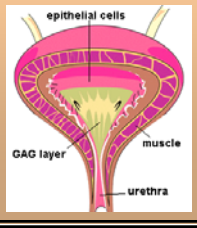
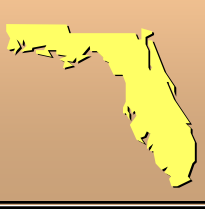
Urinary Bladder Cancer in Florida



Bureau of Epidemiology



Executive Summary

Bladder cancer is the sixth most common cancer, most often occurring in people 50 years and older. In 2004, 5,003 new bladder cancer cases were reported in Florida. The incidence rate was 21 per 100,000 population. The incidence rate was higher among males (36 per 100,000 population) than among females (10 per 100,000 population), and higher among Whites (22 per 100,000 population) than among Blacks (11 per 100,000 population). The incidence rate decreased by 14% among Whites and increased by 11% among Blacks since 1981. The percentage of bladder cancer diagnosed at an early stage has increased by 13% since 1981. In 2004, 1,045 Floridians died of bladder cancer. The bladder cancer mortality rate in Florida was 4 per 100,000 population. More than three-quarters (85%) of the bladder cancer deaths were among people 65+ years old. In 2004 the mortality rate decreased by 9% in Florida compared to the rate in 1981. Blacks (25%) showed a greater decline than Whites (20%) in the mortality rate in 2004 compared to 1981.

Background

Bladder cancer is the sixth most common cancer in the United States affecting 53,200 people each year[1]. About 12,200 men and women die annually of bladder cancer[1]. Bladder cancer typically begins in the lining of the bladder, the organ that stores urine[2]. An estimated 67,160 new cases and 13,750 deaths are expected to occur in 2007[3]. More than 90% of bladder cancer cases occur in people older than 55 years, and 50% of the cases occur in people older than 75[2]. The chance of having bladder cancer is higher in men (1 in 30) than in women (1 in 90)[4].

In early stages, bladder cancer does not produce any specific signs or symptoms. The first warning sign is blood in the urine, which could be related to other diseases. The following symptoms are reported to be linked to bladder cancer: pelvic pain, pain during urination, frequent urination, and slowing of urinary stream[2]. Though the cause is unclear, some of the risk factors that are reported to be associated with bladder cancer include smoking, industrial chemicals, age, race, chronic bladder inflammation, family history, arsenic exposure, and birth defects[2].

In 2004, 49% of the Florida population were men and 51% were women; 82% were Whites and 16% were Blacks[5]. More than half (58%) of Florida's population were under age 45, 25% were between 45 and 64 years, and 17% were 65+ years old[5].

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 cases diagnosed with bladder cancers (ICD-O-3 code: C67) were included in the analysis.

The mortality data, based on death certificates, were provided by the Office of Vital Statistics of the Florida Department of Health. Only deaths whose underlying cause was bladder cancers (ICD-10 codes: C67, D09.0) were included in the analysis.

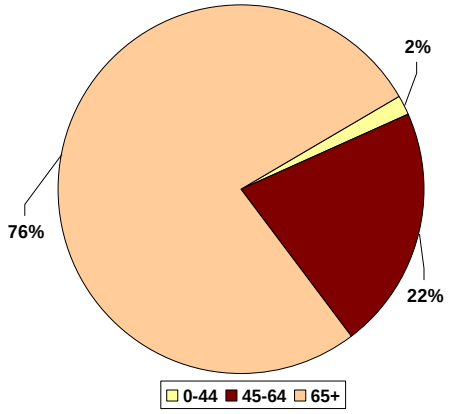
The hospital inpatient discharge data were provided by the Florida Agency for Health Care Administration (AHCA). The hospital inpatient discharge data includes the number of hospitalizations and charges for inpatients whose primary diagnosis was bladder cancers (ICD-9 code: 188).

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

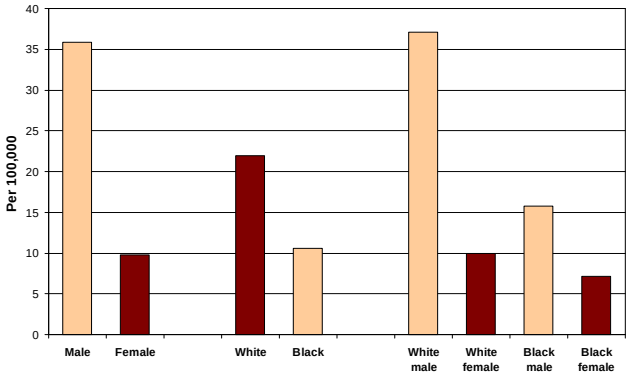
In 2004, 98,547 cancer cases were diagnosed in Florida. Of these, 5,003 (5.1%) were bladder cancers[6]. The incidence was 21 per 100,000 population. Three-quarters of bladder cancers occurred among people aged 65+ years, 22% occurred among people between 45 and 64 years, and 2% occurred among people under age 45.

Figure 1. Percent of Bladder Cancer Cases by Age Group, Florida, 2004



In 2004, 51,587 males and 46,912 females were diagnosed with cancers of all sites in Florida[6]. Of these, 3,712 (7%) men and 1,288 (3%) women were diagnosed with bladder cancer. The age-adjusted incidence rates were 36 per 100,000 men and 10 per 100,000 women. Whites had a higher incidence rate (22 per 100,000 population) of bladder cancer than Blacks (11 per 100,000 population).

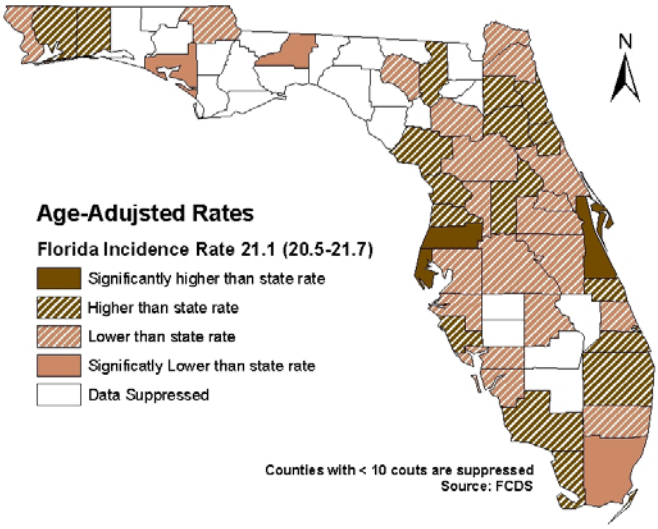
Figure 2. Age-adjusted Incidence Rate of Bladder Cancer, Florida, 2004



Source: FCDS[6]

In 2004, Brevard, Pasco, and Pinellas counties had incidence rates significantly greater than state rate[6]. Bay, Dade, and Leon counties had incidence rates significantly lower than state rate.

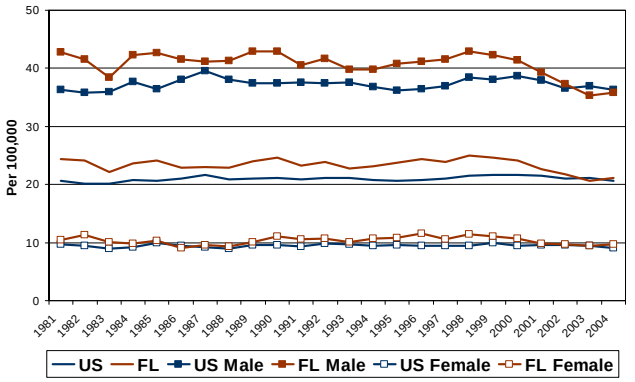
Age-Adjusted Incidence Rates of Bladder Cancer by County, Florida, 2004



Between 1981 and 2004, the incidence rate of bladder cancer in Florida was higher than the national rate, except in 2003. In 2004, the Florida incidence rate showed a statistically significant decline, by 13%, compared to the rate in 1981. The incidence rate among Florida men was higher than the national rate except in

2003 and 2004. In 2004, the incidence rate declined among by 16% among men and 7% among compared to the rate in 1981 in Florida. The decreases in the incidence rate among both the gender were statistically significant.

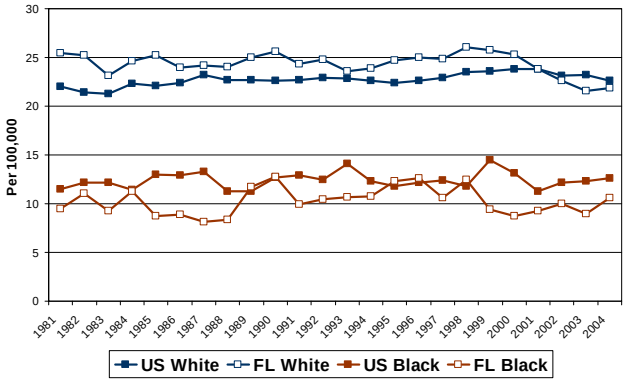
Figure 4. Age-adjusted Incidence Rate of Bladder Cancer, Florida, 1981-2004



Source: FCDS[6]; SeerSTAT[7]

Until 2000, the incidence rate of bladder cancer in Florida was higher than the national rate among Whites. However, among Blacks the state rate was lower than the national rate, except for the years 1995, 1996, and 1998. In 2004, the incidence rate among Whites showed a statistically significant decline by 14% compared to the rate in 1981.

Figure 5. Age-adjusted Incidence Rate of Bladder Cancer, Florida, 1981-2004



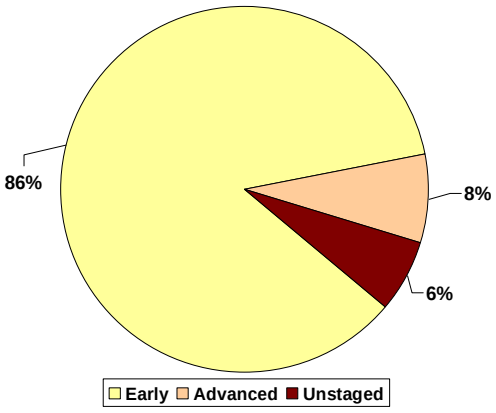
Source: FCDS[6]; SeerSTAT[7]

Stages of Cancer

Cancer can be diagnosed at different stages, from an early stage where the cancer is in its original location and has no signs of invasion to other organs, to an advanced stage, where the cancer has spread to distant organs. For this analysis, regional and distant stage cancers constitute advanced stages, and cancers that have not invaded other organs constitute early stages.

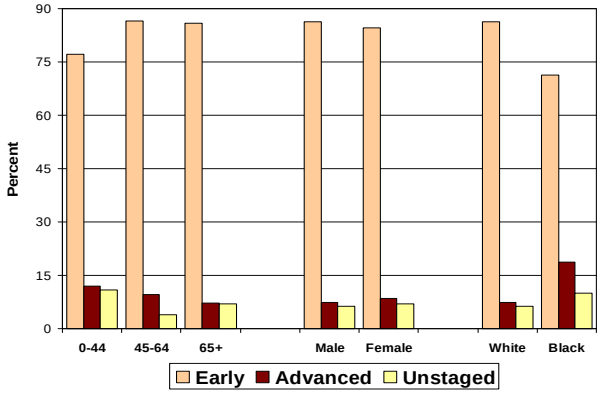
When bladder cancer is diagnosed at an early stage, the five-year survival rate is very high (94%)[3]. But when diagnosed at a later stage, the five-year survival rate drops to 6%[3]. In the United States, 74% of bladder cancers are diagnosed at an early stage[3]. Examination of bladder wall cells may help diagnose this cancer at an early stage. Screening tests are only recommended for people at increased risk.

Figure 6. Stage of Bladder Cancer, Florida, 2004



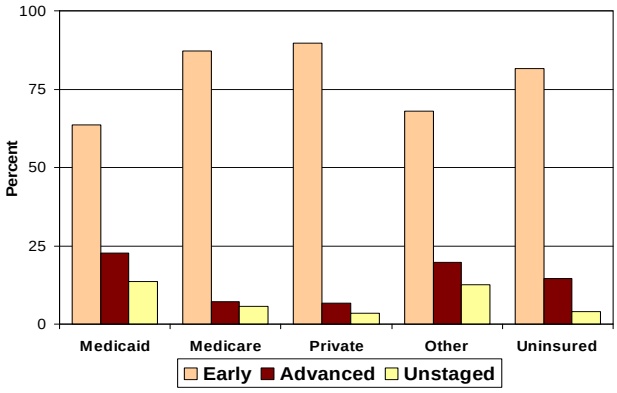
In 2004, 86% of the bladder cancers were diagnosed at an early stage in Florida, and 8% were diagnosed at an advanced stage.

Figure 7. Stage of Bladder Cancer by Demographic Characteristics, Florida, 2004



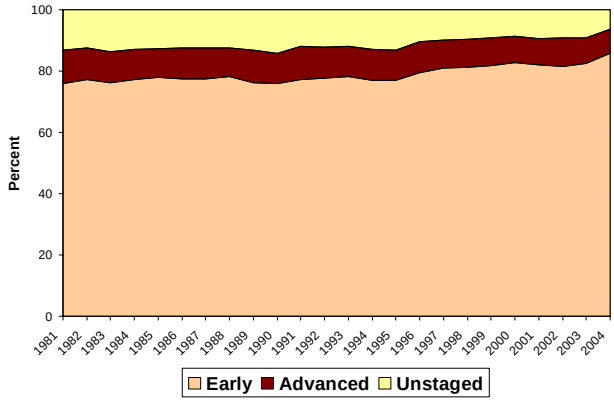
In 2004, people age 0-44 years had the highest percentage of cancer diagnosed at advanced stage (12%) among age groups. Blacks had a higher percentage of cancer diagnosed at advanced stage (19%) than Whites (7%). Patients with private insurance had a higher percentage of early stage diagnoses (90%) compared to patients with other insurance (Tricare, VA, and Public Health Services), or those who were uninsured. Patients with Medicaid had a higher percentage of diagnosis at an advanced stage (23%) compared to other groups.

Figure 8. Stage of Bladder Cancer by Type of Insurance, Florida, 2004



Since 1981, the percentage of early stage diagnosis increased by 13% and the percentage of unstaged cancer decreased by 51% in Florida.

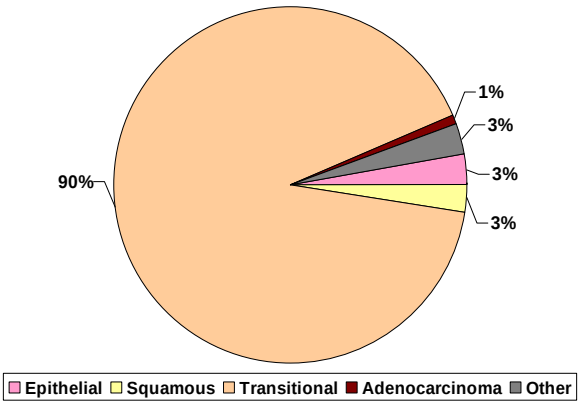
Figure 9. Stage of Bladder Cancer, Florida, 1981-2004



Histology Type

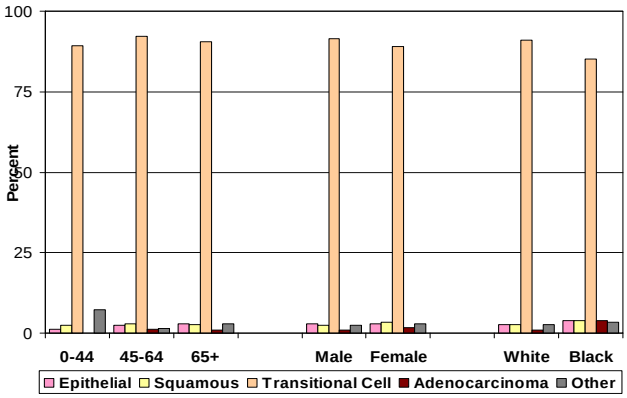
Histology is the type of cell on which the cancer forms. The first three-digits of the ICD-O-3 histology codes were used to group the histology types. For this report, histology was analyzed based on the following grouping: (1) epithelial neoplasm, (2) squamous cell neoplasm (3) transitional cell papillomas and carcinomas, and (4) adenoma and adenocarcinoma. In 2004, 90% of the bladder cancers diagnosed was transitional cell papillomas and carcinomas.

Figure 10. Histology Type of Bladder Cancer, Florida, 2004



More than 85% of the bladder cancers diagnosed were transitional cell papillomas and carcinomas among all age groups, both sexes, and among Whites and Blacks in Florida.

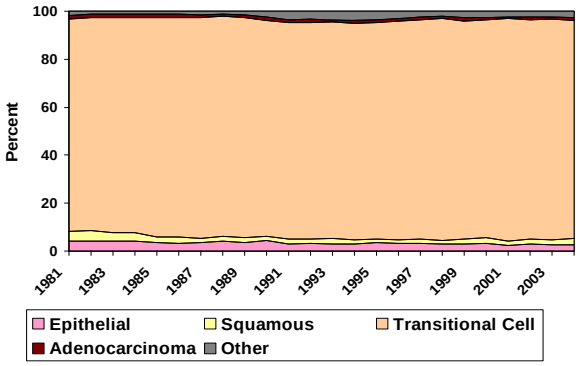
Figure 11. Histology Type of Bladder Cancer, Florida, 2004



From 1981 to 2004, transitional cell papillomas and carcinomas of the bladder increased by 2%,

while diagnosis with all other histology types declined more than 25% in Florida.

Figure 12. Histology Type of Bladder Cancer, Florida, 1981-2004



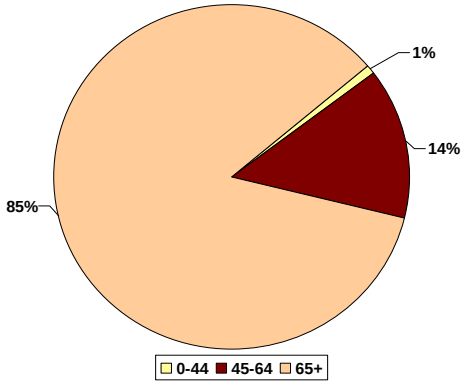
Hospital Discharges

In 2004, 2,825 hospital discharges (2,186 among men and 659 among women) for treatment of bladder cancer in Florida. The total hospital charges for bladder cancer hospitalization in 2004 were $102 million.

Mortality Rates

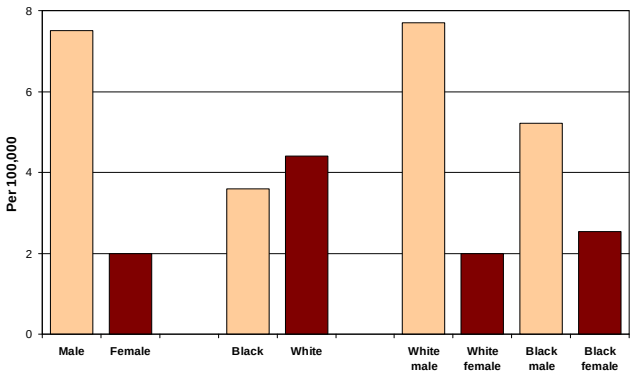
In 2004, 39,591 men and women died of cancer in Florida[6]. Of these, 1,045 deaths were related to bladder cancer with an age-adjusted mortality rate of 4.3 per 100,000 population. Eighty five percent of bladder cancer deaths were among people 65+ years old and 14% were among people between 45 and 64 years old.

Figure 13. Bladder Cancer Deaths by Age Group, Florida, 2004



In 2004, 759 men died from bladder cancer in Florida, with a mortality rate of 7 per 100,000 men[6]. Among women, 286 deaths were due to bladder cancer with a mortality rate of 2 per 100,000 population. Men had a had a greater mortality rate (7 per 100,000 population) compared to women (2 per 100,000 population)[6]. Whites and Blacks had similar mortality rate of 4 per 100,000 population.

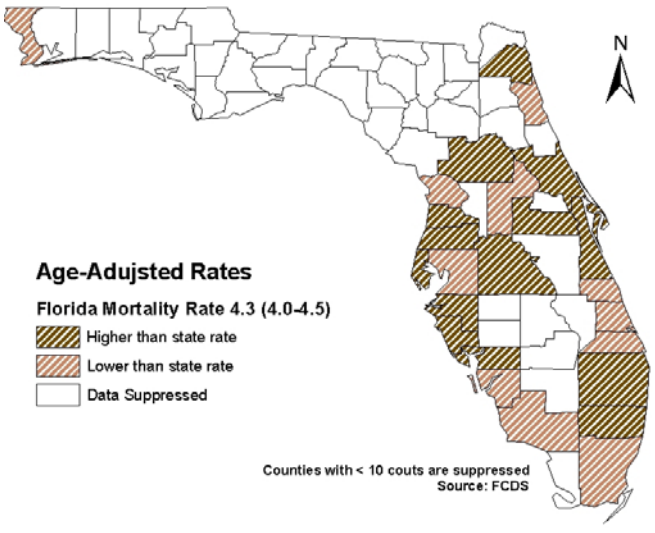
Figure 14. Age-adjusted Mortality Rate of Bladder Cancer, Florida, 2004



Source: FCDS[6]

The age-adjusted mortality rate of bladder cancer did not vary significantly by counties compared to the state rate in 2004.[6]

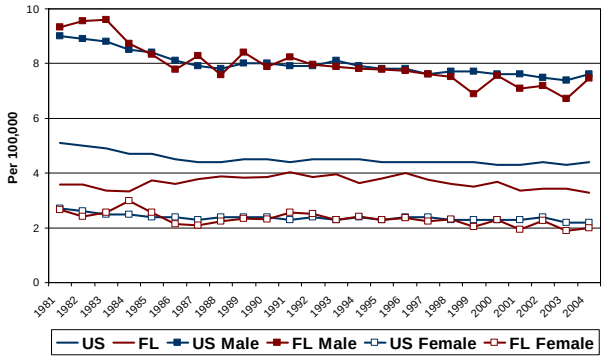
Age-Adjusted Mortality Rates of Bladder Cancer by County, Florida, 2004



The Florida mortality rate of bladder cancer was lower than the national rate from 1981 to 2004. The 2004 mortality rate of bladder cancer in Florida showed a statistically significant decline by 9% comparing to the rate in 1981. The

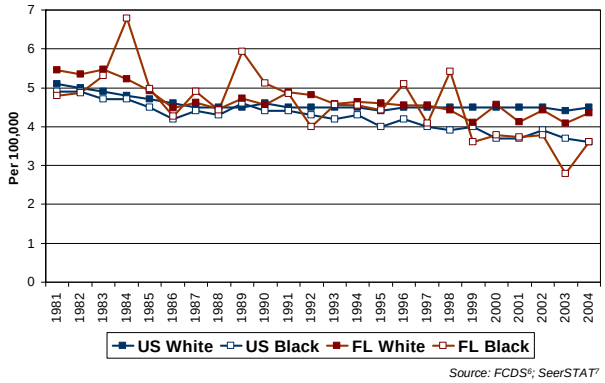
bladder cancer mortality rate among men and women in Florida did not differ greatly from the national rate during the same time period. There has been a statistically significant decline in the mortality rate among both men (20%) and women (19%) in Florida since 1981.

Figure 16. Age-adjusted Mortality Rate of Bladder Cancer, Florida, 1981-2004



Source: FCDS[6]; SeerSTAT[7]

Figure 17. Age-adjusted Mortality Rate of Bladder Cancer, Florida, 1981-2004



Source: FCDS[6]; SeerSTAT[7]

The mortality rate of bladder cancer among Blacks in Florida was higher than the national level for 18 years during the 24 year period. The mortality rate decreased both among Whites (20%) and Blacks (25%) in Florida in 2004 compared to the 1981 rates. In 2004, the mortality rate among Black women in Florida was slightly greater (0.3%) than the national rate.

References

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6. The Florida Cancer Data System, 2007, https://fcds.med.miami.edu.
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