



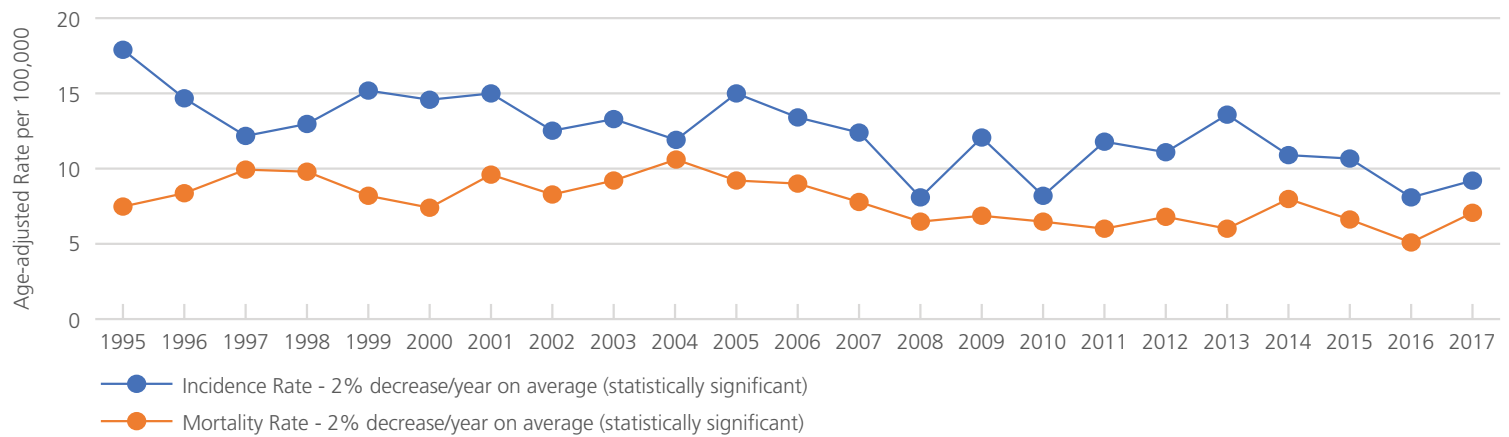
The Burden of Ovarian Cancer in Rhode Island

Prepared by the Rhode Island Cancer Registry (RICR), October 2020

OVERVIEW: Ovarian Cancer in Rhode Island

Cancer of the ovary is relatively rare, representing 2-3% of new cancer cases diagnosed among women. Ovarian cancer is the second most common gynecological cancer diagnosed among Rhode Island women (after uterine cancer), but remains the state's leading cause of death from gynecological cancers.^{1,2} Rhode Island's ovarian cancer trends from 1995 to 2017 indicate statistically significant decreases in incidence and mortality rates over 23 years, similar to the United States overall (*Figure 1*).

Figure 1. Trends of Ovarian Cancer Incidence and Mortality, RICR 1995-2017



Rates are per 100,000 women and age-adjusted to the 2000 US Standard Population (19 age groups - Census P25-1130). Only invasive malignant ovarian cancer is included.

Ovarian Cancer Incidence by Race and Ethnicity

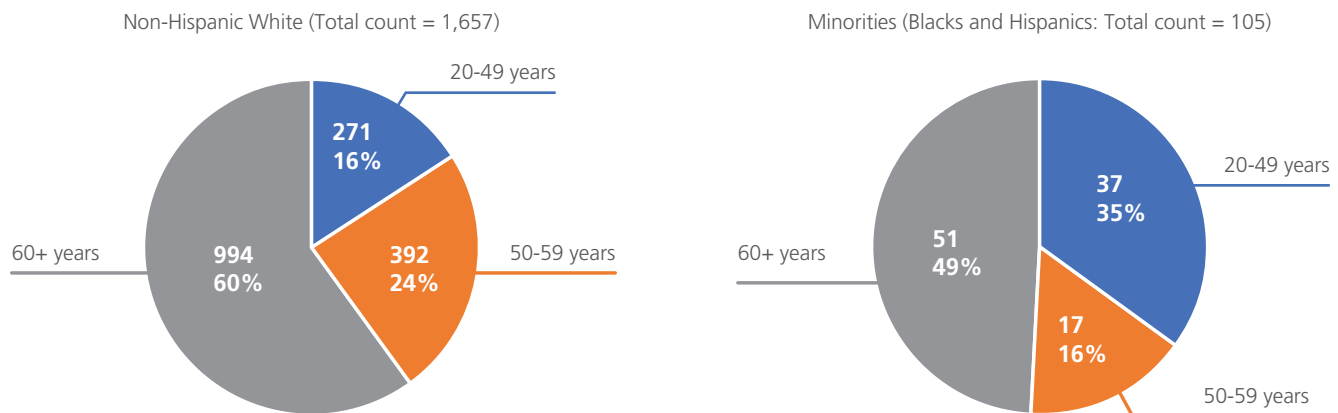
In Rhode Island, most ovarian cancer cases are diagnosed in non-Hispanic white women, as would be expected, since the white population is the largest racial and ethnic group in the state. In recent decades, racial and ethnic population demographics have changed in Rhode Island.³ From 1996 to 2017, the number of ovarian cancer cases diagnosed among white women decreased, while cases among racial and ethnic minority women slightly increased (*Table 1*), parallel to increases of the minority population. A higher percentage of ovarian cancer cases were diagnosed at younger ages (ages 20-49 years) in black and Hispanic women than in white women (*Figure 2*). However, due to the small number of cases diagnosed each year in minority women in Rhode Island, differences in cancer incidence between racial and ethnic groups require further observation and study. Researchers hypothesize that differences between racial groups in access to screening and the roles of potentially modifiable risk factors such as contraceptive use, hysterectomy, and breastfeeding may explain some of these differences.⁴⁻⁶

Table 1. Ovarian Cancer Cases by Race/Ethnicity, RICR 1996-2006 and 2007-2017

Years	Non-Hispanic White	Minorities (Blacks and Hispanics)	Total Cases*
1996-2006	872 (92%)	48 (5%)	943
2007-2017	700 (89%)	61 (8%)	788

*All cell values do not add up to total, due to missing or unknown information on race and ethnicity.

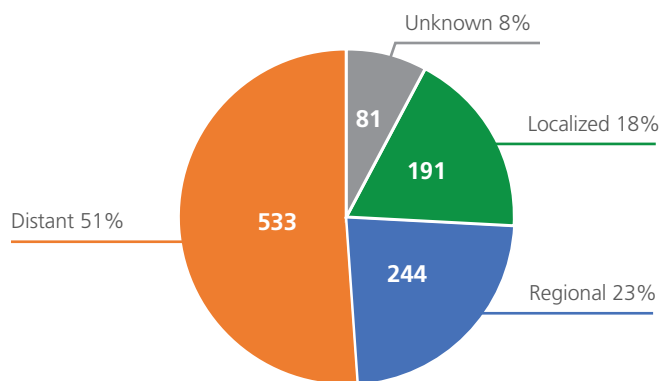
Figure 2. Ovarian Cancer Cases by Race/Ethnicity and Age, RICR 1995-2017



Importance of Ovarian Cancer Staging in Survival

The stage of cancer at diagnosis indicates the extent to which the cancer has spread in the body at the time it is initially detected. In ovarian cancer, as with all cancers, the stage at diagnosis is often vital in determining prognosis and treatment options available to the patient. Diagnosis at earlier stages increases patients' chance of survival. According to national data from 2010-2016, the five-year relative survival rate for localized ovarian cancer is greater than 90%.⁷ Regional and distant stages of diagnosis result in lower five-year survival rates, about 75% and 30%, respectively. In Rhode Island and nationally, the percentage of ovarian cancer diagnosed at localized stage is discouragingly low. More than half of ovarian cancers diagnosed among Rhode Island women were metastatic, diagnosed at a distant (later) stage (Figure 3).

Figure 3. Stage at Ovarian Cancer Diagnosis, RICR 2004-2017*

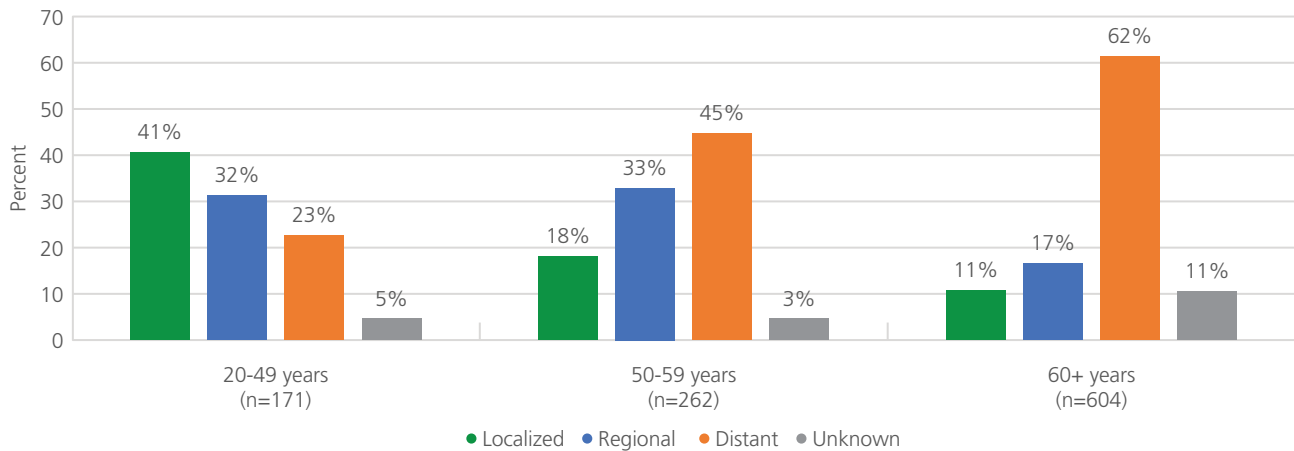


*Cancer staging terminology: At localized stage, the cancer is confined to a primary site, in the regional stage the cancer has spread to regional lymph nodes, and in the distant stage it has metastasized. Since 2004, "Derived Summary Stage 2000" System has been used to record cancer staging in the central cancer registries.

Studying the relationship between age and stage at diagnosis may be useful in improving the five-year survival rate of ovarian cancer patients. Rhode Island data show that ovarian cancer is most often diagnosed at the localized stage in younger women (20-49 years). For older age groups (50-59 and 60+ years), most ovarian cancers are diagnosed at distant stage, with poorer survival outcomes (Figure 4).

Early ovarian cancer often presents with no symptoms. Currently, there is no evidence-based screening test recommended for women of average risk; those who have elevated risks due to family history or personal history of certain breast cancers may be monitored by attentive specialists, resulting in earlier stage detection of disease. Novel medical advancements for earlier detection among average risk women will likely offer opportunities for increased survival and lowered burden of late-stage ovarian cancer.

Figure 4. Stage at Ovarian Cancer Diagnosis by Age Group, RICR 2004-2017



References

- ¹ Rhode Island Cancer Data (extracted July 2020). Rhode Island Cancer Registry.
- ² Rhode Island Vital Records & CDC National Center for Health Statistics (extracted and analyzed using SEER*Stat software v8.4.7, July 2020).
- ³ United States Census Bureau Quick Facts: Rhode Island. Population Estimates, July 2019. <https://www.census.gov/quickfacts/RI>
- ⁴ Karanth S, Fowler ME, Mao XH et al. Race, Socioeconomic Status, and Health-Care Access Disparities in Ovarian Cancer Treatment and Mortality: Systematic Review and Meta-Analysis. JNCI Cancer Spectr. 2019;9(4):pkz084. <https://pubmed.ncbi.nlm.nih.gov/31840133/>
- ⁵ Reid BM, Permuth JB, Sellers TA. Epidemiology of ovarian cancer: a review. Cancer Biol Med. 2017;14(1):9-32. <http://cancerbiomed.org/index.php/cocr/article/view/1004/1122>
- ⁶ Peres LC, Risch H, Terry KL et al. Racial/ethnic differences in the epidemiology of ovarian cancer: a pooled analysis of 12 case-control studies. Int J Epidemiol. 2018;1;47(2):460-472. <https://pubmed.ncbi.nlm.nih.gov/29211900/>
- ⁷ NIH Surveillance, Epidemiology, and End Results (SEER) Program. Cancer Stat Facts: Ovarian Cancer, 2010-2016. <https://seer.cancer.gov/statfacts/html/ovary.html>



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