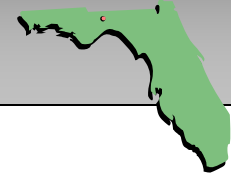


# Cancers of Vagina, Vulva, and Other Rare Gynecological Cancers in Florida



*Bureau of Epidemiology*



## Executive Summary

Vaginal and vulvar cancers are two uncommon gynecological cancers, accounting for 0.3% and 0.6% of incident cancer cases in the United States. From 2000 through 2004, 382 females were diagnosed with vaginal cancer, and 1,263 females were diagnosed with vulvar cancer in Florida. The incidence rates were 0.7 per 100,000 females and 2.3 per 100,000 females, respectively. More than 50% of the vaginal and vulvar cancer cases were among females 65 years and older. Whites had a greater incidence of vulvar cancer, and blacks had a greater incidence of vaginal cancer. Between 1981 and 2004, blacks showed a greater decline in the incidence of vaginal and vulvar cancer than whites. During the same period, the percentage of these cancers diagnosed at advanced stages increased by 24% for vaginal cancer and by 27% for vulvar cancer. From 2000 through 2004, 131 females died of vaginal cancer and 205 females died of vulvar cancer in Florida. Blacks had a greater mortality rate of vaginal cancer (0.4 per 100,000 females), and whites had a greater mortality rate of vulvar cancer (0.3 per 100,000 females). In 2004, vaginal cancer mortality rates declined by 45% among whites and vulvar cancer mortality rates decreased by 68% among blacks compared to the rates in 1981.

## Background

Among the gynecological cancers in females, cancer of the vulva and vagina are the most common cancers following cancer of the ovary, uterus, and cervix. Vaginal cancer is rare and accounts for about 0.3% of all cancers and 0.3% of all cancer deaths among females in the United States.<sup>1</sup> Common symptoms include vaginal bleeding after menopause, vaginal bleeding after intercourse, abnormal vaginal discharge, a mass in the vagina that can be felt, pain during sex, pain when urinating, constipation, and constant pain in the pelvis.<sup>2</sup> Risk factors for vaginal cancer include Human Papilloma Virus (HPV) infection, cigarette smoking, and history of genital warts or inflammation. Previous abnormal pap smears are associated with vaginal cancer.<sup>3</sup> Vaginal cancer responds well to treatment when diagnosed early and is often curable. The survival rate of vaginal cancer is lower among females 60 years of age and older.<sup>4</sup>

Cancer of the vulva, also known as vulvar cancer, is cancer of the external female genital organs including the clitoris, vaginal lips, and the opening to the vagina.<sup>4</sup> Vulvar cancer is an uncommon cancer, accounting for 0.6% of new cancer cases and 0.3% of cancer deaths among U.S. females.<sup>1</sup> Signs and symptoms include a lump or ulceration in the genital organs often associated with itching, irritation, and sometimes localized bleeding and discharge.<sup>5</sup> Risk factors include infection with HPV, cigarette smoking, and impaired immune mechanism.<sup>3</sup>

In 2004, 51% of the Florida population was female; 81% was white and 16% was black.<sup>6</sup> Approximately 56% of the female population was under age 44, 25% was between 45 and 64 years, and 19% was 65+ years old.

## 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

has collected cancer incidence data since 1981. Only females diagnosed with cancers of the vagina (ICD-O-3 C52.9), vulva (ICD-O-3 C51), and other female reproductive organs (ICD-O-3 C57) were included in the analysis. Other rare gynecological cancers in this report include cancers of the fallopian tubes, broad and round ligament, parametrium, uterine adnexa, other specified parts of the female genital organs (Wolffian body and duct), overlapping lesions of female genital organs (Tubo-ovarian and Utero-ovarian), and non-specified female genital tract cancers. For this report, all the above cancers are grouped under other gynecological cancers.

Mortality data, based on death certificates, were provided by the Office of Vital Statistics of the Florida Department of Health. Only deaths with an underlying cause of vaginal (ICD-10 C52.9), vulvar (ICD-10 C51), and other gynecological (ICD-10 C57) cancers were included in the analysis.

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 vaginal (ICD-9 184.0), vulvar (ICD-9 184.1-184.4), and other gynecological (ICD-9 184.8, 184.9) cancers.

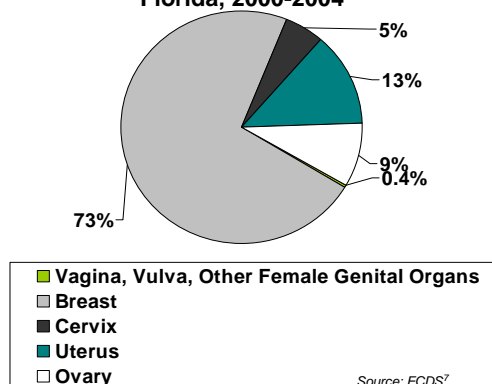
Since cancers of the vagina, the vulva, and other gynecological cancers are uncommon, data from 2000 to 2004 were pooled for the analyses. Only Florida residents were included in the analyses. Both incidence and mortality rates were age-adjusted using the U.S. 2000 standard population. Age-adjustment is a process that allows comparison of incidence and death rates between populations with the effect of different age compositions removed.

### Incidence Rate

Overall, from 2000 to 2004, 225,950 cancers were diagnosed in females in Florida,<sup>7</sup> 1,263 females were diagnosed with vulvar cancer (2.3 per 100,000 female), 382 females were diagnosed with vaginal cancer (0.7 per 100,000 females), and 362 were diagnosed with other

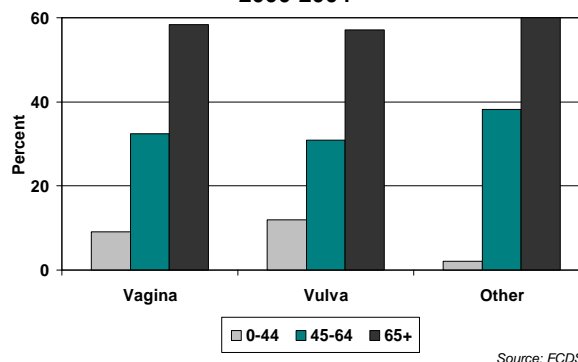
rare gynecological cancers (0.7 per 100,000 females) (Figure 1).<sup>7</sup>

**Figure 1. Percentage of Gynecological Cancers, Florida, 2000-2004**

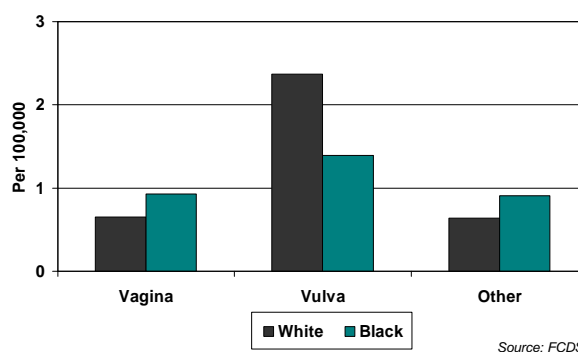


Females 65+ years old had greater percentages of vaginal, vulvar, and other rare gynecological cancers compared to any other age groups (Figure 2).

**Figure 2. Percentage of Vagina, Vulva, and Other Gynecological Cancers, by Age Group, Florida, 2000-2004**



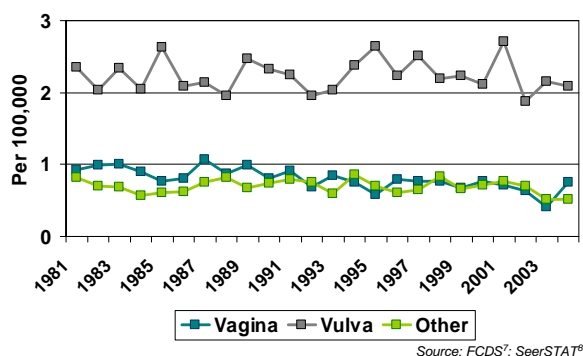
**Figure 3. Age-adjusted Incidence Rate of Vagina, Vulva, and Other Gynecological Cancers, Florida, 2000-2004**



The incidence rate of vaginal cancer among blacks was 0.9 per 100,000 females and among whites was 0.7 per 100,000 females. Whites had a significantly greater incidence rate of vulvar cancer (2.4 per 100,000 females) than blacks (1.4 per 100,000 females) (Figure 3).<sup>7</sup>

In 2004, the incidence rates of vaginal cancer, vulvar cancer, and other gynecological cancers decreased by 18%, 11%, and 38%, compared to the rates in 1981. However, these decreases were not statistically significant (Figure 4).

**Figure 4. Age-adjusted Incidence Rate of Vagina, Vulva, and Other Gynecological Cancers, Florida, 1981-2004**



From 2000 to 2004, six counties did not have a vulvar cancer case. The incidence of vulvar cancer in other counties varied from 0.7 per 100,000 to 7.9 per 100,000 females. Nineteen counties did not have a case of vaginal cancer during this period. The incidence of vaginal cancer in the rest of Florida counties ranged from 0.1 per 100,000 to 5.9 per 100,000 females (Appendix A, B).

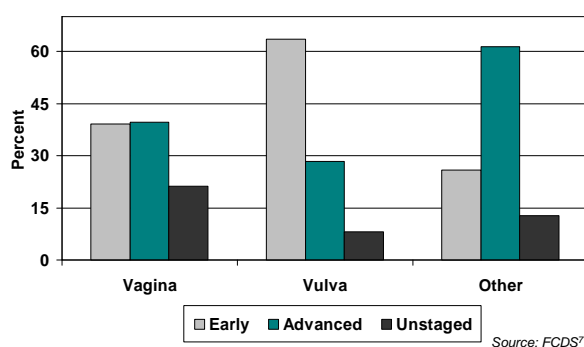
### Stages of Cancer

Although there are no general screening tests, vaginal, vulvar, and other female reproductive cancers can be detected at an early stage during routine pelvic and pap-smear examinations.<sup>9</sup> Cancer detected at an early stage can be treated more effectively than those diagnosed in later stages. Vaginal cancer that spreads beyond the vagina in an advanced stage is more difficult to treat.<sup>9</sup> For analysis, regional and distant-stage cancers constitute

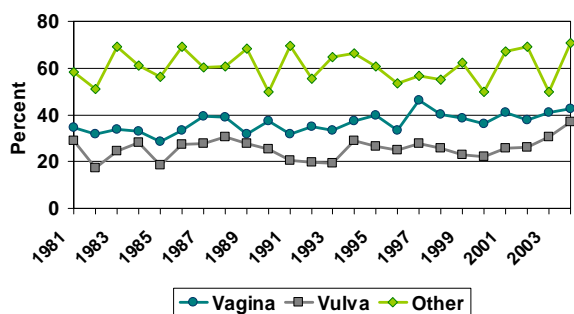
advanced stages, and cancers that have not invaded other organs constitute early stages.

Forty percent of vaginal cancers were diagnosed at an advanced stage. Nearly two-thirds (63%) of vulvar cancers were diagnosed at an early stage. More than 60% of the other rare female genital organ cancers were generally diagnosed at an advanced stage (Figure 5).

**Figure 5. Percentage of Vagina, Vulva, and Other Gynecological Cancers Diagnosed, by Diagnosis Stage, Florida, 2000-2004**



**Figure 6. Percentage of Vagina, Vulva, and Other Gynecological Cancers Diagnosed at an Advanced Stage, by Year, Florida, 2000-2004**



In 2004, the percentage of vulvar cancer diagnosed at an advanced stage increased by 27%, while advanced stage diagnosis increased by 24% in vaginal cancer, and by 21% in other cancers compared to the percentage of cancers diagnosed in 1981 (Figure 6).

### Hospital Discharges

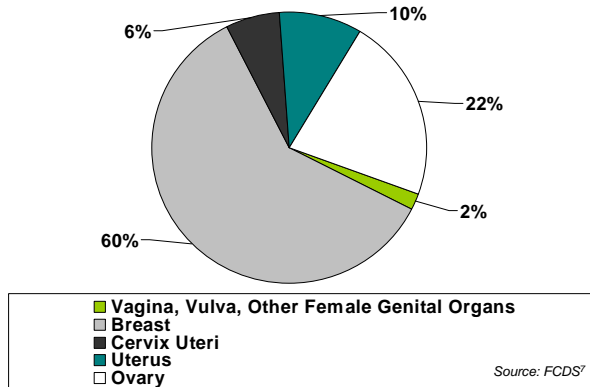
From 2000 to 2004, 306 hospital discharges were for vaginal cancer with more than \$8

million in hospital charges. During the same time period, 1,074 hospital discharges were for vulvar cancer and 25 hospital discharges were for other rare gynecological with total hospital charges of \$22,628,817 and \$527,200, respectively.

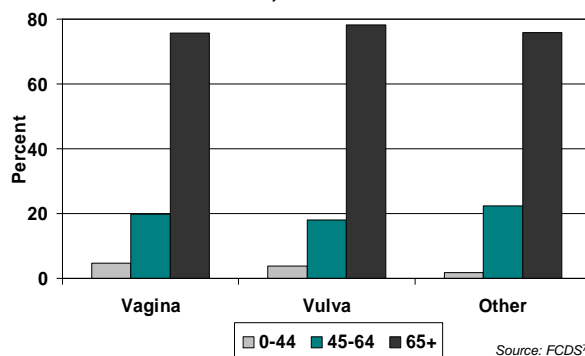
### Mortality Rate

From 2000 to 2004, 89,672 females died from all cancers in Florida, 131 females died of vaginal cancer (0.2 per 100,000 females), 205 females died from vulvar cancer (0.3 per 100,000 females), and 116 died from other gynecological cancers (0.2 per 100,000 females) (Figure 7).<sup>7</sup>

**Figure 7. Percentage of Gynecological Cancer Deaths, Florida, 2000-2004**



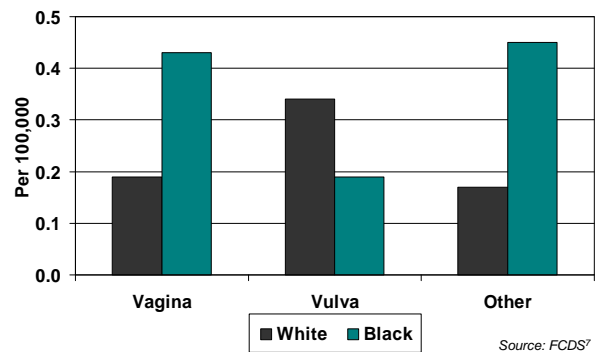
**Figure 8. Percentage of Vagina, Vulva, and Other Gynecological Cancer Deaths, by Age Group, Florida, 2000-2004**



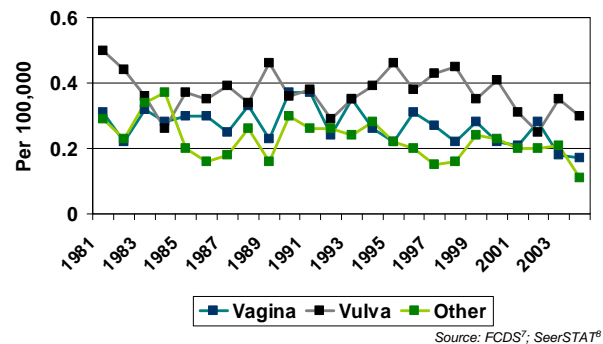
Females 65 years and older had greater percentage of deaths due to vaginal, vulvar, and other gynecological cancers compared to their younger counterparts (Figure 8).

From 2000 to 2004, blacks had a greater mortality rate of vaginal cancer (0.4 per 100,000 females) and other gynecological cancers (0.5 per 100,000 females) than whites. Whites had a significantly greater mortality rate of vulvar cancer (0.3 per 100,000 females) than blacks during the same period (Figure 9).

**Figure 9. Age-adjusted Mortality Rate of Vagina, Vulva, and Other Gynecological Cancers, by Race, Florida, 2000-2004**



**Figure 10. Age-adjusted Mortality Rate of Vagina, Vulva, and Other Gynecological Cancers, by Year, Florida, 1981-2004**



In 2004, the mortality rates of vaginal cancer, vulvar cancer, and other cancers decreased by 45%, 40%, and 62%, respectively, compared to the rates in 1981. The decrease in the mortality rates were statistically significant (Figure 10).

The mortality rate of vulvar and vaginal cancer varied among Florida counties. The mortality rate of vaginal cancer ranged from 0.1 per 100,000 females to 0.9 per 100,000 females. The mortality rate of vulvar cancer ranged from 0.1 per 100,000 females to 2.7 per 100,000 females during 2000 and 2004 (Appendix A, B).

## Reference

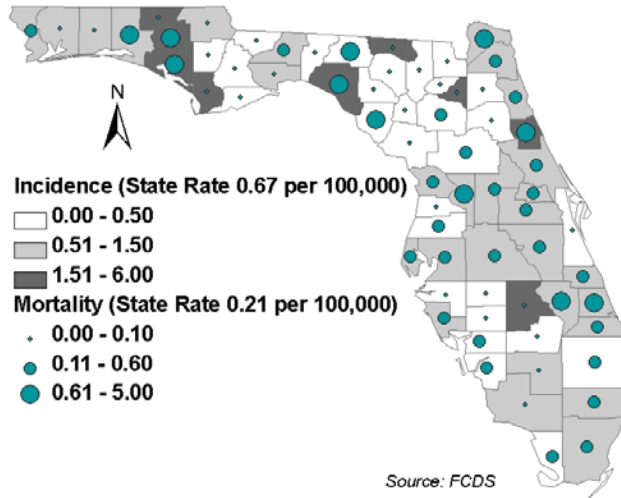
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## Contact information

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**Appendix A. Age-adjusted Incidence and Mortality Rate Of Vaginal Cancer, Florida, 2000-2004**



**Appendix B. Age-adjusted Incidence and Mortality Rate Of Vulvar Cancer, Florida, 2000-2004**

