



What is the Impact on Indiana Residents?

Table 5. Burden of Invasive Female* Breast Cancer — Indiana, 2008–2012

	Average number of cases per year (2008–2012)	Rate per 100,000 females† (2008–2012)	Number of cases (2012)	Rate per 100,000 females† (2012)
Indiana Incidence	4,415	118.1	4,366	115.7
Indiana Deaths	882	22.6	872	21.9

* Fewer than 40 cases of breast cancer occur among Indiana males each year. The annual incidence rate (typically around 1.0 case per 100,000 males) remained stable during 2008–2012.

Source: Indiana State Cancer Registry

† Age-adjusted

BREAST CANCER

Bottom Line

Breast cancer is the second leading cause of cancer death and, excluding skin cancers, the most frequently diagnosed cancer among females in the US.¹ The lifetime risk of developing breast cancer among females is one in eight.¹ Breast cancer is typically diagnosed during a screening examination. An estimated 231,840 new cases of invasive breast cancer and 40,290 breast cancer-related deaths are expected to occur among females nationally in 2015.¹ White and African American females have similar incidence rates; however, African American females have significantly higher mortality rates.² This may be, in part, because of late diagnosis, diagnosis in younger individuals, and barriers to healthcare access [Figure 9].² Today, there are 3 million US females who are breast cancer survivors. Females should have frequent conversations with their health care provider about their risks for breast cancer and how often they should be screened. Breast cancer is rare among males as an estimated 2,350 cases will occur in 2015.¹ However, because males are prone to ignoring warning signs, they are often diagnosed at later stages and have poorer prognoses. During 2015, it is estimated that 440 males are expected to die nationally from breast cancer.

Who Gets Breast Cancer?

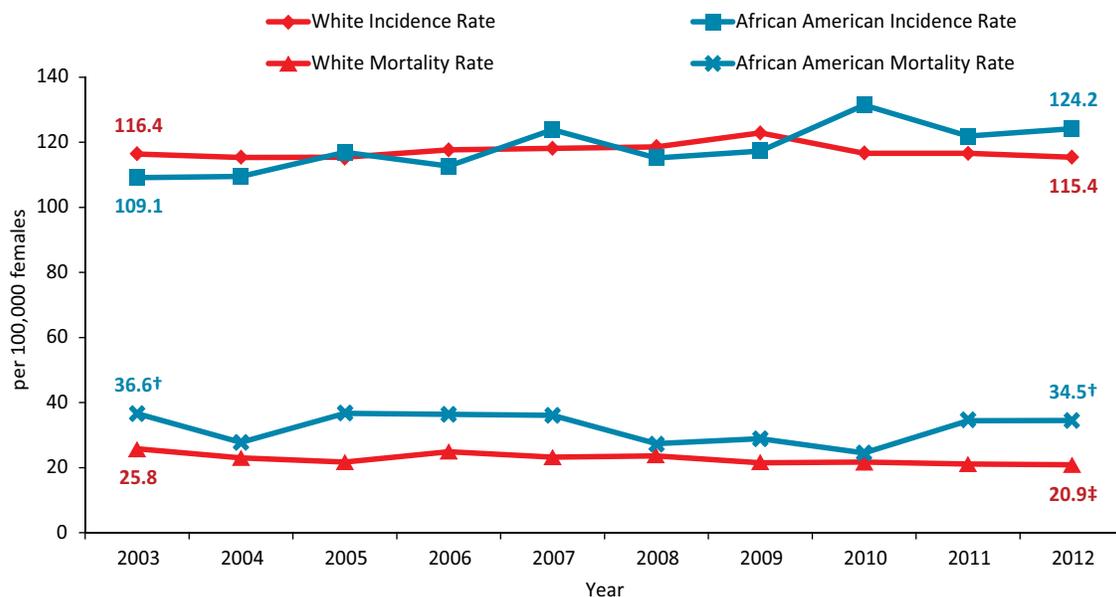
Sex and age are the two greatest risk factors for developing breast cancer. Females have a much greater risk of developing breast cancer (>99% of Indiana cases occur among females), and that risk increases with age. Overall, in Indiana, 79 percent of all breast cancer incidence and 88 percent of breast cancer deaths occur in females over the age of 50.

Factors associated with increased breast cancer risk include weight gain after the age of 18, being overweight or obese, use of menopausal hormone therapy, physical inactivity, and alcohol consumption. Research also indicates that long-term, heavy smoking increases breast cancer risk, particularly among females who start smoking before their first pregnancy.

Additional risk factors include:

- **Family history** — Females who have had one or more first degree relatives who have been diagnosed with breast cancer have an increased risk. Additionally, breast cancer risk increases if a woman has a family member who carries the breast cancer susceptibility genes (BRCA) 1 or 2, which accounts for five to ten percent of all female breast cancers. BRCA mutations also account for five to 20 percent of all male breast cancers, and 15 to 20 percent of familial breast cancers.¹
- **Race** — In Indiana, during 2008-2012, the breast cancer incidence rates for African American and white females were similar, but the mortality rate for African American females was 39 percent higher than for whites.³ African American females had significantly higher rates of diagnosis at the regional or distant stage [Figure 10].
- **Reproductive factors** — Females may have an increased risk if they have a long menstrual history (menstrual periods that start early and/or end later in life), have recently used oral contraceptives or Depo-Provera, have never had children, or had their first child after the age of 30.¹
- **Certain medical findings** — High breast tissue density, high bone mineral density, type 2 diabetes, certain benign breast conditions, and lobular carcinoma in situ may increase risk

Figure 9. Female Breast Cancer Incidence and Mortality (Death) Rates Trends by Race* — Indiana, 2003–2012



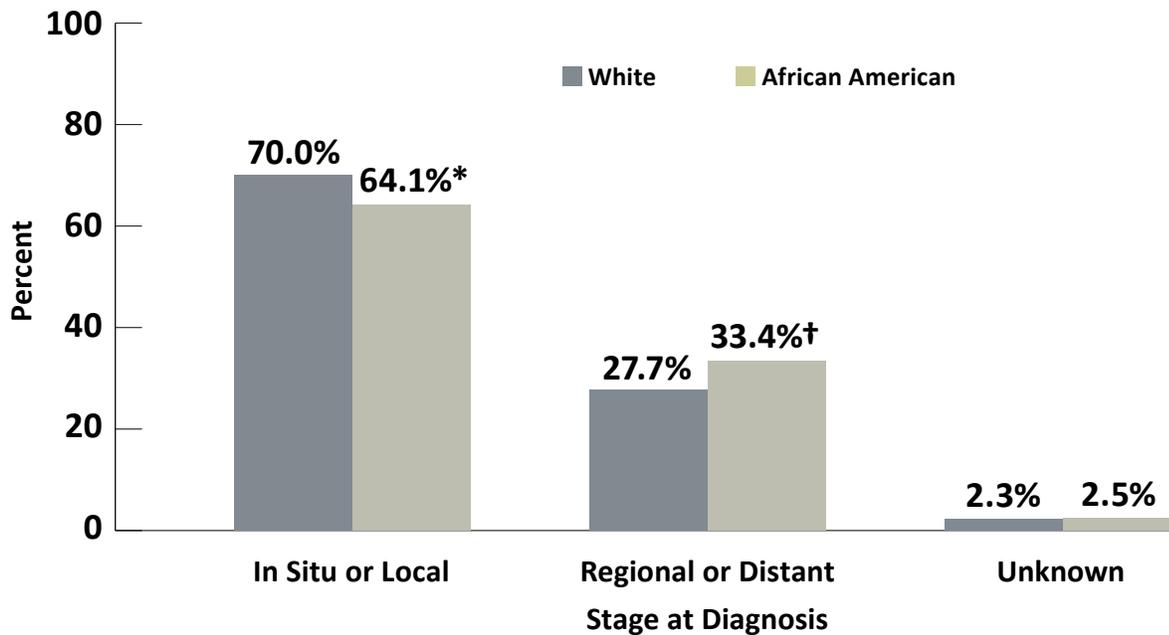
* Age-adjusted

† Rate among African-Americans was significantly higher than rate among whites (P<.05)

‡ The breast cancer mortality rate among white females was significantly lower (P<.05) in 2012 compared to 2003

Source: Indiana State Cancer Registry

Figure 10. Percent of Female Breast Cancer Cases by Stage of Diagnosis and Race — Indiana, 2008–2012



* Proportion of cases diagnosed in the local stage was significantly lower ($P < .05$) among African American females when compared to white females, but significantly higher than whites for the in situ stage.

† Proportion of cases diagnosed in the regional or distant stage was significantly higher ($P < .05$) among African American females when compared to white females

Source: Indiana State Cancer Registry

BE AWARE!

Common Signs and Symptoms of Breast Cancer

- The most common symptom of breast cancer is a new lump or mass. It's important to have anything new or unusual checked by a doctor.
- Other symptoms of breast cancer may include:
 - Hard knots, or thickening
 - Swelling, warmth, redness, or darkening
 - Change in size or shape
 - Dimpling or puckering of the skin
 - Itchy, scaly sore, or rash on the nipple
 - Pulling in of the nipple or other parts of the breast
 - Nipple discharge that starts suddenly
 - New pain in one spot that doesn't go away

Although these symptoms can be caused by things other than breast cancer, it is important to have them checked out by your doctor.

for developing breast cancer. In addition, high dose radiation to the chest for cancer treatment increases risk.¹

Factors associated with a decreased risk of breast cancer include breastfeeding, regular moderate or vigorous physical activity, and maintaining a healthy body weight. Two

medications — tamoxifen and raloxifene — have been approved to reduce breast cancer risk in female at high risk.¹

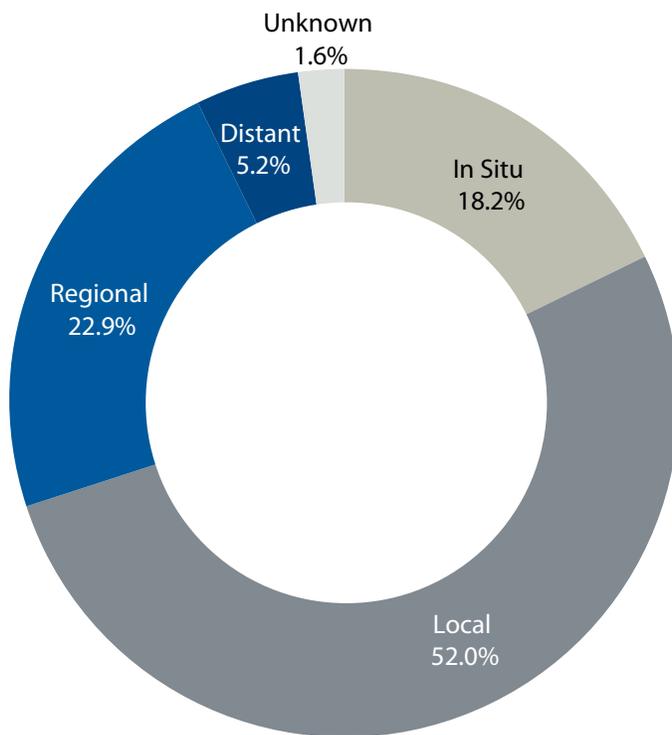
Can Breast Cancer Be Detected Early? — see the “Be Aware” box for additional information

Females should have frequent conversations with their health care provider about their risks for breast cancer and how often they should be screened. In general, females should follow these recommendations:

- **Breast Self-Awareness.** Females in their 20s should be aware of the normal look and feel of their breasts, so that they can identify potentially dangerous changes.
- **Clinical Breast Exams.** The American Cancer Society recommends that females in their 20s and 30s have a clinical breast exam by a health care professional every three years. Asymptomatic females in their 40s should have yearly clinical breast exams.
- **Screening Mammograms.** The United States Preventive Services Task Force recommends a screening mammogram every two years for females aged 50 to 74, which help detect cancers before a lump can be felt. Females between the ages of 40 to 49, especially those with a family history of breast cancer, should discuss the risks and benefits of mammography with their health provider to determine if it is right for them.

According to the 2012 Indiana Behavioral Risk Factor Surveillance System (BRFSS), only 69.5 percent of females ages

Figure 11. Percent of Female Breast Cancer Cases Diagnosed During Each Stage* — Indiana, 2008–2012



During 2008–2012, of the 26,996 female Indiana residents who received a breast cancer diagnosis, 18,969 (70%) were diagnosed in the in situ or local stage, 7,608 (28.2%) were diagnosed in the regional or distant stage, and 419 (1.6%) had unknown staging.

* Includes all in situ and invasive cases
Source: Indiana State Cancer Registry

50 and older had a mammogram during the past two years. The Affordable Care Act requires preventive screening services to be included in most insurance policies. Often, these services are paid in full. Individuals should check with their individual insurance providers for specific plan information.

What Factors Influence Breast Cancer Survival?

Staging of breast cancer takes into account the number of lymph nodes involved and whether the cancer has moved to a secondary location [Figure 11]. When breast cancer is detected early, before it is able to be felt, the five-year survival rate is 99 percent.¹ During 2012, in Indiana, only 52 percent of breast cancer cases were diagnosed at the local stage. Approximately 18 percent were diagnosed in situ (the earliest stage possible for diagnosis).³ During this same time, almost 30 percent of Indiana’s breast cancer cases were diagnosed in the regional or distant stages.³

There are multiple treatment options available for breast cancer patients. Surgical treatment options include mastectomy (the medical term for the surgical removal of one or both breasts, either partially or completely) and lumpectomy (the removal of only the cancerous area of the breast). Local radiation can be used to treat the tumor without affecting the rest of the body. Other treatments include chemotherapy, hormone therapy, and targeted therapy. These can be given orally or intravenously in order to reach cancer cells anywhere in the body. An individual’s treatment plan is personalized

and based both on medical and personal choices. Individuals should partner with their medical providers and be active participants in the development of a treatment and care plan.

REFERENCES

- 1 American Cancer Society. *Cancer Facts & Figures 2015*. Atlanta: American Cancer Society; 2015. Accessed at <http://www.cancer.org/research/cancerfactsstatistics/cancerfactsfigures2015/index> on February 5, 2015.
- 2 Susan G. Komen, Dallas, TX. Accessed at <http://ww5.komen.org/BreastCancer/Statistics.html> on December 3, 2014.
- 3 Indiana State Cancer Registry Statistics Report Generator. Accessed online at <http://www.in.gov/isdh/24360.htm> on December 3, 2014.

TAKE CHARGE!

What You Can Do to Help Prevent Breast Cancer

- Know your risk! Talk to your doctor about your personal and family history, and screening.
- Get screened regularly.
- Be smoke free! Visit www.in.gov/quitline for free, evidence-based smoking cessation assistance.
- Maintain a healthy weight.
- Adopt a physically active lifestyle.
- Limit alcohol consumption.
- Limit postmenopausal hormone use. When evaluating treatment options for menopausal symptoms, consider the increased risk of breast cancer associated with the use of estrogen and progestin and discuss this with your physician.
- Breastfeed, if you can. Studies suggest that breastfeeding for one year or more slightly reduces a woman’s overall risk of breast cancer.