

HPV rates for women under 40 increasing, putting them at higher risk of related cancers, study shows

April 11 2019



Gardasil vaccine and box. Image: Wikipedia

Human papillomavirus infection rates are increasing in women born after 1980 who did not receive the HPV vaccine—putting them at higher risk for HPV-related cancers, according to a University of Michigan study.

While more than 90 percent of HPV-related cancers are preventable, HPV causes more than 40,000 cases of cancer in the United States each year, including cervical, oropharyngeal, anal and other genital cancers.

The Centers for Disease Control and Prevention, estimate that at least half of all sexually active men and [women](#) will acquire HPV in their lifetime.

"If we know which groups of people have the highest rates of HPV, we can do a better job of preventing cancer through vaccination and screening," said lead author Andrew Brouwer, a researcher at U-M's School of Public Health.

Because testing for genital HPV started in 2003 for women and in 2013 for men, there are no direct measurements of how HPV incidence and prevalence have changed over the past decades—before the vaccine became available for women in 2006 and for men in 2009.

Brouwer said previous analyses focused only on measures of current HPV [infection](#) (viral DNA) or past HPV infection (antibodies), producing sometimes competing results, making it difficult for experts to predict current and future trends.

For their analysis, Brouwer and his colleagues developed a model that uses both HPV infection and past infection data, as well as mathematical representations of the underlying mechanisms of infection, recovery and the generation of antibodies, to paint a better picture of HPV prevalence in the present and past.

Their model indicates that while there may be a substantial increase in HPV prevalence in more recent birth cohorts, HPV vaccination may ultimately control adverse HPV-related outcomes, including genital warts and [cancer](#). Questions still remain, such as why there is a peak in HPV infection among 45-to-55-year-olds.

"Did everyone in this cohort have higher HPV throughout their lifetimes? Or is it more a function of biological or behavior changes

when people reach this age?" Brouwer said.

Brouwer said his group will now try to understand how HPV is transmitted between genital, oral and anal sites, and plan to study multisite HPV infections in young people.

More information: Andrew F. Brouwer et al. Integrating measures of viral prevalence and seroprevalence: a mechanistic modelling approach to explaining cohort patterns of human papillomavirus in women in the USA, *Philosophical Transactions of the Royal Society B: Biological Sciences* (2019). [DOI: 10.1098/rstb.2018.0297](https://doi.org/10.1098/rstb.2018.0297)

Provided by University of Michigan

Citation: HPV rates for women under 40 increasing, putting them at higher risk of related cancers, study shows (2019, April 11) retrieved 1 May 2024 from <https://medicalxpress.com/news/2019-04-hpv-women-higher-cancers.html>

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