# Table of Contents

Introduction ................................................................. 1  
Michigan’s Cancer Burden .............................................. 3  

Lung and Bronchus Cancer .............................................. 5  
Breast Cancer .............................................................. 8  
Prostate Cancer ........................................................... 11  
Colon and Rectum Cancer ............................................. 14  
Cervical Cancer ........................................................... 17  
Disparities in Cancer Incidences and Mortality  
  Racial and Ethnic Minorities ................................... 20  
  LGBT Community .................................................... 23  
  Those with a Disability or Poor Mental Health ............. 26  

Data Request Process ...................................................... 29  
Data Resources ........................................................... 30
Introduction

Cancer is the second leading cause of death in Michigan, contributing to significant economic and social costs. In 2018, an estimated 56,590 people in Michigan were diagnosed with cancer and 21,380 were projected to die from cancer. To maximize impact on population health, interventions will continue to target breast, cervical, colorectal, prostate, and lung cancers due to the burden of and strategies available to address these cancers. Related risk factors for these and other cancers will be addressed through an emphasis on policy and system change.

The Michigan Department of Health and Human Services (MDHHS) is the recognized public health agency for the state of Michigan and has a long history of implementing successful cancer control programs.

These programs include the:
• Breast and Cervical Cancer Control Program
• Cancer Genomics Program
• Cancer Surveillance Program
• Cancer Survivorship Program*
• Colorectal Cancer Early Detection Program
• Comprehensive Cancer Control Program
• Implementation of Policy and Environmental Cancer Control Interventions*
• Lung Cancer Early Detection Program
• Well-Integrated Screening and Evaluation for Women Across the Nation Program

The partnership between these internal cancer programs, as well as external cancer programs, such as the Inter-Tribal Council of Michigan, makes it possible to address the cancer control continuum which includes prevention, detection, diagnosis, treatment, and survivorship.

Programs denoted with an * are no longer active.
The focus of Michigan’s Cancer Programs is to enhance initiatives, capacity, and infrastructure in order to work towards the reduction of cancer morbidity, mortality, and related health disparities.

Uninsured patients and those from minority populations are much more likely to be diagnosed with cancer at a later stage when treatment is more extensive, debilitating, and costly. And, since cancer is more prevalent among older adults, priority populations continue to be older, underserved minority populations.

Quality data is a critical component in evaluating the success made towards all parts of the cancer care continuum. Data from the Behavioral Risk Factor Survey (BRFS) and the Cancer Registry provide insight into current rates and disparities in all parts of the continuum. These data provide the basis for state and local strategic planning and evaluation.

This burden report presents the most recently available data at the time of publication. Due to the lengthy process for data collection and validation to ensure the data is of high quality, the data available for analysis lags a few years behind the current calendar year.
Michiganders are estimated to be diagnosed with cancer and Michiganders are estimated to die from cancer in 2018. In 2015 Michigan had a similar new cancer case rate to that of the US.

In 2015 Michigan had a higher cancer mortality rate compared to that of the US.

Counts with the Highest New Cancer Rate, 2011-2015
1. Osceola
2. Grand Traverse
3. Wexford
4. Roscommon
5. Arenac

State Incidence = 464.05 per 100,000 Residents

To see the rates for all counties please visit the [Michigan Cancer Surveillance Program](#)
Michigan's Cancer Burden

Stage at Diagnosis in 2015

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
<th>Cases</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>In Situ</td>
<td>Abnormal cells are present but have not spread to tissue</td>
<td>7,604</td>
<td>(12.7%)</td>
</tr>
<tr>
<td>Localized</td>
<td>Cancer remains in the place where it started (early-stage cancer)</td>
<td>23,037</td>
<td>(38.5%)</td>
</tr>
<tr>
<td>Regional</td>
<td>Cancer has spread to nearby lymph nodes, tissues and organs</td>
<td>10,938</td>
<td>(18.3%)</td>
</tr>
<tr>
<td>Distant</td>
<td>Cancer has spread throughout the body (metastatic or advanced cancer)</td>
<td>13,846</td>
<td>(23.1%)</td>
</tr>
</tbody>
</table>

Cancer Risk Factors among Michigan Adults

- Report being a **current smoker**. 20.4%
- Report being **obese**. 32.5%
- Report drinking more than **two alcoholic drinks per day for men or more than one per day for women** in the previous month. 6.9%

Cancer Screening Rates

- Of women over 40 had a **mammogram** in the past two years. 74.0%
- Of Michigan Adults 50 years and older had **appropriate colorectal cancer screening**. 69.7%
- Of women over 18 had a **Pap test** in the past three years. 72.5%

Survivorship among Michiganders

10.7% of all Michigan Residents report being a **cancer survivor**. Racial and ethnic differences exist among cancer survivors in Michigan.

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Survivorship Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>White, non-Hispanic</td>
<td>11.5%</td>
</tr>
<tr>
<td>Black, non-Hispanic</td>
<td>6.6%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>5.4%</td>
</tr>
<tr>
<td>American Indian</td>
<td>11.5%</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>4.7%</td>
</tr>
<tr>
<td>Arab/Chaldean</td>
<td>9.0%</td>
</tr>
<tr>
<td>Other/Multiracial</td>
<td>11.3%</td>
</tr>
</tbody>
</table>

References
Lung and Bronchus Cancer in Michigan

Lung cancer is the leading cause of cancer death among men and women. Each year, more people die from lung cancer than of colon, breast, and prostate cancers combined. Lung cancer mainly occurs in older people. Smoking causes the vast majority of lung cancers.

### New Cases and Deaths

<table>
<thead>
<tr>
<th>Age adjusted</th>
<th>Number of Cases</th>
<th>Rate per 100,000 People</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Cases (2015)</td>
<td>7,839</td>
<td>62.6</td>
</tr>
<tr>
<td>Deaths (2016)</td>
<td>5,548</td>
<td>43.8</td>
</tr>
</tbody>
</table>

### Health Disparities

Among Native American Indians, 49% report being a current smoker. Native American men and women have higher rates of lung cancer compared to all other races.

### What increases risk?

- The majority of lung cancers could be prevented by not smoking
- Exposure to secondhand smoke
- Exposure to radon gas
- Other substances such as asbestos
- Personal or family history of lung cancer

### When is it Diagnosed?

- In Situ
- Localized
- Regional
- Distant
- Unknown

56.3%

Five year relative survival rate when lung cancer is detected early.

To quit smoking, call the Michigan Tobacco Quitline at 1-800-QUIT-NOW (784-8669).

People who are, or have been, heavy smokers and are 55–80 years of age should talk with their health care provider.
Lung Cancer in Michigan

➢ Lung cancer is the leading cause of cancer deaths in Michigan. ¹
➢ In 2018, it is estimated that there will be 8,780 new cases of lung cancer and 5,860 deaths from lung cancer in Michigan.¹

Lung Cancer Screening

➢ Lung cancer screening with low-dose spiral Computed Tomography Scan has been shown to decrease mortality. Lung cancer screening is recommended for people who:
  ➢ Have a 30 or more pack-year smoking history AND
  ➢ Currently smoke or have quit in the past 15 years AND
  ➢ Are between 55 and 80 years old. ²
➢ In Michigan, about 7 out of 100 adults meet the recommendations and should be screened with a low-dose spiral CT. ³

Early Detection is key!

➢ Five year relative survival for lung cancer patients diagnosed in the localized stage is 56.3%; however, in Michigan only 21% of people are diagnosed at this stage. ⁴,⁵

Lung Cancer Disparities

➢ In Michigan, 49% of American Indians report being a current smoker. ³
➢ American Indian males and females have the highest amount of new cases of and deaths from lung cancer compared to other races.
➢ Black males are 37% more likely to develop lung cancer than White males. ⁶
➢ Black males are more likely to choose menthol cigarettes due to targeted advertisements. ⁶
  ➢ Research suggests the chemical difference of menthol cigarettes may be associated with more severe levels of addiction.
➢ Other factors that may contribute to the higher rates of lung cancer in American Indians and Black males include: limited access to health care, increased exposure to environmental toxins from nearby industrial sources, and cultural practices.


* US death rate is from 2015

Source: SEER18 2008-2014, Seer*State database November 2017
www.seer.cancer.gov
What puts people at high risk for lung cancer?  

- **Smoking:** About 90% of lung cancers are associated with smoking.
- **Second hand smoke exposure**
- **Radon exposure:** Radon exposure is the leading cause of lung cancer in non-smokers.
- **Exposure to certain chemicals:** Asbestos, arsenic, diesel exhaust, silica, and chromium are the most commonly associated with lung cancer.
- **Family history of lung cancer**
- **Prior diagnosis with lung cancer**
- **Radiation therapy to the chest:** Cancer survivors who had chest radiation have higher risk of developing lung cancer.

**Tobacco Cessation**

- Evidence shows that cancer patients benefit from smoking cessation. Quitting can improve the effectiveness of treatment, prolong survival, improve quality of life, and reduces the risk of developing a secondary cancer.
- From the Michigan Behavioral Risk Factor Survey (MiBRFS), Black respondents were more likely to report they were attempting to quit compared to other races.
- Talk to patients about the health consequences of smoking and second-hand smoke exposure.
- Refer patients to tobacco dependence treatment resources like the Michigan Tobacco Quit Line: 1-800-quit-now (1-800-785-8669) or http://michigan.quitlogix.org.
- The MDHHS Tobacco Control Program offers resources for health care professionals and the public at www.michigan.gov/tobacco.

**Radon Exposure**

- Radon is a colorless, odorless, radioactive gas that can cause lung cancer.
- To avoid long term exposure, encourage patients to get their homes tested for radon.
- Radon test kits can be obtained from county and city health departments. For a complete listing on where to obtain a kit, please visit: http://www.michigan.gov/documents/deq/whm-rps-radonwhere-togoget-a-radon-testkit_261816_7.pdf
- For more information about radon and how to obtain radon test kits please visit www.michigan.gov/radon or email radon@michigan.gov.

Breast Cancer in Michigan

Breast cancer is the second leading cause of cancer death and, excluding skin cancers, the most frequently diagnosed cancer in the U.S. among women. It is estimated that 266,120 new cases of breast cancer will be diagnosed in the U.S. in 2018.

<table>
<thead>
<tr>
<th>Number of cases: Michigan</th>
<th>Rate per 100,000 Females: Michigan</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Cases (2015)</td>
<td>7,560</td>
</tr>
<tr>
<td>Deaths (2016)</td>
<td>1,390</td>
</tr>
</tbody>
</table>

The two biggest risk factors are being Female and Increased Age.

Health Disparities
African American women have the lowest 5-year survival rate at 79.5%.

National five year survival rate when breast cancer is detected at the localized stage.

When is it Diagnosed?

At 40, women should discuss their risk for breast cancer and when to begin mammography screening with their provider. Women should undergo regular screening mammography at intervals based on risk factors (every 1–2 years).
Among Michigan women, breast cancer is the most commonly diagnosed cancer and the second leading cause of cancer death. ¹

In 2018, it is estimated that there will be 8,730 new cases of breast cancer and 1,400 deaths from breast cancer in Michigan women. ¹

**Breast Cancer Screening** ²

- Beginning at age 40, women should discuss with their providers their risk for breast cancer and when to begin mammography screening.
- Women should undergo regular screening mammography for the early detection of breast cancer at intervals based on risk factors (every one to two years).
- This discussion about risk factors should include questions about personal and family history of breast cancer and familial mutations.
- Women identified at high risk may require a MRI and mammogram annually. Age to begin screening with both MRI and mammogram is determined by the woman’s provider.
- Women who are identified as having poor mental health are significantly less likely to be up to date on their mammography screening (61%) compared to Michigan as a whole (69%).

**Early detection of breast cancer increases the effectiveness of available treatments.** ²

- 52% of breast cancers diagnosed in Michigan are diagnosed at the localized stage and 4% are at the distant stage.³
- Of those who were diagnosed at the localized stage, 99% of White women and 95% of Black women survived 5 years. ⁴
- Of those diagnosed at the distant stage, 28% of White women and 20% of Black women survived 5 years. ⁴

---

**Know someone who needs help getting screened for breast cancer or navigating the health system?**

The Breast and Cervical Cancer Control Navigation Program (BCCCNP) provides free breast and cervical cancer screening to low-income women between the ages of 21 and 64 and also assists insured women in scheduling mammograms if needed. For more information about the BCCCNP, please call toll free 844-446-8727 or visit www.michigancancer.org/bcccp.
Breast Cancer Disparities

- Black women are more likely to die from breast cancer compared to White women.
- Factors that may contribute to the higher death rate in Black women include:
  - Lack of medical coverage
  - Barriers to early detection and screening
  - Unequal access to clinical trials
  - More likely to be diagnosed with a more aggressive form of cancer known as Triple Negative Cancer

Breast Cancer New Diagnoses and Deaths by Race, 2015 and 2016 MCSP

What puts women at higher than average risk for Breast Cancer? 2

- Increasing age
- Personal history of breast or ovarian cancer
- Family history of breast or ovarian cancer
- Specific genetic mutations
- Dense breast tissue
- Starting menstruation at a young age
- Never giving birth or having first pregnancy after age 30
- Drinking two or more alcoholic drinks a day

Risk of Developing Breast Cancer by Age and Race, 2013-2015 SEER

Men can get breast cancer too!

Male breast cancer accounted for about 1% of new cases of invasive breast cancer from 2010 through 2014. About 1% of the overall breast cancer mortality for the same period can be attributed to male cases. 2

Family history and genetic mutations are both important risk factors for male breast cancer. 5

Prostate Cancer in Michigan

Prostate cancer is the most commonly diagnosed cancer in men, besides skin cancer, and is the second leading cause of cancer death in men. It is estimated that a total of 5,400 new cases of prostate cancer will be diagnosed in 2018.

<table>
<thead>
<tr>
<th></th>
<th>Number of cases: Michigan</th>
<th>Rate per 100,000 Males: Michigan</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Cases (2015)</td>
<td>6,356</td>
<td>103.6</td>
</tr>
<tr>
<td>Deaths (2016)</td>
<td>1,000</td>
<td>19.47</td>
</tr>
</tbody>
</table>

What increases risk?

✔ Increasing age
✔ African ancestry
✔ Family history of prostate cancer

Health Disparities

African American men will die from Prostate Cancer for every White man.

National five year survival rate when prostate cancer is detected early.

98.2%

When is it Diagnosed?

Beginning at age 50, men who are at average risk should have a discussion with their provider to decide if testing is appropriate.
Among Michigan men, prostate cancer is the most commonly diagnosed cancer and the second leading cause of cancer death.  

In 2018, it is estimated that there will be 5,400 new cases of prostate cancer and 940 deaths from prostate cancer in Michigan men.

### Prostate Cancer Screening

- The Prostate-Specific Antigen (PSA) test is the most common screening test for prostate cancer.
- The United States Preventive Services Task Force (UPSTF) recommends for men aged 55-69 to discuss with their provider the potential benefits and harms of screening.
- Most prostate cancers grow very slowly and never cause health problems.
- It is not clear if PSA screening can help men live longer.
- Harms of screening include: false-positive results, over diagnosis, and overtreatment.

#### Early Detection

- In 2015, about 90% of prostate cancers were diagnosed at either the localized or regional stage.
- The five year survival rate for prostate cancer at the localized or regional stage is almost 100%.
- The five year survival rate for prostate cancer diagnosed at the distant stage falls to 30%.

### Treatment Options for Prostate Cancer

There are three standard treatments for early stage prostate cancer: observation, surgery, and radiation. **Active Surveillance** and **Watchful Waiting** are two forms of observation. Active surveillance usually includes doctor visits with a PSA test every 6 months. Watchful waiting is less intensive and relies on changes in a patient’s symptoms. **Surgery** and **radiation** are also treatment options, and while they may be effective, these options may also cause side effects such as incontinence and erectile dysfunction.
**Prostate Cancer Morbidity, Mortality, and Disparities**

- New diagnoses of prostate cancer have significantly decreased from 182 cases per 100,000 men in 1995 to 103 cases per 100,000 men in 2015. ³
- Deaths from prostate cancer have significantly decreased from 37 deaths per 100,000 men in 1996 to 19 deaths per 100,000 men in 2016. ³
- Black men have a significantly higher rate for new diagnoses and deaths compared to White men.
- However, the rate of new diagnoses among Black men has significantly decreased from 300 cases per 100,000 men in 1995 to 153 cases per 100,000 men. ³

**Prostate Cancer Risk Factors**

- **Age** is the biggest risk factor with the majority of cases being diagnosed in men older than 65. ⁵
- **Black men** are more often diagnosed with prostate cancer than men of other races and are also more likely to die from prostate cancer. ⁵
- **Having a father or brother with prostate cancer** increases a man’s risk for developing the disease. ⁵

---

**Prostate Cancer New Diagnoses and Deaths by Race, 2015 and 2016 MCSP**

<table>
<thead>
<tr>
<th>Age Adjusted Rate per 100,000 Men</th>
<th>New Diagnoses (2015)</th>
<th>Deaths (2016)</th>
</tr>
</thead>
<tbody>
<tr>
<td>US*</td>
<td>103</td>
<td>19</td>
</tr>
<tr>
<td>Michigan</td>
<td>96</td>
<td>18</td>
</tr>
<tr>
<td>White</td>
<td>99</td>
<td>19</td>
</tr>
<tr>
<td>Black</td>
<td>~</td>
<td>~</td>
</tr>
<tr>
<td>American Indian</td>
<td>38</td>
<td>~</td>
</tr>
</tbody>
</table>

*US death rate is from 2015
~ Data suppressed due to too few cases

---

**Risk of Developing Prostate Cancer by Age and Race, 2013-2015 SEER**

<table>
<thead>
<tr>
<th>Race</th>
<th>Under 50</th>
<th>50-59</th>
<th>60-69</th>
<th>70+</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>4%</td>
<td>6%</td>
<td>8%</td>
<td>11%</td>
</tr>
<tr>
<td>Black</td>
<td>7%</td>
<td>9%</td>
<td>12%</td>
<td>13%</td>
</tr>
<tr>
<td>American Indian</td>
<td>2%</td>
<td>4%</td>
<td>6%</td>
<td>7%</td>
</tr>
<tr>
<td>Asian</td>
<td>2%</td>
<td>3%</td>
<td>5%</td>
<td>6%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>3%</td>
<td>5%</td>
<td>7%</td>
<td>9%</td>
</tr>
</tbody>
</table>


---

**Resources**

For more information about prostate cancer or other topics related to cancer please visit the following websites:

- [www.michigan.gov/cancer](http://www.michigan.gov/cancer)
- [www.michigancancer.org](http://www.michigancancer.org)

Colorectal cancer (CRC) is the third most common cancer in both men and women. It is estimated that 140,250 cases of colorectal cancer will be diagnosed in the US in 2018.

<table>
<thead>
<tr>
<th>Number of cases: Michigan</th>
<th>Rate per 100,000: Michigan</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Cases (2015)</td>
<td>4,530</td>
</tr>
<tr>
<td>Deaths (2016)</td>
<td>1,757</td>
</tr>
</tbody>
</table>

What increases risk?
- ✔ Being over the age of 50
- ✔ Personal or family history of colorectal cancer or polyps
- ✔ Smoking
- ✔ Obesity
- ✔ Low physical activity
- ✔ Poor diet

Health Disparities
Arab Americans have the lowest CRC screening rate with 64.1% receiving appropriate screening in 2016.

Screening Options
At intervals appropriate to risk factors

At Home Stool Tests
- FOBT
- FIT
- FIT/DNA

Other Tests
- Colonoscopy
- Sigmoidoscopy
- CT Colonoscopy

When is it Diagnosed?
- In Situ: 5%
- Localized: 20%
- Regional: 35%
- Distant: 33%
- Unknown: 7%
Colorectal Cancer in Michigan

Updated November 2018

➢ Colorectal cancer is the fourth most commonly diagnosed cancer and the second leading cause of cancer deaths in Michigan. ¹
➢ It is estimated that there will be 4,510 new cases of colorectal cancer and 1,670 deaths from colorectal cancer in Michigan in 2018. ¹

Colorectal Cancer Screening

➢ Colorectal cancer is often without symptoms in the earliest and most treatable stage.
➢ Regular screening can prevent colorectal cancer. ²
➢ Starting at age 50, men and women at average risk should get screened. ²
  ➢ Health providers should discuss screening before the age of 50 when certain risk factors are present.
➢ Only 70% of Michigan adults are getting screened at the appropriate time (data not shown). ³
➢ A provider recommendation is the most important predictor of appropriate screening. ⁴
➢ There are several effective screening options available: ²
  ➢ Yearly (sample collected at home): Fecal occult blood test (FOBT), fecal immunochemical test (FIT), OR FIT-DNA (Cologuard).
  ➢ Every Five Years: Flexible sigmoidoscopy OR CT colonography.
  ➢ Every Ten Years: Colonoscopy OR flexible sigmoidoscopy with FIT every year.
➢ A Digital Rectal Exam (DRE) is NOT a recommended screening option. DREs miss up to 90% of cancers. ²

Signs and Symptoms ⁵

Colorectal cancer may cause one or more of these symptoms: diarrhea or constipation that lasts for more than a few days, rectal bleeding, blood in the stool, cramping or abdominal pain, weakness and fatigue, or unintended weight loss. Any patient, regardless of age, who is experiencing any of these signs or symptoms should be referred for diagnostic evaluation.
What factors put a person at increased risk?  
➢ Being age 50 or older  
➢ Family History of colorectal cancer  
➢ Smoking  
➢ Having Type 2 Diabetes  
➢ African American race  
➢ Ashkenazi Jewish heritage  
➢ Being male  
➢ Being overweight or obese  
➢ Eating diet high in red meat  
➢ Lynch Syndrome or Familial Adenomatous Polyposis  
➢ Chronic inflammatory bowel disease

Early Detection is key!
➢ In Michigan, 24% of Black adults and 20% of White adults were diagnosed with colorectal cancer at the distant stage.  
➢ Five-year relative survival for colorectal patients diagnosed in the localized stage is 90%.  
➢ For colorectal patients diagnosed at the regional stage, five-year relative survival is 71%.  
➢ Five-year survival for colorectal patients diagnosed at a distant stage falls to 14%.  

Colorectal Cancer Disparities
➢ Both new diagnoses and deaths from colorectal cancer have been decreasing since 1985; however, significant disparities exist (data not shown).  
➢ Black men and Black women are more likely to be diagnosed with and die from colorectal cancer compared to White men and White women, respectively.  
➢ Factors that may contribute to the higher death rate in Black adults include inequities in screening, diagnostic follow-up, and treatment.

References:  
Cervical Cancer in Michigan

In 2018, an estimated 13,240 cases of invasive cervical cancer will be diagnosed in the US. Cervical cancer can be prevented through routine screening and a vaccine is available that can protect against the types of Human Papillomavirus (HPV) that cause 90% of cervical cancers.

<table>
<thead>
<tr>
<th>Health Disparities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black, Hispanic, and Arab women were significantly less likely to report ever having a Pap test.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What increases risk?</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔ Infection with one or more strains of HPV</td>
</tr>
<tr>
<td>✔ Smoking</td>
</tr>
<tr>
<td>✔ Multiple sex partners</td>
</tr>
<tr>
<td>✔ Initiation of sex at age 16 or younger</td>
</tr>
<tr>
<td>✔ 3 or more pregnancies</td>
</tr>
<tr>
<td>✔ Long term use of contraceptives</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>New Cases (2015)</th>
<th>382</th>
<th>7.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deaths (2016)</td>
<td>114</td>
<td>2.02</td>
</tr>
</tbody>
</table>

91.7% National five year survival rate when cervical cancer is detected early.

When is it Diagnosed?

For women ages 21–29, a Pap Test should be done every 3 years. For women ages 30–65, a Pap Test should be done every 3 years or an HPV test every 5 years, or a Pap Test, and HPV Co-test every 5 years.
Cervical Cancer in Michigan

Cervical cancer is most commonly diagnosed cancer in women between the ages 35 and 54.  
Cervical cancer usually has very few to no signs or symptoms.  
In 2018, it is estimated that there will be 370 new cases of cervical cancer and 110 deaths from cervical cancer in Michigan women.

Cervical Cancer Screening
- Screening is recommended for women of average risk between the ages 21-65.
- For women aged 21-29, Pap tests should be administered every three years.
- For women aged 30 to 65 it is recommended to be screened every three years with a Pap test, OR every five years with high-risk human papillomavirus (hrHPV) testing alone, OR every five years with hrHPV testing in combination with a Pap test.
- Women should discuss their risk for cervical cancer and the appropriate screening with their health provider.

Early Detection is Key!
- Most cases of cervical cancer in Michigan are diagnosed In Situ (non-invasive).
- There are significant differences in stage at diagnosis by race, with 76% of Black women being diagnosed In Situ compared to 83% of White women and 88% of Native American women.
- For cases that become invasive, it is important to detect the cancer early to improve the chances for successful treatment.
- 92% of US women diagnosed in the local stage will survive five years, compared to only 17% of women diagnosed in the distant stage.

Know someone who needs help getting screened for cervical cancer or navigating the health system?
The Breast and Cervical Cancer Control Navigation Program (BCCCNP) provides free breast and cervical cancer screening to low-income women between the ages of 21 and 64. For more information about the BCCCNP, please call toll free 844-446-8727 or visit www.michigancancer.org/bcccp.
Cervical Cancer Disparities

- New diagnoses of invasive cervical cancer have declined in Michigan from 12 per 100,000 women in 1985 to 7 per 100,000 women in 2015.  
- The decrease can be, in part, attributed to more access to and widespread use of Pap and Human Papilloma Virus (HPV) testing per national guidelines.
- However, disparities still exist preventing women from getting cervical cancer screening.
- Black, Hispanic, and Arab women were significantly less likely to report ever having a Pap test (83%, 78%, and 64% respectively) compared to White women (91%).
- Lesbian, Gay, Bisexual, and Trans (LGBT) women were significantly less likely to report ever having a Pap test (75%) compared to non-LGBT women (91%).

What increases risk of cervical cancer?  

- Infection with one or more strains of HPV cause the greatest increased risk for cervical cancer.
- Seven strains of HPV cause about 90% of cervical cancers.
- The current HPV vaccination prevents infection of these seven strains of HPV.
- Risk of cervical cancer is two times higher in women who smoke cigarettes compared to women who don’t (data not shown).
- Multiple sex partners (regardless of sexual orientation).
- Initiation of sex at age 16 or younger.
- First term pregnancy before age 17.
- Having three or more pregnancies.
- Not using condoms.
- Long-term use of oral contraceptives.

Human Papilloma Virus (HPV) Vaccination  

The Centers for Disease Control and Prevention recommends that girls and boys between 11 and 12 years old get the HPV vaccine. However, vaccination can start as early as 9 years old and continue to age 26, depending upon the patient’s situation and risk. Discuss the appropriate vaccination schedule with your healthcare provider.

Cancer among Michigan’s Racial and Ethnic Minorities

Cancer does not affect all races equally; different races experience cancer differently, from diagnosis to treatment. For instance, of all racial and ethnic groups in the United States, African Americans have the highest death rate and shortest survival time for the majority of cancer types.

<table>
<thead>
<tr>
<th>Race</th>
<th>Number of New Cases</th>
<th>Number of Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian</td>
<td>341</td>
<td>136</td>
</tr>
<tr>
<td>or Alaskan Native</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian or Pacific Islander</td>
<td>558</td>
<td>192</td>
</tr>
<tr>
<td>Black</td>
<td>6,408</td>
<td>2,759</td>
</tr>
<tr>
<td>Hispanic</td>
<td>648</td>
<td>340</td>
</tr>
</tbody>
</table>

Michigan residents, regardless of ethnicity, who reported being Black had the highest rate of new cases of cancer and the highest rate of deaths from cancer.

Overall Michigan Population by Race

- White: 75%
- Black: 14%
- American Indian and Alaskan Native: 5%
- Asian: 3%
- Multiracial: 2%
- Hispanic: 1%

What increases risk for all populations?
- ✔ Obesity
- ✔ Smoking
- ✔ Binge Drinking
- ✔ Physical inactivity
- ✔ Poor nutrition

20%

Of all cancers diagnosed in the US are related to obesity, physical inactivity, excess alcohol consumption, and/or poor nutrition, and thus could be prevented.

Adequate physical activity was significantly lower in Arab, Non-Hispanics compared to Michigan overall.
About 24% of Michigan’s population identifies as a racial or ethnic minority, with 14% identifying as Black or African American and 5% identifying as Hispanic or Latino.1

Cancer does not affect all races equally. African American women are more likely to be diagnosed with triple negative breast cancer which is more difficult to treat. American Indians and Alaskan Natives have the highest rates of kidney cancer and liver cancer.2

Cancer Disparities 3

Michigan residents, regardless of ethnicity, who reported being American Indian had the highest rate of new cases of cancer (455 per 100,000 residents).

Black residents had the highest rate of deaths from cancer (197 per 100,000 residents).

Michigan residents, regardless of ethnicity, who reported being Asian or Pacific Islander had the lowest rate of new cancer diagnoses (226 per 100,000 residents).

Asian or Pacific Islander residents also had the lowest rate of deaths from cancer (81 per 100,000).

Regardless of race, those who reported Hispanic ethnicity had a lower rate of cancer compared to all of Michigan (229 per 100,000 residents).

Those who reported Hispanic ethnicity also had a lower death rate compared to all of Michigan (135 per 100,000 residents).


Cancer Preventive Behaviors

➢ The World Cancer Research Fund estimates that about 20% of all cancers diagnosed in the US are related to high adiposity, physical inactivity, excess alcohol consumption, and/or poor nutrition, and thus could be prevented.

➢ It is recommended for adults to do a physical activity for at least 150 minutes at moderate intensity or 75 minutes at vigorous intensity each week.

➢ Adequate physical activity was significantly lower in Arab, Non-Hispanics (8%) compared to Michigan overall.

➢ People who stated their race as Black, Non-Hispanic reported they consumed significantly less vegetables (35%) compared to Michigan overall (25%) (Data not shown).

Lifestyle Risk Factors for Cancer

➢ Obesity was highest among people who reported their race or ethnicity as Black, Non-Hispanic (38%) and Hispanic (40%). Both are significantly higher than the percent for Michigan overall (32%).

➢ Current use of cigarettes was highest among people who identified as American Indian (49%) and as other or multiracial (31%). Both are significantly higher than the percent for Michigan overall (22%).

➢ Binge drinking, defined as having five or more drinks in one sitting at least once in the last month, was highest among Hispanics (21%). This was not significantly higher than the percent for Michigan overall (20%).

Cancer Disparities among the LGBT Community

The health disparities that the LGBT community face are due to a combination of behavioral, social, and economic factors which not only impact cancer diagnoses but also impact treatment and quality of life during and after treatment.

48.0% of LGBT men reported discussing the benefits of prostate-specific antigen (PSA) testing, compared to 71.1% of all men.

In Michigan, 27% of people report having no routine care in the past year compared to 33% of LGBT people.

The LGBT community tends to get less routine health care because of:
- low rates of health insurance
- fear of discrimination
- negative health care experiences.

41% of those surveyed reported current use of cigarettes.

The LGBT Community has Higher Rates of
- Obesity
- Smoking
- Heavy Drinking

Which Increase Risk for cancer.
Cancer Disparities among the LGBT Community

➢ About 4% of people in Michigan identify as lesbian, gay, bisexual, or transgender (LGBT) with 64% reporting their race as White and 16% as Black.  

➢ Because large cancer registries do not collect sexual orientation or gender identity, it is not possible to know precisely how prevalent cancer is among the LGBT community. However, there is reason to believe people within the LGBT community carry a disproportionate cancer burden.  

➢ In Michigan, the age adjusted rate of cancer is 11% compared to seven percent for LGBT Michiganders. This difference is not statistically significant.  

➢ The health disparities that the LGBT community face are due to a combination of behavioral, social, and economic factors and do not only impact cancer diagnoses but also impact treatment and quality of life during and post-treatment.  

Health Care and Cancer Screening

• Studies have shown that people within the LGBT community get less routine health care compared to those who are not. Some reasons for this include: low rates of health insurance, fear of discrimination, and negative health care experiences. 

  • Overall in Michigan, 27% of people report having no routine checkup in the past year compared to 33% of LGBT people.  

• Some surveys have found lower-than-average cancer screening rates among the LGBT population despite some LGBT members having a higher risk for certain cancers. 

• Lesbian and bisexual women are at an increased risk for breast cancer because they are less likely to experience childbirth and breastfeeding. 

  • In 2016, 75.7% of LGBT women reported having a mammogram in the past two years compared to 71.2% of all women. 

  • In 2016, 45.2% of LGBT men reported discussing the benefits of prostate-specific antigen (PSA) testing with their physician, compared to 71.1% of all men.  

• In 2016, 75.4% LBT women reported ever having a pap test to screen for cervical cancer compared to 89.8% of all women.  

• Transgender individuals should receive screening for cancers associated with their sex assigned at birth. 

  • Breast cancer risk among transgender women may be similar or less than that of cisgender women. 

  • It is unknown if hormone therapy increases one’s risk of cancer.
Cancer Preventive Behaviors
➢ The World Cancer Research Fund estimates that about 20% of all cancers diagnosed in the US are related to high adiposity, physical inactivity, excess alcohol consumption, and/or poor nutrition, and thus could be prevented. 
➢ 24% of people in the LGBT community reported having no leisure time physical activity. This was not significantly different from Michigan overall. 
➢ 78% of people in the LGBT community reported eating less than the recommended five servings of fruits and vegetables per day. This was not significantly lower than Michigan overall.

Lifestyle Risk Factors for Cancer
➢ Current use of cigarettes was significantly higher among the LGBT community (41%) compared to the overall smoking rate in Michigan (16%). 
➢ Among the LGBT community, 11% report heavy drinking which is defined as having two or more drinks per day. This was not significantly higher than the percent for Michigan overall. 
➢ Among the LGBT community, 37% are classified as obese compared to 33% of the overall Michigan population. This was not significantly higher than the percent for Michigan overall.

Risk Factors for Cancer among the LGBT Community, 2016 MiBRFS

Disparities within the LGBT Community
It is important to note that the term LGBT encompasses a very broad community. Often people will identify with other minority groups, and many people will self-identify with one or more of the populations included within the LGBT community. To further learn about the LGBT community, each of the four groups should be analyzed separately due to each group facing its own unique set of health and cancer risk factors. The Michigan Behavioral Risk Factor Survey began asking respondents about sexual orientation in 2011 and added transgender as a response option in 2015. There is limited data available for people identifying as transgender and therefore at this time it is not possible to analyze the four populations individually. As this question is asked yearly, future analyses will be performed to examine each of the four groups individually.


Cancer among those with a Disability or Poor Mental Health

Cancer affects people of all ability. Research has shown people with physical and intellectual disabilities often have inadequate attention to care needs, inadequate focus on preventive behavior, and inadequate access to quality health care. Additionally, cancer survivors are often faced with new physical and mental challenges after cancer treatment has finished.

<table>
<thead>
<tr>
<th>Type of Disability</th>
<th>% reporting poor mental health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive Disability</td>
<td>45.9%</td>
</tr>
<tr>
<td>Hearing Disability</td>
<td>29.1%</td>
</tr>
<tr>
<td>Mobility Disability</td>
<td>37.0%</td>
</tr>
<tr>
<td>Vision Disability</td>
<td>36.9%</td>
</tr>
</tbody>
</table>

Female Michigan residents who have a disability report Higher Rates of Cancer compared to Male Michigan residents with a disability.

Cancer Surveillance among People with Poor Mental Health

What increases risk for all populations?

- Obesity
- Smoking
- Binge Drinking
- Physical inactivity
- Poor nutrition

10% Of people reporting a disability are also cancer survivors.

Obesity was significantly higher among those with poor mental health compared to Michigan overall.
Cancer Disparities among People with a Disability or Poor Mental Health

➢ From the 2016 Michigan Behavioral Risk Factor Survey (MiBRFS), it is estimated that 29% of Michiganders have some type of disability. ¹
➢ Disability was defined as being limited in any activities because of a mental, physical, or emotional problem.

➢ Approximately 50% of American Indians and Alaskan Natives reported having a disability. This is significantly higher compared to Whites (28%) and Blacks (33%). ²

➢ About 14% of people report a cognitive disability, 6% a hearing disability, 14% a mobility disability, and 5% a vision disability. ²

➢ Approximately 13% of Michiganders report having poor mental health. ²
➢ Poor mental health was defined as having reported 14 or more days of poor mental health which included stress, depression, and problems with emotions, over the past 30 days.

Cancer Screening
➢ Research has shown people with physical and intellectual disabilities often have inadequate attention to care needs, inadequate focus on preventive behavior, and inadequate access to quality health care. ³,⁴

➢ Overall in Michigan, 27% of people report having no routine care in the past year compared to 19% of people with a disability and 29% of people with poor mental health.

➢ There was no significant differences in cancer screening among people with a disability compared to the overall Michigan population.

➢ Those with poor mental health were significantly less likely to discuss the Prostate-Specific Antigen (PSA) test with their doctor, nurse or other health professional (61%) or be up to date on mammogram screening (61%).

➢ Among those with cancer, 13.2% report poor mental health and 9.9% report a disability. ¹

---

Healthcare and Cancer Screening among People with a Disability or Poor Mental Health, 2016 MiBRFS

- No Routine Checkup in Past Year: 27% (Michigan), 19% (Disability), 29% (Poor Mental Health)
- Ever had Colonoscopy: 74% (Michigan), 75% (Disability), 72% (Poor Mental Health)
- Ever had Stool Test: 35% (Michigan), 38% (Disability), 33% (Poor Mental Health)
- Had Mammogram in Past Two Years: 71% (Michigan), 70% (Disability), 61% (Poor Mental Health)
- Discussed PSA Test w/ Doctor: 71% (Michigan), 62% (Disability), 61% (Poor Mental Health)
- Ever had Pap Test: 90% (Michigan), 90% (Disability), 93% (Poor Mental Health)

Source: 2016 Michigan Behavioral Risk Factor Survey (MiBRFS).
www.michigan.gov/brfs
Cancer Preventive Behaviors

➢ The World Cancer Research Fund estimates that about **20% of all cancers** diagnosed in the US are related to high adiposity, physical inactivity, excess alcohol consumption, and/or poor nutrition, and thus could be prevented.  

➢ It is recommended for adults to do a physical activity for at least 150 minutes at moderate intensity or 75 minutes at vigorous intensity each week.  

➢ Among those with a disability, 39% reported partaking in no physical leisure activity. This was significantly higher than the overall population (24%).

Lifestyle Risk Factors for Cancer

➢ Current use of cigarettes was highest among people with a disability (28%). This was significantly higher than the percent for Michigan overall (16%).

➢ Approximately 6% of people with a disability reported heavy drinking and 8% of people who had poor mental health reported heavy drinking. This was not different from the overall rate for Michigan.

➢ People who reported a disability also reported significantly higher rates of obesity (43%) compared to the overall rate for Michigan (33%).

➢ Those who reported poor mental health also reported significantly higher rates of obesity (38%) compared to the overall rate for Michigan (33%).

Requests for cancer incidence and mortality are handled by the Michigan Cancer Surveillance Program (MCSP) within the Michigan Department of Health and Human Services Division for Vital Records and Health Statistics.

Censoring:
- Race is censored for Michigan’s 70 rural counties
- ZIP code data cannot be released for populations < 5,000
- Age-adjusted rates are considered statistically unreliable if based on < 20 cases
- Counts are censored if fewer than 6, to avoid inadvertent disclosure of patient-level information

Submit requests to:
- Cancer Incidence and potential cluster concerns: Georgia Spivak / SpivakG@michigan.gov / 517-335-8702
- Environmental exposure concerns: Laura Abington / AbingtonL@michigan.gov / 517-284-9027

Logs are maintained internally documenting request information such as type of requester, sites of concern and years of diagnosis.

Select statistics can be found on the web site: www.michigan.gov/healthstatistics

Tables and maps can be generated under the “Community” tab of Cancer Statistics, or independently under: www.cancer-rates.info/mi
Data Resources

Michigan Comprehensive Cancer Program
www.michigan.gov/cancer

Michigan Cancer Surveillance Program
www.michigan.gov/mcsp

Michigan Behavioral Risk Factor Surveillance System
www.michigan.gov/brfs

Michigan Cancer Consortium
www.michigancancer.org

American Cancer Society: Cancer Statistics
https://cancerstatisticscenter.cancer.org./#!/

NIH State Cancer Profiles
https://statecancerprofiles.cancer.gov/index.html

Surveillance, Epidemiology, and End Results Program (SEER)

CDC US Cancer Statistics Visualization
https://gis.cdc.gov/Cancer/USCS/DataViz.html

Disability and Health Data System
Cancer and Birth Defects Surveillance Section

Section Manager
Georgetta Alverson, CTR 1,2
Statistician Specialist
Georgia Spivak

Chronic Disease Epidemiology Section

Epidemiologist
Taylor Seaton, MS 1,2

Division of Lifecourse Epidemiology and Genomics

Division Director
Patricia McKane, DVM, MPH

Cancer Prevention and Control Section

Section Manager
Polly Hager, MS, RN 1
Unit Manager 1
Steve Springer 1
Nurse Specialist
E.J. Siegl, BSN, OCN, MA 1
Public Health Consultant
Debbie Webster, BS, RN, LMSW 1
Angela McFall, MS 1
Maria George, MPH 1,2

Inter-Tribal Council of Michigan 3

Department Director
Noel Pingatore 1
Program Manager
Cathy Edgerly 1
Beth Sieloff 1

Thank you to Glenn Copeland, MBA and Mary Lou Searls, BS, RN for their contributions to this report.

1 Member of Comprehensive Cancer Leadership Team
2 Author
3 External partner of MDHHS