

# New study identifies pockets of high cervical cancer rates in North Carolina

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A study of cervical cancer incidence and mortality in North Carolina has revealed areas where rates are unusually high.

The findings indicate that education, screening, and vaccination programs in those places could be particularly useful, according to public health researchers at the University of North Carolina at Chapel Hill, who authored the report.

"In general the rates of incidence and mortality in North Carolina are consistent with national averages," said Jennifer S. Smith, Ph.D., associate professor of epidemiology at the UNC Gillings School of Global Public Health and an author of the study published recently online in the journal *Preventive Medicine*. "However we do see pockets where the rates are among the highest for any of the 50 states. These are the areas where we need to focus our efforts to reduce, and ultimately eliminate, this highly preventable disease."

Smith, a member of the UNC Lineberger Comprehensive Cancer Center, is director of the Cervical Cancer-Free America initiative, which is guiding states to develop cervical cancer prevention programs aimed at eliminating cervical cancer through education, vaccination, screening and early treatment.

UNC researchers examined data from the North Carolina Central Cancer Registry on all cervical cancer cases reported in the state from 1998 to 2007. In total, there were 3,652 cases of [invasive cervical cancer](#)

and 1,208 deaths in that period. The study found cervical cancer incidence and [death](#) rates varied greatly by county, with less affluent counties having higher rates. While most cases and deaths were among white [women](#) (65 percent and 64 percent, respectively), Hispanic women had the highest incidence rate (18.3 cases per 100,000 women). The rates for African American and white females were 10.6 cases per 100,000 women and 7.3 cases per 100,000 women, respectively.

A greater proportion of [African American women](#) died from cervical cancer than other races. The mortality rate was 4.5 deaths per 100,000 women, compared to 2.2 deaths per 100,000 white women and 2.0 deaths per 100,000 Hispanic women.

Results also showed:

- More than 45 percent of cervical cancer cases were in women aged 30-49, but more than half of the deaths occurred among women over age 50. Almost a third of the deaths were of women aged 70 and older.
- The highest rates were seen in the least affluent counties (divided into three tiers of economic strength by the N.C. Department of Commerce; tier 1 = least prosperous, tier 3 = most prosperous). Overall, counties' incidence rates varied between 3.2 and 15.1 cases per 100,000 women. Mortality rates were from 0 to 8 deaths per 100,000 women. Ten counties (Anson, Chowan, Duplin, Halifax, Hoke, Lincoln, Randolph, Robeson, Sampson and Scotland) had both high incidence rates (more than 11 cases per 100,000 women) and mortality rates (more than 3 deaths per 100,000 women) of cervical cancer ([click link to see related map](#)).
- No notable difference was found in the stage at which the cancer was diagnosed for women in rural areas compared to urban

settings.

- Women with private insurance were more likely to be diagnosed at earlier, more treatable stages than women with no insurance or with government-sponsored insurance (Medicare, Medicaid, military benefits). There was no difference in stage of diagnosis between women with government-sponsored insurance and no insurance.

"This in-depth, registry-based assessment provides us with a clearer picture of which women in North Carolina are being diagnosed with cervical cancer, and it identifies gaps in our state's cervical cancer prevention health network," Smith said. "The cancer registry data will help us, as a state, initiate targeted and appropriate interventions. It's an important step toward eradicating [cervical cancer](#) in North Carolina. The analysis also can serve as a model for other states as they bolster the efforts to reduce or end this cancer across the nation."

**More information:** The study can be found at:  
[dx.doi.org/10.1016/j.ypped.2012.01.020](https://doi.org/10.1016/j.ypped.2012.01.020)

Provided by University of North Carolina at Chapel Hill

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