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Vaccinating boys against HPV could cut health-care costs, study suggests

A new study suggests giving boys the HPV vaccine could cut health-care costs over the long run. The researchers used mathematical modelling to estimate the effect of giving HPV vaccine to 12-year-old boys to prevent cancers of the mouth and throat.

The work suggests if all the 12-year-old boys in Canada had been vaccinated in 2012, between \$8-million and \$28-million might have been saved because of oropharyngeal cancers averted in that group. The types of human papillomaviruses that cause cervical cancer are also responsible for some oropharyngeal cancers, a form of cancer that is on the rise.

But a senior vaccine researcher questions the finding, saying the study design chosen wasn't the right one for testing this kind of question.

Currently Prince Edward Island and Alberta offer HPV vaccines to boys as well as girls; on Friday, Nova Scotia announced it will follow suit in the fall. "Gradually bit by bit, perhaps, people are thinking that it is a good thing to do. Because there's no reason why we shouldn't protect the men also," says Dr. Lillian Siu, a medical oncologist at Toronto's Princess Margaret Cancer Center. Dr. Siu is one of the senior authors of the study.

The authors admit the mathematical model they used did not take into effect what's known as herd immunity – the protective effect on the entire population of having a significant portion of people vaccinated against a given pathogen. In this case that means the researchers did not factor into their calculations how vaccinating girls would affect the HPV risk faced by boys. Already research elsewhere has shown rates of genital warts and some HPV-related cancers in men are dropping in the wake of introduction of public programs to vaccinate girls.

The belief is that as the number of girls and women who are protected against HPV rises, fewer of these viruses will circulate so many males will get indirect protection. That group protection may not be as pronounced for the community of males who have sex with other males.

It's not possible to accurately assess the cost-effectiveness of vaccinating boys without factoring in the impact of the program for girls, says Dr. Natasha Crowcroft, a vaccine expert at Public Health Ontario who was not involved in this study. "The herd effect is so overwhelmingly important you can't leave it out of any analysis," says Dr. Crowcroft, who is chief of applied immunization research for the agency.

"When you've got 50-per-cent uptake [in girls], it makes more sense to immunize the boys because then you increase your chances of getting herd immunity. Now we're getting 80-per-cent uptake in [Ontario] girls. It makes less sense to add the boys in, to me," Dr. Crowcroft says, though she acknowledges there is still the question of how to protect males who are gay. She insists her critique of the study doesn't mean she opposes giving the vaccine to boys, noting her son was vaccinated. But costs and benefits need to be weighed. "If we're using public funds, then we have to make careful choices. Because ... we're always taking money away from something else we could be doing."

The study, which was published in the journal Cancer, was written by scientists at the Princess Margaret Cancer Centre, Cancer Care Ontario and the Centre for Addiction and Mental Health, all in Toronto.