

Policy Brief

HPV Vaccination in Men Prevents Cancer



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Winter 2014 Internship

In 2014 the IHSP welcomed ten McGill students from across the University for a 14-week Internship. Training sessions focused on communicating research findings to the media or general public, and gaining insight into different disciplinary approaches. In addition to in-depth research projects carried out in collaboration with faculty and staff, interns devoted ten to fifteen hours to short policy projects on a topic of their choice. Students were asked to frame an issue, find at least two points of supporting evidence and develop rudimentary policy recommendations. The following document reflects the short timeframe given to students to complete this task, and may not be a polished product.

Please note the opinions reflected in this document do not necessarily reflect the opinions of the IHSP.

HPV VACCINATION IN MEN PREVENTS CANCER

THE ISSUE

Human papillomavirus (HPV) is recognized a necessary condition to the development cervical cancer in women, but it can also cause genital and head and neck cancers in men. By 2025, head and neck cancers in particular will be as common as cervical cancers. Despite HPV vaccination being offered to young girls in Canada, vaccination of young boys has not been included in any provincial vaccination schedule. It could be an important approach to decreasing HPV infections at the population level when compared to vaccinating girls alone.

Stakeholders and actors involved: provincial health agencies

IF MEN ARE VACCINATED AGAINST HPV, THEY DECREASE THEIR RISK OF ACQUIRING HPV, WHICH HAS BEEN KNOWN TO CAUSE GENITAL, ANAL, AND HEAD AND NECK CANCERS.

HPV vaccination in men is needed to prevent the spread of the virus and reduce the occurrence of related cancers

CONTEXT: WHY IT MATTERS

HPV is the most common sexually transmitted infection and spreads by skin contact

- 8 out of 10 Canadians will contract HPV in their lifetime and infections are typically asymptomatic.
- Condoms have not been shown to be effective in preventing the spread of HPV.
- The highest risk groups are those aged 15 to 24.
- Over 100 types of HPV exist, and upwards of 14 types are oncogenic.
- HPV infection is known to cause more than 99% of all cervical cancer cases in females, and 90% of all anal cancers in men.
- It also been associated with cancers of the penis, the head and neck, the vulva, and the vagina.
- Type 6 and 11 are responsible for 90% of genital warts cases. These cause discomfort and often have no viable cure.
Types 16 and 18 account for 70% of cervical cancer cases, while types 31, 33, 45, 52, and 58 account for roughly the other 20%.
- No cures exist for HPV infections, though in most cases, the immune system will clear the virus naturally. If the infections becomes persistent, it could lead to cancer
- In 2005, it was estimated that 72% of head and neck cancer were attributable to HPV infection, and by 2025, with the increasing popularity of oral sex, HPV will be responsible for 90% of that spectrum of cancers.

8 out of 10 Canadians will contract HPV in their lifetime

Many of those infected do not know they are carriers of the virus

The spread of HPV can be prevented

Two vaccines are commercially available against HPV

1. *Cervarix (GSK): protects against types 16 and 18*
2. *Gardasil (Merck): targets types 6, 11, 16 and 18.*

However...

Male vaccination has not been made a component of any provincial schedule. Health Canada has approved Gardasil for use in men aged 9 to 26, but at this time, it is only freely available to young girls across provinces.

...currently only girls are vaccinated

WHY SHOULD MEN BE VACCINATED TOO?

- Studies have shown that vaccination against HPV in women has already been shown to decrease the overall prevalence of the virus in both men and women.
- This is of note, considering that uptake rates for girls in most provinces is far from complete coverage.
- At \$500 for the 3 doses of Gardasil and \$300 of the three doses of Cervarix, the cost of vaccination will present a new financial burden to provincial health care.
- Incidence of anal cancer in Canadian males is approximately 1.5 case per 100,000 person-years (2006 est.). Those who engage in receptive anal intercourse, such as Men who have Sex with Men (MSM), present an incidence rate of 5.1 per 100,000 person years. Comparably, cervical cancer rates are 11 per 100,000 person years.
- Current figures indicate that the incidence of oropharyngeal cancers in were 5.8 per 100,000 (2005 est.)
- In a randomized controlled trial, vaccination with Gardasil proved to have an efficacy of close to 90% against the four vaccine HPV types and genital warts.

RECOMMENDATIONS

HPV is a public health issue for men. Aside from protecting the individual in question, vaccinating young boys could perhaps reduce the overall frequency of HPV infections. Nonetheless, when deciding on the inclusion of HPV vaccination in provincial vaccination schedules, policy makers should take into account the various evidence, including the costs and the public health concerns. As it stands, more research is needed on the topic to before funding large HPV vaccination campaigns for young boys as well.

Vaccinate girls and boys

LIMITATIONS

- Although sexual contact with infected males has been associated with increased risk of cervical cancer, there is not yet evidence as to whether the vaccines prevent transmission of already acquired HPV infections, or that vaccine of men will assist in reinforcing herd immunity and lead to a reduction of cervical cancer cases as well.
 - *The public health impact of male vaccine will be much greater should either of these findings prove to be true.*

With current vaccine prices, economic models suggest that extending vaccination coverage to young boys is predominantly not a cost-effective means of reducing HPV-related diseases; it is recommended that efforts should instead be placed on increasing coverage in young girls, seeing as men do stand to benefit via herd immunity.

QUESTIONS REMAIN

- Vaccine uptake in young girls has not been universal. Hence, with better information on the transmission of the virus between sexes, could it be possible that indications for vaccination in men would improve, especially considering the rise of head and neck cancers?
- How will the release of the nonavalent vaccine alter the immunization decisions of Canadian provinces?
- Models do support the cost-effective administration of Gardasil to MSM. More research must be done as to how to target this vulnerable group at a young age.

SOURCES

<http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/12vol38/acs-dcc-1/index-eng.php>

<http://www.hpvinfos.ca/parents/hpv-vaccination/hpv-immunization-strategies-by-province/>