



OKLAHOMA BREAST & CERVICAL CANCER
ANNUAL REPORT · STATE FISCAL YEAR 2015

Table of Contents

Executive Summary	1
Purpose.....	2
Breast and Cervical Cancer Act Revolving Fund.....	2
Populations at Highest Risk for Breast and Cervical Cancer	3
Data Sources for Breast and Cervical Cancer Burden in Oklahoma	3
Breast Cancer Burden in Oklahoma	4
Cervical Cancer Burden in Oklahoma.....	6
Oklahoma Breast and Cervical Cancer Early Detection Programs (BCCEDP)	8
Oklahoma Diagnostic and Treatment Program.....	11
Oklahoma Cares	11
Statewide Breast and Cervical Cancer Activities	12
Epidemiological Trend Studies	12
Take Charge! Statewide Provider Recruitment/Outreach.....	13
Upcoming Priority Strategies	14
Emerging Technology and Strategies to Reduce the Costs of Breast and Cervical Cancer	15
Breast and Cervical Cancer Resources for Oklahomans	16
References.....	17

Contact the Chronic Disease Service, Oklahoma State Department of Health, (405) 271-4072 or CancerPCP@health.ok.gov for an electronic copy of this report. This report was developed by Amber Sheikh, MPH; Peng Li, MPH; Tia Yancey, MPH, CHES; Susan Lamb, BA; and Jon Lowry, MPH.

Executive Summary

The overall purpose of this report is to provide breast and cervical cancer information in accordance with the requirements of the Oklahoma Breast and Cervical Cancer Act (63 O.S. §1 554-558). This report provides breast and cervical cancer data specific to Oklahoma and can be used for planning purposes.

Breast cancer is the most frequently diagnosed cancer among Oklahoma women and is the leading cause of cancer death among women. Men can get breast cancer, but it is very uncommon.¹ There are steps that can help to reduce the risk of breast cancer which include: obtain screenings, stop tobacco consumption, engage in regular physical activity, increase fruit and vegetable consumption, increase fiber and decrease fats in the diet, decrease alcohol consumption, and reduce weight or maintain a healthy weight.²

In 2012, in Oklahoma 2,589 new cases of female breast cancer and 155 new cases of cervical cancer were diagnosed. The rates of breast cancer differ by race, ethnicity, and age. African American women and American Indian/Alaska Native women have a higher incidence of breast cancer in comparison to White and Hispanic women. Oklahoma women under 55 years of age have a lower rate of breast cancer than the U.S., but Oklahoma women 55 years and older have a higher incidence than the U.S.

Cervical cancer is not a leading cause of cancer death among Oklahoma females; however, due to advanced detection and treatment, there is no longer a reason any woman should die from cervical cancer.¹ There are steps that can reduce the risk of cervical cancer which include: get screened, stop tobacco consumption, limit the number of sexual partners, use condoms during sex and obtain the Human Papilloma Virus (HPV) vaccine (if age appropriate).^{3,4}

In Oklahoma, the mortality rate of cervical cancer continues to be higher than the U.S. Oklahoma women report receiving a Pap test less frequently compared to the U.S. Oklahoma also has a lower percentage of persons receiving HPV vaccination in comparison to the U.S.

As Oklahomans, there are steps we can take to help reduce breast and cervical cancer:

- Increase high quality breast and cervical cancer screening in Oklahoma in collaboration with partners;
- Encourage evidence-based breast and cervical cancer public education and targeted outreach to women at highest risk;
- Utilize policy approaches and health systems changes to improve implementation of breast and cervical guidelines and practices for healthcare professionals;
- Encourage patient navigation services to assist with access to screening and diagnostic services;
- Decrease structural barriers (transportation, availability, and accessibility) that limit access to breast and cervical cancer screening, and diagnostic and treatment services.

Purpose

The Oklahoma Breast and Cervical Cancer Act (OBCCA) was established in 1994 to implement plans to significantly decrease breast and cervical cancer morbidity and mortality in the state of Oklahoma (63 O.S. §1 554-558). In 2013, OBCCA was amended and shifted the responsibility of annual reporting from the Breast and Cervical Cancer Prevention and Treatment (BCCPT) Advisory Committee to the Oklahoma State Department of Health (OSDH). The following items in this report are mandated in the OBCCA:

- Funding information for breast and cervical cancer screening activities
- Identification of populations at highest risk for breast and cervical cancer
- Identification of priority strategies and emerging technologies, to include newly introduced therapies and preventive vaccines that are effective in preventing and controlling the risk of breast and cervical cancer
- Recommendations for additional funding to provide screenings and treatment for breast and cervical cancer for uninsured and underinsured women
- Strategies or actions to reduce the costs of breast and cervical cancer in the state of Oklahoma.

Breast and Cervical Cancer Act Revolving Fund

The Oklahoma Breast and Cervical Cancer Act established the Breast and Cervical Cancer Act Revolving Fund. The monies in the revolving fund consist of gifts, donations, and contributions from individual income tax returns. In addition, \$20 of each *Fight Breast Cancer License Plate* sold is put into the Breast and Cervical Cancer Act Revolving Fund. Samples of the *Fight Breast Cancer License Plates* are shown below. All monies in the revolving fund are appropriated to the OSDH to support the implementation of the Oklahoma Breast and Cervical Cancer Act. Past expenditures of funds have paid for breast and cervical cancer screening and diagnostic services for women enrolled in Take Charge!

Samples of Fight Breast Cancer License Plates



Populations at Highest Risk for Breast and Cervical Cancer

Breast Cancer Risk Factors

According to the Centers for Disease Control and Prevention (CDC), there are several factors that increase the risk for developing breast cancer. The risk factors include: female gender, increasing age (over 50 years of age), change in breast cancer genes (BRCA1 and BRCA2), family or personal history of breast cancer, and sedentary lifestyle.⁵ Additional information and a complete listing of breast cancer risk factors can be found on the CDC website at http://www.cdc.gov/cancer/breast/basic_info/risk_factors.htm.

Cervical Cancer Risk Factors

According to the CDC, there are several factors that increase the risk for developing cervical cancer. The risk factors related to cervical cancer include: behaviors related to exposure to Human Papilloma Virus (HPV), lack of HPV immunization, immunosuppression, and smoking.^{6, 8} Additional information and a complete listing of cervical cancer risk factors can be found on the CDC website at http://www.cdc.gov/cancer/cervical/basic_info/risk_factors.htm.

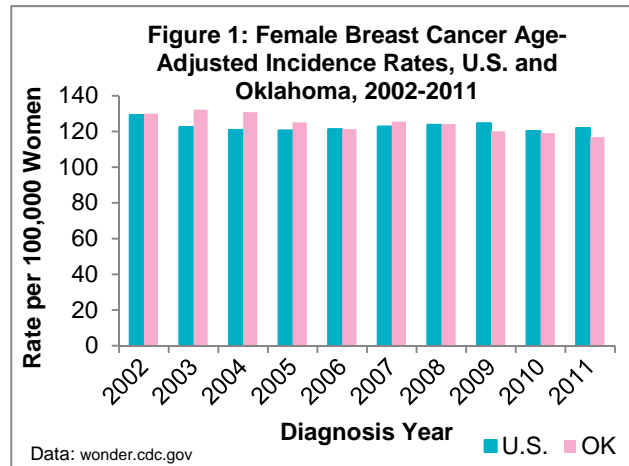
Data Sources for Breast and Cervical Cancer Burden in Oklahoma

The following figures represent data collected from three sources:

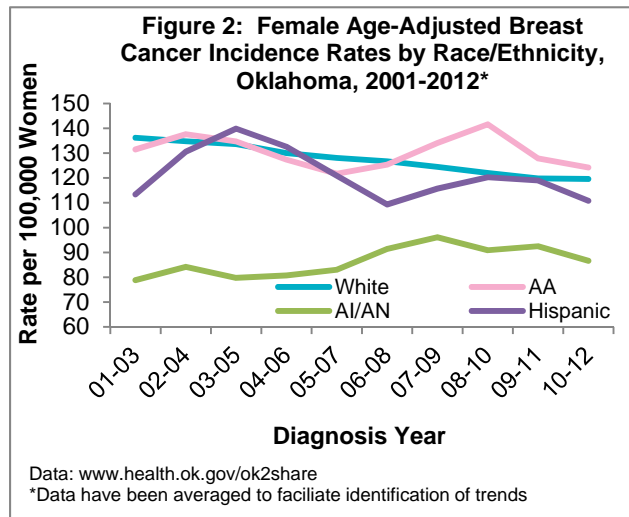
1. The Oklahoma Central Cancer Registry (OCCR) is a statewide central database of information on all cancers diagnosed or treated in Oklahoma since January 1, 1997. The latest Oklahoma specific cancer incidence data is available through 2012.
2. CDC WONDER (Wide-ranging Online Data for Epidemiologic Research, WONDER.cdc.gov) provided the latest national cancer incidence (2011) and mortality data (2013).
3. Behavioral Risk Factor Surveillance System (BRFSS) data provided the prevalence of the major behavioral risks among adults associated with premature morbidity and mortality. The latest finalized BRFSS data is through 2013.

Breast Cancer Burden in Oklahoma

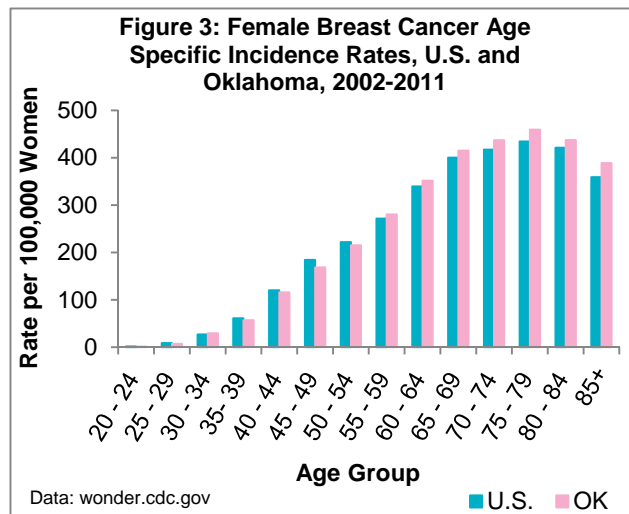
According to OCCR data, there were 2,589 new cases of female breast cancer (excluding in-situ) diagnosed in Oklahoma in 2012. The age-adjusted female breast cancer incidence rates for the U.S. gradually decreased about 5.6% between 2002 and 2011 (Figure 1). In Oklahoma, the age-adjusted female breast cancer incidence rates decreased by 10.1% between 2002 and 2011. The incidence of breast cancer in Oklahoma has decreased in the last few years in comparison with the U.S.



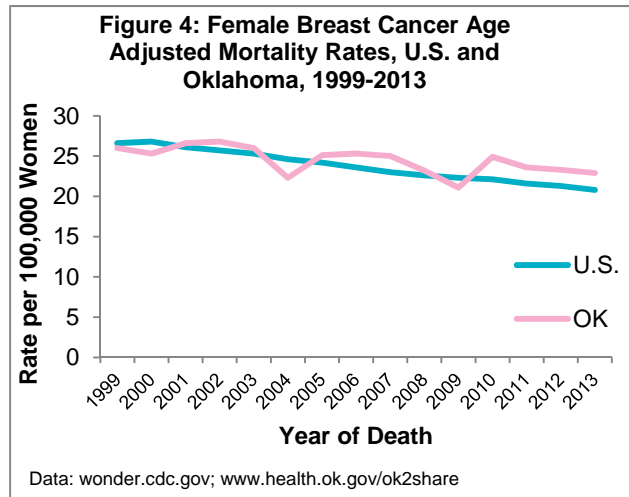
In Oklahoma, the incidence of breast cancer differed by race and ethnicity. Hispanic and White women had a slightly decreasing trend of breast cancer incidence rates. African American (AA) and American Indian/Alaska Native (AI/AN) women experienced increasing breast cancer incidence rates from 2001 to about 2009; however the most recent rates show a declining trend. Breast cancer incidence rates in Oklahoma AA women were similar to White women before 2007-2009; after that, the rates among AA women exceeded the rates among White women (Figure 2).



Breast cancer incidence increased substantially with increasing age, peaking at 75-79 years (Figure 3). These trends were similar in both Oklahoma and the U.S. Interestingly, Oklahoma had lower incidence rates than the U.S. among women under 55 years of age and higher rates than the U.S. among women 55 years and older.



Both U.S. and Oklahoma female breast cancer mortality rates have declined over time (Figure 4). The rate of the decline for the U.S. has been faster than that in Oklahoma. While the rates continue to decline, there is still a need for improvements in detecting breast cancer at the earliest stage through high quality screening to facilitate effective and efficient treatment. Cases identified at earlier stages have lower mortality.



Screening rates for breast cancer had a very slight decrease recently for the U.S. and Oklahoma. Oklahoma women 50 years and older reported lower percentages of having a mammogram in the past two years compared with the percentage in U.S. women (Figure 5). Currently the U.S. Preventive Services Task Force (USPSTF) recommends biennial screening mammography for women 50-74 years of age.⁷

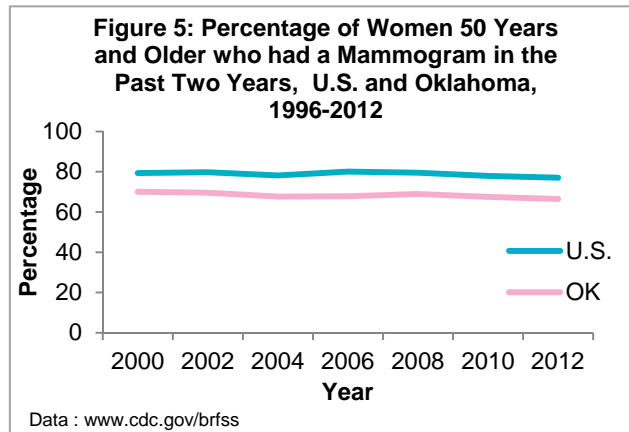
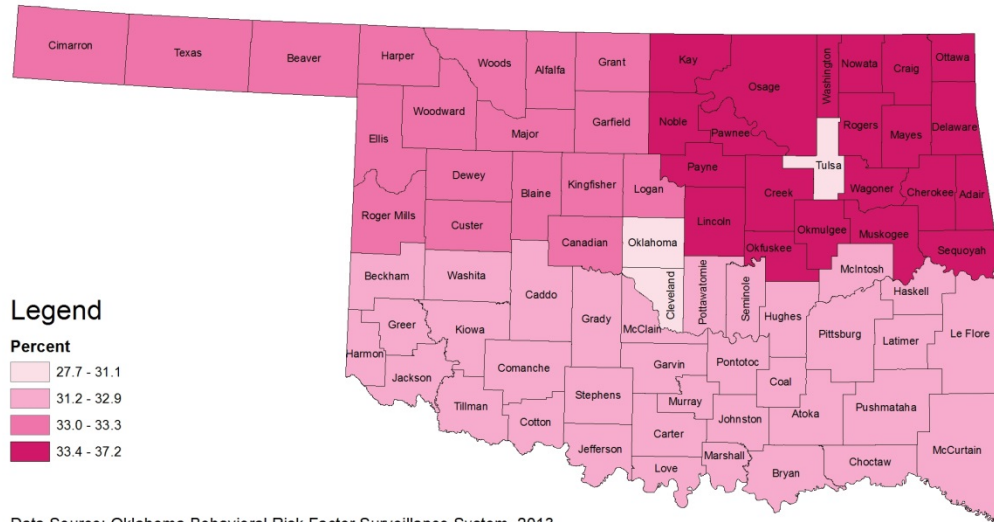


Figure 6 displays the percentage of women aged 50 years and older who had not received a mammogram in the past two years by region. BRFSS weighted regional data for mammograms was used since county level data is not available. In Oklahoma, 33.6% of women reported not having a mammogram in the past two years. This is a slightly larger percentage of the population than was seen in the U.S. (23.0%).⁹ Counties located in the northeast region of the state had a higher proportion of women not receiving breast cancer screening.

Figure 6: Percentage of Women 50 Years and Older who had Not Received a Mammogram in the Past Two Years in Oklahoma, by Region, 2013



Data Source: Oklahoma Behavioral Risk Factor Surveillance System, 2013

Created: 7.2015

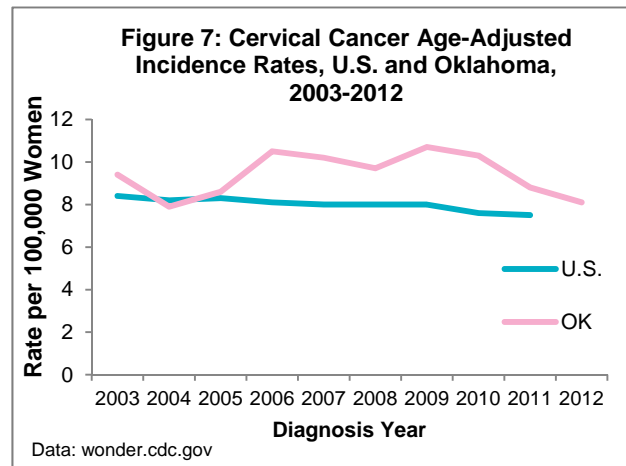
Projection/Coordinate System: USGS Albers Equal Area Conic



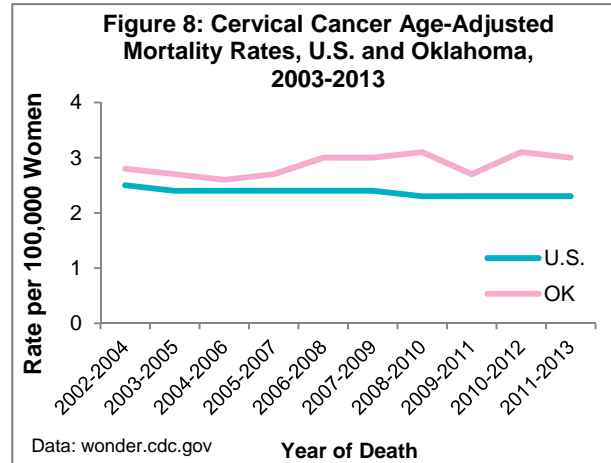
Disclaimer: This map is a compilation of records, information and data from various city, county and state offices and other sources, affecting the area shown, and is the best representation of the data available at the time. The map and data are to be used for reference purposes only. The user acknowledges and accepts all inherent limitations of the map, including the fact that the data are dynamic and in a constant state of maintenance.

Cervical Cancer Burden in Oklahoma

According to OCCR data, there were 155 new cases of cervical cancer diagnosed in Oklahoma in 2012. The cervical cancer incidence rates have been steadily decreasing in the U.S. In Oklahoma, however, the rates have not followed the same pattern, with an increasing trend between 2004 and 2006 followed by a relatively stable period, and then decreasing since 2009 (Figure 7). The increase between 2006-2009 was of great concern due to the fact that cervical cancer can be prevented through appropriate cervical cancer screenings. It is of additional concern that the rates in Oklahoma have consistently stayed much higher than rates in the U.S.

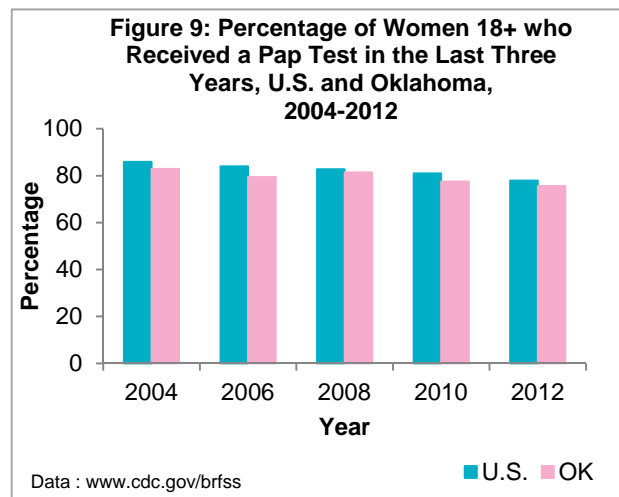


In Oklahoma, 35.4% of girls 13-17 years old had received three doses of the HPV vaccine in 2013. Oklahoma's coverage level was 2.2% lower than the U.S. level.¹⁰ Compared with females, the vaccination level of males was quite a bit lower. Only 17.3% of Oklahoma males 13-17 years old had received three doses of the HPV vaccine in 2013. Additional information can be found on the Immunization Service, Oklahoma State Department of Health website at <http://imm.health.ok.gov>.



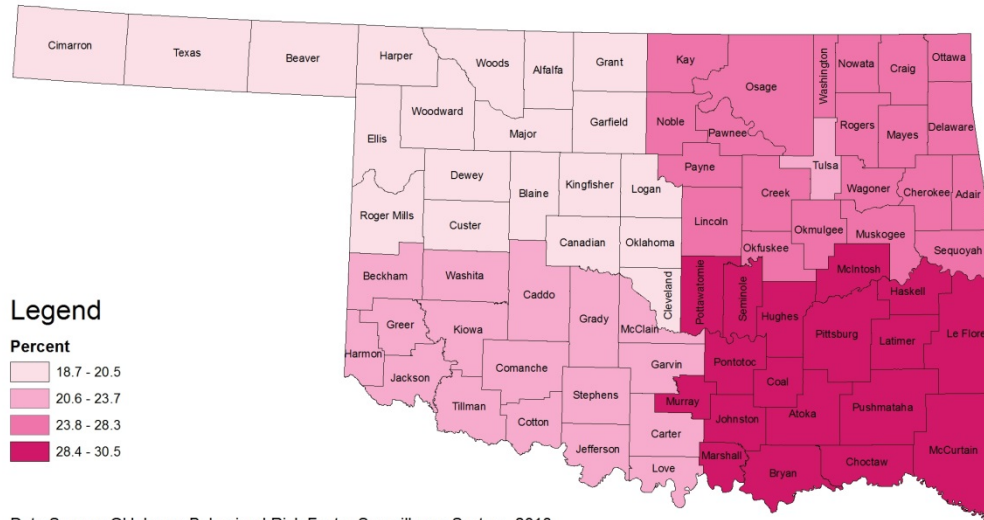
There is a slight decline in cervical cancer mortality nationally; however, Oklahoma's cervical cancer mortality rates have remained higher than the U.S. (Figure 8).

Based on data from the BRFSS, screening rates for cervical cancer in both Oklahoma and the U.S. appear to be declining (Figure 9). Furthermore, the percentage of Oklahoma women receiving Pap tests has consistently remained lower than women throughout the U.S. The U.S. Preventive Services Task Force (USPSTF) currently recommends cervical cancer screening for women 21-65 years old every three years. USPSTF further recommends that women 30-65 years old who have a normal Pap test and HPV test may lengthen the testing interval to every five years.



In 2012, 24.4% of Oklahoma women aged 18 years and older had not received a Pap test within the last three years versus 22.1% in the U.S.⁹ BRFSS weighted regional data for a Pap test was used since county level data is not available. Southeastern Oklahoma counties had a higher proportion of women who had not received a Pap test within the past three years when compared to the rest of state (Figure 10).¹¹

Figure 10: Percentage of Women 18 Years and Older who Had Not Received a Pap Test in the Past Three Years in Oklahoma, by Region, 2013



Data Source: Oklahoma Behavioral Risk Factor Surveillance System, 2013

Created: 7.2015

Projection/Coordinate System: USGS Albers Equal Area Conic



Disclaimer: This map is a compilation of records, information and data from various city, county and state offices and other sources, affecting the area shown, and is the best representation of the data available at the time. The map and data are to be used for reference purposes only. The user acknowledges and accepts all inherent limitations of the map, including the fact that the data are dynamic and in a constant state of maintenance.

Oklahoma Breast and Cervical Cancer Early Detection Programs (BCCEDP)

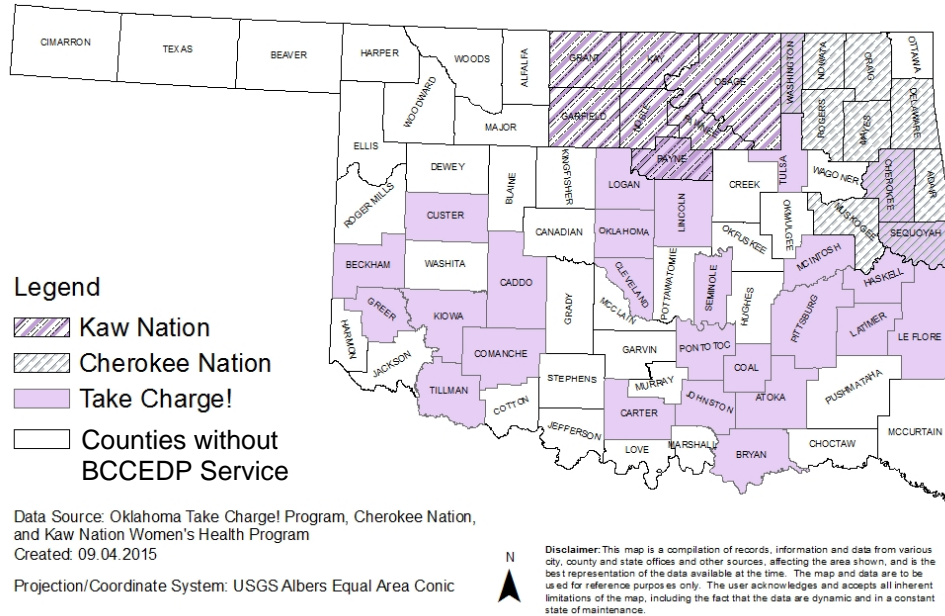
Oklahoma has three BCCEDPs: Cherokee Nation Breast and Cervical Cancer Early Detection Program, Kaw Nation Women’s Health Program, and the OSDH, Take Charge! Program. These three screening programs receive funding through a cooperative agreement with the Centers for Disease Control and Prevention (CDC). At least 60% of the funds are for direct services. Support services such as health education and data collection constitute up to 40% of the funds. No more than 10% of the funds for support services can be used for administrative services. Funds from the CDC cooperative agreement cannot be used for treatment.

The screening programs serve low-income, uninsured, and underinsured women. The screening programs provide access to breast and cervical cancer screening services including a clinical breast exam, mammogram, pelvic examination, Pap test and HPV co-testing as appropriate. The purpose is to facilitate earlier screening, ensure prompt diagnosis, and improve access to treatment for breast and cervical cancer. The three screening programs work in partnership with each other to ensure Oklahoma women are enrolled in the screening program that best fits their needs. The three screening programs often promote all screening programs together on small media products.

Women with abnormal findings on breast and/or cervical cancer screening examinations receive a referral and access to diagnostic services. The three screening programs encourage women in need of diagnostic or treatment services to apply for Oklahoma Cares (SoonerCare Medicaid program). The Cherokee Nation BCCEDP will often provide diagnostic services for women that

are screened regardless of their eligibility for Oklahoma Cares. Take Charge! provides diagnostic services for women that are screened through Take Charge! who are ineligible for Oklahoma Cares. Figure 11 is a map of the service provision areas for the programs.

Figure 11: Oklahoma BCCEDP Programs by Service Provision Area



Oklahoma BCCEDP programs strive to serve women who are at highest risk for breast cancer, which includes women with increasing age and women in minority populations. In state fiscal year (SFY) 2014, a greater proportion of African American and Hispanic women received screening through Take Charge! than was represented among the general population of the state (Table 1). It is important to note that American Indian women are also served through the Cherokee Nation and Kaw Nation BCCEDP along with Take Charge! The data in Table 1 reflects only Take Charge! clients. All women served through Cherokee Nation BCCEDP and Kaw Nation are American Indian.

Table 1: Racial/Ethnic Distribution of Take Charge! Clients and the Oklahoma Population, SFY 2014

Race/Ethnicity	Program Percentage	Population Percentage
African American	12.9%	7.4%
American Indian*	4.3%	8.2%
Asian/Pacific Islander	1.3%	2.2%
Hispanic	38.2%	9.8%
Other/Unknown	0.2%	N/A
White	43.1%	67.0%
More than one Race	N/A	5.4%

Data Sources: Cancer Screening and Tracking System (CaST) and Census.gov

*American Indian reflects Take Charge! clients only.

The priority populations, contracting facilities, types of services provided, and funding level of each BCCEDP program is described in Table 2.

Table 2: Description of BCCEDP Programs				
BCCEDP Program	Priority Population	Contracts	Services Provided	Funding FY 2014
Cherokee Nation Began: 1996	<p>Breast cancer screening: American Indian (AI) women enrolled in a federally recognized tribe, 40-64 years of age, with an income at or below 250% of the federal poverty level (FPL), and uninsured or underinsured.</p> <p>Cervical cancer screening: AI women enrolled in a federally recognized tribe, 21-64 years of age who have not had a Pap test in five or more years, with the same income and insurance guidelines as breast cancer screening.</p>	<p>Provided services through Cherokee Nation Health Facilities, Cherokee Nation healthcare providers, an Indian Health Service hospital and a mobile mammography facility.</p>	<p>Screened over 21,685 eligible women since inception.</p> <p>In FY 2014 provided 3,728 breast cancer screenings and 1,319 cervical cancer screenings.</p> <p>Provided 162 diagnostic referrals.</p>	<p>Federal: \$ 846,321 Tribal: \$ 229,581 Total: \$1,075,902</p> <p>Federal BCCEDP funds require a \$3:\$1 match in the amount of \$229,581.</p>
Kaw Nation Began: 2001	<p>Breast cancer screening: AI women 50-64 years of age, with an income at or below 250% of the FPL, and uninsured or underinsured.</p> <p>Cervical cancer screening: AI women 21-64 years of age who have not had a Pap test in five or more years, with the same income and insurance guidelines as breast cancer screening.</p>	<p>Provided services through Kanza Clinic and clinics located within the Ponca Tribe, Pawnee Tribe, Osage Tribe and Iowa Tribe through memorandums of understanding (MOU).</p>	<p>Since inception screened over 3,491 eligible women.</p> <p>In FY 2014 provided 781 breast cancer screenings and 374 cervical cancer screenings.</p>	<p>Federal: \$369,358 Tribal: \$123,119 Total: \$492,477</p> <p>Federal BCCEDP funds require a \$3:\$1 match in the amount of \$123,119.</p>

<p>Take Charge! Began: 1995</p>	<p>Breast cancer screening: Oklahoma women 50-65 years of age, with an income at or below 185% of the FPL, and uninsured or underinsured.</p> <p>Cervical cancer screening: Oklahoma women 35-65 years of age who have not had a Pap test in five or more years, with the same income and insurance guidelines as breast cancer screening. Oklahoma women not included in the priority population may qualify for services based on appointment availability and funding resources.</p>	<p>Provided services through contracted healthcare providers, federally qualified health centers, health care organizations, laboratories, surgical consultants, mammography facilities, and colposcopy providers.*</p>	<p>Since inception screened over 63,000 eligible women.</p> <p>In FY 2014 provided 6,988 breast cancer screenings and 2,402 cervical cancer screenings. Provided 1,307 diagnostic referrals.</p>	<p>Federal: \$1,241,041 State: \$413,680 Revolving: \$152,625 Total: \$1,807,346</p> <p>Federal BCCEDP funds require a \$3:\$1 match in the amount of \$413,680.</p>
-------------------------------------	---	---	--	--

*The list of current contracts with healthcare providers is located on <http://takecharge.health.ok.gov>

Oklahoma Diagnostic and Treatment Program

The Breast and Cervical Cancer Prevention and Treatment Act of 2000 (Public Law 106-354) provided medical assistance through SoonerCare Medicaid for women screened through any of the BCCEDP in the state that need assistance with breast and cervical cancer treatment. Oklahoma implemented the SoonerCare program, Oklahoma Cares, in January 1, 2005.

Oklahoma Cares

Oklahoma Cares provides diagnostic and treatment services for eligible women with abnormalities indicating a breast or cervical pre-cancerous condition or cancer. To be eligible to enroll in Oklahoma Cares for treatment services, women must be screened by a healthcare provider in accordance with Take Charge!, Cherokee Nation BCCEDP or the Kaw Nation Women’s Health Program. Women must be 19-64 years of age, not insured, low income, and meet medical eligibility guidelines. Women enrolled in the Oklahoma Cares program receive full scope SoonerCare coverage inclusive of diagnostic and treatment services. Additional information about the Oklahoma Cares program can be found on the Oklahoma Health Care Authority (OHCA) website at <http://www.okhca.org>.

Statewide Breast and Cervical Cancer Activities

Over 15,000 Oklahomans participated in public education awareness events or outreach campaigns through the efforts of Susan G. Komen Race for the Cure®, American Cancer Society Making Strides about Breast Cancer Walk®, Take Charge! contracted healthcare providers, Oklahoma Project Woman, and multiple community organizations across the State.

Epidemiological Trend Studies

The following epidemiological trend studies have requested data from the OCCR during FY 2015.

1. Osteosarcoma Surveillance Study/ Forteo Patient Registry Linkage Study
 - Investigator: David Haris
 - Data Requested: September 4, 2014

2. Lymphoid Malignancy Statistics in the United States, 2001-2011
 - Investigator: Ahmedin Jemal
 - Data Requested: November 26, 2014

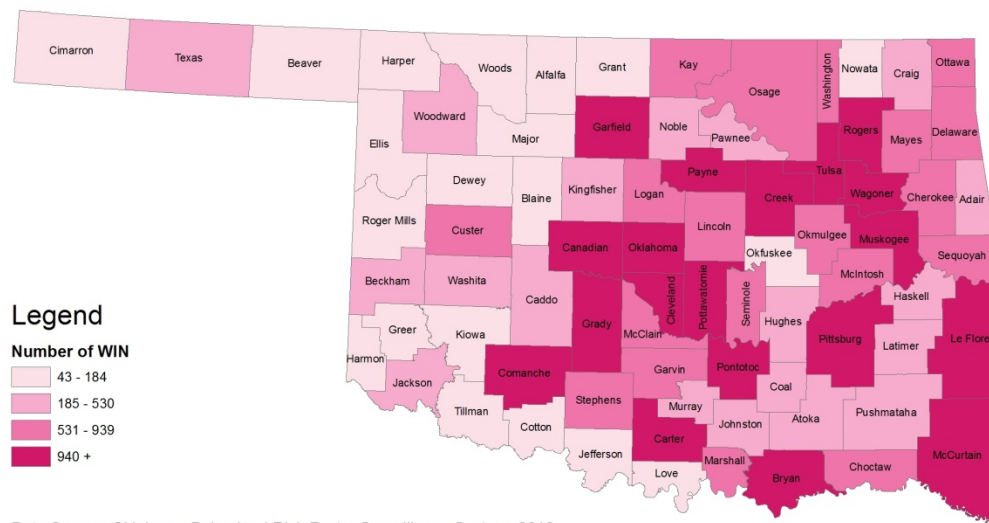
3. Variations in Receipt of Curative-Intent Surgical Treatment for Early-Stage Non-Small Cell Lung Cancers (NSCLC) Among Racial/Ethnic Groups and Within Racial/Ethnic Groups Across States in the United States
 - Investigator: Hemneh Sineshaw
 - Data Requested: November 26, 2014

4. Demographic and Regional/State Variation in DCIS and Early Stage Breast Cancer Incidence and Treatments
 - Investigator: Elizabeth Ward
 - Data Requested: November 26, 2014

Take Charge! Statewide Provider Recruitment/Outreach

Take Charge! uses multiple methods to ensure screening services are provided to women in the geographic areas of highest need and in the most cost effective manner possible. In order to determine which counties have the highest need, several sources of data are reviewed and analyzed. The following variables are used to identify counties of highest need, listed in order of importance: Women in Need (WIN), proportion of breast cancer cases diagnosed at late stage, mammography screening, breast cancer mortality, cervical cancer screening (Pap tests), and cervical cancer mortality. WIN is calculated by utilizing weighted BRFSS data for income, insurance status, age, and sex. Figure 17 is a map of WIN by region, applied to the county population for FY 2015.

Figure 17: Number of Women in Need in Oklahoma, FY 2015



Data Source: Oklahoma Behavioral Risk Factor Surveillance System, 2013

Created: 7.2015

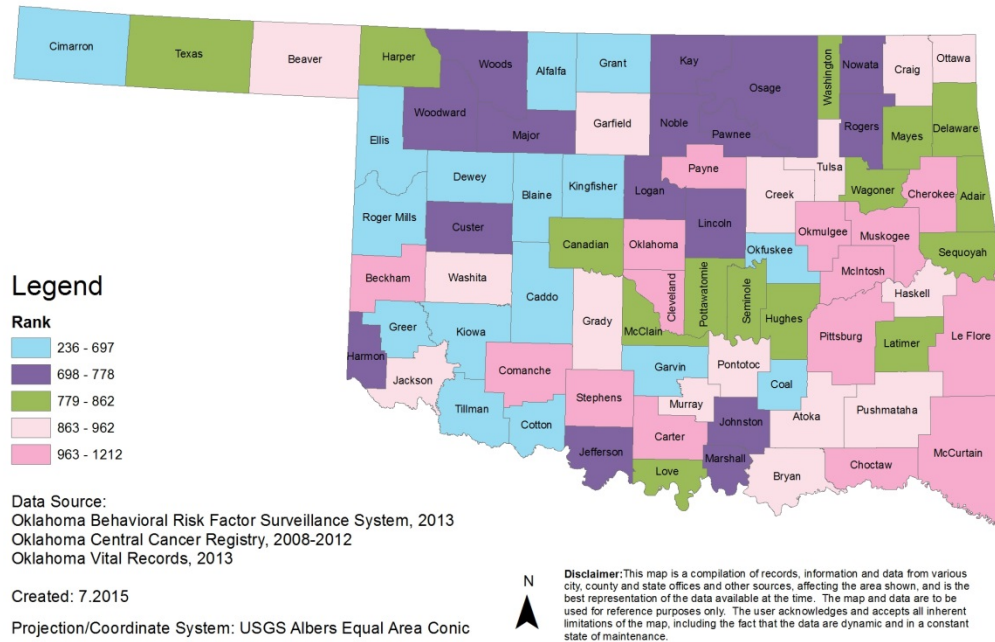
Projection/Coordinate System: USGS Albers Equal Area Conic



Disclaimer: This map is a compilation of records, information and data from various city, county and state offices and other sources, affecting the area shown, and is the best representation of the data available at the time. The map and data are to be used for reference purposes only. The user acknowledges and accepts all inherent limitations of the map, including the fact that the data are dynamic and in a constant state of maintenance.

Each variable used to identify the counties of highest need is ranked by county and weighted by importance. The resulting total ranks are split into six quintiles. The counties with the highest ranks are considered highest need (Figure 18). Once the counties are graded, the data are compared to a map of the existing Take Charge! contracted healthcare providers. By comparing the two maps, it becomes evident where contractors are needed in Oklahoma, thus recruitment efforts of healthcare providers are enhanced in highest need counties. Identification of providers is performed by reviewing Oklahoma Cares screener lists, internet searches, referrals from county health department staff, and existing contracted healthcare providers' referral of potential providers.

Figure 18: Areas of High Need for Breast and Cervical Cancer Screening Services in Oklahoma, FY 2015



Upcoming Priority Strategies

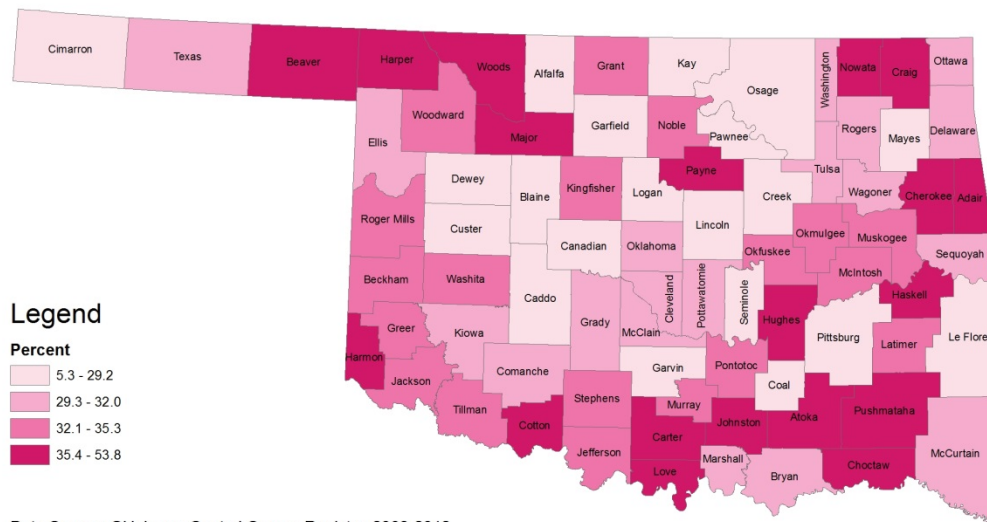
- Increase high quality breast and cervical cancer screening in Oklahoma in collaboration with partners;
- Encourage evidence-based breast and cervical cancer public education and targeted outreach to women at highest risk;
- Utilize policy approaches and health systems changes to improve implementation of breast and cervical guidelines and practices for healthcare professionals;
- Encourage patient navigation services to assist with access to screening and diagnostic services;
- Decrease structural barriers (transportation, availability, and accessibility) that limit access to breast and cervical cancer screening, and diagnostic and treatment services.

Emerging Technology and Strategies to Reduce the Costs of Breast and Cervical Cancer

A recent emerging strategy to improve breast cancer screening is personalized breast cancer screening. Some studies have shown that even with the different technology options for breast cancer screening, there is not a single approach that fits every woman and her risk of breast cancer. While mammograms are a common technology used to screen most women for breast cancer, their sensitivity is highly variable ranging for 98% to 36% in women with dense breasts.⁸

A strategy to reduce the costs of breast cancer is to prevent late stage diagnosis by promoting breast screening for early detection. Early detection of cancer at in situ stage or local stages provides better chances of five year survival. Figure 19 displays the proportion of late stage cases of breast cancer by Oklahoma counties.

Figure 19: Proportion of Breast Cancer Cases Diagnosed at Late Stage by County in Oklahoma, 2008-2012



Data Source: Oklahoma Central Cancer Registry, 2008-2012

Created: 7.2015

Projection/Coordinate System: USGS Albers Equal Area Conic



Disclaimer: This map is a compilation of records, information and data from various city, county and state offices and other sources, affecting the area shown, and is the best representation of the data available at the time. The map and data are to be used for reference purposes only. The user acknowledges and accepts all inherent limitations of the map, including the fact that the data are dynamic and in a constant state of maintenance.

Table 3 shows the proportion of diagnosed late stage breast cancers by region. The rate of Oklahoma women diagnosed with late stage breast cancer is slightly higher in the southwest region of Oklahoma, which is considered a medically underserved area/population.¹¹ It has too few primary care providers, high poverty and/or high elderly populations. Women in southwest Oklahoma that are 50 years of age and older, low income, uninsured or underinsured need access to additional screening, diagnostic and treatment services. There are multiple barriers to accessing services in southwest Oklahoma including financial, transportation, distance to services, culturally appropriate clinic availability, and clinic hours.

Table 3: Percent of Breast Cancer Cases Diagnosed
at Late Stage in Oklahoma by Region,
2008-2012

Percentage	Region
30.8%	Central Cleveland and Oklahoma
31.4%	Northeast Adair, Cherokee, Craig, Creek, Delaware, Kay, Lincoln, Mayes, Muskogee, Noble, Nowata, Okfuskee, Okmulgee, Osage, Ottawa, Pawnee, Payne, Rogers, Sequoyah, Wagoner, and Washington
28.4%	Northwest Alfalfa, Beaver, Blaine, Canadian, Cimarron, Custer, Dewey, Ellis, Garfield, Grant, Harper, Kingfisher, Logan, Major, Roger Mills, Texas, Woods, and Woodward
31.5%	Southeast Atoka, Bryan, Choctaw, Coal, Haskell, Hughes, Johnston, Latimer, LeFlore, McCurtain, McIntosh, Marshall, Murray, Pittsburg, Pontotoc, Pottawatomie, Pushmataha, and Seminole
31.7%	Southwest Beckham, Caddo, Carter, Comanche, Cotton, Garvin, Grady, Greer, Harmon, Jackson, Jefferson, Kiowa, Love, McClain, Stephens, Tillman, and Washita
30.7%	Tulsa Tulsa

Recently a new HPV vaccine was approved by the Food and Drug Administration (FDA). The 9-valent HPV vaccine covers five strains of HPV that are not covered in other HPV vaccines. The new HPV vaccine was developed to be used in females and males. The new vaccine has been given provisional approval from the Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices (ACIP).^{13, 14}

Breast and Cervical Cancer Resources for Oklahomans

The 2012 Oklahoma Cancer Resource Guide, *Threads of Support*, is available for Oklahomans to use to find resources to assist with breast and cervical cancer screening, diagnostic testing and treatment. The guidebook contains resource information about all cancers, not just breast and cervical cancer. *Threads of Support* can be accessed online at <http://cccp.health.ok.gov>. The link is located on the left side of the page. Hard copies of the guide are available by calling (405) 271-4072.

References

1. Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2013, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE). Accessed at <http://www.health.ok.gov/ok2share> in June 2015.
2. Centers for Disease Control and Prevention, Breast Cancer, Accessed at <http://www.cdc.gov/cancer/breast/index.htm> in June 2015.
3. Centers for Disease Control and Prevention, Cervical Cancer, Accessed at http://www.cdc.gov/cancer/cervical/basic_info/symptoms.htm in June 2015.
4. American Cancer Society, Cervical Cancer, Accessed at <http://www.cancer.org/cancer/cervicalcancer/detailedguide/index> in June 2015.
5. Centers for Disease Control and Prevention, Breast Cancer Risk Factors, Accessed at http://www.cdc.gov/cancer/breast/basic_info/risk_factors.htm in July 2015.
6. Centers for Disease Control and Prevention, Cervical Cancer Risk Factors, Accessed at http://www.cdc.gov/cancer/cervical/basic_info/risk_factors.htm in July 2015.
7. U.S. Preventive Services Task Force, Screening for Breast Cancer. Released November 2009, Accessed at [http://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/breast-cancer-screening?ds=1&s=breast cancer](http://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/breast-cancer-screening?ds=1&s=breast%20cancer) in August 2015.
8. Centers for Disease Control and Prevention, Vaccine Information Statement, HPV Vaccine, Accessed at <http://www.cdc.gov/vaccines/hcp/vis/vis-statements/hpv-gardasil.html> in July 2015.
9. CDC, BRFSS, Prevalence and Trends Data, 2012. Accessed at <http://apps.nccd.cdc.gov/BRFSS/> in August 2015.
10. Oklahoma State Department of Health, Fact Sheet: How is Oklahoma Doing Immunizing Teens? Results from the National Immunization Survey for Teens 2008-2013.
11. Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Prevalence and Trends Data. Accessed at <http://apps.nccd.cdc.gov/BRFSS/> in July 2015.

12. Drukteinis JS, et al. Beyond Mammography: New Frontiers in Breast Cancer Screening. Accessed at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4010151/> in July 2015.
13. American Congress of Obstetricians and Gynecologists, ACOG Rounds, March 2015: Clinical Practice: The 9-Valent HPV Vaccine. Accessed at <http://www.acog.org/About-ACOG/ACOG-Departments/ACOG-Rounds/March-2015/Clinical-Practice> in September 2015.
14. U. S. Department of Health and Human, FDA News Release, FDA Approves Gardasil 9 for Prevention of Certain Cancers Caused by Five Additional types of HPV. Accessed at <http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm426485.htm> in September 2015.