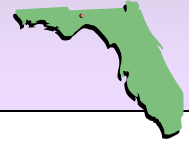




Ovarian Cancer in Florida

Bureau of Epidemiology



Executive Summary

Ovarian cancer is one of the most common reproductive system cancers in females and causes more deaths than any other cancer of the female reproductive system in the United States. In 2004, 1,485 new ovarian cancer cases were reported in Florida. The incidence rate was 13 per 100,000 females. Whites had a greater incidence rate (13 per 100,000 females) than blacks (9.0 per 100,000 females). The incidence rate decreased by 18% among whites and by 20% among blacks in 2004 compared to the rates in 1981. Seventy-six percent of the ovarian cancer cases were diagnosed at advanced stage, a 16% increase in 2004 compared to the percentage of advanced-stage cases in 1981. In 2004, 950 females died from ovarian cancer. The mortality rate of ovarian cancer among whites was 7.0 per 100,000 females and among blacks was 6.0 per 100,000 females. The mortality rate decreased by 16% among both whites and blacks in 2004 compared to the rate in 1981.

Background

Ovarian cancer forms in or on the tissues of the ovary. It is the seventh most common cancer and the fifth leading cause of cancer deaths among females in the United States.¹ Ovarian cancer ranks fifth in cancer deaths among females.² The American Cancer Society estimates 22,430 new cases and 15,280 deaths will occur among U.S. females in 2007.² Symptoms include bloating, pelvic/abdominal pain, difficulty eating, and urinary symptoms.³

Ovarian cancer is widely known as “The Silent Killer” since it is often diagnosed at an advanced stage due to the lack of early symptoms and early cancer screening procedures. Ovarian cancer, when diagnosed early, has a five-year survival rate of 93%, but only 19% of all ovarian cancers are diagnosed at this stage.² The five-year relative survival rate for regional and distant stages of ovarian cancer are 69% and 30%, respectively. Although the incidence rate has decreased since 1985, ovarian cancer still accounts for approximately 3% of all cancers in females.²

In 2004, 51% of the Florida population were females; 81% were whites and 16% were blacks.⁴ Approximately 56% of the female

population were under the age of 44, 25% were 45-64 years, and 19% were 65 years of age and older.

Methods

Data on cancer incidence, stage, and histology were provided by the Florida Cancer Data System (FCDS). The FCDS is Florida’s statewide, population-based cancer registry and it has been collecting cancer incidence data since 1981. Only new cases of ovarian cancer were included in the incidence analysis (ICD-O-3 C56.9).

Mortality data, based on death certificates, were provided by the Florida Department of Health Office of Vital Statistics. Only deaths with an underlying cause of ovarian cancer were included in the analysis (ICD-10 C56.9).

The hospital inpatient discharge data were provided by the Florida Agency for Health Care Administration (AHCA). The hospital inpatient discharge data includes the number of discharges and charges for inpatients whose primary diagnosis was ovarian cancer (ICD-9 183).

Only Florida residents were included in the analyses. Both incidence and mortality rates

were age-adjusted using the U.S. 2000 standard population. Age-adjustment is a process used that allows comparison of incidence and death rates over time or between geographic areas with the effect of different age compositions removed. When the number of cases or deaths is very small, the rates calculated are not stable. Therefore, caution should be exercised in interpreting the rates for counties with small populations.

Incidence Rate

In 2004 in Florida, 46,806 cancer cases of all sites were reported in females. Of these, 1,485 (1.4%) cases were ovarian cancer. More than half (53%) of ovarian cancer cases were among females 65 years of age, and older (Figure 1).

Figure 1. Percentage of New Ovarian Cancer Cases by Age Group, Florida, 2004

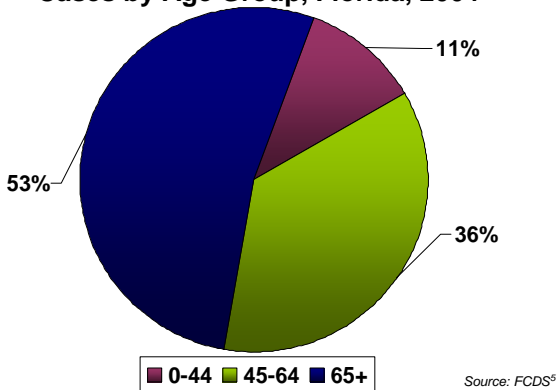
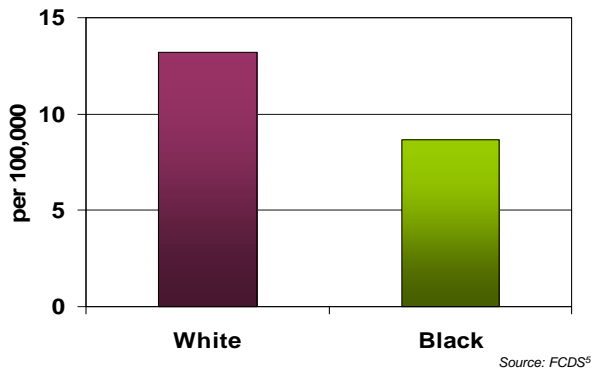


Figure 2. Age-adjusted Incidence Rate of Ovarian Cancer by Race, Florida, 2004

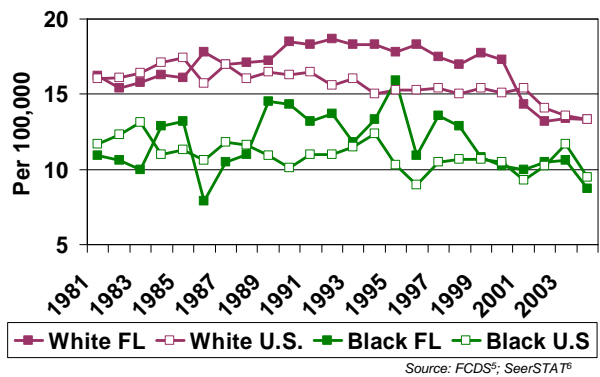


In 2004, the overall ovarian cancer incidence rate was 13 per 100,000 females. Whites (14

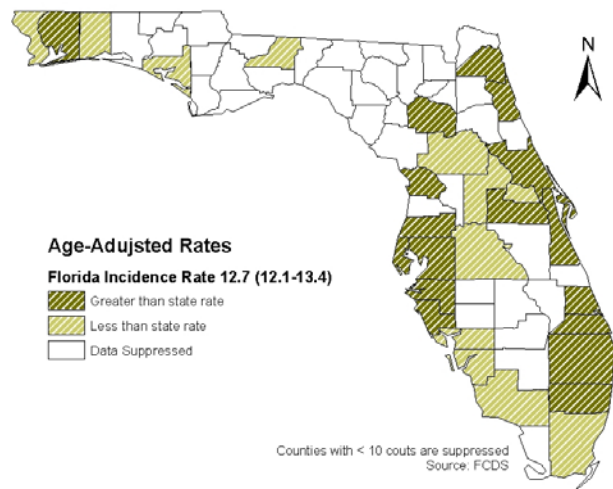
per 100,000 females) had a significantly higher incidence rate than blacks (9.0 per 100,000 females) (Figure 2).⁵

From 1981 to 2004, incidence rates among whites were higher than among blacks in Florida. In 2004 the white-to-black incidence ratio (1.5:1) was similar to the ratio in 1981. In 2004, the incidence rates among whites and blacks decreased in Florida (by 18% and 20%) and nationally (by 17% and 19%) compared to the rates in 1981. The decrease among whites in Florida was statistically significant (Figure 3).

Figure 3. Age-adjusted Incidence Rate of Ovarian Cancer, Florida, 1981-2004



Age-Adjusted Incidence Rate of Ovarian Cancer by County, Florida, 2004



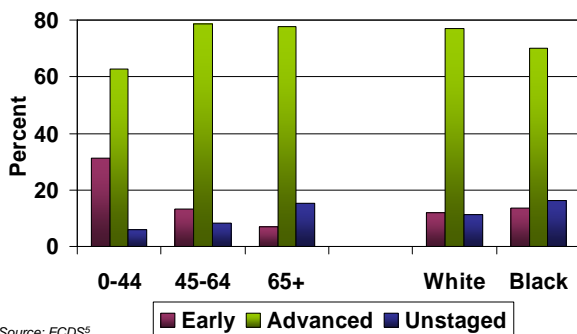
In 2004, the age-adjusted incidence rate of ovarian cancer ranged from 9.2 per 100,000

females in Collier County to 21.0 per 100,000 females in Santa Rosa County (Figure 4).⁵

Stages of Cancer

Many ovarian cancers are diagnosed at an advanced stage, because there are no screening tests for ovarian cancer and early signs and symptoms are non-specific, which makes ovarian cancer the deadliest of the gynecological cancers. For this analysis, regional and distant-stage cancers constitute advanced stages and cancers that have not invaded other organs constitute early stages.

Figure 5. Percentage of New Ovarian Cancer Cases by Stage, by Age and Race, Florida, 2004



In 2004, more than three-quarters (76%) of ovarian cancer cases were diagnosed at advanced stages. Only one in eight cases were diagnosed at an early stage. Another 12% of cases were diagnosed with an unknown stage. The percentage of ovarian cancer cases diagnosed at advanced stages was greater among females in older age groups and among whites (Figure 5).

The percentage of ovarian cancer diagnosed at advanced stages varied among people by type of insurance. Patients with other insurance (Tricare, VA, and Public Health Services), Medicare, and private insurance had a higher percentage of diagnosis at advanced stages than patients with Medicaid and those who were uninsured (Figure 6).

Figure 6. Percentage of New Ovarian Cancer Cases by Stage and Insurance Type, Florida, 2004

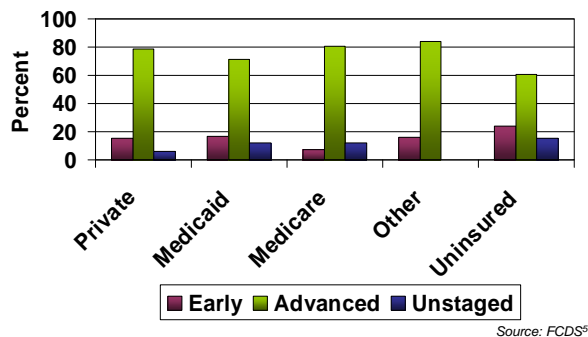
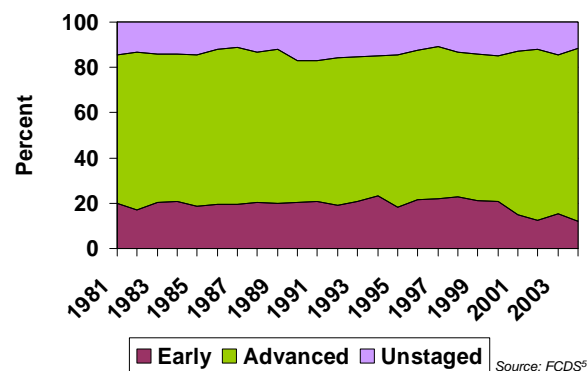


Figure 7. Percentage of New Ovarian Cancer Cases by Stage and Year, Florida, 1981-2004



Approximately 65% of ovarian cancer cases were diagnosed at an advanced stage during the 1980s and 1990s, but that percentage has increased since 2000. The percentage of ovarian cancer cases diagnosed at an advanced stage increased by 16% in 2004 compared to 1981 (Figure 7).

Cancer Histology

Histology refers to the type of cell on which the cancer forms. For this report, the first three-digits of the ICD-O-3 histology codes were used to group the histology types. The following groupings were used: (1) adenoma and adenocarcinoma, (2) epithelial neoplasm, and (3) cystic, mucinous, and serous neoplasm. These three groups accounted for 84% of all ovarian cancers in 2004 (Figure 8).

Figure 8. Percentage of Ovarian Cancer Histology Type by Age Group, Florida, 2004

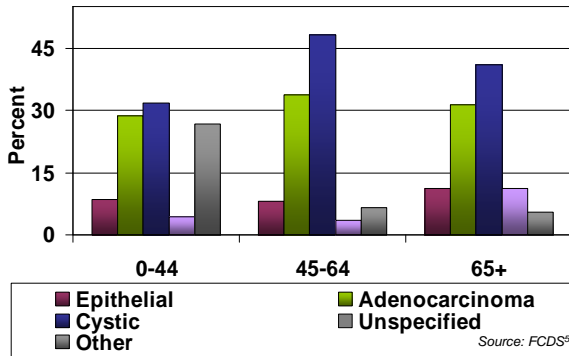
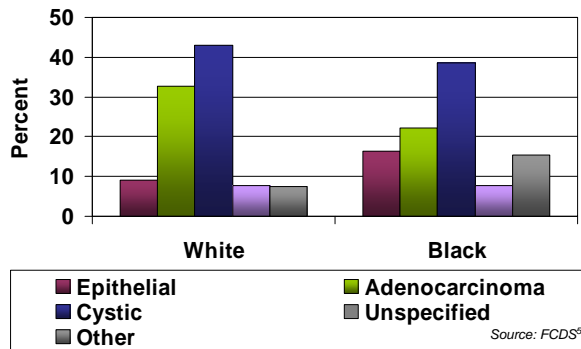
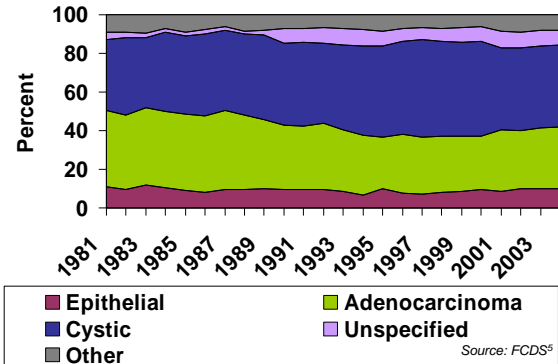


Figure 9. Percentage of Ovarian Cancer Histology Type by Race, Florida, 2004



Cystic, mucinous, and serous neoplasm was the most common histology group among all age groups and among both whites and blacks. The second most common histology group was adenocarcinoma (Figure 9).

Figure 10. Percentage of Ovarian Cancer Histology Type by Year, Florida, 1981-2004



From 1981 to 2004, the percentage of cystic, mucinous, and serous neoplasm increased by 16%, the percentage of adenocarcinoma decreased by 20%, and epithelial neoplasms decreased by 7% (Figure 10).

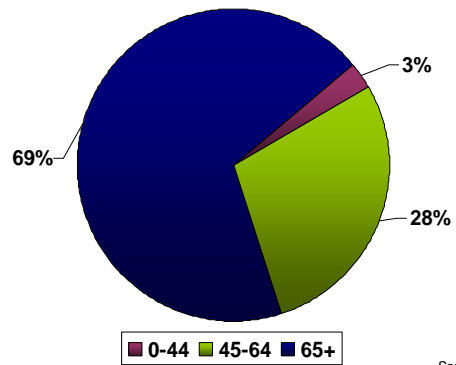
Hospital Discharges

In 2004, 1,589 hospitalizations were for treatment of ovarian cancer in Florida and the total hospital charges were \$68,429,604.

Mortality Rate

Ovarian cancer causes more deaths than any other cancer of the reproductive organs among females.²

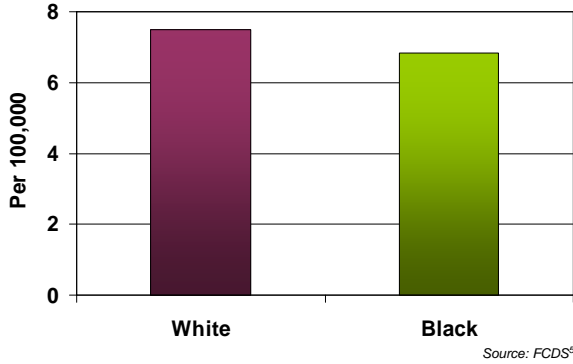
Figure 11. Percentage of Ovarian Cancer Deaths by Age Group, Florida, 2004



In 2004 in Florida, 18,199 females died from all cancers. Of these, 943 deaths were from ovarian cancer.⁵ The age-adjusted mortality rate was 7.0 per 100,000 females. Among deaths from ovarian cancer, the majority (69%) occurred in females 65 years of age and older, 28% were among females 45-64 years old, and 3% were among females under age 45 (Figure 11).

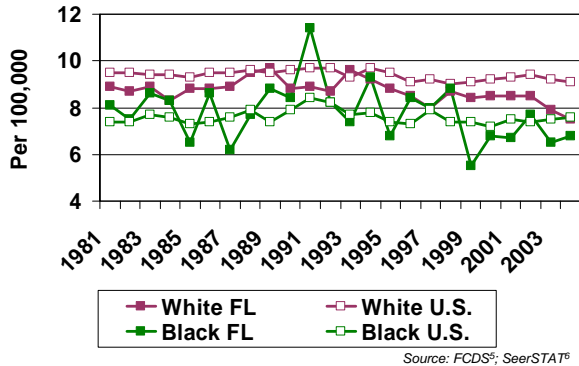
In Florida, whites had a mortality rate of 7.0 per 100,000 females and blacks had a rate of 6.0 per 100,000 females in 2004.⁵ The difference was not statistically significant (Figure 12).

Figure 12. Age-adjusted Mortality Rate of Ovarian Cancer by Race, Florida, 2004



The national mortality rate was consistently greater among whites than among blacks from 1981 to 2004. In 2004, the white-to-black mortality ratio (1.1:1) was similar to the ratio in 1981 in Florida.

Figure 13. Age-adjusted Mortality Rates of Ovarian Cancer by Year, Florida, 1981-2004

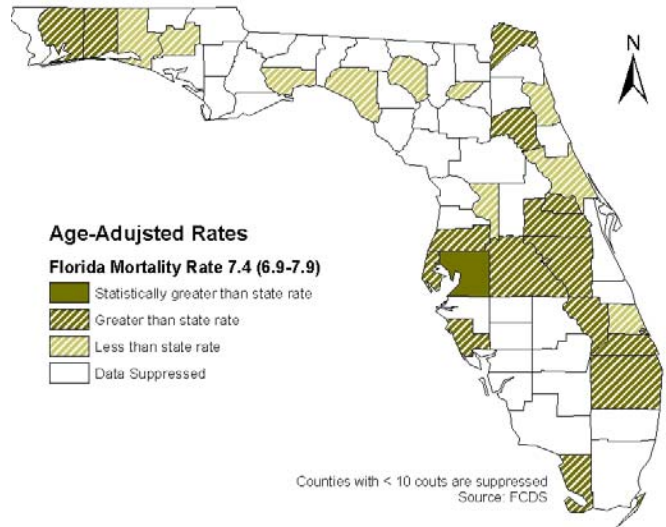


The mortality rate among whites in Florida was lower than the national rate. The mortality rate among blacks in Florida fluctuated around the national rate for blacks. In Florida in 2004, the mortality of ovarian cancer decreased by 16% among both whites and blacks compared to the rates in 1981. The decrease among whites was statistically significant (Figure 13).

In 2004, the age-adjusted mortality rate of ovarian cancer in Marion County (12.2 per

100,000) was significantly higher than the state rate (7.4 per 100,000) (Figure 14).⁶

Age-Adjusted Mortality Rate of Ovarian Cancer by County, Florida, 2004



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