47.7%	-1.4%	-19.8% : 21.2%	5.8%
Seneca County	24	10	39.7%	31.0% : 48.4%	3.3%	-15.2% : 26.0%	5.8%
Shelby County	18	7	37.5%	27.4% : 47.6%	7.2%	-13.1% : 32.2%	4.5%
Stark County	155	57	36.7%	33.3% : 40.1%	2.4%	-8.0% : 14.1%	5.2%
Summit County	213	79	37.3%	34.3% : 40.2%	-3.8%	-12.0% : 5.1%	6.9%
Trumbull County	94	31	32.8%	28.6% : 37.1%	13.7%	NA	4.5%
Tuscarawas County	38	13	34.6%	27.8% : 41.4%	-14.7%	-36.5% : 14.7%	2.7%
Union County	14	6	41.7%	30.3% : 53.1%	18.3%	14.0% : 22.8%	8.3%
Van Wert County	9	4	44.7%	30.5% : 58.9%	11.4%	-22.9% : 60.9%	SN
Vinton County	4	2	45.0%	23.2% : 66.8%	NA	NA	SN
Warren County	73	24	33.0%	28.2% : 37.8%	-0.9%	NA	3.5%
Washington County	26	9	36.2%	27.9% : 44.4%	12.4%	-26.2% : 71.3%	5.4%
Wayne County	44	13	29.3%	23.3% : 35.3%	10.7%	-15.0% : 44.1%	3.2%
Williams County	12	5	44.3%	31.8% : 56.7%	-5.7%	-22.9% : 15.3%	SN
Wood County	39	15	39.4%	32.5% : 46.3%	16.3%	2.2% : 32.4%	5.7%
Wyandot County	8	4	47.4%	31.5% : 63.2%	-4.6%	-41.4% : 55.5%	SN

NA – data not available.
SN – data suppressed due to small numbers (15 cases or fewer for the 5-year data period).
Data are for years 2005-2009.
Source: NAACCR – CINA Deluxe Analytic File.

Map of late-stage incidence rates

Figure 2.3 shows a map of late-state incidence rates for the counties in Alaska. When the numbers of cases used to compute the rates are small (15 cases or fewer for the five-year data period), those rates are unreliable and are shown as “small numbers” on the map.



*Map with counties labeled is available in Appendix.
Data are for years 2005-2009.
Rates are in cases per 100,000.
Age-adjusted rates are adjusted to the 2000 US standard population.
Source: NAACCR – CINA Deluxe Analytic File.

Figure 2.3. Female breast cancer age-adjusted late-stage incidence rates

Conclusions: Breast cancer late-stage rates, proportions and trends

Late-stage incidence rates and trends

Overall, the breast cancer late-stage incidence rate in the State of Ohio was similar to that observed in the US as a whole and the late-stage incidence trend was higher than the US as a whole.

For the United States, late-stage incidence rates in Blacks/African-Americans are higher than among Whites. Hispanics/Latinas tend to be diagnosed with late-stage breast cancers more often than Whites. For the State of Ohio, the late-stage incidence rate was significantly higher among Blacks/African-Americans than Whites and significantly lower among APIs than Whites. There were not enough data available within the state to report on AIANs so comparisons cannot be made for this racial group. The late-stage incidence rate among Hispanics/Latinas was significantly lower than among Non-Hispanics/Latinas.

The following counties had a late-stage incidence rate **significantly higher** than the state as a whole:

- Cuyahoga County (Komen Northeast Ohio)
- Guernsey County (Komen Columbus)

The late-stage incidence rate was significantly lower in the following counties:

- Brown County (Komen Southwest Ohio)
- Fayette County (Komen Columbus)
- Highland County (Komen Southwest Ohio)
- Holmes County (Komen Northeast Ohio)
- Meigs County (Komen Columbus)
- Wayne County (Komen Northeast Ohio)

Significantly less favorable trends in breast cancer late-stage incidence rates were observed in the following counties:

- Hardin County (Komen Northwest Ohio)
- Mahoning County (Komen Northeast Ohio)

The rest of the counties had late-stage incidence rates and trends that were not significantly different than the state as a whole or did not have enough data available.

Late-stage proportions and trends

Overall, the breast cancer late-stage proportion in the State of Ohio was significantly higher than that observed in the US as a whole and the late-stage proportion trend was higher than the US as a whole.

For the State of Ohio, the late-stage proportion was significantly higher among Blacks/African-Americans than Whites, slightly lower among APIs than Whites, and higher among AIANs than Whites. The late-stage proportion among Hispanics/Latinas was slightly lower than among Non-Hispanics/Latinas.

The following counties had a late-stage proportion **significantly higher** than the state as a whole:

- Allen County (Komen Northwest Ohio)
- Guernsey County (Komen Columbus)
- Madison County (Komen Columbus)
- Monroe County (Komen Columbus)

The late-stage proportion was significantly lower in the following counties:

- Licking County (Komen Columbus)
- Wayne County (Komen Northeast Ohio)

Significantly less favorable trends in breast cancer late-stage proportions were observed in the following counties:

- Ross County (Komen Columbus)
- Union County (Komen Columbus)

Significantly more favorable trends in breast cancer late-stage proportions were observed in the following county:

- Athens County (Komen Columbus)

The rest of the counties had late-stage proportions and trends that were not significantly different than the state as a whole or did not have enough data available.

Mammography Screening

Getting regular screening mammograms (along with treatment if diagnosed) lowers the risk of dying from breast cancer.

Knowing whether or not women are getting regular screening mammograms as recommended by their health care providers can be used to identify groups of women who need help in meeting screening recommendations.

Why mammograms matter

Getting regular screening mammograms (and treatment if diagnosed) lowers the risk of dying from breast cancer. Screening mammography can find breast cancer early, when the chances of survival are highest. The US Preventive Services Task Force found that having screening mammograms reduces the breast cancer death rate for women age 40 to 74. The benefit of mammograms is greater for women age 50 to 74. It's especially high for women age 60 to 69 (Nelson et al., 2009). Because having mammograms lowers the chances of dying from breast cancer, it's important to know whether women are having mammograms when they should. This information can be used to identify groups of women who should be screened who need help in meeting the current recommendations for screening mammography.

Mammography recommendations

Table 2.5 shows some screening recommendations among major organizations for women at average risk.

Table 2.5. Breast cancer screening recommendations for women at average risk.*

American Cancer Society	National Comprehensive Cancer Network	US Preventive Services Task Force
Informed decision-making with a health care provider at age 40 Mammography every year starting at age 45 Mammography every other year beginning at age 55	Mammography every year starting at age 40	Informed decision-making with a health care provider ages 40-49 Mammography every 2 years ages 50-74

*As of October 2015

Where the data come from

The Centers for Disease Control and Prevention's (CDC) Behavioral Risk Factors Surveillance System (BRFSS) collected the data on mammograms that are used in this report. The data come from interviews with women age 50 to 74 from across the United States. During the interviews, each woman was asked how long it has been since she has had a mammogram. BRFSS is the best and most widely used source available for information on mammography usage among women in the United States, although it does not collect data matching Komen screening recommendations (i.e., from women age 40 and older).

For some counties, data about mammograms are not shown because not enough women were included in the survey (less than 10 survey responses). The data have been weighted to account for differences between the women who were interviewed and all the women in the area. For example, if 20 percent of the women interviewed are Hispanic/Latina, but only 10 percent of the total women in the area are Hispanic/Latina, weighting is used to account for this difference.

Calculating the mammography screening proportion

This report uses the mammography screening proportion to show whether the women in an area are getting screening mammograms when they should.

Mammography screening proportion is calculated from two pieces of information:

- The number of women living in an area whom the BRFSS determines should have mammograms (i.e., women age 50 to 74).
- The number of these women who actually had a mammogram during the past two years.

The number of women who had a mammogram is divided by the number who should have had one. For example, if there are 500 women in an area who should have had mammograms and 250 of those women actually had a mammogram in the past two years, the mammography screening proportion is 50.0 percent.

Confidence intervals

As with incidence and death rates, this report includes the confidence interval of the screening proportions because numbers are not exact. The confidence interval is shown as two numbers—a lower value and a higher one. It is very unlikely that the true rate is less than the lower value or more than the higher value.

In general, screening proportions at the county level have fairly wide confidence intervals. The confidence interval should always be considered before concluding that the screening proportion in one county is higher or lower than that in another county.

Breast cancer screening proportions

Breast cancer screening proportions are shown in Table 2.6 for:

- United States
- State of Ohio
- Each county in Ohio

For the State of Ohio, proportions are also shown for Whites, Blacks/African-Americans, Asians and Pacific Islanders (API), and American Indians and Alaska Natives (AIAN). In addition, proportions are shown for Hispanics/Latinas and women who are not Hispanic/Latina (regardless of their race).

The proportions in Table 2.6 are based on the number of women age 50 to 74 who reported in 2012 having had a mammogram in the last two years. The data source is the BRFSS, which only surveys women in this age range for mammography usage. The data on the proportion of women who had a mammogram in the last two years have been weighted to account for differences between the women who were interviewed and all the women in the area. For example, if 20.0 percent of the women interviewed are Hispanic/Latina, but only 10.0 percent of the total women in the area are Hispanic/Latina, weighting is used to account for this difference.

Table 2.6. Proportion of women ages 50-74 with screening mammography in the last two years, self-report

Population Group	# of Women Interviewed (Sample Size)	# w/ Self-Reported Mammogram	Proportion Screened (Weighted Average)	Confidence Interval of Proportion Screened
US	174,796	133,399	77.5%	77.2% : 77.7%
Ohio	5,046	3,891	77.0%	75.5% : 78.4%
White	4,508	3,450	76.1%	74.5% : 77.6%
Black/African-American	392	334	85.8%	80.4% : 89.9%
AIAN	27	19	75.5%	50.7% : 90.2%
API	21	14	65.8%	39.8% : 84.9%
Hispanic/ Latina	65	48	71.3%	54.0% : 84.1%
Non-Hispanic/ Latina	4,956	3,823	77.1%	75.5% : 78.5%
Adams County	10	6	65.5%	25.9% : 91.2%
Allen County	81	64	78.2%	65.2% : 87.3%
Ashland County	11	9	80.9%	43.3% : 95.9%
Ashtabula County	22	18	79.6%	55.6% : 92.4%
Athens County	45	34	84.2%	63.8% : 94.1%
Auglaize County	33	24	76.4%	50.5% : 91.2%
Belmont County	64	49	77.8%	62.0% : 88.2%
Brown County	14	8	68.3%	41.5% : 86.7%
Butler County	112	82	77.3%	66.2% : 85.5%
Carroll County	24	17	73.8%	47.8% : 89.6%
Champaign County	16	12	82.2%	53.3% : 94.9%
Clark County	43	35	86.8%	69.7% : 94.9%
Clermont County	63	49	83.3%	68.5% : 91.9%
Clinton County	18	11	57.9%	30.6% : 81.1%

Population Group	# of Women Interviewed (Sample Size)	# w/ Self-Reported Mammogram	Proportion Screened (Weighted Average)	Confidence Interval of Proportion Screened
Columbiana County	23	17	66.4%	40.2% : 85.3%
Coshocton County	32	25	83.0%	62.6% : 93.5%
Crawford County	23	16	67.8%	41.6% : 86.2%
Cuyahoga County	289	228	78.1%	71.9% : 83.3%
Darke County	23	19	86.1%	62.7% : 95.8%
Defiance County	29	21	66.5%	41.0% : 85.0%
Delaware County	37	28	81.9%	61.5% : 92.8%
Erie County	35	28	85.9%	66.8% : 94.9%
Fairfield County	51	42	82.3%	67.1% : 91.4%
Fayette County	12	8	36.6%	14.7% : 66.0%
Franklin County	246	201	80.7%	74.0% : 85.9%
Fulton County	41	32	76.2%	57.9% : 88.2%
Gallia County	39	24	66.1%	45.2% : 82.2%
Geauga County	24	19	84.1%	60.3% : 94.8%
Greene County	35	30	86.3%	68.4% : 94.8%
Guernsey County	27	22	82.0%	58.8% : 93.6%
Hamilton County	289	217	76.8%	70.5% : 82.1%
Hancock County	38	27	75.3%	54.7% : 88.5%
Hardin County	27	21	79.9%	54.1% : 93.1%
Harrison County	19	12	50.6%	27.2% : 73.8%
Henry County	24	17	71.0%	47.8% : 86.8%
Highland County	16	11	75.1%	45.9% : 91.5%
Hocking County	20	17	93.1%	63.7% : 99.0%
Holmes County	SN	SN	SN	SN
Huron County	31	24	76.9%	54.4% : 90.3%
Jackson County	39	32	73.4%	54.1% : 86.6%
Jefferson County	72	49	63.9%	50.1% : 75.7%
Knox County	32	25	77.3%	56.1% : 90.1%
Lake County	56	41	71.5%	56.2% : 83.0%
Lawrence County	59	44	67.6%	50.9% : 80.8%
Licking County	70	53	74.4%	59.3% : 85.2%
Logan County	12	8	67.2%	34.0% : 89.1%
Lorain County	259	212	85.1%	78.4% : 90.0%
Lucas County	269	209	76.1%	68.5% : 82.3%
Madison County	14	10	64.4%	36.0% : 85.3%

Population Group	# of Women Interviewed (Sample Size)	# w/ Self-Reported Mammogram	Proportion Screened (Weighted Average)	Confidence Interval of Proportion Screened
Mahoning County	259	193	71.5%	64.1% : 77.9%
Marion County	28	22	79.8%	54.4% : 92.9%
Medina County	31	24	76.9%	57.3% : 89.3%
Meigs County	28	25	91.9%	69.3% : 98.3%
Mercer County	32	25	78.0%	57.3% : 90.4%
Miami County	26	14	45.4%	26.3% : 65.9%
Monroe County	13	11	85.0%	57.3% : 96.0%
Montgomery County	275	217	75.3%	68.4% : 81.1%
Morgan County	16	10	49.7%	22.7% : 76.9%
Morrow County	SN	SN	SN	SN
Muskingum County	68	62	95.4%	83.7% : 98.8%
Noble County	10	7	89.9%	54.0% : 98.5%
Ottawa County	24	20	92.5%	65.8% : 98.8%
Paulding County	14	9	51.3%	19.9% : 81.7%
Perry County	17	15	92.2%	63.3% : 98.8%
Pickaway County	23	15	57.9%	34.2% : 78.5%
Pike County	11	9	87.0%	45.0% : 98.2%
Portage County	41	31	78.3%	60.7% : 89.5%
Preble County	11	9	81.8%	45.1% : 96.1%
Putnam County	30	25	88.1%	66.8% : 96.4%
Richland County	61	51	84.6%	70.7% : 92.6%
Ross County	18	11	61.3%	33.6% : 83.3%
Sandusky County	27	16	59.4%	35.8% : 79.3%
Scioto County	21	15	73.0%	44.7% : 90.0%
Seneca County	25	20	67.1%	43.1% : 84.6%
Shelby County	10	6	41.9%	12.1% : 79.1%
Stark County	262	207	76.9%	70.1% : 82.6%
Summit County	248	196	77.7%	70.6% : 83.6%
Trumbull County	51	39	84.3%	68.7% : 92.9%
Tuscarawas County	72	54	79.9%	66.6% : 88.8%
Union County	17	13	77.9%	51.9% : 92.0%
Van Wert County	19	15	84.7%	56.2% : 96.0%
Vinton County	14	10	80.6%	53.9% : 93.6%
Warren County	56	45	75.3%	59.4% : 86.4%
Washington County	63	44	69.8%	55.4% : 81.2%

Population Group	# of Women Interviewed (Sample Size)	# w/ Self-Reported Mammogram	Proportion Screened (Weighted Average)	Confidence Interval of Proportion Screened
Wayne County	26	21	78.5%	53.8% : 92.0%
Williams County	48	39	75.8%	58.2% : 87.5%
Wood County	95	73	75.9%	63.8% : 84.9%
Wyandot County	14	10	77.5%	40.3% : 94.6%

Data are for 2012.
Source: CDC – Behavioral Risk Factor Surveillance System (BRFSS).

Conclusions: Breast cancer screening proportions

The breast cancer screening proportion in the State of Ohio was not significantly different than that observed in the US as a whole.

For the United States, breast cancer screening proportions among Blacks/African-Americans are similar to those among Whites overall. APIs have somewhat lower screening proportions than Whites and Blacks/African-Americans. Although data are limited, screening proportions among AIANs are similar to those among Whites. Screening proportions among Hispanics/Latinas are similar to those among Non-Hispanic Whites and Blacks. For the State of Ohio, the screening proportion was significantly higher among Blacks/African-Americans than Whites, not significantly different among APIs and Whites, and not significantly different among AIANs and Whites. The screening proportion among Hispanics/Latinas was not significantly different from the proportion among Non-Hispanics/Latinas.

The following counties had a screening proportion **significantly lower** than the state as a whole:

- Fayette County (Komen Columbus)
- Harrison County (Komen Northeast Ohio)
- Miami County (Komen Southwest Ohio)

The following county had a screening proportion significantly higher than the state as a whole:

- Muskingum County (Komen Columbus)

The remaining counties had screening proportions that were not significantly different than the state as a whole.

Demographic and Socioeconomic Measures

> **Demographic and socioeconomic data can be used to identify which groups of women are most in need of help and to figure out the best ways to help them.**

The report includes basic information about the women in each area (demographic measures) and about factors like education, income, and unemployment (socioeconomic measures) in the areas where they live.
Demographic measures in the report include:

- Age
- Race
- Ethnicity (whether or not a woman is Hispanic/Latina – can be of any race)

It is important to note that the report uses the race and ethnicity categories used by the US Census Bureau, and that race and ethnicity are separate and independent categories. This means that everyone is classified as both a member of one of the four race groups as well as either Hispanic/Latina or Non-Hispanic/Latina.

Socioeconomic measures for the areas covered in this report include:

- Education level
- Income
- Unemployment
- Immigration (how many of the people living in an area were born in another country)
- Use of the English language
- Proportion of people who have health insurance
- Proportion of people who live in rural areas
- Proportion of people who in areas that don't have enough doctors or health care facilities (medically underserved areas)

Why these data matter
Demographic and socioeconomic data can be used to identify which groups of women need the most help and to figure out the best ways to help them.

Important details about these data
The demographic and socioeconomic data in this report are the most recent data available for US counties. All the data are shown as percentages. However, the percentages weren't all calculated in the same way.

- The race, ethnicity, and age data are based on the total female population in the area (e.g. the percent of females over the age of 40).
- The socioeconomic data are based on all of the people in the area, not just women.
- Income, education and unemployment data don't include children. They're based on people age 15 and older for income and unemployment and age 25 and older for education.

- The data on the use of English, called “linguistic isolation”, are based on the total number of households in the area. The Census Bureau defines a linguistically isolated household as one in which all the adults have difficulty with English.

Where the data come from

The demographic and socioeconomic sources of data are:

- Race/ethnicity, age, and sex data come from the US Census Bureau estimates for July 1, 2011.
- Most of the other data come from the US Census Bureau’s American Community Survey program. The most recent data for counties are for 2007 to 2011.
- Health insurance data come from the US Census Bureau’s Small Area Health Insurance Estimates program. The most recent data are for 2011.
- Rural population data come from the US Census Bureau’s 2010 population survey.
- Medically underserved area information comes from the US Department of Health and Human Services, Health Resources and Services Administration. The most recent data are for 2013.

Population characteristics

Race, ethnicity, and age data for the US, the state, and each of the counties in the state is presented in Table 2.7:

- Race percentages for four race groups: White, Black, American Indian and Alaska Native (AIAN), and Asian and Pacific Islander (API).
- Percentages of women of Hispanic/Latina ethnicity (who may be of any race).
- Percentages of women in three age-groups: 40 and older, 50 and older, and 65 and older.

Table 2.8 shows socioeconomic data for the US, the state, and each of the counties in the state:

- Educational attainment as the percentage of the population 25 years and over that did not complete high school
- Income relative to the US poverty level. Two levels are shown – the percentage of people with income less than the poverty level (below 100 percent) and less than 2.5 times the poverty level (below 250 percent).
- Percentage of the population who are unemployed
- Percentage of the population born outside the US
- Percentage of households that are linguistically isolated (all adults in the household have difficulty with English)
- Percentage living in rural areas
- Percentage living in medically underserved areas as determined by the Health Resources and Services Administration (HRSA)
- Percentage between ages 40 and 64 who have no health insurance

Table 2.7. Population characteristics – demographics

Population Group	White	Black/ African-American	AIAN	API	Non-Hispanic/ Latina	Hispanic/ Latina	Female Age 40 Plus	Female Age 50 Plus	Female Age 65 Plus
US	78.8 %	14.1 %	1.4 %	5.8 %	83.8 %	16.2 %	48.3 %	34.5 %	14.8 %
Ohio	84.2 %	13.4 %	0.3 %	2.0 %	97.0 %	3.0 %	50.5 %	36.9 %	16.0 %
Adams County	98.5 %	0.7 %	0.6 %	0.2 %	99.2 %	0.8 %	50.6 %	36.6 %	16.0 %
Allen County	85.9 %	12.9 %	0.3 %	0.9 %	97.8 %	2.2 %	50.7 %	38.0 %	17.4 %
Ashland County	97.9 %	1.1 %	0.2 %	0.8 %	99.0 %	1.0 %	51.2 %	38.4 %	17.6 %
Ashtabula County	95.7 %	3.3 %	0.3 %	0.6 %	96.8 %	3.2 %	53.4 %	39.6 %	17.7 %
Athens County	93.0 %	3.6 %	0.5 %	2.9 %	98.2 %	1.8 %	36.8 %	27.1 %	11.8 %
Auglaize County	98.5 %	0.8 %	0.2 %	0.5 %	98.8 %	1.2 %	52.4 %	38.8 %	17.7 %
Belmont County	97.0 %	2.3 %	0.2 %	0.5 %	99.4 %	0.6 %	58.0 %	44.8 %	20.9 %
Brown County	98.2 %	1.2 %	0.2 %	0.4 %	99.3 %	0.7 %	51.2 %	37.0 %	15.8 %
Butler County	88.4 %	8.4 %	0.3 %	2.9 %	96.2 %	3.8 %	46.8 %	32.8 %	13.1 %
Carroll County	98.6 %	0.8 %	0.2 %	0.3 %	99.0 %	1.0 %	55.6 %	41.6 %	18.2 %
Champaign County	95.9 %	3.0 %	0.5 %	0.6 %	98.9 %	1.1 %	51.7 %	37.4 %	16.2 %
Clark County	88.8 %	9.9 %	0.4 %	0.9 %	97.5 %	2.5 %	52.6 %	39.6 %	18.2 %
Clermont County	96.9 %	1.5 %	0.3 %	1.3 %	98.5 %	1.5 %	49.9 %	35.2 %	13.6 %
Clinton County	96.2 %	2.9 %	0.3 %	0.7 %	98.7 %	1.3 %	49.7 %	36.3 %	15.1 %
Columbiana County	97.8 %	1.7 %	0.2 %	0.4 %	99.2 %	0.8 %	55.4 %	42.0 %	19.0 %
Coshocton County	97.7 %	1.6 %	0.3 %	0.4 %	99.2 %	0.8 %	53.1 %	40.0 %	18.4 %
Crawford County	98.3 %	1.1 %	0.2 %	0.5 %	98.8 %	1.2 %	54.4 %	41.7 %	20.3 %
Cuyahoga County	64.8 %	32.0 %	0.3 %	2.9 %	95.2 %	4.8 %	52.6 %	39.1 %	17.8 %
Darke County	98.5 %	0.9 %	0.2 %	0.4 %	98.8 %	1.2 %	53.1 %	39.8 %	19.0 %
Defiance County	96.6 %	2.5 %	0.4 %	0.5 %	91.7 %	8.3 %	51.2 %	38.3 %	17.2 %
Delaware County	91.1 %	3.9 %	0.2 %	4.8 %	97.8 %	2.2 %	47.1 %	30.1 %	10.8 %
Erie County	88.8 %	10.0 %	0.4 %	0.8 %	96.7 %	3.3 %	55.9 %	42.4 %	18.8 %
Fairfield County	91.8 %	6.4 %	0.3 %	1.6 %	98.3 %	1.7 %	49.7 %	34.4 %	14.0 %
Fayette County	96.2 %	2.8 %	0.3 %	0.8 %	98.3 %	1.7 %	51.3 %	37.9 %	16.5 %
Franklin County	71.9 %	23.3 %	0.4 %	4.3 %	95.5 %	4.5 %	42.9 %	29.8 %	11.5 %
Fulton County	98.1 %	0.9 %	0.4 %	0.7 %	92.5 %	7.5 %	51.8 %	37.9 %	16.1 %
Gallia County	96.2 %	2.8 %	0.4 %	0.5 %	99.1 %	0.9 %	51.9 %	39.1 %	17.8 %
Geauga County	97.5 %	1.6 %	0.1 %	0.8 %	98.9 %	1.1 %	56.7 %	41.5 %	17.6 %
Greene County	87.5 %	8.6 %	0.4 %	3.4 %	97.7 %	2.3 %	48.1 %	35.5 %	15.2 %
Guernsey County	97.2 %	2.0 %	0.3 %	0.5 %	99.0 %	1.0 %	53.3 %	39.9 %	17.7 %
Hamilton County	69.6 %	27.8 %	0.3 %	2.3 %	97.6 %	2.4 %	48.7 %	35.6 %	15.2 %
Hancock County	95.8 %	2.1 %	0.4 %	1.8 %	95.5 %	4.5 %	49.5 %	36.5 %	16.0 %
Hardin County	97.7 %	1.2 %	0.3 %	0.8 %	98.9 %	1.1 %	46.5 %	34.3 %	15.2 %

Population Group	White	Black/ African-American	AIAN	API	Non-Hispanic/ Latina	Hispanic/ Latina	Female Age 40 Plus	Female Age 50 Plus	Female Age 65 Plus
Harrison County	96.7 %	2.9 %	0.1 %	0.2 %	99.5 %	0.5 %	56.1 %	43.1 %	19.4 %
Henry County	98.1 %	0.9 %	0.5 %	0.6 %	93.9 %	6.1 %	52.2 %	38.9 %	17.7 %
Highland County	97.2 %	2.1 %	0.4 %	0.3 %	99.2 %	0.8 %	51.0 %	37.6 %	16.9 %
Hocking County	98.4 %	0.8 %	0.4 %	0.4 %	99.3 %	0.7 %	52.7 %	38.3 %	16.1 %
Holmes County	99.2 %	0.5 %	0.1 %	0.2 %	99.2 %	0.8 %	39.6 %	28.5 %	12.6 %
Huron County	97.5 %	1.8 %	0.3 %	0.5 %	94.5 %	5.5 %	49.9 %	36.1 %	15.4 %
Jackson County	98.1 %	1.0 %	0.4 %	0.5 %	99.2 %	0.8 %	50.7 %	37.3 %	16.1 %
Jefferson County	93.0 %	6.3 %	0.2 %	0.6 %	98.8 %	1.2 %	56.2 %	43.4 %	20.3 %
Knox County	97.6 %	1.3 %	0.3 %	0.8 %	98.8 %	1.2 %	49.4 %	37.0 %	16.2 %
Lake County	94.4 %	4.0 %	0.2 %	1.5 %	96.8 %	3.2 %	55.6 %	41.3 %	18.4 %
Lawrence County	96.8 %	2.5 %	0.2 %	0.5 %	99.3 %	0.7 %	52.4 %	38.5 %	17.2 %
Licking County	94.6 %	4.0 %	0.4 %	1.1 %	98.5 %	1.5 %	50.6 %	36.0 %	14.9 %
Logan County	96.5 %	2.4 %	0.3 %	0.8 %	98.9 %	1.1 %	51.5 %	38.0 %	16.4 %
Lorain County	88.8 %	9.4 %	0.5 %	1.3 %	91.7 %	8.3 %	52.4 %	38.2 %	16.4 %
Lucas County	76.6 %	21.1 %	0.5 %	1.8 %	93.9 %	6.1 %	48.5 %	35.6 %	15.2 %
Madison County	96.4 %	2.5 %	0.3 %	0.8 %	98.6 %	1.4 %	51.3 %	36.3 %	15.5 %
Mahoning County	81.6 %	17.2 %	0.3 %	0.9 %	95.8 %	4.2 %	56.0 %	43.4 %	20.5 %
Marion County	95.4 %	3.5 %	0.3 %	0.8 %	97.9 %	2.1 %	52.1 %	38.9 %	17.4 %
Medina County	97.0 %	1.6 %	0.2 %	1.2 %	98.4 %	1.6 %	52.6 %	36.5 %	14.6 %
Meigs County	98.1 %	1.3 %	0.3 %	0.3 %	99.4 %	0.6 %	53.0 %	39.8 %	17.8 %
Mercer County	98.3 %	0.5 %	0.3 %	0.8 %	98.4 %	1.6 %	51.4 %	38.6 %	17.7 %
Miami County	95.6 %	2.7 %	0.2 %	1.5 %	98.7 %	1.3 %	53.2 %	39.3 %	17.3 %
Monroe County	98.8 %	0.7 %	0.3 %	0.3 %	99.4 %	0.6 %	57.4 %	44.3 %	20.8 %
Montgomery County	75.0 %	22.6 %	0.4 %	2.1 %	97.8 %	2.2 %	51.5 %	38.6 %	17.8 %
Morgan County	94.4 %	4.3 %	1.0 %	0.3 %	99.4 %	0.6 %	54.5 %	41.2 %	19.0 %
Morrow County	98.5 %	0.8 %	0.2 %	0.5 %	98.9 %	1.1 %	51.4 %	37.2 %	15.1 %
Muskingum County	94.4 %	4.7 %	0.4 %	0.5 %	99.2 %	0.8 %	51.5 %	38.2 %	17.5 %
Noble County	98.3 %	0.9 %	0.4 %	0.4 %	99.7 %	0.3 %	53.3 %	39.7 %	18.8 %
Ottawa County	98.0 %	1.3 %	0.2 %	0.5 %	95.9 %	4.1 %	60.0 %	46.2 %	20.8 %
Paulding County	97.8 %	1.4 %	0.4 %	0.4 %	95.9 %	4.1 %	52.4 %	39.0 %	17.1 %
Perry County	98.6 %	0.8 %	0.3 %	0.2 %	99.3 %	0.7 %	49.7 %	35.3 %	14.6 %
Pickaway County	98.0 %	1.2 %	0.3 %	0.5 %	99.0 %	1.0 %	50.5 %	36.0 %	15.3 %
Pike County	97.5 %	1.4 %	0.8 %	0.3 %	99.2 %	0.8 %	50.7 %	37.0 %	16.8 %
Portage County	92.9 %	5.1 %	0.3 %	1.7 %	98.6 %	1.4 %	48.2 %	34.5 %	14.1 %
Preble County	98.3 %	0.8 %	0.3 %	0.6 %	99.3 %	0.7 %	53.2 %	39.3 %	17.0 %
Putnam County	98.5 %	0.7 %	0.3 %	0.4 %	94.6 %	5.4 %	50.4 %	36.7 %	16.3 %

Population Group	White	Black/ African-American	AIAN	API	Non-Hispanic/ Latina	Hispanic/ Latina	Female Age 40 Plus	Female Age 50 Plus	Female Age 65 Plus
Richland County	91.0 %	7.8 %	0.3 %	0.9 %	98.6 %	1.4 %	54.4 %	41.3 %	19.2 %
Ross County	95.0 %	4.0 %	0.4 %	0.6 %	99.1 %	0.9 %	51.9 %	37.7 %	16.2 %
Sandusky County	95.3 %	3.9 %	0.4 %	0.4 %	91.2 %	8.8 %	52.7 %	39.4 %	17.5 %
Scioto County	96.8 %	2.0 %	0.7 %	0.5 %	99.0 %	1.0 %	51.4 %	38.4 %	17.8 %
Seneca County	96.2 %	2.9 %	0.3 %	0.6 %	95.8 %	4.2 %	51.0 %	38.7 %	17.4 %
Shelby County	96.1 %	2.6 %	0.2 %	1.1 %	98.7 %	1.3 %	49.0 %	35.0 %	14.9 %
Stark County	90.1 %	8.6 %	0.3 %	1.0 %	98.4 %	1.6 %	53.8 %	40.5 %	18.5 %
Summit County	81.3 %	16.0 %	0.3 %	2.4 %	98.4 %	1.6 %	52.4 %	38.5 %	16.6 %
Trumbull County	90.0 %	9.1 %	0.2 %	0.7 %	98.6 %	1.4 %	55.9 %	42.6 %	19.5 %
Tuscarawas County	98.0 %	1.1 %	0.4 %	0.6 %	98.5 %	1.5 %	53.8 %	40.8 %	18.8 %
Union County	92.7 %	4.3 %	0.3 %	2.7 %	98.8 %	1.2 %	44.7 %	28.0 %	10.2 %
Van Wert County	98.2 %	1.3 %	0.2 %	0.4 %	97.4 %	2.6 %	52.3 %	39.4 %	18.6 %
Vinton County	98.4 %	0.9 %	0.4 %	0.3 %	99.5 %	0.5 %	51.0 %	37.1 %	15.2 %
Warren County	92.6 %	2.7 %	0.2 %	4.5 %	97.7 %	2.3 %	48.8 %	32.2 %	12.4 %
Washington County	97.6 %	1.4 %	0.2 %	0.8 %	99.2 %	0.8 %	55.6 %	42.4 %	19.5 %
Wayne County	97.0 %	1.9 %	0.2 %	0.9 %	98.6 %	1.4 %	50.1 %	37.0 %	16.4 %
Williams County	98.2 %	0.9 %	0.2 %	0.7 %	96.5 %	3.5 %	53.0 %	39.7 %	18.2 %
Wood County	94.8 %	3.0 %	0.3 %	1.8 %	95.4 %	4.6 %	45.9 %	33.5 %	13.9 %
Wyandot County	98.4 %	0.5 %	0.3 %	0.8 %	98.0 %	2.0 %	52.5 %	39.4 %	18.3 %

Data are for 2011.
Data are in the percentage of women in the population.
Source: US Census Bureau – Population Estimates.

Table 2.8. Population characteristics – socioeconomics

Population Group	Less than HS Education	Income Below 100% Poverty	Income Below 250% Poverty (Age: 40-64)	Un-employed	Foreign Born	Linguis-tically Isolated	In Rural Areas	In Medically Under-served Areas	No Health Insurance (Age: 40-64)
US	14.6 %	14.3 %	33.3 %	8.7 %	12.8 %	4.7 %	19.3 %	23.3 %	16.6 %
Ohio	12.2 %	14.8 %	33.1 %	9.3 %	3.9 %	1.3 %	22.1 %	14.8 %	14.0 %
Adams County	23.1 %	22.8 %	53.6 %	14.5 %	0.3 %	0.6 %	89.0 %	100.0 %	18.3 %
Allen County	12.5 %	18.0 %	34.9 %	10.9 %	1.8 %	0.5 %	25.9 %	24.1 %	13.5 %
Ashland County	13.6 %	14.6 %	37.0 %	10.0 %	1.9 %	1.1 %	61.9 %	0.0 %	15.5 %
Ashtabula County	15.1 %	17.2 %	40.5 %	10.7 %	1.3 %	0.8 %	46.4 %	0.0 %	15.8 %
Athens County	12.9 %	31.5 %	43.1 %	11.9 %	3.9 %	1.9 %	43.2 %	18.4 %	16.4 %
Auglaize County	9.7 %	7.2 %	28.8 %	7.1 %	0.9 %	0.3 %	39.1 %	0.0 %	12.2 %
Belmont County	13.0 %	14.2 %	39.8 %	7.6 %	0.9 %	0.2 %	54.7 %	22.4 %	15.4 %
Brown County	19.1 %	12.2 %	38.2 %	11.5 %	0.2 %	0.2 %	76.6 %	100.0 %	15.1 %
Butler County	12.4 %	12.8 %	27.9 %	8.6 %	5.1 %	1.6 %	9.3 %	5.2 %	12.7 %
Carroll County	15.9 %	13.9 %	38.2 %	7.3 %	0.5 %	0.5 %	71.0 %	20.6 %	15.6 %
Champaign County	12.9 %	15.1 %	32.4 %	10.6 %	1.1 %	0.1 %	70.8 %	0.0 %	14.4 %
Clark County	14.6 %	16.9 %	36.4 %	10.1 %	2.2 %	0.7 %	23.6 %	6.2 %	13.6 %
Clermont County	12.6 %	9.6 %	26.6 %	7.1 %	2.4 %	0.5 %	22.7 %	7.8 %	12.8 %
Clinton County	12.8 %	14.8 %	35.5 %	11.6 %	1.1 %	0.3 %	54.6 %	3.9 %	13.8 %
Columbiana County	14.3 %	15.9 %	40.8 %	10.8 %	1.1 %	0.2 %	43.9 %	0.0 %	17.2 %
Coshocton County	14.3 %	16.7 %	42.7 %	11.0 %	0.2 %	0.4 %	61.5 %	16.9 %	17.4 %
Crawford County	14.4 %	14.8 %	39.5 %	10.6 %	0.9 %	0.1 %	35.3 %	0.0 %	15.4 %
Cuyahoga County	13.3 %	17.1 %	36.3 %	11.1 %	7.1 %	2.6 %	0.6 %	23.2 %	15.0 %
Darke County	14.1 %	11.5 %	36.6 %	10.0 %	0.8 %	0.1 %	66.3 %	100.0 %	15.8 %
Defiance County	12.1 %	12.6 %	33.7 %	10.2 %	1.9 %	0.6 %	43.9 %	16.1 %	13.5 %
Delaware County	4.1 %	4.5 %	12.5 %	4.5 %	5.4 %	0.8 %	19.3 %	0.0 %	7.5 %
Erie County	10.8 %	12.6 %	32.2 %	8.8 %	1.6 %	0.4 %	26.5 %	0.0 %	13.2 %
Fairfield County	8.4 %	11.5 %	27.1 %	7.6 %	2.6 %	1.1 %	34.7 %	0.0 %	11.9 %
Fayette County	19.1 %	18.5 %	43.6 %	12.0 %	1.4 %	0.4 %	47.8 %	100.0 %	16.0 %
Franklin County	10.7 %	17.4 %	32.9 %	8.3 %	9.0 %	3.0 %	1.4 %	13.7 %	15.2 %
Fulton County	11.3 %	10.3 %	30.9 %	10.2 %	2.0 %	0.5 %	56.2 %	0.0 %	13.6 %
Gallia County	18.4 %	20.2 %	43.7 %	9.3 %	0.9 %	0.3 %	81.4 %	0.0 %	14.2 %
Geauga County	10.1 %	8.0 %	20.2 %	5.9 %	3.1 %	1.8 %	64.0 %	0.0 %	10.9 %
Greene County	7.8 %	12.8 %	22.6 %	7.5 %	4.2 %	0.6 %	14.9 %	3.4 %	9.7 %
Guernsey County	15.5 %	17.1 %	42.9 %	9.7 %	1.0 %	0.5 %	61.4 %	15.8 %	16.6 %
Hamilton County	12.1 %	15.9 %	31.5 %	8.6 %	4.8 %	1.6 %	2.2 %	9.8 %	14.1 %

Population Group	Less than HS Education	Income Below 100% Poverty	Income Below 250% Poverty (Age: 40-64)	Un-employed	Foreign Born	Linguis-tically Isolated	In Rural Areas	In Medically Under-served Areas	No Health Insurance (Age: 40-64)
Hancock County	9.2 %	11.9 %	27.8 %	7.6 %	2.9 %	1.0 %	31.1 %	0.0 %	13.0 %
Hardin County	13.4 %	18.6 %	39.2 %	10.5 %	0.8 %	0.3 %	55.4 %	52.0 %	15.0 %
Harrison County	15.0 %	20.1 %	43.8 %	7.1 %	0.3 %	0.3 %	84.1 %	100.0 %	16.0 %
Henry County	10.6 %	11.7 %	30.9 %	9.9 %	1.6 %	1.0 %	69.1 %	0.0 %	13.5 %
Highland County	19.4 %	17.3 %	45.6 %	13.1 %	0.5 %	0.2 %	73.0 %	6.9 %	16.9 %
Hocking County	14.4 %	15.7 %	41.7 %	8.9 %	0.7 %	0.3 %	70.8 %	23.7 %	16.5 %
Holmes County	43.6 %	14.7 %	47.1 %	5.9 %	1.0 %	8.1 %	93.0 %	17.5 %	22.0 %
Huron County	13.1 %	15.0 %	34.3 %	9.4 %	3.1 %	1.1 %	50.3 %	0.0 %	14.7 %
Jackson County	20.7 %	23.2 %	46.7 %	10.8 %	0.6 %	0.5 %	64.6 %	100.0 %	15.5 %
Jefferson County	12.7 %	16.9 %	40.8 %	8.8 %	1.0 %	0.5 %	39.0 %	11.3 %	15.2 %
Knox County	11.8 %	13.0 %	33.9 %	8.2 %	1.3 %	1.2 %	55.7 %	0.0 %	14.1 %
Lake County	9.0 %	8.5 %	25.5 %	7.1 %	5.3 %	1.4 %	6.5 %	0.0 %	12.8 %
Lawrence County	17.3 %	17.4 %	45.7 %	7.4 %	0.4 %	0.0 %	45.9 %	100.0 %	15.8 %
Licking County	11.0 %	11.6 %	29.7 %	7.7 %	1.7 %	0.3 %	35.5 %	0.0 %	13.7 %
Logan County	13.9 %	14.9 %	33.0 %	10.5 %	1.2 %	0.4 %	56.9 %	0.0 %	14.5 %
Lorain County	11.3 %	13.6 %	29.8 %	10.0 %	2.8 %	1.5 %	11.7 %	16.5 %	13.6 %
Lucas County	12.7 %	19.5 %	36.5 %	13.1 %	3.6 %	1.0 %	4.7 %	34.7 %	14.8 %
Madison County	15.3 %	10.5 %	31.7 %	6.0 %	1.7 %	0.8 %	48.5 %	0.0 %	12.8 %
Mahoning County	12.1 %	17.1 %	38.1 %	11.1 %	3.2 %	1.1 %	15.2 %	17.0 %	15.1 %
Marion County	16.0 %	18.5 %	39.1 %	9.4 %	1.3 %	0.5 %	30.3 %	14.0 %	15.7 %
Medina County	6.9 %	7.2 %	21.3 %	6.7 %	3.2 %	0.7 %	29.8 %	0.0 %	11.1 %
Meigs County	16.8 %	21.3 %	46.9 %	13.9 %	0.2 %	0.1 %	81.3 %	100.0 %	17.2 %
Mercer County	10.9 %	8.8 %	31.0 %	6.7 %	1.1 %	0.1 %	61.4 %	0.0 %	14.1 %
Miami County	12.5 %	11.3 %	30.1 %	7.2 %	1.9 %	0.5 %	30.8 %	0.0 %	12.7 %
Monroe County	14.1 %	18.1 %	41.0 %	6.1 %	0.4 %	0.2 %	97.7 %	100.0 %	15.2 %
Montgomery County	11.9 %	16.0 %	35.7 %	10.4 %	3.5 %	0.9 %	4.3 %	12.4 %	14.3 %
Morgan County	17.1 %	19.5 %	46.8 %	8.5 %	0.3 %	0.1 %	81.5 %	100.0 %	17.9 %
Morrow County	13.7 %	11.9 %	36.4 %	7.4 %	0.8 %	0.4 %	88.8 %	12.9 %	14.6 %
Muskingum County	13.5 %	16.9 %	41.5 %	11.2 %	0.9 %	0.3 %	47.0 %	0.0 %	14.4 %
Noble County	21.0 %	16.3 %	40.8 %	9.7 %	0.2 %	0.4 %	62.5 %	4.5 %	17.0 %
Ottawa County	9.9 %	10.2 %	27.8 %	7.3 %	1.8 %	0.5 %	49.4 %	1.5 %	12.8 %
Paulding County	13.6 %	13.5 %	34.6 %	9.7 %	1.0 %	0.1 %	81.9 %	18.7 %	14.0 %
Perry County	16.4 %	17.7 %	41.6 %	11.2 %	0.4 %	0.2 %	75.2 %	56.9 %	15.7 %
Pickaway County	16.4 %	13.1 %	33.0 %	7.6 %	1.0 %	0.0 %	49.9 %	0.0 %	13.5 %

Population Group	Less than HS Education	Income Below 100% Poverty	Income Below 250% Poverty (Age: 40-64)	Un-employed	Foreign Born	Linguis-tically Isolated	In Rural Areas	In Medically Under-served Areas	No Health Insurance (Age: 40-64)
Pike County	22.0 %	22.5 %	49.7 %	19.3 %	0.5 %	0.0 %	74.2 %	100.0 %	16.1 %
Portage County	9.6 %	14.3 %	27.8 %	9.9 %	2.7 %	0.8 %	32.8 %	0.0 %	12.5 %
Preble County	14.3 %	10.3 %	34.2 %	8.7 %	1.0 %	0.6 %	69.2 %	0.0 %	15.2 %
Putnam County	9.0 %	6.3 %	26.2 %	5.2 %	1.2 %	0.7 %	84.7 %	100.0 %	12.3 %
Richland County	15.0 %	13.4 %	35.8 %	9.4 %	1.7 %	0.4 %	32.1 %	0.0 %	14.1 %
Ross County	16.3 %	17.5 %	40.2 %	13.8 %	0.8 %	0.9 %	58.7 %	15.9 %	14.6 %
Sandusky County	12.4 %	13.6 %	31.8 %	7.5 %	3.0 %	0.7 %	44.1 %	100.0 %	13.0 %
Scioto County	19.1 %	21.8 %	48.4 %	12.0 %	1.0 %	0.1 %	54.3 %	100.0 %	15.6 %
Seneca County	12.2 %	14.1 %	36.5 %	10.7 %	1.3 %	0.4 %	47.5 %	0.0 %	14.4 %
Shelby County	13.3 %	12.0 %	32.9 %	7.5 %	2.0 %	0.7 %	51.1 %	0.0 %	12.6 %
Stark County	11.5 %	13.6 %	34.9 %	9.7 %	1.9 %	0.6 %	13.5 %	11.5 %	14.8 %
Summit County	10.0 %	14.5 %	32.1 %	9.4 %	4.2 %	1.1 %	3.9 %	5.2 %	13.6 %
Trumbull County	12.9 %	16.4 %	36.8 %	8.9 %	1.6 %	0.9 %	27.3 %	5.7 %	15.3 %
Tuscarawas County	14.8 %	13.7 %	38.1 %	7.9 %	1.2 %	1.0 %	41.6 %	9.1 %	15.6 %
Union County	8.7 %	6.6 %	21.7 %	5.9 %	2.9 %	0.3 %	50.0 %	0.0 %	10.3 %
Van Wert County	9.4 %	9.1 %	32.8 %	9.7 %	1.1 %	0.4 %	50.7 %	0.0 %	13.4 %
Vinton County	24.0 %	20.8 %	50.4 %	11.3 %	0.2 %	1.3 %	100.0 %	100.0 %	16.0 %
Warren County	8.9 %	6.3 %	17.9 %	6.9 %	5.0 %	1.1 %	17.3 %	2.1 %	9.2 %
Washington County	11.8 %	15.1 %	37.6 %	8.8 %	1.1 %	0.1 %	56.6 %	2.8 %	15.1 %
Wayne County	15.2 %	10.6 %	34.5 %	6.8 %	1.4 %	1.7 %	51.0 %	0.0 %	15.2 %
Williams County	10.5 %	11.4 %	34.5 %	10.9 %	1.3 %	0.4 %	63.6 %	0.0 %	14.6 %
Wood County	7.5 %	13.3 %	24.0 %	9.6 %	3.3 %	0.6 %	29.5 %	6.6 %	11.1 %
Wyandot County	12.7 %	7.7 %	32.7 %	8.2 %	1.2 %	0.5 %	57.4 %	0.0 %	14.5 %

Data are in the percentage of people (men and women) in the population.
Source of health insurance data: US Census Bureau – Small Area Health Insurance Estimates (SAHIE) for 2011.
Source of rural population data: US Census Bureau – Census 2010.
Source of medically underserved data: Health Resources and Services Administration (HRSA) for 2013.
Source of other data: US Census Bureau – American Community Survey (ACS) for 2007-2011.

Conclusions: Population characteristics

Proportionately, the State of Ohio has a substantially larger White female population than the US as a whole, a slightly smaller Black/African-American female population, a substantially smaller Asian and Pacific Islander (API) female population, a slightly smaller American Indian and Alaska Native (AIAN) female population, and a substantially smaller Hispanic/Latina female population. The state's female population is slightly older than that of the US as a whole. The state's education level is slightly higher than and income level is about the same as those of the US as a whole. The state's unemployment level is slightly larger than that of the US as a whole.

The state has a substantially smaller percentage of people who are foreign born and a substantially smaller percentage of people who are linguistically isolated. There are a slightly larger percentage of people living in rural areas, a slightly smaller percentage of people without health insurance, and a substantially smaller percentage of people living in medically underserved areas.

The following counties have substantially larger Black/African-American female population percentages than that of the state as a whole:

- Cuyahoga County (Komen Northeast Ohio)
- Franklin County (Komen Columbus)
- Hamilton County (Komen Southwest Ohio)
- Lucas County (Komen Northwest Ohio)
- Montgomery County (Komen Southwest Ohio)

The following counties have substantially larger Hispanic/Latina female population percentages than that of the state as a whole:

- Defiance County (Komen Northwest Ohio)
- Lorain County (Komen Northeast Ohio)
- Sandusky County (Komen Northwest Ohio)

The following counties have substantially lower education levels than that of the state as a whole:

- Adams County (Komen Southwest Ohio)
- Brown County (Komen Southwest Ohio)
- Fayette County (Komen Columbus)
- Gallia County (Komen Columbus)
- Highland County (Komen Southwest Ohio)
- Holmes County (Komen Northeast Ohio)
- Jackson County (Komen Columbus)
- Lawrence County (Komen Columbus)
- Noble County (Komen Columbus)
- Pike County (Komen Columbus)
- Scioto County (Komen Columbus)
- Vinton County (Komen Columbus)

The following counties have substantially lower income levels than that of the state as a whole:

- Adams County (Komen Southwest Ohio)
- Athens County (Komen Columbus)
- Gallia County (Komen Columbus)
- Harrison County (Komen Northeast Ohio)
- Jackson County (Komen Columbus)
- Meigs County (Komen Columbus)
- Pike County (Komen Columbus)

- Scioto County (Komen Columbus)
- Vinton County (Komen Columbus)

The following counties have substantially lower employment levels than that of the state as a whole:

- Adams County (Komen Southwest Ohio)
- Highland County (Komen Southwest Ohio)
- Lucas County (Komen Northwest Ohio)
- Meigs County (Komen Columbus)
- Pike County (Komen Columbus)
- Ross County (Komen Columbus)

The following county has a substantially larger percentage of adults without health insurance than does the state as a whole:

- Holmes County (Komen Northeast Ohio)

Healthy People 2020 Forecasts

Healthy People 2020 is a major federal government program that has set specific targets (called "objectives") for improving Americans' health by the year 2020.

This report shows whether areas are likely to meet the two Healthy People 2020 objectives related to breast cancer: reducing breast cancer death rate and reducing the number of late-stage breast cancers.

Healthy People 2020 (HP2020) is a major federal government initiative that provides specific health objectives for communities and for the country as a whole (Healthy People 2020, 2010). Many national health organizations use HP2020 targets to monitor progress in reducing the burden of disease and improve the health of the nation. Likewise, Komen believes it is important to refer to HP2020 to see how areas across the country are progressing towards reducing the burden of breast cancer.

HP2020 has several cancer-related objectives, including:

- Reducing women's death rate from breast cancer.
- Reducing the number of breast cancers that are found at a late-stage.

The HP2020 objective for breast cancer death rates

As of the writing of this report, the HP2020 target for the breast cancer death rate is 20.6 breast-cancer related deaths per 100,000 females – a 10 percent improvement in comparison to the 2007 rate.

To see how well counties in Ohio are progressing toward this target, this report uses the following information:

- County breast cancer death rate data for years 2006 to 2010.
- Estimates for the trend (annual percent change) in county breast cancer death rates for years 2006 to 2010.
- Both the data and the HP2020 target are age-adjusted.

These data are used to estimate how many years it will take for each county to meet the HP2020 objective. Because the target date for meeting the objective is 2020 and 2008 (the middle of the 2006-2010 period) was used as a starting point, a county has 12 years to meet the target.

Death rate data and trends are used to calculate whether an area will meet the HP2020 target, assuming that the trend seen in years 2006 to 2010 continues for 2011 and beyond.
The calculation was conducted using the following procedure:

- The annual percent change for 2006-2010 was calculated.
- Using 2008 (the middle of the period 2006-2010) as a starting point, the annual percent change was subtracted from (or added to) the expected death rate (based on the 2006-2010 death rate) for each year between 2010 and 2020.
- These calculated death rates were then compared with the target.
    - If the breast cancer death rate for 2006-2010 was already below the target, it is reported that the area "Currently meets target."
    - If it would take more than 12 years (2008 to 2020) to meet the target, it is reported that the area would need "13 years or longer" to meet the target.
    - If the rate is currently below the target but the trend is increasing such that the target will no longer be met in 2020, it is reported that the area would need "13 years or longer" to meet the target.
    - In all other cases, the number of years it would take for the area to meet the target is reported. For example, if the area would meet the target in 2016, it would be reported as "eight years," because it's eight years from 2008 to 2016.

The HP2020 objective for late-stage breast cancer diagnoses

Another Healthy People 2020 objective is a decrease in the number of breast cancers diagnosed at a late stage. As of the writing of this report, the HP2020 target for late-stage diagnosis rate is 41.0 late-stage cases per 100,000 females. For each county in the state, the late-stage incidence rate and trend are used to calculate the amount of time, in years, needed to meet the HP2020 target, assuming that the trend observed from 2006 to 2010 continues for years 2011 and beyond.

The calculation was conducted using the following procedure:

- The annual percent change for 2006-2010 was calculated.
- Using 2008 (the middle of the period 2006-2010) as a starting point, the annual percent change was subtracted from (or added to) the expected late-stage incidence rate (based on the 2006-2010 rate) for each year between 2010 and 2020.
- The calculated late-stage incidence rates were then compared with the target.

- If the late-stage incidence rate for 2006-2010 was already below the target, it is reported that the area "Currently meets target."
- If it would take more than 12 years (2008 to 2020) to meet the target, it is reported that the area would need "13 years or longer" to meet the target.
- If the rate is currently below the target but the trend is increasing such that the target will no longer be met in 2020, it is reported that the area would need "13 years or longer" to meet the target.
- In all other cases, the number of years it would take for the area to meet the target is reported.

Identification of HP2020 breast cancer at-risk areas

Identifying geographic areas and groups of women with high needs will help develop effective, targeted breast cancer programs.

Priority areas are identified based on the time needed to meet Healthy People 2020 targets for breast cancer.

The purpose of this report is to combine evidence from many credible sources and use it to identify the highest HP2020 breast cancer at-risk areas (at-risk areas) for breast cancer programs (i.e., the areas of greatest need).

Classification of at-risk areas are based on the time needed to achieve HP2020 targets in each area. These time projections depend on both the starting point and the trends in death rates and late-stage incidence.

Late-stage incidence reflects both the overall breast cancer incidence rate in the population and the mammography screening coverage. The breast cancer death rate reflects the access to care and the quality of care in the healthcare delivery area, as well as cancer stage at diagnosis.

There has not been any indication that either one of the two HP2020 targets is more important than the other. Therefore, the report considers them equally important.

How counties are classified by need

Counties are classified as follows.

- Counties that are not likely to achieve either of the HP2020 targets are considered to have the highest needs.
- Counties that have already achieved both targets are considered to have the lowest needs.
- Other counties are classified based on the number of years needed to achieve the two targets.

Table 2.9 shows how counties are assigned to at-risk categories.

Table 2.9. Needs/At-risk classification based on the projected time to achieve HP2020 breast cancer targets

		Time to Achieve Late-stage Incidence Reduction Target				
Time to Achieve Death Rate Reduction Target		13 years or longer	7-12 yrs.	0 – 6 yrs.	Currently meets target	Unknown
	13 years or longer	**Highest**	**High**	**Medium High**	**Medium**	**Highest**
	7-12 yrs.	**High**	**Medium High**	**Medium**	**Medium Low**	**Medium High**
	0 – 6 yrs.	**Medium High**	**Medium**	**Medium Low**	**Low**	**Medium Low**
	Currently meets target	**Medium**	**Medium Low**	**Low**	**Lowest**	**Lowest**
	Unknown	**Highest**	**Medium High**	**Medium Low**	**Lowest**	**Unknown**

If the time to achieve a target cannot be calculated for one of the HP2020 indicators, then the county is classified based on the other indicator. If both indicators are missing, then the county is not classified. This doesn't mean that the county may not have high needs; it only means that sufficient data are not available to classify the county.

Healthy People 2020 forecasts and at-risk areas

The results presented in Table 2.10 help identify which counties have the greatest needs when it comes to meeting the HP2020 breast cancer targets.

- For counties in the "13 years or longer" category, current trends would need to change to achieve the target.
- Some counties may currently meet the target but their rates are increasing and they could fail to meet the target if the trend is not reversed.

Trends can change for a number of reasons, including:

- Improved screening programs could lead to breast cancers being diagnosed earlier, resulting in a decrease in both late-stage incidence rates and death rates.
- Improved socioeconomic conditions, such as reductions in poverty and linguistic isolation could lead to more timely treatment of breast cancer, causing a decrease in death rates.

The data in this table should be considered together with other information on factors that affect breast cancer death rates such as screening percentages and key breast cancer death determinants such as poverty and linguistic isolation.

Table 2.10. Breast cancer at-risk area for Ohio with predicted time to achieve the HP2020 breast cancer targets and key population characteristics

County	Komen Affiliate	Priority	Predicted Time to Achieve Death Rate Target	Predicted Time to Achieve Late-stage Incidence Target	Key Population Characteristics
Adams County	Komen Southwest Ohio	Highest	13 years or longer	13 years or longer	Education, poverty, employment, rural, medically underserved
Ashtabula County	Komen Northeast Ohio	Highest	13 years or longer	13 years or longer	Rural
Auglaize County	Komen Northwest Ohio	Highest	13 years or longer	13 years or longer	Rural
Butler County	Komen Southwest Ohio	Highest	13 years or longer	13 years or longer	
Clark County	Komen Columbus	Highest	13 years or longer	13 years or longer	
Clinton County	Komen Southwest Ohio	Highest	13 years or longer	13 years or longer	Rural
Erie County	Komen Northwest Ohio	Highest	13 years or longer	13 years or longer	
Hamilton County	Komen Southwest Ohio	Highest	13 years or longer	13 years or longer	%Black/African-American
Harrison County	Komen Northeast Ohio	Highest	SN	13 years or longer	Poverty, rural, medically underserved
Henry County	Komen Northwest Ohio	Highest	NA	13 years or longer	Rural
Hocking County	Komen Columbus	Highest	13 years or longer	13 years or longer	Rural, medically underserved
Jefferson County	Komen Northeast Ohio	Highest	13 years or longer	13 years or longer	Rural
Licking County	Komen Columbus	Highest	13 years or longer	13 years or longer	Rural
Lorain County	Komen Northeast Ohio	Highest	13 years or longer	13 years or longer	%Hispanic/Latina
Madison County	Komen Columbus	Highest	13 years or longer	13 years or longer	Rural
Mahoning County	Komen Northeast Ohio	Highest	13 years or longer	13 years or longer	
Meigs County	Komen Columbus	Highest	SN	13 years or longer	Poverty, employment, rural, medically underserved
Monroe County	Komen Columbus	Highest	SN	13 years or longer	Rural, medically underserved
Morgan County	Komen Columbus	Highest	SN	13 years or longer	Rural, medically underserved
Muskingum County	Komen Columbus	Highest	13 years or longer	13 years or longer	Rural
Perry County	Komen Columbus	Highest	13 years or longer	13 years or longer	Rural, medically underserved
Putnam County	Komen Northwest Ohio	Highest	SN	13 years or longer	Rural, medically underserved
Shelby County	Komen Northwest Ohio	Highest	SN	13 years or longer	Rural
Van Wert County	Komen Northwest Ohio	Highest	13 years or longer	13 years or longer	Rural

County	Komen Affiliate	Priority	Predicted Time to Achieve Death Rate Target	Predicted Time to Achieve Late-stage Incidence Target	Key Population Characteristics
Washington County	Komen Columbus	Highest	13 years or longer	13 years or longer	Rural
Ashland County	Komen Northeast Ohio	High	9 years	13 years or longer	Rural
Coshocton County	Komen Northeast Ohio	High	9 years	13 years or longer	Rural
Cuyahoga County	Komen Northeast Ohio	High	11 years	13 years or longer	%Black/African-American, medically underserved
Guernsey County	Komen Columbus	High	13 years or longer	7 years	Rural
Highland County	Komen Southwest Ohio	High	7 years	13 years or longer	Education, employment, rural
Marion County	Komen Columbus	High	9 years	13 years or longer	Rural
Portage County	Komen Northeast Ohio	High	8 years	13 years or longer	Rural
Stark County	Komen Northeast Ohio	High	9 years	13 years or longer	
Allen County	Komen Northwest Ohio	Medium High	4 years	13 years or longer	Medically underserved
Champaign County	Komen Columbus	Medium High	6 years	13 years or longer	Rural
Darke County	Komen Southwest Ohio	Medium High	13 years or longer	2 years	Rural, medically underserved
Delaware County	Komen Columbus	Medium High	5 years	13 years or longer	
Fairfield County	Komen Columbus	Medium High	13 years or longer	1 year	Rural
Franklin County	Komen Columbus	Medium High	13 years or longer	6 years	%Black/African-American, foreign
Gallia County	Komen Columbus	Medium High	6 years	13 years or longer	Education, poverty, rural
Hardin County	Komen Northwest Ohio	Medium High	3 years	13 years or longer	Rural, medically underserved
Huron County	Komen Northwest Ohio	Medium High	5 years	13 years or longer	Rural
Jackson County	Komen Columbus	Medium High	4 years	13 years or longer	Education, poverty, rural, medically underserved
Knox County	Komen Columbus	Medium High	5 years	13 years or longer	Rural
Lake County	Komen Northeast Ohio	Medium High	13 years or longer	5 years	
Lawrence County	Komen Columbus	Medium High	13 years or longer	1 year	Education, rural, medically underserved
Logan County	Komen Northwest Ohio	Medium High	3 years	13 years or longer	Rural
Medina County	Komen Northeast Ohio	Medium High	3 years	13 years or longer	Rural
Miami County	Komen Southwest Ohio	Medium High	13 years or longer	1 year	Rural

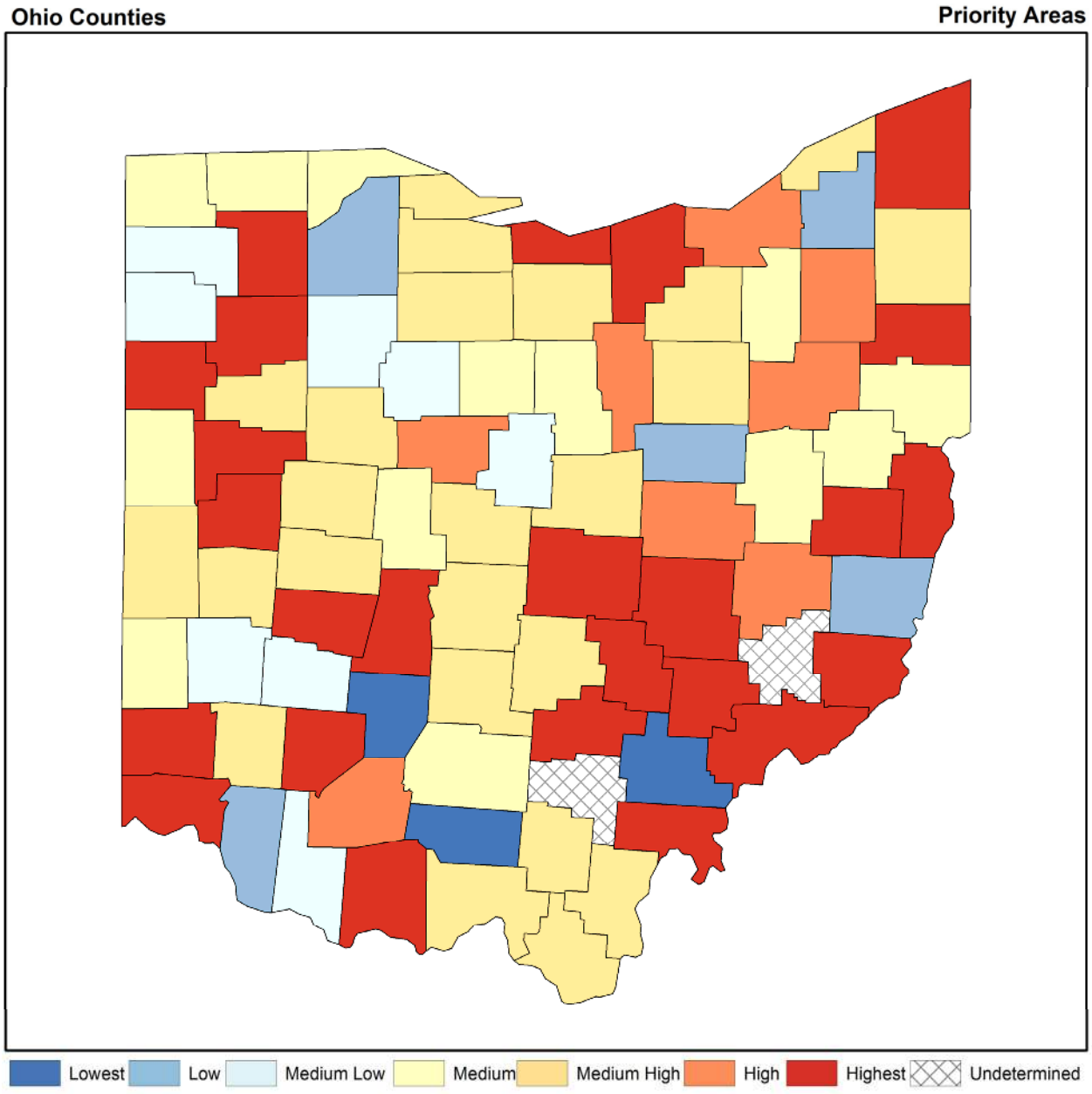
County	Komen Affiliate	Priority	Predicted Time to Achieve Death Rate Target	Predicted Time to Achieve Late-stage Incidence Target	Key Population Characteristics
Ottawa County	Komen Northwest Ohio	Medium High	13 years or longer	2 years	Rural
Pickaway County	Komen Columbus	Medium High	6 years	13 years or longer	Rural
Sandusky County	Komen Northwest Ohio	Medium High	13 years or longer	1 year	%Hispanic/Latina, rural, medically underserved
Scioto County	Komen Columbus	Medium High	1 year	13 years or longer	Education, poverty, rural, medically underserved
Seneca County	Komen Northwest Ohio	Medium High	4 years	13 years or longer	Rural
Trumbull County	Komen Northeast Ohio	Medium High	5 years	13 years or longer	Rural
Warren County	Komen Southwest Ohio	Medium High	7 years	8 years	
Wayne County	Komen Northeast Ohio	Medium High	2 years	13 years or longer	Rural
Carroll County	Komen Northeast Ohio	Medium	Currently meets target	13 years or longer	Rural, medically underserved
Columbiana County	Komen Northeast Ohio	Medium	Currently meets target	13 years or longer	Rural
Crawford County	Komen Northwest Ohio	Medium	Currently meets target	13 years or longer	Rural
Fulton County	Komen Northwest Ohio	Medium	13 years or longer	Currently meets target	Rural
Lucas County	Komen Northwest Ohio	Medium	9 years	1 year	%Black/African-American, employment, medically underserved
Mercer County	Komen Northwest Ohio	Medium	13 years or longer	Currently meets target	Rural
Preble County	Komen Southwest Ohio	Medium	13 years or longer	Currently meets target	Rural
Richland County	Komen Northeast Ohio	Medium	13 years or longer	Currently meets target	Rural
Ross County	Komen Columbus	Medium	Currently meets target	13 years or longer	Employment, rural
Summit County	Komen Northeast Ohio	Medium	10 years	1 year	
Tuscarawas County	Komen Northeast Ohio	Medium	Currently meets target	13 years or longer	Rural
Union County	Komen Columbus	Medium	Currently meets target	13 years or longer	Rural
Williams County	Komen Northwest Ohio	Medium	Currently meets target	13 years or longer	Rural
Brown County	Komen Southwest Ohio	Medium Low	7 years	Currently meets target	Education, rural, medically underserved

County	Komen Affiliate	Priority	Predicted Time to Achieve Death Rate Target	Predicted Time to Achieve Late-stage Incidence Target	Key Population Characteristics
Defiance County	Komen Northwest Ohio	Medium Low	8 years	Currently meets target	%Hispanic/Latina, rural
Greene County	Komen Southwest Ohio	Medium Low	3 years	6 years	
Hancock County	Komen Northwest Ohio	Medium Low	12 years	Currently meets target	Rural
Montgomery County	Komen Southwest Ohio	Medium Low	6 years	5 years	%Black/African-American
Morrow County	Komen Columbus	Medium Low	2 years	4 years	Rural
Paulding County	Komen Northwest Ohio	Medium Low	SN	1 year	Rural
Wyandot County	Komen Northwest Ohio	Medium Low	SN	3 years	Rural
Belmont County	Komen Northeast Ohio	Low	Currently meets target	2 years	Rural, medically underserved
Clermont County	Komen Southwest Ohio	Low	1 year	Currently meets target	
Geauga County	Komen Northeast Ohio	Low	5 years	Currently meets target	Rural
Holmes County	Komen Northeast Ohio	Low	2 years	Currently meets target	Education, language, rural, insurance
Wood County	Komen Northwest Ohio	Low	Currently meets target	1 year	Rural
Athens County	Komen Columbus	Lowest	Currently meets target	Currently meets target	Poverty, rural
Fayette County	Komen Columbus	Lowest	NA	Currently meets target	Education, rural, medically underserved
Pike County	Komen Columbus	Lowest	Currently meets target	Currently meets target	Education, poverty, employment, rural, medically underserved
Noble County	Komen Columbus	Undetermined	SN	SN	Education, rural
Vinton County	Komen Columbus	Undetermined	SN	SN	Education, poverty, rural, medically underserved

NA – data not available.
SN – data suppressed due to small numbers (15 cases or fewer for the 5-year data period).

Map of intervention at-risk areas

Figure 2.4 shows a map of the intervention categories for the counties in Ohio. When both of the indicators used to establish a category for a county are not available, the priority is shown as "undetermined" on the map.



*Map with counties labeled is available in Appendix.

Figure 2.4. Intervention categories

Data Limitations
The quantitative data in this report have been gathered from credible sources and uses the most current data available at the time.

Recent data
The most recent data available were used but, for cancer incidence and death rates, these data are still several years behind. The most recent breast cancer incidence and death rates available in 2013 were data from 2010. For the US as a whole and for most states, breast cancer incidence and death rates do not often change rapidly. Rates in individual counties might change more rapidly. In particular if a cancer control program has been implemented in 2011-2013, any impact of the program on incidence and death rates would not be reflected in this report.

Over the planning period for this report (2015 to 2019), the data will become more out-of-date. The trend data included in the report can help estimate more current values. Also, the State Cancer Profiles Web site (http://statecancerprofiles.cancer.gov/) is updated annually with the latest cancer data for states and can be a valuable source of information about the latest breast cancer rates for your community.

Data availability
For some areas, data might not be available or might be of varying quality. Cancer surveillance programs vary from state to state in their level of funding and this can impact the quality and completeness of the data in the cancer registries and the state programs for collecting death information. There are also differences in the legislative and administrative rules for the release of cancer statistics for studies such as these. These factors can result in missing data for some of the data categories in this report.

Small populations
Areas with small populations might not have enough breast cancer cases or breast cancer deaths each year to support the generation of reliable statistics. Because breast cancer has relatively good survival rates, breast cancer deaths occur less often in an area than breast cancer cases. So it may happen that breast cancer incidence rates are reported for a county with a small number of people but not breast cancer death rates.

The screening mammography data have a similar limitation because they are based on a survey of a small sample of the total population. So screening proportions may not be available for some of the smaller counties. Finally, it may be possible to report a late-stage incidence rate but not have enough data to report a late-stage trend and to calculate the number of years needed to reach the HP2020 late-stage target.

Data on population characteristics were obtained for all counties, regardless of their size. These data should be used to help guide planning for smaller counties where there are not enough specific breast cancer data to calculate a priority based on HP2020 targets.

Other cancer data sources

If a person has access to other sources of cancer data for their state, they might notice minor differences in the values of the data, even for the same time period. There are often several sources of cancer statistics for a given population and geographic area. State registries and vital statistics offices provide their data to several national organizations that compile the data. This report used incidence data compiled by the North American Association of Central Cancer Registries (NAACCR) and the National Cancer Institute (NCI) and death data compiled by the National Center for Health Statistics (NCHS).

Individual state registries and health departments often publish their own cancer data. These data might be different from the data in this report for several reasons. The most common reason is differences in the timing of when cases are reported.

Sometimes, a small number of cancer cases are reported to cancer registries with as much as a five year delay. Because of this delay, counts of cancer cases for a particular year may differ. In addition, data need to be checked to see whether the same case might have been counted twice in different areas. If a case is counted twice, one of the two reports is deleted. These small adjustments may explain small inconsistencies in the number of cases diagnosed and the rates for a specific year. However, such adjustments shouldn't have a substantial effect on cancer rates at the state level.

Specific groups of people

Data on cancer rates for specific racial and ethnic subgroups such as Somali, Hmong, or Ethiopian are not generally available. Records in cancer registries often record where a person was born if they were born in a foreign country. However, matching data about the population in an area are needed to calculate a rate (the number of cases per 100,000 people) and these matching population data are often not available.

Inter-dependent statistics

The various types of breast cancer data in this report are inter-dependent. For example, an increase in screening can result in fewer late-stage diagnoses and fewer deaths. However, an increase in screening mammography can also result in an increase in breast cancer incidence – simply because previously undetected cases are now being diagnosed. Therefore, caution is needed in drawing conclusions about the causes of changes in breast cancer statistics.

It is important to consider possible time delay between a favorable change in one statistic such as screening and the impact being reflected in other statistics such as the death rate. There can take 10 to 20 years for favorable changes in breast cancer control activities to be reflected in death rates.

Missing factors

There are many factors that impact breast cancer risk and survival for which quantitative data are not available. Some examples include family history, genetic markers like HER2 and BRCA, other medical conditions that can complicate treatment, and the level of family and

community support available to the patient. Good quantitative data are not available on how factors such as these vary from place to place. The quantitative data in this report should be supplemented by qualitative information about these other factors from your communities whenever possible.

Trend limitations

The calculation of the years needed to meet the HP2020 objectives assume that the current trends will continue until 2020. However, the trends can change for a number of reasons. For example, breast cancer programs, if they are successful, should change the trends. In fact, this is the primary goal of breast cancer programs.

However, trends could also change from differences in the population characteristics of the area such as shifts in the race or ethnicity of the people in the area or changes in their general socioeconomics. Areas with high migration rates, either new people moving into an area or existing residents moving elsewhere, are particularly likely to see this second type of change in breast cancer trends.

Late-stage data and un-staged cases

Not all breast cancer cases have a stage indication. Breast cancer might be suspected in very elderly women and a biopsy may not be performed. Also, some breast cancer cases may be known only through an indication of cause-of-death on a death certificate. When comparing late-stage statistics, it is assumed that the rates of unknown staging don't change and are similar between counties. This may not be a good assumption when comparing data between urban and rural areas or between areas with younger and older populations. It is also assumed that the size and types of unknown cases do not change over time when the trends in late-stage statistics are calculated.

In this report, both late-stage incidence rates and late-stage proportions are provided. These two statistics differ in how un-staged cases are represented. With late-stage incidence rates, un-staged cases are excluded from the numerator (the number of late-stage cases) but are included in the denominator (total number of people in the population). With late-stage proportions, un-staged cases are excluded from both the numerator (the number of late-stage cases) and the denominator (number of staged cases). These differences can explain why comparisons using the two late-stage statistics may get different results

Conclusions: Healthy People 2020 Forecasts

Breast Cancer Death Rates

The State of Ohio as a whole is **likely to achieve** the HP2020 death rate target. The state had a base rate of 24.8 breast cancer deaths per 100,000 females per year from 2006 to 2010 (age-adjusted). This rate coupled with a desirable direction (decrease) in the recent death rate trend, indicates that the State of Ohio will likely achieve the HP2020 target of 20.6 female breast cancer deaths per 100,000.

The following counties **currently meet** the HP2020 breast cancer death rate target of 20.6:

- Athens County (Komen Columbus)
- Belmont County (Komen Northeast Ohio)
- Carroll County (Komen Northeast Ohio)
- Columbiana County (Komen Northeast Ohio)
- Crawford County (Komen Northwest Ohio)
- Pike County (Komen Columbus)
- Ross County (Komen Columbus)
- Tuscarawas County (Komen Northeast Ohio)
- Union County (Komen Columbus)
- Williams County (Komen Northwest Ohio)
- Wood County (Komen Northwest Ohio)

The following counties are **likely to miss** the HP2020 breast cancer death rate target unless the death rate falls at a faster rate than currently estimated:

- Adams County (Komen Southwest Ohio)
- Ashtabula County (Komen Northeast Ohio)
- Auglaize County (Komen Northwest Ohio)
- Butler County (Komen Southwest Ohio)
- Clark County (Komen Columbus)
- Clinton County (Komen Southwest Ohio)
- Darke County (Komen Southwest Ohio)
- Erie County (Komen Northwest Ohio)
- Fairfield County (Komen Columbus)
- Franklin County (Komen Columbus)
- Fulton County (Komen Northwest Ohio)
- Guernsey County (Komen Columbus)
- Hamilton County (Komen Southwest Ohio)
- Hocking County (Komen Columbus)
- Jefferson County (Komen Northeast Ohio)
- Lake County (Komen Northeast Ohio)
- Lawrence County (Komen Columbus)
- Licking County (Komen Columbus)
- Lorain County (Komen Northeast Ohio)
- Madison County (Komen Columbus)
- Mahoning County (Komen Northeast Ohio)
- Mercer County (Komen Northwest Ohio)
- Miami County (Komen Southwest Ohio)
- Muskingum County (Komen Columbus)
- Ottawa County (Komen Northwest Ohio)
- Perry County (Komen Columbus)
- Preble County (Komen Southwest Ohio)

- Richland County (Komen Northeast Ohio)
- Sandusky County (Komen Northwest Ohio)
- Van Wert County (Komen Northwest Ohio)
- Washington County (Komen Columbus)

Because data for small numbers of people are not reliable, it can't be predicted whether Fayette County, Harrison County, Henry County, Meigs County, Monroe County, Morgan County, Noble County, Paulding County, Putnam County, Shelby County, Vinton County and Wyandot County will reach the death rate target. The remaining counties are likely to achieve the target by 2020 or earlier.

Breast Cancer Late-Stage Incidence Rates

The State of Ohio as a whole is **likely to miss** the HP2020 late-stage incidence rate target. The state had a base rate of 44 new late-stage cases per 100,000 females per year from 2006 to 2010 (age-adjusted). This rate coupled with the recent late-stage incidence rate trend, indicates that the State of Ohio is likely to miss the HP2020 target of 41.0 new late-stage cases per 100,000.

The following counties **currently meet** the HP2020 late-stage incidence rate target of 41.0:

- Athens County (Komen Columbus)
- Brown County (Komen Southwest Ohio)
- Clermont County (Komen Southwest Ohio)
- Defiance County (Komen Northwest Ohio)
- Fayette County (Komen Columbus)
- Fulton County (Komen Northwest Ohio)
- Geauga County (Komen Northeast Ohio)
- Hancock County (Komen Northwest Ohio)
- Holmes County (Komen Northeast Ohio)
- Mercer County (Komen Northwest Ohio)
- Pike County (Komen Columbus)
- Preble County (Komen Southwest Ohio)
- Richland County (Komen Northeast Ohio)

The following counties are **likely to miss** the HP2020 late-stage incidence rate target unless the late-stage incidence rate falls at a faster rate than currently estimated:

- Adams County (Komen Southwest Ohio)
- Allen County (Komen Northwest Ohio)
- Ashland County (Komen Northeast Ohio)
- Ashtabula County (Komen Northeast Ohio)
- Auglaize County (Komen Northwest Ohio)
- Butler County (Komen Southwest Ohio)
- Carroll County (Komen Northeast Ohio)
- Champaign County (Komen Columbus)

- Clark County (Komen Columbus)
- Clinton County (Komen Southwest Ohio)
- Columbiana County (Komen Northeast Ohio)
- Coshocton County (Komen Northeast Ohio)
- Crawford County (Komen Northwest Ohio)
- Cuyahoga County (Komen Northeast Ohio)
- Delaware County (Komen Columbus)
- Erie County (Komen Northwest Ohio)
- Gallia County (Komen Columbus)
- Hamilton County (Komen Southwest Ohio)
- Hardin County (Komen Northwest Ohio)
- Harrison County (Komen Northeast Ohio)
- Henry County (Komen Northwest Ohio)
- Highland County (Komen Southwest Ohio)
- Hocking County (Komen Columbus)
- Huron County (Komen Northwest Ohio)
- Jackson County (Komen Columbus)
- Jefferson County (Komen Northeast Ohio)
- Knox County (Komen Columbus)
- Licking County (Komen Columbus)
- Logan County (Komen Northwest Ohio)
- Lorain County (Komen Northeast Ohio)
- Madison County (Komen Columbus)
- Mahoning County (Komen Northeast Ohio)
- Marion County (Komen Columbus)
- Medina County (Komen Northeast Ohio)
- Meigs County (Komen Columbus)
- Monroe County (Komen Columbus)
- Morgan County (Komen Columbus)
- Muskingum County (Komen Columbus)
- Perry County (Komen Columbus)
- Pickaway County (Komen Columbus)
- Portage County (Komen Northeast Ohio)
- Putnam County (Komen Northwest Ohio)
- Ross County (Komen Columbus)
- Scioto County (Komen Columbus)
- Seneca County (Komen Northwest Ohio)
- Shelby County (Komen Northwest Ohio)
- Stark County (Komen Northeast Ohio)
- Trumbull County (Komen Northeast Ohio)
- Tuscarawas County (Komen Northeast Ohio)
- Union County (Komen Columbus)

- Van Wert County (Komen Northwest Ohio)
- Washington County (Komen Columbus)
- Wayne County (Komen Northeast Ohio)
- Williams County (Komen Northwest Ohio)

Because data for small numbers of people are not reliable, it can't be predicted whether Noble County and Vinton County will reach the late-stage incidence rate target. The remaining counties are likely to achieve the target by 2020 or earlier.

HP2020 Conclusions

Highest at risk areas

Twenty-five counties in the State of Ohio are in the highest at risk category. Eighteen of the twenty-five, Adams County, Ashtabula County, Auglaize County, Butler County, Clark County, Clinton County, Erie County, Hamilton County, Hocking County, Jefferson County, Licking County, Lorain County, Madison County, Mahoning County, Muskingum County, Perry County, Van Wert County and Washington County, are not likely to meet either the death rate or late-stage incidence rate HP2020 targets. Seven of the twenty-five, Harrison County, Henry County, Meigs County, Monroe County, Morgan County, Putnam County and Shelby County, are not likely to meet the late-stage incidence rate HP2020 target.

The age-adjusted incidence rates in Hamilton County (131.3 per 100,000) are significantly higher than the state as a whole (120.8 per 100,000). Incidence trends in Harrison County (30.0 percent per year) are significantly less favorable than the state as a whole (-0.1 percent per year). The age-adjusted death rates in Auglaize County (37.6 per 100,000) are significantly higher than the state as a whole (24.8 per 100,000). Death trends in Adams County (2.8 percent per year) and Auglaize County (0.6 percent per year) are significantly less favorable than the state as a whole (-1.9 percent per year). Late-stage incidence trends in Mahoning County (5.2 percent per year) are significantly less favorable than the state as a whole (0.6 percent per year). The screening proportion in Harrison County (50.6 percent) is significantly lower than the state as a whole (77.0 percent).

Adams County has low education levels, high poverty levels and high unemployment. Hamilton County has a relatively large Black/African-American population. Harrison County has high poverty levels. Lorain County has a relatively large Hispanic/Latina population. Meigs County has high poverty levels and high unemployment.

High at risk areas

Eight counties in the State of Ohio are in the high at risk category. One of the eight, Guernsey County is not likely to meet the death rate HP2020 target. Seven of the eight, Ashland County, Coshocton County, Cuyahoga County, Highland County, Marion County, Portage County and Stark County, are not likely to meet the late-stage incidence rate HP2020 target.

The age-adjusted incidence rates in Cuyahoga County (127.8 per 100,000) are significantly higher than the state as a whole (120.8 per 100,000). The age-adjusted late-stage incidence

rates in Cuyahoga County (47.0 per 100,000) and Guernsey County (69.3 per 100,000) are significantly higher than the state as a whole (44.0 per 100,000).

Cuyahoga County has a relatively large Black/African-American population. Highland County has low education levels and high unemployment.

Health Systems Analysis

This section of the state report tells the story of the breast cancer continuum of care and the delivery of quality health care in the community. Key to this section is the observation of potential strengths and weaknesses in the health care system that could compromise a women's health as she works her way through the continuum of care (e.g., screening, diagnosis, treatment and follow-up/survivorship services).

Health Systems Analysis Data Sources

Breast Cancer Programs and Services

An inventory of breast cancer programs and services in the state were collected through a comprehensive internet search to identify the following types of health care facilities or community organizations that may provide breast cancer related services:

- Hospitals- Public or private, for-profit or nonprofit.
- Community Health Centers (CHC) - Community based organizations that provide primary care regardless of ability to pay; include Federally Qualified Health Centers (FQHCs) and FQHC look-alikes.
- Free Clinic- Free and charitable clinics are safety-net health care organizations that utilize a volunteer/staff model and restrict eligibility for their services to individuals who are uninsured, underinsured and/or have limited or no access to primary health care.
- Health Department- Local health department run by government entity (e.g. county, city) focused on the general health of its citizens.
- Title X Provider- Family planning centers that also offer breast and cervical cancer screening. Services are provided through state, county, and local health departments; community health centers; Planned Parenthood centers; and hospital-based, school-based, faith-based, other private nonprofits.
- Other- Any institution that is not a hospital, CHC, free clinic, health department or Title X provider (e.g., FDA certified mammography center that is not a hospital/CHC, community organization that is not a medical provider but does connect people to services or provide support services such as financial/legal assistance).

Information collected through these means was inputted into a Health Systems Analysis spreadsheet by service type: screening, diagnostics, treatment, and support. The screening service category encompasses clinical breast exams (CBEs), screening mammograms, mobile mammography units, ultrasounds, and patient navigation. The category of diagnostics includes diagnostic mammograms, ultrasounds, biopsy, MRI, and patient navigation. Treatment modalities counted were chemotherapy, radiation, surgery consultations, surgery, reconstruction, and patient navigations. Support encompasses a broad range of services including support groups, wigs, mastectomy wear, individual counseling/psychotherapy, exercise/nutrition programs, complementary therapies, transportation assistance, financial assistance for cost of living expenses, as well as end of life care, legal services, and education.

In order to understand the effect available health systems have on the state, the identified resources were plotted on an asset map by Susan G. Komen Information Technology (IT) staff to visually illustrate the services (or lack thereof) available in the state. While every effort was

made to ensure these findings were comprehensive, it may be possible that a facility or organization was missed or has since closed; as a result, these findings should not be considered exhaustive and/or final.

Quality of Care Indicators

For all health care facilities and hospitals, an additional layer of analysis was applied using quality of care indicators. Quality of care indicators are quantifiable measures related to the process of care, outcomes of care, and patient satisfaction levels from a particular program and/or organization. Multiple national organizations have developed key quality of care indicators for breast health services, and if an organization meets all of the key indicators they are designated an "accredited" health care institution. These accreditations outline key quality of care indicators health care institutions must meet in order to obtain and/or retain accreditation status. The following five accreditations were considered high quality of care indicators in the state's health system analysis.

- ***FDA Approved Mammography Facilities***

  The Food and Drug Administration (FDA) passed the Mammography Quality Standards Act (MQSA) in 1992 to ensure facilities meet standards for performing high quality mammography. Accreditation bodies administer the MQSA to evaluate and accredit mammography facilities based upon quality standards. These quality standards are extensive and outline how a facility can operate. For instance, physicians interpreting mammograms must be licensed to practice medicine, be certified to interpret radiological procedures including mammography, and must complete continuing experience or education to maintain their qualifications (US Food and Drug Administration US FDA], 2014). Radiologic technologists must also be trained and licensed to perform general radiographic procedures and complete continuing experience or education to maintain their qualifications. Facilities are required to maintain personnel records to document the qualifications of all personnel who work at the facility such as physicians, radiologic technologists or medical physicists.

  All radiographic equipment used in FDA approved mammography centers must be specifically designed for mammography and must not be equipment designed for general purpose or equipment that has been modified with special attachments for mammography. Equipment regulations also apply to compression paddles, image receptor size, light fields and magnification, focal spot selection, x-ray film, film processing solutions, lighting and film masking devices. Facilities must also prepare a written report of the results of each mammography examination performed under its certificate. The report must include the name of the patient and an additional patient identifier, date of examination, the name of the interpreting physician, and the overall final assessment of findings. Findings from mammograms are classified into four different categories, including negative, benign, probably benign, and highly suggestive of malignancy. An assessment can also be assigned as incomplete indicating additional imaging evaluation is needed.

FDA approved mammography facilities are obligated to communicate the results of mammograms to the patient and the patient's primary care provider in a written report within 30 days. Each facility must also maintain mammography films and reports in a permanent medical record for a period of no less than five years or longer if mandated by State or local law. Patients can request to permanently or temporarily transfer the original mammograms and patient report to a medical institution, physician, health care provider, or to the patient directly. Any fees for providing transfer services shall not exceed the documented costs associated with this service.

A quality assurance program must be established at each facility to ensure safety, reliability, clarity, and accuracy of mammography services. At least once a year, each facility undergoes a survey by a medical physicist that includes the performance of tests to ensure the facility meets quality assurance requirements. The FDA evaluates the performance of each certificated agency annually through the use of performance indicators that address the adequacy of program performance in certification, inspection, and enforcement activities. Only facilities that are accredited by FDA accrediting bodies or are undergoing accreditation by accrediting bodies may obtain a certificate from the FDA to legally perform mammography (US FDA, 2014). Only FDA approved mammography centers were included in the health system analysis for each target community.

- ***American College of Surgeons Commission on Cancer Certification (CoCC)***
  Applying and sustaining an American College of Surgeons Commission on Cancer Certification (CoCC) is a voluntary effort a cancer program can undertake to ensure a range of services necessary to diagnose and treat cancer, as well as rehabilitate and support patients and their families, are available (American College of Surgeons [ACoS], 2013). There are various categories of cancer programs, and each facility is assigned a category based on the type of facility or organization, services provided, and cases accessioned or recorded. Program categories include: Integrated Network Cancer Program (INCP); NCI-Designated Comprehensive Cancer Center Program (NCIP); Academic Comprehensive Cancer Program (ACAD); Veterans Affairs Cancer Program (VACP); Comprehensive Community Cancer Program (CCCP); Hospital Associate Cancer Program (HACP); Pediatric Cancer Program (PCP); and Freestanding Cancer Center Program (FCCP) (ACoS, 2013).

  CoCC cancer programs are surveyed every three years. In preparation for survey, the cancer committee for that facility must assess program compliance with the requirements for all standards outlined in *Cancer Program Standards 2012: Ensuring Patient-Centered Care*. An individual must then review and complete an online Survey Application Record (SAR). In addition, the individual responsible for completing the SAR will perform a self-assessment and rate compliance with each standard using the Cancer Program Ratings Scale.

The surveyor's role is to assist in accurately defining the standards and verifying the facility's cancer program is in compliance. To accomplish this task, the surveyor will meet with the cancer committee, cancer registry staff and cancer liaison physicians, review pathology reports, and attend a cancer conference to observe the multidisciplinary patient management discussions and confirm treatment is planned using nationally recognized, evidence-based treatment guidelines. CoCC-accredited programs must also submit documentation of cancer program activities with the SAR using multiple sources such as policies, procedures, manuals, and grids.

Each cancer program standard is rated on a compliance scale that consists of the score of (1+) commendation, (1) compliance, (5) noncompliance, and (8) not applicable. A deficiency is defined as any standard with a rating of five. A deficiency in one or more standards will affect the accreditation award. Commendation ratings (+1) are valid for eight standards, can only be earned at the time of survey, and are used to determine the accreditation award and award level (bronze, silver, or gold). Accreditation awards are based on consensus ratings by the cancer program surveyor, CoCC staff and when necessary, the Program Review Subcommittee. A program can earn one of the following Accreditation Awards; three-year with commendation accreditation, three-year accreditation, three-year accreditation with contingency, provisional accreditation, or no accreditation. Programs are surveyed at three-year intervals from the date of survey.

Award notification takes place within 45 days following the completed survey and will include The Accredited Cancer Program Performance Report. This report includes a comprehensive summary of the survey outcome and accreditation award, the facility's compliance rating for each standard, an overall rating compared with other accredited facilities nation- and state-wide, and the category of accreditation. In addition, a narrative description of deficiencies that require correction, suggestions to improve or enhance the program, and commendations awarded are also included.

- ***American College of Surgeons National Accreditation Program for Breast Centers (NAPBC)***
  The American College of Surgeons' National Accreditation Program for Breast Centers (NAPBC) is a consortium of national professional organizations focused on breast health and dedicated to improving quality of care and outcomes for patients with diseases of the breast (ACoS, 2014). The NAPBC utilizes evidence-based standards as well as patient and provider education, and encourages leaders from major disciplines to work together to diagnose and treat breast disease. The NAPBC has defined 28 program standards and 17 program components of care that provide the most efficient and contemporary care for patients diagnosed with diseases of the breast. Quality standards cover a range of topics and levels of operation including leadership, clinical management, research, community outreach, professional education, and quality improvement (ACoS, 2014).

To be considered for initial survey, breast center leadership must ensure clinical services, interdisciplinary/multidisciplinary conference(s), and quality management programs are in place and ensure a facility can meet the requirements outlined for all standards. Critical standards include having breast program leadership that is responsible and accountable for services and also establishes, monitors, and evaluates the interdisciplinary breast cancer conference frequency, multidisciplinary and individual attendance, prospective case presentation, and total case presentation annually. In addition, the interdisciplinary patient management standard requires patient management to be conducted by an interdisciplinary team after a patient is diagnosed with breast cancer.

Breast center leadership then completes a pre-application to participate and pay for the survey fee within 30 days of the receipt from the NAPBC. To prepare for a survey, the breast center must complete a Survey Application Record (SAR) prior to the on-site visit. The SAR is intended to capture information about the breast center activity and includes portions of individuals to perform a self-assessment and rate compliance with each standard using a provided rating system. The NAPBC will then complete a survey of the facility within six months. A survey of a facility typically includes a tour of the center, a meeting between the surveyor and breast center leadership and staff, chart and medical record review, and the attendance of a breast conference.

Accreditation awards are based on consensus ratings by the surveyor, the NAPBC staff, and, if required, the Standards and Accreditation Committee. Accreditation award is based on compliance with 28 standards. A three year, full accreditation is granted to centers that comply with 90 percent or more of the standards with resolution of all deficient standards documented within 12 months of survey. Centers that do not resolve all deficiencies within the 12 month period risk losing NAPBC accreditation status and are required to reapply. Once a performance report and certificate of accreditation are issued, these centers are surveyed every three years.

A three-year contingency accreditation is granted to centers that meet less than 90 percent, but more than 75 percent of the standards at the time of survey. The contingency status is resolved by the submission of documentation of compliance within 12 months from the date of survey. A performance report and certificate of accreditation are issued, and these facilities are surveyed every three years. An accreditation can be deferred if a center meets less than 75 percent of the standards at the time of the survey. The deferred status is resolved by the submission of documentation of compliance within 12 months from the date of survey. Based on the resolution of deficiencies and survey results, a performance report and certificate of accreditation are issued, and these facilities are surveyed every three years. For the complete list of NAPBC quality standards, visit: http://www.napbc-breast.org/standards/standards.html.

- ***American College of Radiology Breast Imaging Centers of Excellence (BICOE)***
  The American College of Radiology (ACR) Breast Imaging Centers of Excellence (BICOE) designation is awarded to breast imaging centers that seek and earn accreditation in the ACR's entire voluntary breast imaging accreditation programs and modules, in addition to the Mandatory Mammography Accreditation Program (MMAP) (American College of Radiology [ACR], n.d.). The ACR MMAP is designed to provide facilities with peer review and constructive feedback on staff qualifications, equipment, quality control, quality assurance, image quality, and radiation dose. This ensures facilities comply with the 1992 Mammography Quality Standards Act (MQSA), which requires all mammography facilities be accredited. In order to receive the ACR's BICOE designation, a facility must be accredited by the ACR in mammography, stereotactic breast biopsy, breast ultrasound, and effective January 1, 2016, breast MRI.

  The ACR will send a BICOE certificate to each facility that fulfills the necessary requirements. The designation remains in effect as long as all breast imaging facilities (an organizations home location or a different location) remain accredited in all required breast imaging services provided. If the center or facility neglects to renew any of its accreditations or fails during renewal, the facility will be notified that it no longer has the BICOE designation and the BICOE certificate must be removed from public display. Some centers will need to specifically request a BICOE designation, while in most cases the ACR will consult its database and automatically provide an eligible center a BICOE certificate if the center is at a single physical location and meets all breast imaging requirements (ACR, n.d.).

- ***National Cancer Institute Designated Cancer Centers***
  A National Cancer Institute (NCI) designated Cancer Center is an institution dedicated to researching the development of more effective approaches to the prevention, diagnosis, and treatment of cancer (National Cancer Institute [NCI], 2012). A NCI-designated Cancer Center conducts cancer research that is multidisciplinary and incorporates collaboration between institutions and university medical centers. This collaboration also provides training for scientists, physicians, and other professionals interested in specialized training or board certification in cancer-related disciplines. NCI-designated Cancer Centers also provide clinical programs that offer the most current forms of treatment for various types of cancers and typically incorporate access to clinical trials of experimental treatments. In addition, public education and community outreach regarding cancer prevention and screening are important activities of a NCI-designated Cancer Center (NCI, 2012).

HRSA Shortage Designations

The US Department of Health and Human Services-Health Resources and Services Administration (HRSA) designations for Health Professional Shortage Areas (HSPAs) and Medically Underserved Areas/Populations (MUA/Ps) were used to identify areas within the state where individuals may have inadequate access to primary care providers and facilities (US Department of Health and Human Services, n.d.).

- ***Health Professional Shortage Areas (HPSAs)*** are designated by HRSA as having shortages of primary medical care, dental or mental health providers and may be geographic (a county or service area), population (e.g. low income or Medicaid eligible) or facilities (e.g. federally qualified health center or other state or federal prisons).
- ***Medically Underserved Areas/Populations (MUA/Ps)*** are areas or populations designated by HRSA as having too few primary care providers, high infant death, high poverty or a high elderly population.

Breast Cancer Continuum of Care

The Breast Cancer Continuum of Care (CoC), shown in Figure 3.1, is a model that shows how a woman typically moves through the health care system for breast care. A woman would ideally move through the CoC quickly and seamlessly, receiving timely, quality care in order to have the best outcomes. Education can play an important role throughout the entire CoC.

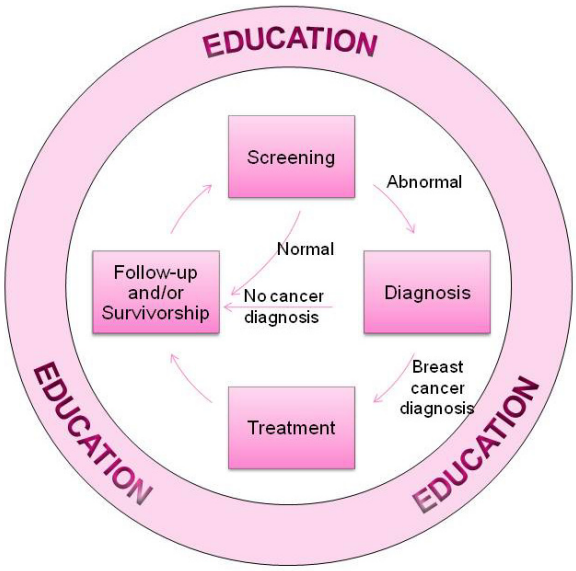


Figure 3.1. Breast Cancer Continuum of Care (CoC)

While a woman may enter the continuum at any point, ideally, a woman would enter the CoC by getting screened for breast cancer – with a clinical breast exam or a screening mammogram. If the screening test results are normal, she would loop back into follow-up care, where she would get another screening exam at the recommended interval. Education plays a role in both providing education to encourage women to get screened and reinforcing the need to continue to get screened routinely thereafter.

If a screening exam resulted in abnormal results, diagnostic tests would be needed, possibly several, to determine if the abnormal finding is in fact breast cancer. These tests might include a diagnostic mammogram, breast ultrasound, or biopsy. If the tests were negative (or benign) and breast cancer was not found, she would go into the follow-up loop and return for screening at the recommended interval. The recommended intervals may range from three to six months for some women to 12 months for most women. Education plays a role in communicating the importance of proactively getting test results, keeping follow-up appointments, and understanding what everything means. Education can empower a woman and help manage anxiety and fear.

The woman would proceed to treatment if breast cancer is diagnosed. Education can cover such topics as treatment options, how a pathology reports determines the best options for

treatment, understanding side effects and how to manage them, and helping to formulate questions a woman may have for her providers.

For some breast cancer patients, treatment may last a few months and for others, it may last years. While the CoC model shows that follow-up and survivorship come after treatment ends, they actually may occur at the same time. Follow-up and survivorship may include things like navigating insurance issues, locating financial assistance, symptom management, such as pain, fatigue, sexual issues, bone health, etc. Education may address topics such as making healthy lifestyle choices, long term effects of treatment, managing side effects, the importance of follow-up appointments, and communication with their providers. Most women will return to screening at a recommended interval after treatment ends, or for some, during treatment (such as those taking long term hormone therapy).

There are often delays in moving from one point of the continuum to another – at the point of follow-up of abnormal screening exam results, starting treatment, and completing treatment – that can all contribute to poorer outcomes. There are also many reasons why a woman does not enter or continue in the breast cancer CoC. These barriers can include things such as lack of transportation, system issues including long waits for appointments and inconvenient clinic hours, language barriers, fear, and lack of information or the wrong information (myths and misconceptions). Education can address some of these barriers and help a woman enter and progress through the CoC more quickly.

Health Systems Analysis Findings

In the State of Ohio there were 650 locations found to provide breast cancer services varying between screening, diagnostic, treatment, and survivorship (Figure 3.2). There were 650 locations that provided screening services, 369 locations in the state that provide diagnostic services and 132 locations providing treatment services. In the state there were 104 locations that provided survivorship services or care. Identified facilities that provide mammography services were all accredited by the Federal Drug Administration. There are 77 locations that are accredited by the American College of Surgeons Commission on Cancer, 60 locations accredited by the American College of Radiology as a Breast Imaging Center of Excellence and 23 locations accredited as an American College of Surgeons NAPBC program. There are three locations that are designated as a NCI Cancer Center.

The following counties are designated as a Medically Underserved Area/Population and/or a Health Professional Shortage Area for primary care: Adams, Allen, Ashland, Ashtabula, Athens, Belmont, Brown, Butler, Carroll, Clark, Clermont, Clinton, Columbiana, Coshocton, Crawford, Cuyahoga, Darke, Defiance, Erie, Fairfield, Fayette, Franklin, Greene, Guernsey, Hamilton, Hancock, Hardin, Harrison, Highland, Hocking, Holmes, Huron, Jackson, Jefferson, Knox, Lake, Lawrence, Logan, Lorain, Lucas, Madison, Mahoning, Marion, Medina, Meigs, Miami, Monroe, Montgomery, Morgan, Morrow, Muskingum, Noble, Ottawa, Paulding, Perry, Pickaway, Pike, Portage, Preble, Putnam, Richland, Ross, Sandusky, Scioto, Seneca, Stark, Summit, Trumbull, Tuscarawas, Union, Van Wert, Vinton, Warren, Washington and Wood.

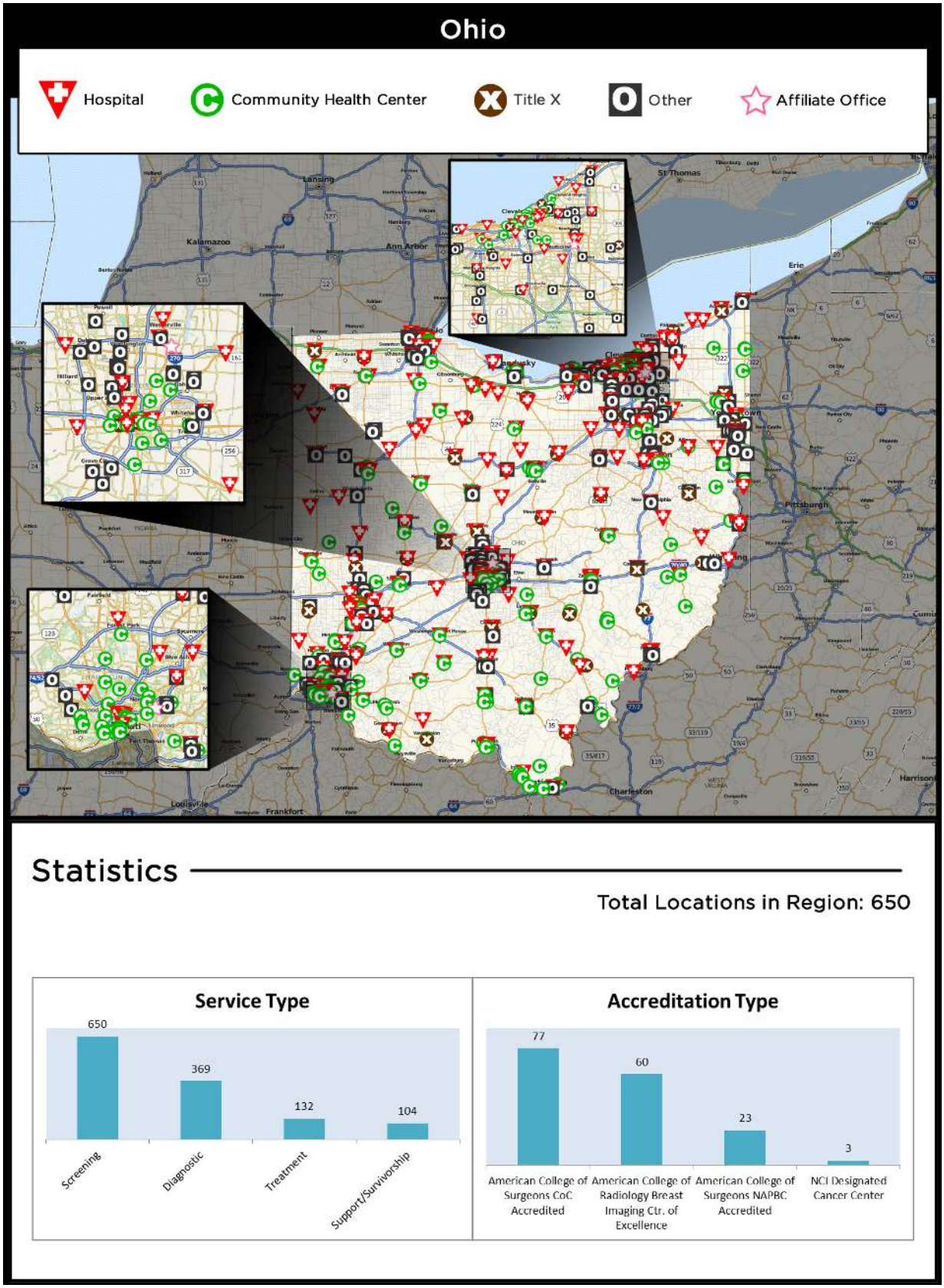


Figure 3.2. Breast cancer services available in Ohio

Public Policy Overview

In recent years, public policies pertaining to breast cancer have undergone substantial changes that will affect at-risk women across the United States. States have responded differently to the public policy developments concerning access to services within the breast cancer continuum of care (screening, diagnostic, treatment and survivorship care); therefore, women are dependent on their state's agenda and action on health care reform. This section of the state report will focus on the following public policies that affect breast cancer care in the state: National Breast and Cervical Cancer Early Detection Program, State Comprehensive Cancer Control Plan, the Affordable Care Act and Medicaid Expansion.

Susan G. Komen Advocacy

Susan G. Komen is the voice for the more than three million breast cancer survivors and those who love them, working to ensure that the fight against breast cancer is a priority among policymakers in Washington, D.C., and every Capitol across the country.

Each year, Komen works to identify, through a transparent and broad-based, intensive vetting and selection process, the policy issues that have the greatest potential impact on Komen's mission. This process includes the collection of feedback from Komen Headquarters leadership, policy staff, and subject matter experts; Komen Affiliates from across the country; advisory groups including the Komen Advocacy Advisory Taskforce (KAAT), Advocates in Science (AIS), and Komen Scholars; and other stakeholders with a vested interest in breast cancer-related issues.

The selected issues are the basis for Komen's state and federal advocacy work in the coming year. While the priority issues may change on an annual basis, the general focus for Komen's advocacy work is to ensure high-quality, affordable care for all, though access to services and an increased investment in research to ensure the continued development of the latest technologies and treatments. For more information on Komen's current Advocacy Priorities, please visit: http://ww5.komen.org/WhatWeDo/Advocacy/Advocacy.html.

National Breast and Cervical Cancer Early Detection Program

The United States Congress passed the Breast and Cervical Cancer Mortality Prevention Act of 1990, which directed the Centers for Disease Control and Prevention (CDC) to create the National Breast and Cervical Cancer Early Detection Program (NBCCEDP) to improve access to screening (CDC, 2015a). NBCCEDP is a federal-state partnership which requires states to satisfy a 1:3 matching obligation ($1 in state funds or in-kind funds for every $3 in federal funds provided to that state) (CDC, n.d.). Currently, the NBCCEDP funds all 50 states, the District of Columbia, five US territories, and 11 American Indian/Alaska Native tribes or tribal organizations, to provide the following services to women (CDC, 2015a; CDC, n.d.):

- Breast and cervical cancer screening for women with priority to low-income women.
- Providing appropriate follow-up and support services (i.e., case management and referrals for medical treatment).
- Developing and disseminating public information and education programs.

- Improving the education, training and skills of health professionals.
- Monitoring screening procedure quality and interpretation.

To be eligible to receive NBCCEDP services, uninsured and underinsured women must be at or below 250 percent of the federal poverty level and between the ages of 40 to 64 for breast cancer screening (CDC, 2015a; CDC, n.d.). Uninsured women between the ages of 50 and 64 who are low-income (up to 250 percent federal poverty level) and who have not been screened in the past year are a priority population for NBCCEDP (CDC, n.d.).

While federal guidelines are provided by the CDC, there are some variations among states, tribal organizations and territories (CDC, 2015b):

- Program funding, clinical costs and additional eligibility guidelines vary by state, tribal organization and territory which influence the number of services that can be provided.
- Flexibility of the program allows each state, tribal organization and territory to adopt an operational model that is appropriate for their respective public health infrastructure and legislative polices.

Since the launch of the program in 1991, NBCCEDP has served more than 4.8 million women providing over 12 million breast and cervical cancer screening services that has resulted in more than 67,900 women being diagnosed with breast cancer (CDC, 2015a).

Congress passed the Breast and Cervical Cancer Prevention and Treatment Act in 2000 to provide states the option to offer Medicaid coverage for breast cancer treatment for women who were diagnosed when receiving services through from the NBCCEDP (CDC, 2015a). To date, all 50 states and the District of Columbia have approved provision of Medicaid coverage for cancer treatment; therefore, providing low-income, uninsured and underinsured women coverage from screening through completion of treatment (CDC, 2015a). Congress expanded this option 2001, with the passage of the Native American Breast and Cervical Cancer Treatment Technical Amendment Act, to include eligible American Indians and Alaska Natives that receive services by the Indian Health Service or by a tribal organization (CDC, 2015a).

In the State of Ohio, the NBCCEDP is known as Ohio's Breast and Cervical Cancer Project and is administered by the Ohio Department of Health. From July 2009 to June 2014, Ohio's Breast and Cervical Cancer Project provided 31,899 cancer and cervical cancer screening and diagnostic services to women. The program provided 50,220 mammograms that resulted in 7,850women receiving an abnormal result and 632 women being diagnosed with breast cancer (NBCCEDP Minimum Data Elements, 2015). To find out more information about getting screened and eligibility, contact the Breast and Cervical Cancer Project (1-800-422-6237).

State Comprehensive Cancer Control Plan

Comprehensive cancer control is a process through which communities and partner organizations pool resources to reduce cancer risk, find cancers earlier, improve treatments, increase the number of people who survive cancer and improve quality of life for cancer survivors to ultimately reduce the burden of cancer in the state (CDC, 2015d).

The National Comprehensive Cancer Control Program (NCCCP) (http://www.cdc.gov/cancer/ncccp/) is an initiative by the CDC to help states, tribes, US affiliated Pacific Islands, and territories form or support existing coalitions to fight cancer by using local data to determine the greatest cancer-related needs in their area (2015d). Once areas have been identified, the state coalition works collaborative to develop and implement a State Comprehensive Cancer Control Plan to meet the identified needs (CDC, 2015d). These plans include initiatives involving healthy lifestyles, promotion of cancer screening tests, access to good cancer care, and improvement in the quality of life for people who survive cancer (CDC, 2015d). State Comprehensive Cancer Control Plans (2015c) can be located at the following link: http://www.cdc.gov/cancer/ncccp/ccc_plans.htm.

Ohio's comprehensive cancer control plan for 2014-2020 (http://www.healthy.ohio.gov/~/media/HealthyOhio/ASSETS/Files/comprehensive%20cancer/TheComprehensiveCancerControlPlan.pdf) includes the following focus areas, objectives and strategies

Goal: Identify cancer at the earliest possible stage

Objective:

- By December 31, 2020, increase the percentage of women age 50-74 who have received breast cancer screening in the past two years based on the most recent guidelines set forth by the United States Preventive Services Task Force USPSTF.
    - Baseline 81.9 percent, Target 90.1 percent - Data Source: Behavioral Risk Factor Surveillance System
- By December 31, 2020, reduce the rate* of female breast cancer identified at late stages.

Strategies:

- Partner with community-based organizations and businesses to promote breast cancer screenings (e.g., faith based, beauty salons, libraries, local women's groups).
- Develop and implement media plans (e.g., small media, social media) that engage partners, providers and the general public, and promote evidence-based/tested messages.
- Work with community partners to provide group education sessions with the goal of informing, encouraging and motivating participants to seek recommended screening.

- Work with community health workers (CHW), patient navigators and other partners to provide one-on-one education about indications for and the benefits of cancer screening, as well as overcoming barriers to screening.
- Work with partners, community organizations and businesses to implement policies to reduce client out-of-pocket costs and structural barriers to screening (e.g., mobile mammography vans, transportation, and childcare).
- Develop and distribute community resource guides to assist in reducing client out-of-pocket costs.
- Work with clinical service providers to promote use of provider reminder/ recall systems.
- Develop and implement a quality improvement process for healthcare providers that incorporate evaluation of cancer screening practices and feedback to improve screening percentages.
- Provide professional development/education to promote screening guidelines.
- Advocate for the funding of the state breast and cervical cancer screening program for low-income, uninsured women.
- Promote the Ohio Income Tax donation check-off for the BCCP.

For more information regarding Ohio's comprehensive cancer plan please visit: http://www.healthy.ohio.gov/CancerPlan

Affordable Care Act

In 2010, Congress passed the Patient Protection and Affordable Care Act (commonly known as Affordable Care Act or ACA) to expand access to care through insurance coverage, enhance the quality of health care, improve health care coverage for those with health insurance and to make health care more affordable (US Department of Health and Human Services, 2015a).

The ACA includes the following mandates to improve health insurance coverage and enhance health care quality (US Department of Health and Human Services, 2015a):

- Prohibit insurers from denying coverage based on pre-existing conditions
- Prohibit insurers from rescinding coverage
- Prohibit annual and lifetime caps on coverage
- Provide coverage of preventive services with no cost-sharing (including screening mammography, well women visits)
- Establish minimum benefits standards, known as the Essential Health Benefits (EHB)

The ACA provides tax subsidies for middle-income individuals to purchase insurance through the health insurance exchanges (commonly called the Marketplace). To be eligible to receive health coverage through the Marketplace, an individuals must live in the United States, be a US citizen or national (or lawfully present), cannot be incarcerated, fall into certain income guidelines and cannot be eligible for other insurance coverage (i.e., Medicaid, Medicare and employer sponsored health care coverage) (US Centers for Medicare and Medicaid Services, n.d.).

Based on 2015 data, of the estimated 834,000 total number of uninsured in Ohio, 48.0 percent are Medicaid eligible, 20.0 percent are eligible for tax subsidies and 32.0 percent are ineligible for financial assistance due to income, employer sponsored insurance offer or citizenship status (Garfield et al., 2015).

Some of the ways that the ACA has affected Ohio over the past five years include (US Department of Health and Human Service, 2015b):

- Making health care more affordable and accessible through Health Insurance Marketplaces.
    - In Ohio, 234,341 consumers selected or were automatically re-enrolled in health insurance coverage.
- Reducing the number of uninsured.
    - The number of uninsured in Ohio decreased to 10.5 percent (2014) from 13.9 percent (2013).
- Removing lifetime limits on health benefits and discrimination for pre-existing conditions resulting in cancer patients not having to worry about going without treatment.
    - In Ohio, over 1,542,000 women no longer have to worry about lifetime limits on coverage.
- Making prescription drug coverage more affordable for those on Medicare.
    - In Ohio, Medicare covered individuals have saved nearly $750,550,535 on prescription drugs.
- Covering preventive services, such as screening mammograms, with no deductible or co-pay.
    - In Ohio, over 1,079,000 women received preventive services without cost-sharing.
- Providing increased funding to support health care delivery improvement projects that offer a broader array of primary care services, extend hours of operations, employ more providers and improve health care facilities.
    - Ohio received $217,319,926 under the health care law.

For more information about the Affordable Care Act or to obtain coverage, please visit the following websites:

- US Department of Health and Human Services: http://www.hhs.gov/healthcare
- Information about health insurance coverage: 1-800-318-2596 or www.healthcare.gov
- ACA assistance in the local community: https://localhelp.healthcare.gov/#intro

Medicaid Expansion

Traditional Medicaid had gaps in coverage for adults because eligibility was restricted to specific categories of low-income individuals (i.e., children, their parents, pregnant women, the elderly, or individuals with disabilities) (Figure 4.1) (The Henry J. Kaiser Family Foundation, 2014). In

most states, non-elderly adults without dependent children were ineligible for Medicaid, regardless of their income.

Under the ACA, states were provided the option to expand Medicaid coverage to a greater number of non-elderly adults with incomes at or below 138 percent of poverty (about $16,242 per year for an individual in 2015); thus reducing the number of uninsured, low-income adults (The Henry J. Kaiser Family Foundation, n.d.). As of January 2016, 32 states including the District of Columbia have adopted and implemented Medicaid Expansion, three states are still considering adopting Medicaid Expansion and 16 are not adopting Medicaid Expansion at this time (The Henry J. Kaiser Family Foundation, n.d.).

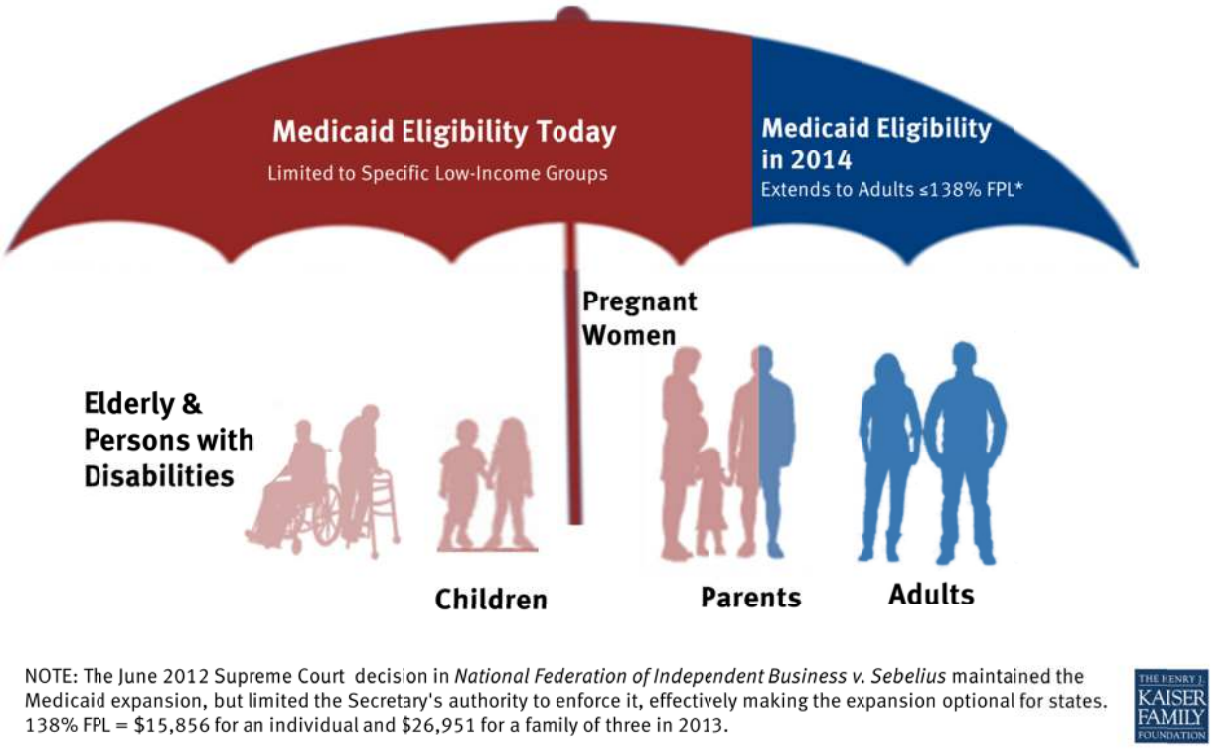


Figure 4.1. The ACA Medicaid Expansion fills current gaps in coverage

Additional information regarding Medicaid Expansion can be found at the following websites:

- The Henry J. Kaiser Family Foundation State Health Facts: http://kff.org/
- US Centers for Medicare and Medicaid Services: https://www.healthcare.gov/medicaid-chip/medicaid-expansion-and-you/

Ohio adopted Medicaid expansion, effective January 1, 2014. There are currently 834,000 total individuals who are uninsured and 404,000 are Medicaid eligible (The Henry J. Kaiser Family Foundation, 2016). The Ohio Department of Medicaid administers all Medicaid and coverage services. Ohio Medicaid is available to individuals between 19-64 years old with household incomes up to 138 percent of the federal poverty level (FPL) ($16,248 for an individual or

$33,468 for a family of 4) (Ohio Department of Medicaid). More information about Ohio's Medicaid program can be found at the following website: https://benefits.ohio.gov/.

Affordable Care Act, Medicaid Expansion and Unisured Women

Even after implementation of the ACA and Medicaid Expansion (in some states), there are approximately 12.8 million women (ages 19 to 64) in the US that remain uninsured (The Henry J. Kaiser Family Foundation, 2016). Uninsured women have been found to have inadequate access to care and receive a lower standard of care within health systems that lead to poorer health outcomes (Kaiser Commission on Medicaid and the Uninsured, 2013). Women that are single parents, have incomes below 100 percent federal poverty level, have less than a high school education, are women of color or immigrants are at greatest risk of being uninsured (Figure 4.2) (The Henry J. Kaiser Family Foundation, 2016).

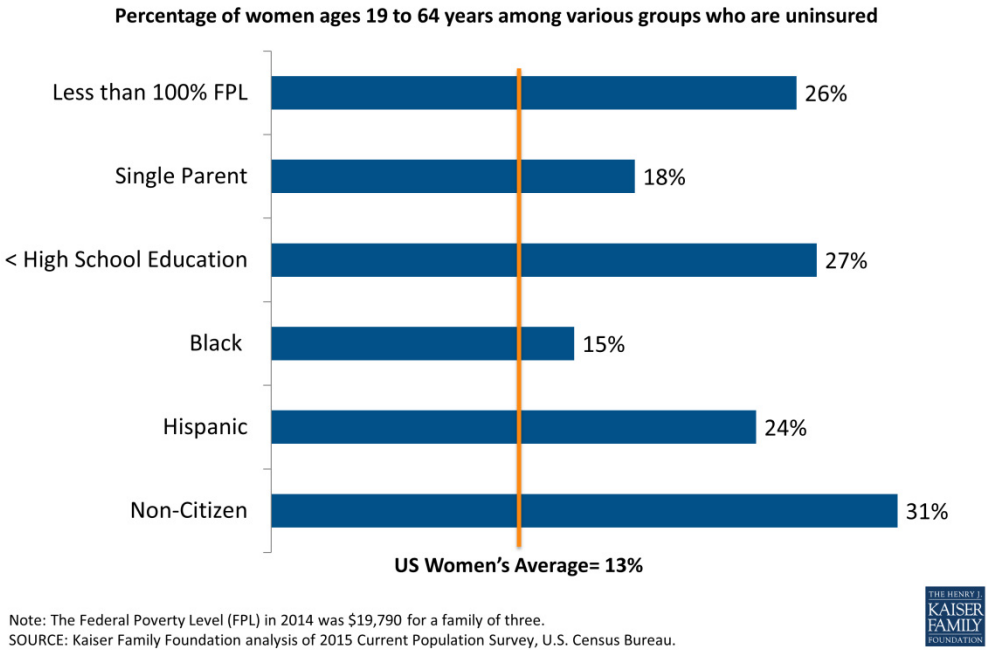


Figure 4.2. Women at greatest risk of being uninsured, 2014

A 2014 survey by The Henry J. Kaiser Family Foundation (2016) found that 47.0 percent of uninsured women indicated that insurance was too expensive, 13.0 percent were unemployed/work does not offer/not eligible through work, 8.0 percent tried to obtain coverage but were told they were ineligible, 7.0 percent were not eligible due to immigration status and 4.0 percent indicated that they did not need coverage. Of the 3,511,000 women in Ohio, 315,990 (9.0 percent) were without health insurance coverage in 2014 (The Henry J. Kaiser Family Foundation, 2016).

Community Profile Summary

Introduction to the Community Profile Report

Susan G. Komen is the world's largest breast cancer organization, funding more breast cancer research than any other nonprofit while providing real-time help to those facing the disease. Since its founding in 1982, Komen has funded more than $889 million in research and provided $1.95 billion in funding to screening, education, treatment and psychosocial support programs serving millions of people in more than 30 countries worldwide. Komen was founded by Nancy G. Brinker, who promised her sister, Susan G. Komen, that she would end the disease that claimed Suzy's life.

The purpose of the Ohio Community Profile is to assess breast cancer burden within the state by identifying areas at highest risk of negative breast cancer outcomes. Through the Community Profile, populations most at-risk of dying from breast cancer and their demographic and socioeconomic characteristics can be identified; as well as, the needs and disparities that exist in availability, access and utilization of quality care.

Quantitative Data: Measuring Breast Cancer Impact in Local Communities

After review of breast cancer late-stage diagnosis and death rates and trends for each county in the state, areas of greatest need were identified based on if the county would meet Healthy People 2020 late-stage diagnosis rate (41.0 per 100,000 women) and death rate (20.6 per 100,000 women) targets.

Breast Cancer Death Rates

The State of Ohio as a whole is **likely to achieve** the HP2020 death rate target. The state had a base rate of 24.8 breast cancer deaths per 100,000 females per year from 2006 to 2010 (age-adjusted). This rate coupled with a desirable direction (decrease) in the recent death rate trend, indicates that the State of Ohio will likely achieve the HP2020 target of 20.6 female breast cancer deaths per 100,000.

The following counties **currently meet** the HP2020 breast cancer death rate target of 20.6:

- Athens County (Komen Columbus)
- Belmont County (Komen Northeast Ohio)
- Carroll County (Komen Northeast Ohio)
- Columbiana County (Komen Northeast Ohio)
- Crawford County (Komen Northwest Ohio)
- Pike County (Komen Columbus)
- Ross County (Komen Columbus)
- Tuscarawas County (Komen Northeast Ohio)
- Union County (Komen Columbus)
- Williams County (Komen Northwest Ohio)
- Wood County (Komen Northwest Ohio)

The following counties are **likely to miss** the HP2020 breast cancer death rate target unless the death rate falls at a faster rate than currently estimated:

- Adams County (Komen Southwest Ohio)
- Ashtabula County (Komen Northeast Ohio)
- Auglaize County (Komen Northwest Ohio)
- Butler County (Komen Southwest Ohio)
- Clark County (Komen Columbus)
- Clinton County (Komen Southwest Ohio)
- Darke County (Komen Southwest Ohio)
- Erie County (Komen Northwest Ohio)
- Fairfield County (Komen Columbus)
- Franklin County (Komen Columbus)
- Fulton County (Komen Northwest Ohio)
- Guernsey County (Komen Columbus)
- Hamilton County (Komen Southwest Ohio)
- Hocking County (Komen Columbus)
- Jefferson County (Komen Northeast Ohio)
- Lake County (Komen Northeast Ohio)
- Lawrence County (Komen Columbus)
- Licking County (Komen Columbus)
- Lorain County (Komen Northeast Ohio)
- Madison County (Komen Columbus)
- Mahoning County (Komen Northeast Ohio)
- Mercer County (Komen Northwest Ohio)
- Miami County (Komen Southwest Ohio)
- Muskingum County (Komen Columbus)
- Ottawa County (Komen Northwest Ohio)
- Perry County (Komen Columbus)
- Preble County (Komen Southwest Ohio)
- Richland County (Komen Northeast Ohio)
- Sandusky County (Komen Northwest Ohio)
- Van Wert County (Komen Northwest Ohio)
- Washington County (Komen Columbus)

Because data for small numbers of people are not reliable, it can't be predicted whether Fayette County, Harrison County, Henry County, Meigs County, Monroe County, Morgan County, Noble County, Paulding County, Putnam County, Shelby County, Vinton County and Wyandot County will reach the death rate target. The remaining counties are likely to achieve the target by 2020 or earlier.

Breast Cancer Late-Stage Incidence Rates

The State of Ohio as a whole is **likely to miss** the HP2020 late-stage incidence rate target. The state had a base rate of 44 new late-stage cases per 100,000 females per year from 2006 to 2010 (age-adjusted). This rate coupled with the recent late-stage incidence rate trend, indicates that the State of Ohio is likely to miss the HP2020 target of 41.0 new late-stage cases per 100,000.

The following counties **currently meet** the HP2020 late-stage incidence rate target of 41.0:

- Athens County (Komen Columbus)
- Brown County (Komen Southwest Ohio)
- Clermont County (Komen Southwest Ohio)
- Defiance County (Komen Northwest Ohio)
- Fayette County (Komen Columbus)
- Fulton County (Komen Northwest Ohio)
- Geauga County (Komen Northeast Ohio)
- Hancock County (Komen Northwest Ohio)
- Holmes County (Komen Northeast Ohio)
- Mercer County (Komen Northwest Ohio)
- Pike County (Komen Columbus)
- Preble County (Komen Southwest Ohio)
- Richland County (Komen Northeast Ohio)

The following counties are **likely to miss** the HP2020 late-stage incidence rate target unless the late-stage incidence rate falls at a faster rate than currently estimated:

- Adams County (Komen Southwest Ohio)
- Allen County (Komen Northwest Ohio)
- Ashland County (Komen Northeast Ohio)
- Ashtabula County (Komen Northeast Ohio)
- Auglaize County (Komen Northwest Ohio)
- Butler County (Komen Southwest Ohio)
- Carroll County (Komen Northeast Ohio)
- Champaign County (Komen Columbus)
- Clark County (Komen Columbus)
- Clinton County (Komen Southwest Ohio)
- Columbiana County (Komen Northeast Ohio)
- Coshocton County (Komen Northeast Ohio)
- Crawford County (Komen Northwest Ohio)
- Cuyahoga County (Komen Northeast Ohio)
- Delaware County (Komen Columbus)
- Erie County (Komen Northwest Ohio)
- Gallia County (Komen Columbus)
- Hamilton County (Komen Southwest Ohio)
- Hardin County (Komen Northwest Ohio)

- Harrison County (Komen Northeast Ohio)
- Henry County (Komen Northwest Ohio)
- Highland County (Komen Southwest Ohio)
- Hocking County (Komen Columbus)
- Huron County (Komen Northwest Ohio)
- Jackson County (Komen Columbus)
- Jefferson County (Komen Northeast Ohio)
- Knox County (Komen Columbus)
- Licking County (Komen Columbus)
- Logan County (Komen Northwest Ohio)
- Lorain County (Komen Northeast Ohio)
- Madison County (Komen Columbus)
- Mahoning County (Komen Northeast Ohio)
- Marion County (Komen Columbus)
- Medina County (Komen Northeast Ohio)
- Meigs County (Komen Columbus)
- Monroe County (Komen Columbus)
- Morgan County (Komen Columbus)
- Muskingum County (Komen Columbus)
- Perry County (Komen Columbus)
- Pickaway County (Komen Columbus)
- Portage County (Komen Northeast Ohio)
- Putnam County (Komen Northwest Ohio)
- Ross County (Komen Columbus)
- Scioto County (Komen Columbus)
- Seneca County (Komen Northwest Ohio)
- Shelby County (Komen Northwest Ohio)
- Stark County (Komen Northeast Ohio)
- Trumbull County (Komen Northeast Ohio)
- Tuscarawas County (Komen Northeast Ohio)
- Union County (Komen Columbus)
- Van Wert County (Komen Northwest Ohio)
- Washington County (Komen Columbus)
- Wayne County (Komen Northeast Ohio)
- Williams County (Komen Northwest Ohio)

Because data for small numbers of people are not reliable, it can't be predicted whether Noble County and Vinton County will reach the late-stage incidence rate target. The remaining counties are likely to achieve the target by 2020 or earlier.

HP2020 Conclusions

Highest at risk areas

Twenty-five counties in the State of Ohio are in the highest at risk category. Eighteen of the twenty-five, Adams County, Ashtabula County, Auglaize County, Butler County, Clark County, Clinton County, Erie County, Hamilton County, Hocking County, Jefferson County, Licking County, Lorain County, Madison County, Mahoning County, Muskingum County, Perry County, Van Wert County and Washington County, are not likely to meet either the death rate or late-stage incidence rate HP2020 targets. Seven of the twenty-five, Harrison County, Henry County, Meigs County, Monroe County, Morgan County, Putnam County and Shelby County, are not likely to meet the late-stage incidence rate HP2020 target.

The age-adjusted incidence rates in Hamilton County (131.3 per 100,000) are significantly higher than the state as a whole (120.8 per 100,000). Incidence trends in Harrison County (30.0 percent per year) are significantly less favorable than the state as a whole (-0.1 percent per year). The age-adjusted death rates in Auglaize County (37.6 per 100,000) are significantly higher than the state as a whole (24.8 per 100,000). Death trends in Adams County (2.8 percent per year) and Auglaize County (0.6 percent per year) are significantly less favorable than the state as a whole (-1.9 percent per year). Late-stage incidence trends in Mahoning County (5.2 percent per year) are significantly less favorable than the state as a whole (0.6 percent per year). The screening proportion in Harrison County (50.6 percent) is significantly lower than the state as a whole (77.0 percent).

Adams County has low education levels, high poverty levels and high unemployment. Hamilton County has a relatively large Black/African-American population. Harrison County has high poverty levels. Lorain County has a relatively large Hispanic/Latina population. Meigs County has high poverty levels and high unemployment.

High at risk areas

Eight counties in the State of Ohio are in the high at risk category. One of the eight, Guernsey County is not likely to meet the death rate HP2020 target. Seven of the eight, Ashland County, Coshocton County, Cuyahoga County, Highland County, Marion County, Portage County and Stark County, are not likely to meet the late-stage incidence rate HP2020 target.

The age-adjusted incidence rates in Cuyahoga County (127.8 per 100,000) are significantly higher than the state as a whole (120.8 per 100,000). The age-adjusted late-stage incidence rates in Cuyahoga County (47.0 per 100,000) and Guernsey County (69.3 per 100,000) are significantly higher than the state as a whole (44.0 per 100,000).

Cuyahoga County has a relatively large Black/African-American population. Highland County has low education levels and high unemployment.

Health Systems Analysis

The Breast Cancer Continuum of Care (CoC), shown in Figure 5.1, is a model that shows how a woman typically moves through the health care system for breast care. A woman would ideally move through the CoC quickly and seamlessly, receiving timely, quality care in order to have the best outcomes. Education can play an important role throughout the entire CoC.

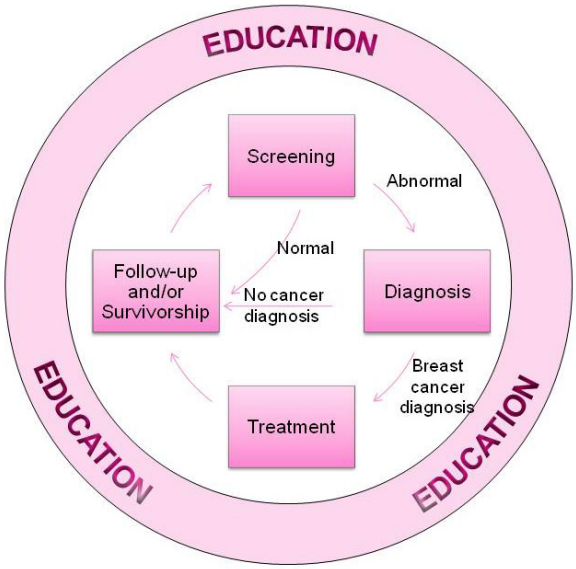


Figure 5.1. Breast Cancer Continuum of Care (CoC)

There are often delays in moving from one point of the continuum to another – at the point of follow-up of abnormal screening exam results, starting treatment, and completing treatment – that can all contribute to poorer outcomes. There are also many reasons why a woman does not enter or continue in the breast cancer CoC. These barriers can include things such as lack of access to services, lack of transportation, system issues including long waits for appointments and inconvenient clinic hours, language barriers, fear, and lack of information or the wrong information (myths and misconceptions).

In the State of Ohio there were 650 locations found to provide breast cancer services varying between screening, diagnostic, treatment, and survivorship (Figure 5.2). There were 650 locations that provided screening services, 369 locations in the state that provide diagnostic services and 132 locations providing treatment services. In the state there were 104 locations that provided survivorship services or care. Identified facilities that provide mammography services were all accredited by the Federal Drug Administration. There are 77 locations that are accredited by the American College of Surgeons Commission on Cancer, 60 locations accredited by the American College of Radiology as a Breast Imaging Center of Excellence and 23 locations accredited as an American College of Surgeons NAPBC program. There are three locations that are designated as a NCI Cancer Center.

The following counties are designated as a Medically Underserved Area/Population and/or a Health Professional Shortage Area for primary care: Adams, Allen, Ashland, Ashtabula, Athens, Belmont, Brown, Butler, Carroll, Clark, Clermont, Clinton, Columbiana, Coshocton, Crawford, Cuyahoga, Darke, Defiance, Erie, Fairfield, Fayette, Franklin, Greene, Guernsey, Hamilton, Hancock, Hardin, Harrison, Highland, Hocking, Holmes, Huron, Jackson, Jefferson, Knox, Lake, Lawrence, Logan, Lorain, Lucas, Madison, Mahoning, Marion, Medina, Meigs, Miami, Monroe, Montgomery, Morgan, Morrow, Muskingum, Noble, Ottawa, Paulding, Perry, Pickaway, Pike, Portage, Preble, Putnam, Richland, Ross, Sandusky, Scioto, Seneca, Stark, Summit, Trumbull, Tuscarawas, Union, Van Wert, Vinton, Warren, Washington and Wood.

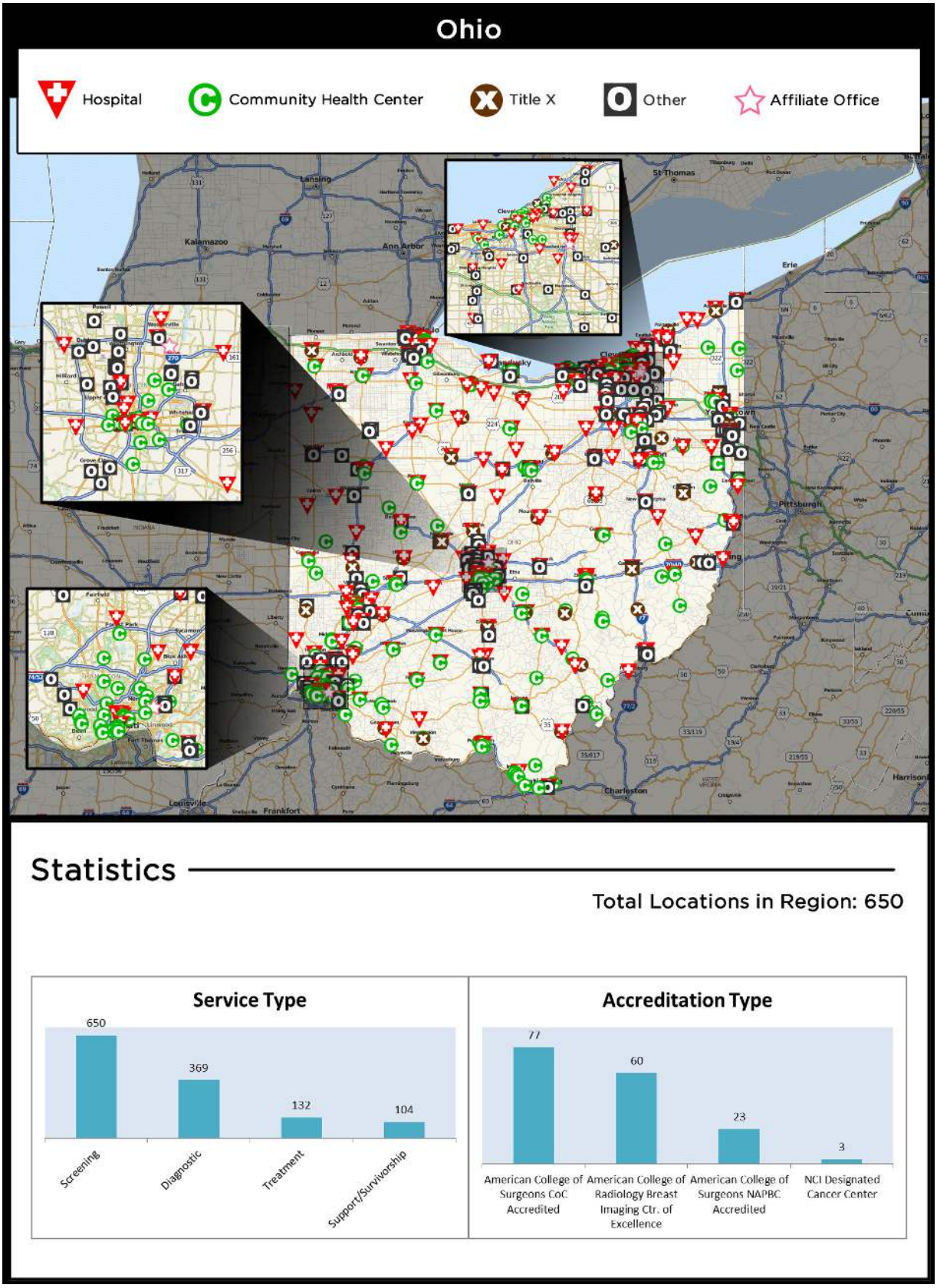


Figure 5.2. Breast cancer services available in Ohio

Public Policy Overview

In recent years, public policies pertaining to breast cancer have undergone substantial changes that will affect at-risk women across the United States. States have responded differently to the public policy developments concerning access to services within the breast cancer continuum of care (screening, diagnostic, treatment and survivorship care); therefore, women are dependent on their state's agenda and action on health care reform.

National Breast and Cervical Cancer Early Detection Program (NBCCEDP)
The NBCCEDP is a nationwide program that provides low-income women with breast and cervical cancer screening, follow-up and support services (i.e., case management and referrals for medical treatment), developing and disseminating public information and education programs and improving the education, training and skills of health professionals.

In the State of Ohio, the NBCCEDP is known as Ohio's Breast and Cervical Cancer Project and is administered by the Ohio Department of Health. From July 2009 to June 2014, Ohio's Breast and Cervical Cancer Project provided 31,899 cancer and cervical cancer screening and diagnostic services to women. The program provided 50,220 mammograms that resulted in 7,850women receiving an abnormal result and 632 women being diagnosed with breast cancer (NBCCEDP Minimum Data Elements, 2015). To find out more information about getting screened and eligibility, contact the Breast and Cervical Cancer Project (1-800-422-6237).

State Comprehensive Cancer Control Plan
Comprehensive cancer control is a process through which communities and partner organizations pool resources to reduce cancer risk, find cancers earlier, improve treatments, increase the number of people who survive cancer and improve quality of life for cancer survivors to ultimately reduce the burden of cancer in the state. Under the National Comprehensive Cancer Control Program (NCCCP), state cancer coalitions develop and implement a State Comprehensive Cancer Control Plan to meet identified cancer needs.

Ohio's comprehensive cancer control plan for 2014-2020 (http://www.healthy.ohio.gov/~/media/HealthyOhio/ASSETS/Files/comprehensive%20cancer/TheComprehensiveCancerControlPlan.pdf) includes the following focus areas, objectives and strategies

Goal: Identify cancer at the earliest possible stage

Objective:

- By December 31, 2020, increase the percentage of women age 50-74 who have received breast cancer screening in the past two years based on the most recent guidelines set forth by the United States Preventive Services Task Force USPSTF.
    - Baseline 81.9 percent, Target 90.1 percent - Data Source: Behavioral Risk Factor Surveillance System

- By December 31, 2020, reduce the rate* of female breast cancer identified at late stages.

Strategies:

- Partner with community-based organizations and businesses to promote breast cancer screenings (e.g., faith based, beauty salons, libraries, local women's groups).
- Develop and implement media plans (e.g., small media, social media) that engage partners, providers and the general public, and promote evidence-based/tested messages.
- Work with community partners to provide group education sessions with the goal of informing, encouraging and motivating participants to seek recommended screening.
- Work with community health workers (CHW), patient navigators and other partners to provide one-on-one education about indications for and the benefits of cancer screening, as well as overcoming barriers to screening.
- Work with partners, community organizations and businesses to implement policies to reduce client out-of-pocket costs and structural barriers to screening (e.g., mobile mammography vans, transportation, and childcare).
- Develop and distribute community resource guides to assist in reducing client out-of-pocket costs.
- Work with clinical service providers to promote use of provider reminder/ recall systems.
- Develop and implement a quality improvement process for healthcare providers that incorporate evaluation of cancer screening practices and feedback to improve screening percentages.
- Provide professional development/education to promote screening guidelines.
- Advocate for the funding of the state breast and cervical cancer screening program for low-income, uninsured women.
- Promote the Ohio Income Tax donation check-off for the BCCP.

For more information regarding Ohio's comprehensive cancer plan please visit: http://www.healthy.ohio.gov/CancerPlan

Affordable Care Act

In 2010, Congress passed the Patient Protection and Affordable Care Act (commonly known as Affordable Care Act or ACA) to expand access to care through insurance coverage, enhance the quality of health care, improve health care coverage for those with health insurance and to make health care more affordable.

The ACA includes the following mandates to improve health insurance coverage and enhance health care quality (US Department of Health and Human Services, 2015a):

- Prohibit insurers from denying coverage based on pre-existing conditions
- Prohibit insurers from rescinding coverage
- Prohibit annual and lifetime caps on coverage

- Provide coverage of preventive services with no cost-sharing (including screening mammography, well women visits)
- Establish minimum benefits standards, known as the Essential Health Benefits (EHB)

The ACA provides tax subsidies for middle-income individuals to purchase insurance through the health insurance exchanges (commonly called the Marketplace). To be eligible to receive health coverage through the Marketplace, an individuals must live in the United States, be a US citizen or national (or lawfully present), cannot be incarcerated, fall into certain income guidelines and cannot be eligible for other insurance coverage (i.e., Medicaid, Medicare and employer sponsored health care coverage) (US Centers for Medicare and Medicaid Services, n.d.).

Based on 2015 data, of the estimated 834,000 total number of uninsured in Ohio, 48.0 percent are Medicaid eligible, 20.0 percent are eligible for tax subsidies and 32.0 percent are ineligible for financial assistance due to income, employer sponsored insurance offer or citizenship status (Garfield et al., 2015).

Medicaid Expansion

Traditional Medicaid had gaps in coverage for adults because eligibility was restricted to specific categories of low-income individuals (i.e., children, their parents, pregnant women, the elderly, or individuals with disabilities). In most states, non-elderly adults without dependent children were ineligible for Medicaid, regardless of their income.

Under the ACA, states were provided the option to expand Medicaid coverage to a greater number of non-elderly adults with incomes at or below 138 percent of poverty (about $16,242 per year for an individual in 2015); thus reducing the number of uninsured, low-income adults.

Ohio adopted Medicaid expansion, effective January 1, 2014. There are currently 834,000 total individuals who are uninsured and 404,000 are Medicaid eligible (The Henry J. Kaiser Family Foundation, 2016). The Ohio Department of Medicaid administers all Medicaid and coverage services. Ohio Medicaid is available to individuals between 19-64 years old with household incomes up to 138 percent of the federal poverty level (FPL) ($16,248 for an individual or $33,468 for a family of 4) (Ohio Department of Medicaid). More information about Ohio's Medicaid program can be found at the following website: https://benefits.ohio.gov/.

Affordable Care Act, Medicaid Expansion and Uninsured Women

Even after implementation of the ACA and Medicaid Expansion (in some states), there are approximately 12.8 million women (ages 19 to 64) in the US that remain uninsured. Of the 3,511,000 women in Ohio, 315,990 (9.0 percent) were without health insurance coverage in 2014.

Uninsured women have been found to have inadequate access to care and receive a lower standard of care within health systems that lead to poorer health outcomes. Women that are

single parents, have incomes below 100 percent federal poverty level, have less than a high school education, are women of color or immigrants are at greatest risk of being uninsured.

Conclusions

Overall, Ohio is likely to miss the HP2020 late-stage incidence target and is likely to achieve the HP2020 death rate target. A total of 650 locations were identified as providing at least one type of breast cancer service along the continuum of care. While all of the facilities providing mammography services were accredited by the FDA, only 25.0 percent of the locations have been recognized as receiving additional quality of care accreditations. Ohio also has many designated areas that are rural and/or medically underserved - where individuals may have inadequate access to health care. Although Ohio has implemented programs (i.e., NBCCEDP, Medicaid Expansion) to assist low-income and uninsured individuals, there are still far too many individuals that have inadequate access to health care and may be receiving a lower standard of care. Both may contribute to poorer breast cancer outcomes.

The information provided in this report can be used by public health organizations, local service providers and policymakers to identify areas of greatest need and the potential demographic and socioeconomic factors that may be causing suboptimal breast cancer outcomes. Susan G. Komen will continue to utilize evidence-based practices to reduce breast cancer late-stage diagnosis and death rates by empowering others, ensuring quality care for all and energizing science to find the cures.

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Appendix

Appendix A.
State Map with County Names

Source: US Census Bureau, 2014