

Running the Numbers

*A Periodic Feature to Inform North Carolina Healthcare Professionals
about Current Topics in Health Statistics*

*From the State Center for Health Statistics, North Carolina Department of Health and Human Services
www.schs.state.nc.us/SCHS*

Recent Trends in Prostate Cancer in North Carolina

Prostate cancer is the most frequently diagnosed cancer in men in North Carolina and in the nation. The objectives of this analysis are to examine recent trends in prostate cancer incidence, mortality, and staging; to examine racial differences in incidence, mortality, and staging; and to compare North Carolina statistics to national data.

North Carolina incidence and mortality data were provided by the State Center for Health Statistics. Incidence rates (cases per 100,000 population) and mortality rates (deaths per 100,000 population) are presented. The rates were age-adjusted to the 2000 United States population by five-year age groups. The incidence and mortality rates were calculated as overlapping three-year rates. For comparison, national incidence (Surveillance Epidemiology and End Results Program, or SEER) and mortality rates (National Center for Health Statistics) are presented.

Figure 1.
Age-Adjusted Incidence Rate (per 100,000)

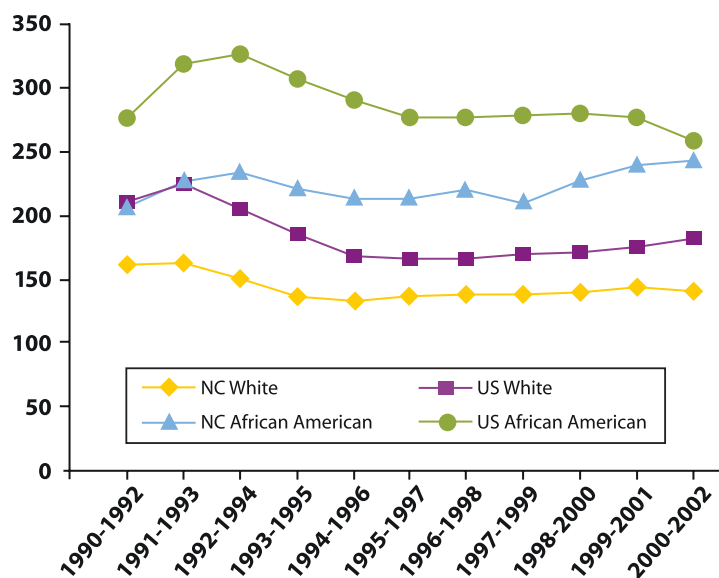
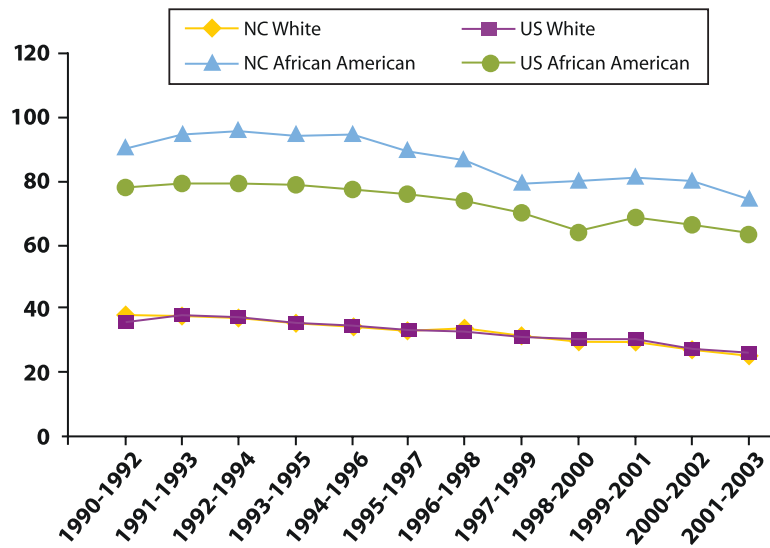


Figure 1 displays trends in prostate cancer incidence. In the last decade, the incidence of prostate cancer in North Carolina has been stable overall. Incidence rates in North Carolina for both whites and African Americans are lower than the SEER national rates. However, according to a second data source, the National Program of Cancer Registries, which includes most of the United States population and, therefore, is more representative of national rates than SEER, in 2002 only North Carolina whites and not North Carolina African Americans had an incidence rate statistically different from the respective national rate. In North Carolina, the incidence for African Americans is approximately 70% higher than for whites (during 2000-2002, 239 per 100,000 versus 139 per 100,000).

Figure 2 displays trends in prostate cancer mortality. In the last decade, North Carolina mortality rates have been declining. Overall, the North Carolina rate is higher than the national rate. Although whites in North Carolina have the same mortality rate as whites in the United States, African Americans in North Carolina have a higher mortality rate than African Americans in the United States. In North Carolina, the mortality rate for African Americans is almost three times as high as that for whites (during 2000-2002, 74 per 100,000 versus 25 per 100,000).

Figure 2.
Age-Adjusted Death Rate (per 100,000)



There are substantial differences in stage at diagnosis between whites and African Americans in North Carolina. Eighty-two percent of white men are diagnosed with local stage disease, compared to 74% of African Americans. These two groups are equally likely to be diagnosed with regional disease (9%), but African Americans are more likely to be diagnosed with distant disease (7% versus 3%) or for the stage to be unstaged or unknown (9% versus 5%). Later diagnosis contributes to higher mortality.

Interpretation of the incidence data is affected by the introduction and dissemination of prostate-specific antigen (PSA) testing. The advent of this diagnostic tool in the 1980s resulted in an overall increase in incidence rates, followed by a period of stability. Future changes in the use of PSA and other methods of diagnosis will impact trends and differences in the incidence data.

North Carolina African Americans have much higher prostate cancer incidence rates than whites, similar to the pattern seen at the national level. It is unlikely that differences in testing for prostate cancer contribute to this racial difference in incidence, since recent data from the Behavioral Risk Factor Surveillance System (BRFSS), a state-based telephone survey, suggest that North Carolina African Americans and whites have similar rates of PSA testing ever or in the last year.

Declining trends in prostate cancer mortality in North Carolina are encouraging and could be related to earlier detection of cancers by PSA testing or improvements in treatment. The three-fold disparity in mortality between whites and African Americans suggests differences in tumor biology, stage at diagnosis, access to healthcare, or treatment. The prostate cancer incidence rates in North Carolina are lower than those for the United States, while the mortality rates in North Carolina are higher overall than for the nation. This pattern could be due to differences between North Carolina and the nation in case reporting, stage at diagnosis, access to healthcare, or treatment.

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