

Cost-effectiveness of Chlamydia Vaccination Programs for Young Women

[Announcer] This program is presented by the Centers for Disease Control and Prevention.

[Sarah Gregory] The potential cost-effectiveness of chlamydia vaccine for young women in the United States was explored by using a compartmental heterosexual transmission model. The authors tracked health and determined incremental cost-effectiveness ratios, or ICERs, over a 50-year analytic horizon. They assessed vaccination of 14-year-old girls and catch-up vaccination for 15 to 24-year-old women in the context of an existing chlamydia screening program.

Today I'm talking with Dr. Kwame Owusu-Edusei about his co-authored article, Cost-effectiveness of Chlamydia Vaccination Programs for Young Women.

Dr. Owusu-Edusei, what is chlamydia and how do people get it?

[Kwame Owusu-Edusei] Chlamydia is caused by a bacteria called *Chlamydia trachomatis*. It is transmitted through sexual contact that is vaginal, anal, or oral. Chlamydia is the most commonly reported notifiable infection in the US, which means it's the most prevalent of all the sexually transmitted infections. There were an estimated 2.8 million cases in 2008, with over \$500 million in annual cost. The reported rates of chlamydia are highest among adolescents and young adults aged 15 to 24 years. The majority of cases in women are asymptomatic and untreated cases can progress to pelvic inflammatory disease, ectopic pregnancy, tubal infertility, and chronic pelvic pain. In men, untreated chlamydia can cause urethritis, epididymitis, proctitis, and Reiter's syndrome.

[Sarah Gregory] So, how can people protect themselves from chlamydia?

[Kwame Owusu-Edusei] You can lower your risk of infection by being in a long-term mutually monogamous relationship with a partner who's not infected, or using condoms the right way all the time.

[Sarah Gregory] While antibiotics are becoming less and less effective, it seems like vaccines are often the best way to protect people. Is there a vaccine for chlamydia?

[Kwame Owusu-Edusei] There's currently no vaccine for chlamydia. However, there is substantial interest at NIH, WHO, and CDC supporting the development of research activity that could lead to an effective vaccine for chlamydia and other sexually transmitted infections.

The main reason for our study was to help advance the discussion surrounding the development of a successful chlamydia vaccine in the context of existing chlamydia preventive service guidelines. We explored the potential cost and effectiveness of a chlamydia vaccination program, together with chlamydia screening, in young women. We hope this will inform the business case for investing in research and development, and inform and promote the development of future models that can be useful for chlamydia vaccine recommendations.

Our study suggests that a successful chlamydia vaccine can have substantial impact on the prevalence of the infection. In the context of existing annual chlamydia screening, we found that vaccinating young females before their sexual debut would be most cost-effective, and cost-saving in some cases, over a

wide range of assumptions about vaccine efficacy and duration of vaccine-conferred immunity. Additionally, the prevalence of chlamydia, followed by the cost of vaccination, duration of vaccine-conferred immunity and vaccine efficacy had the most impact on the cost-effectiveness measure.

[Sarah Gregory] Thank you, Dr. Owusu-Edusei. You can read the entire article, Cost-effectiveness of Chlamydia Vaccination Programs for Young Women, online in the June 2015 issue of Emerging Infectious Diseases at cdc.gov/eid.

If you'd like to comment on this podcast, send an email to eideditor@cdc.gov. I'm Sarah Gregory for Emerging Infectious Diseases.

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