Gender neutral vaccination against HPV

A cause for celebration

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Human papillomavirus (HPV) is a common sexually transmitted virus and the cause of nearly all cervical cancers. In 2008, the UK governments implemented a school based HPV vaccination programme for 12-13 year old girls. This has already substantially decreased HPV prevalence in target populations.¹ When HPV vaccination was introduced, the focus was understandably on preventing cervical cancer. This facilitated a very clear and effective public health message, and in recent years vaccine uptake in the UK has remained consistently high (over 80%).²

Over the past decade, however, awareness of the burden of HPV attributable cancers in men has increased. Oropharyngeal cancers, primarily cancers of the tonsils and tongue base, have become more common across the developed world. In the UK, between 2002 and 2011, incidence of oropharyngeal cancers increased by 101%, with three quarters of cases occurring in men, and more than half being caused by HPV.³ In England in 2016, there were 8.9 oropharyngeal cancers per 100 000 men, compared with 9.4 cervical cancers per 100 000 women.⁴ In Wales, as in the United States, oropharyngeal cancers in men are now more common than cervical cancers in women (12.4 v 9.9 per 100 000, respectively).⁵ ⁶ Incidence of anal cancers has also increased, with more than 80% attributable to HPV,⁷ although these cancers are still more common in women than men (3.1 v 1.7 per 100 000).⁸

**Cost effective**

The Joint Committee on Vaccination and Immunisation (JCVI) is the expert group that advises the UK governments on vaccination policy. Advice is largely based on cost effectiveness modelling, performed according to the National Institute for Health and Clinical Excellence’s methodology. Since 2013, the JCVI has reviewed evidence supporting vaccination of males. In November 2015, the committee advised that the vaccine should be available to gay men.⁹ Then, in July 2018, the JCVI recommendation was revised to support gender neutral vaccination.¹⁰ This reflected increasing incidence of HPV associated cancers in men, coupled with technical changes to the cost effectiveness model’s assumptions, to recognise that the benefits of vaccination will accrue over an extended period. Additionally, the change from the original three dose schedule to a two dose regimen has reduced costs, while the switch to a vaccine formulation conferring protection against HPV types that cause genital warts, as well as those that cause cancer, has increased benefits. The most recent analysis suggested that vaccinating boys would prevent cases of HPV attributable cancers in women—for example, cervical, vulval, vaginal, and anal cancers; and in men—including oropharyngeal and anal cancers. On this basis the JCVI concluded that vaccinating boys confers clear health benefits.

Equality of treatment for all sexes and sexual orientations has been a strong argument for gender neutral vaccination. Vaccinating only girls does not offer a comparable level of protection to boys. Vaccinating only girls may also reinforce the impression that sexual health is primarily a female responsibility. The JCVI is a scientific advisory committee and is not tasked to consider ethics and equality issues; it did observe, however, that if an equitable vaccination programme including both boys and girls was compared with no vaccination, then the equitable programme would be highly cost effective. The recommendations were considered by the Department of Health and the UK health ministers, who ultimately decide vaccination policy. The health ministers in Wales, Scotland, and England quickly announced that in future boys would be included in the vaccination programme. This decision was welcomed by the Royal College of General Practitioners, which announced it was “delighted that the HPV vaccine will be extended to adolescent boys.”¹⁰ Internationally, the UK now joins around 20 countries that already recommend gender neutral HPV vaccination, including Australia, Austria, Brazil, Canada, Germany, Israel, Italy, New Zealand, Norway, and the US.

**Public health message**

To ensure high uptake of HPV vaccination in adolescent boys as well as girls, a clear public health message must accompany roll-out of gender neutral vaccination. It is important to stress that HPV is a common infection, and most sexually active adults, both men and women, will be exposed to it. Furthermore, HPV causes a wide range of diseases in men and women, including cervical cancers, oropharyngeal cancers, anal cancers, and genital warts. The HPV vaccine is highly effective, as shown by both a recent Cochrane review and a supplementary analysis of that review,¹¹ and to ensure maximum efficacy, vaccination must occur before sexual debut (that is, during adolescence). The same review found no evidence of an increased risk of serious adverse effects associated with HPV vaccines.
This policy change represents the culmination of a long journey, beginning with recognition that cervical cancer had an infectious cause, through identification of HPV as the agent responsible, to development of subunit vaccines through recombinant DNA technology, followed by accumulating evidence for multiple malignancies caused by HPV, and finally to implementation of gender neutral national vaccination. This story is an important victory in the struggle against infectious disease and cancer, and it should be celebrated.

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6 White C. Aggregated oral head and neck cancer subsites: base of tongue (C01), oropharynx (C10), lingual tonsil (C02.1), soft palate (C05.1), uvula (C06.2), tonsil (C09) for males, females, and persons in Wales, 2001-2015: numbers of cases and European age standardised rates per 100 000 population. Welsh Cancer Intelligence and Surveillance Unit, Health Intelligence Division, Public Health Wales: Statistical Report, 2017:2684b.


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