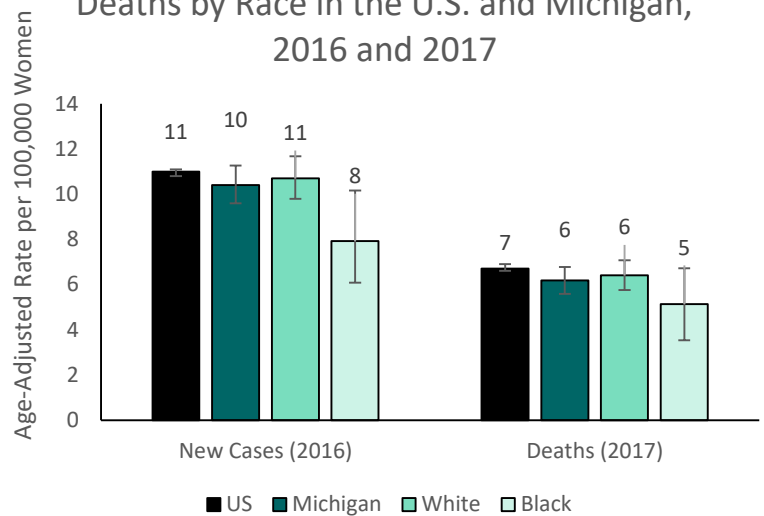


- Ovarian cancer is not one single disease, but has subtypes that have different risk factors, prognoses, and treatments. ¹
- Ovarian cancer causes more deaths than cervical, uterine, vaginal, and vulvar cancers combined. ¹
- In 2019, it is estimated that there will be **730** new cases of ovarian cancer and **490** deaths from ovarian cancer in Michigan women. ²

Michigan Ovarian Cancer Trends and Disparities

- The rate of new ovarian cancer diagnoses have declined from **16 cases per 100,000** Michigan women in 1985 to **10 cases per 100,000** women in 2016. ³
- The rate of ovarian cancer deaths have declined from **9 cases per 100,000** women in 1985 to **6 cases per 100,000** women in 2017. ³
- Although data for Hispanic women in Michigan is suppressed due to low numbers, national data show after **White** women, **Hispanic** women have the second highest rate of new diagnoses (**11 and 10 cases per 100,000** respectively). ⁴

Ovarian Cancer New Diagnoses and Deaths by Race in the U.S. and Michigan, 2016 and 2017

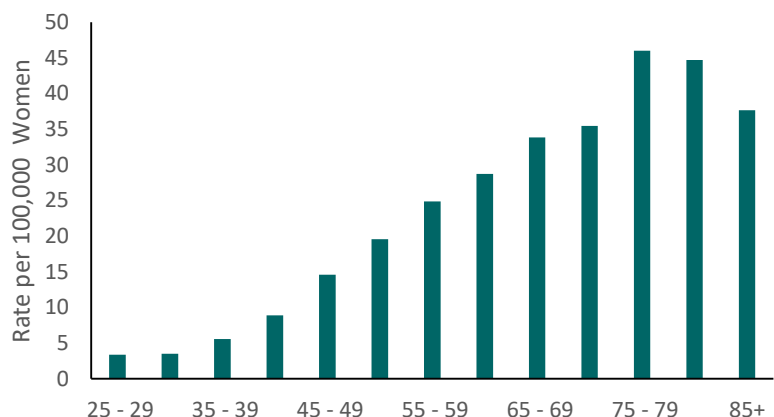


Source: Michigan Cancer Surveillance Program (MCSP), Division of Vital Records and Health Statistics. Based on data released Apr 2019.

Ovarian Cancer Risk Factors: ¹

- 45 years of age or older
 - In Michigan, 89% of cases occurred after age 45
- A personal or family history of ovarian cancer on either the mother or father's side
- Inherited genetic mutations for hereditary cancer syndromes, including hereditary breast and ovarian cancer syndrome, Lynch syndrome, and LiFraumeni syndrome
- Obesity
- Never having given birth
- Use of hormone replacement therapy
- A history of endometriosis
- Increased number of lifetime ovulatory cycles

Ovarian Cancer New Diagnoses by Age in Michigan, 2012-2016

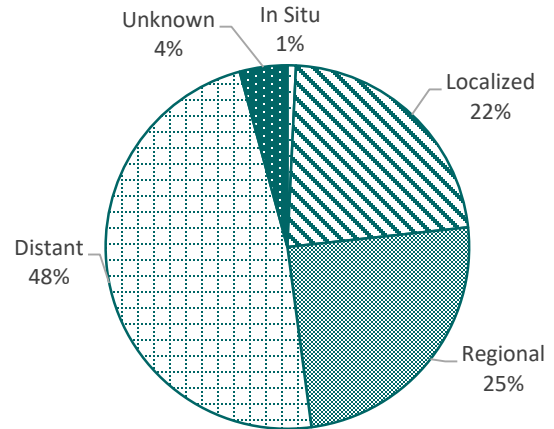


Source: Michigan Cancer Surveillance Program (MCSP), Division of Vital Records and Health Statistics. Based on data released Apr 2019.

Early Detection of Ovarian Cancer

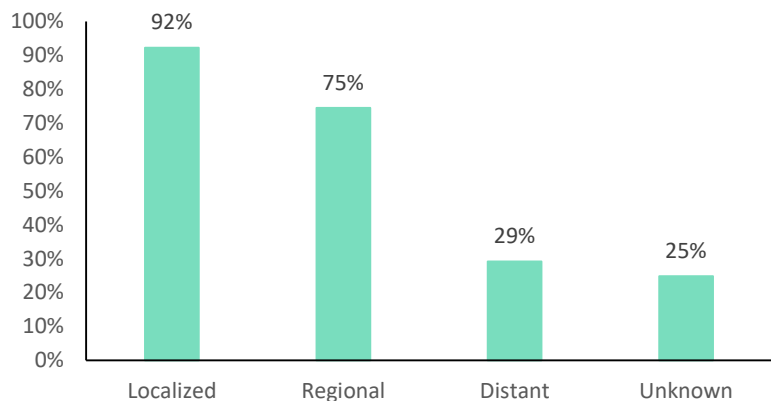
- Common symptoms of ovarian cancer include persistent bloating, pelvic pain, trouble eating or feeling full quickly, or urinary symptoms such as urgency or frequency.¹
- Early ovarian tumors often have no symptoms and are difficult or impossible to feel through a pelvic exam.¹
- In the U.S., women diagnosed with ovarian cancer have a 46% chance of surviving five-years.³
- In the U.S., Black women have a significantly lower five-year survival rate (39%) compared to White women (46%) (data not shown).⁵
- In Michigan, only 22% of ovarian cancers are found at the localized stage; however, when it is found early the five-year survival rate is 92%.⁵
- Only 29% of U.S. women diagnosed in the distant stage will survive five years. In Michigan, 48% of women are diagnosed at this stage.⁵

Stage at Diagnosis for Ovarian Cancer Cases in Michigan, 2016



Source: Michigan Cancer Surveillance Program (MCSP), Division of Vital Records and Health Statistics. Based on data released Apr 2019.

U.S. Five-Year Relative Survival Percentage by Stage at Diagnosis for Ovarian Cancer, 2008-2014



Source: Surveillance, Epidemiology, and End Results Program (SEER), 2008-2014, All Races, Females by SEER Summary Stage 2000. www.seer.cancer.gov

Genetic Testing and Counseling for Inherited Genetic Mutations¹

Women with a personal or family history of breast and ovarian cancer should consult their healthcare provider about genetic counseling and testing for inherited genetic mutations. Inherited genetic mutations, such as mutations in *BRCA1/BRCA2*, are rare in the general population, but are more prevalent in specific populations. Approximately 0.2% of the U.S. population have *BRCA1/BRCA2* mutations, but 10% to 15% of women diagnosed with invasive ovarian cancers have the mutations. Other hereditary cancer syndromes can also increase the risk for ovarian cancers.

References: 1) American Cancer Society. Ovarian Cancer. [Cancer.org/cancer/ovarian-cancer](http://cancer.org/cancer/ovarian-cancer). 2) American Cancer Society. Cancer Statistics Center: Michigan at a Glance 2019. Retrieved at: <http://cancerstatisticscenter.cancer.org/#/state/Michigan>. 3) Michigan Cancer Surveillance Program. Invasive Ovarian Cancer Incidence and Mortality Trends, Michigan Female Residents, 1985-2016. Division for Vital Records & Health Statistics. Michigan Department of Health & Human Services. Retrieved at: <http://www.cancer-rates.info/mi/index.php>. 4) U.S. Cancer Statistics Working Group. U.S. Cancer Statistics Data Visualizations Tool, based on November 2017 submission data (1999-2015): U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; www.cdc.gov/cancer/dataviz, June 2018. 5) Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Incidence - SEER 18 Regs Research Data + Hurricane Katrina Impacted Louisiana Cases, November 2017 Sub (2000-2015), National Cancer Institute, DCCPS, Surveillance Research Program, Surveillance Systems Branch, released April 2018, based on the November 2017 submission.