

Health Benefits enhanced by moving to Gender – Neutral HPV Vaccination Approach

Do the changes to 2017 HPV Immunisation schedule, affecting 9-26 years old boys and girls lead to herd immunity?

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INTRODUCTION AND ISSUES

Introduction:

From 1st January 2017 MOH have introduced changes to the HPV Immunisation schedule resulting in moving to gender-neutral HPV vaccination approach. (MOH, 2017). The aim of this literature review is to investigate the risk of HPV related diseases, efficacy of HPV vaccine and the incremental health benefits to males and females resulting from moving to gender-neutral approach.

Issues:

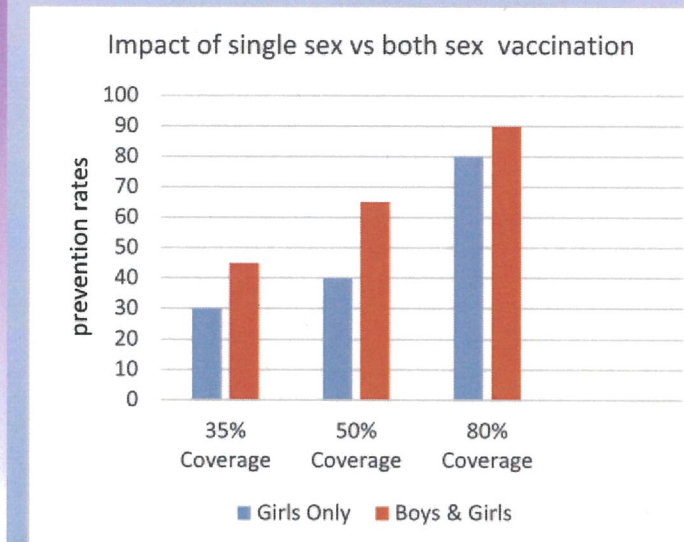
- At some point of their sexual life, an estimated 80% of the population will contract one or more strains of the HPV viruses. (MOH, 2017)
- HPV virus is the main cause of cervical cancer in women but it also can cause anal, head, neck, penile, mouth and throat cancer in males. Issue is the low immunisation rate coverage.
- Each year 670 new cases of HPV- related cancer are found in males in New Zealand. (MOH, 2017). The problem is that Males having sex with males (MSM) does not benefit from girls only vaccination programme.
- HPV immunisation has been recommended, but was not funded for boys for several years in New Zealand, considered to not be cost-effective.



LITERATURE REVIEW

| Author | Findings |
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| Bogards, et al (2015) | Indirect benefits for boys will increase with increased vaccination coverage rate of girls only programme. |
| Zimet and Rosenthal (2010) | Vaccinating girls only, will not prevent the transmission of HPV - related diseases in MSM communities. With relatively lower immunisation rates among females, the fastest way to reach greatest protection for both sexes is to vaccinate males too. |
| Elbasha and Dasbach (2010) | Substantial reduction in genital warts incidence, cancer cases and cancer deaths if boys and men are added to the immunisation programme. |
| 2012 Antigen Review for NZ Immunisation Schedule (2013) | Gender-Neutral Immunisation Approach will lead to MSM community gaining health benefits to the same degree as females from the girls-only vaccination programme, due to improved herd immunity. |
| Van de Velde, et al (2011) | Reduction in HPV virus transmission rates is due to the expanding perimeter of vaccinated population, resulting in greater herd immunity. |
| Luxembourg (2016) | Confirmation of the efficiency and effectiveness of the two doses regime of Gardasil 9 compared to three dose regime. |
| Zimet and Rosenthal (2010) | The value of additionally vaccinating males is greater when a lower percentage of females are vaccinated. Increased coverage shows vaccinating both sexes are cost-effective. |
| Elbasha and Dasbach (2010) | Cost-effectiveness declined for both programs when considering more HPV diseases in the study. It increased by adding boys when accounting for long-term quality of life benefits. |

IMPLICATIONS/CONCLUSIONS



- ✓ HPV vaccines has significantly reduced the incidence of HPV-related infections and adding boys to girls only HPV vaccination programme will produce significant herd effects, widening the protection coverage in the community.
- ✓ These herd effects increase with the increase in vaccination rate coverage in both sexes, resulting in incremental direct and indirect health benefits.
- ✓ An increase in vaccination coverage rates in girls only programme, will not address the issue with MSM community. Thus, the herd effects from vaccinating girls only HPV programme will not have the same positive impact, as when vaccinating both sexes.
- ✓ Reducing the three-dosage regime to two dosage regime and taking into consideration the long-term health benefits for the community, adding boys to the girls only programme is proven to be cost-effective.

RECOMENDATIONS

- Education of patients and parents regarding HPV prevention and vaccine safety. People respond best to interpersonal communication from trusted community member, such as health workers and teachers
- Comprehensive information about HPV-related diseases, HPV vaccine and the vaccination programme should be given as part of the informed consent process for vaccination.
- Define best practices for monitoring of HPV vaccine programme in males. A base line can be established from the situation analysis to allow tracking of the progress. Set targets and indicators. Determine how to measure progress.
- Implement different strategies to increase HPV immunisation rates, such as AFIX approach (Assessment, Feedback, Incentives and eXchange).

Reference:

- Bogards, J., Wallinga, J., Brakenhoff, R., Meijer, C. (2015). Direct benefits of vaccinating boys along with girls against HPV. BMJ Best Practice Journal; 350
- Elbasha, E. and Dasbach, F. (2010). Impact of vaccinating boys and men against HPV in the USA. Elsevier Journal, Vaccine 28, 6858-6867
- Luxembourg, A. (2016). Comparison of Immunogenicity of two doses and three doses regimens of 9 valent HPV vaccine
- Zimet, G., Rosenthal, S. (2010). HPV Vaccine and males: Issues and challenges. Elsevier Journal of Gynaecologic Oncology 116, 526-531
- Immunisation Advisory Centre (2013). The 2012 Antigen Review for New Zealand Immunization Schedule: Human Papillomavirus.
- Van de Velde, N., Franco, E., Drolett, M., Boily, M. (2011). Incremental Impact of adding boys to current HPV vaccination programme: Role of Herd Immunity. Journal of Infectious Diseases, 204(3): 372-376
- MOH, 2017. HPV Immunisation Programme. Retrieved, April 15, 2017 from <http://www.moh.gov.nz>

Why Poster? A poster presentation highlights the project. It combines text and graphics to present a project in a way that is visually interesting and accessible. It displays the work to a large group of people and promotes engagement in conversation and ability to receive feedback from interested viewers. The audience is interested in clear, specific accounts of the what and the how of the project which a poster allows. The purpose of a poster is to make people see the value of the research project. A report presents detail information; a poster presents the most valuable information or the take-home message, the one that the audience will understand, believe and accept. A poster presentation can allow for question-and answer sessions, and the exchange of ideas and information regarding the research. Posters are an excellent alternative medium for developing communication skills, involving students in the assessment process, providing opportunities for peer-learning and promoting a positive attitude in students.

PECOT Model Question: Do the changes to the 2017 HPV Immunisation Schedule, affecting 9-26 years old boys and girls lead to herd immunity?

- **What are the incremental health benefits resulting from moving to Gender-Neutral HPV Immunisation Approach?**

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| Population | 9 to 26 years old boys and girls – this is the age affected by the changes in 2017 Immunisation Schedule |
| Exposure (intervention) | Boys and Girls who received HPV vaccine – I will be looking at studies researching the benefits of adding boys to the girls only HPV vaccination programme |
| Comparison (control) | Girls only HPV vaccination programme compared to boys and girls HPV vaccination programme – interested in what the benefits are of gender-neutral approach, compared to girls only approach. |
| Outcome | Herd Immunity – I would like to know the impact on herd immunity by moving to gender-neutral approach |
| Time | Not applicable |