



JABS FOR THE BOYS:

The case for gender-neutral
HPV vaccination

HPV**ACTION**.ORG

HPV Action believes that the UK national HPV vaccination programme should include both boys and girls to prevent a range of HPV-related conditions, including cancers and genital warts. This would improve public health, tackle health inequalities and be cost-effective.

Key messages

- HPV is a very common sexually transmitted infection that is responsible for 5% of all cancers. It also causes genital warts.
- Over 2,000 men a year in the UK are diagnosed with an HPV-related cancer and 48,000 with genital warts. Incidence rates of HPV-related anal, head and neck cancers are increasing rapidly.
- Vaccinating girls does protect some men against HPV but not men who have sex with men (MSM) or men who have sex with unvaccinated women.
- Offering HPV vaccinations to MSM via sexual health clinics is a welcome but insufficient step. It will neither protect the MSM population as a whole nor men who have sex with women.
- Vaccination is most effective when delivered to boys and girls aged 12/13 years, before infection through sexual activity and when the immune response is greatest.
- Gender-neutral vaccination for all adolescent boys and girls is the only certain way of creating real 'herd immunity' against HPV infection.

- HPV Action estimates that the cost of vaccinating boys would be £20-22 million a year at most. This is modest when compared to the costs of treating HPV-related diseases.
- Support for HPV vaccination for boys as well as girls is now widespread and growing among clinicians, scientists, patient groups, policymakers and parents.
- HPV vaccination for boys is now recommended in an increasing number of countries. Australia began to vaccinate all adolescent boys in 2013.
- The current timescale for a decision on vaccinating boys in the UK is far too long. 2020 has been mooted as a rollout date, seven years after the government's vaccination advisory committee (JCVI) began to look at the issue. 400,000 more boys are left at risk with each year that passes.
- It is unethical, discriminatory and poor public health policy to exclude boys from the HPV vaccination programme. It may also be in breach of equality legislation.
- **The government must now act quickly to introduce gender-neutral HPV vaccination in the UK.**

Introduction

HPV vaccination for boys is now a very live health policy issue in the UK and elsewhere. The government's advisory body, the Joint Committee on Vaccination and Immunisation (JCVI), is looking at whether all adolescent boys should be included in the national vaccination programme. This programme has been vaccinating girls aged 12/13 since 2008.

In November 2015, the JCVI recommended that men who have sex with men (MSM) should be offered HPV vaccinations at sexual health clinics. The JCVI's decision on the vaccination of all boys is expected in 2017.

HPV Action believes that all adolescent boys should be vaccinated at the same time as girls. MSM should also be offered the vaccination because they receive no protection from a girls-only programme and are at particular risk of HPV-related diseases. These steps are complementary and both are essential to reduce HPV infection and disease in men. However, vaccinating all boys is the most effective way to protect males against cancer, pre-cancers and genital warts.

The vaccination of boys is supported by HPV Action's 44 member organisations as well as the BMA and Jo's Cervical Cancer Trust. Cancer Research UK has stated that 'the most effective option for improving public health would be to offer HPV vaccination to both boys and girls at age 12/13.'¹ An increasingly wide range of individual scientists, academics, clinicians, policymakers and politicians also support gender-neutral vaccination.

Background

Human papillomavirus (HPV) is a very common sexually transmitted infection. It is so prevalent that an estimated 70-80% of sexually active men and women acquire it at some point in their lives.²

There is a 50-80% chance of HPV transmission following unprotected sexual intercourse with someone with a current HPV infection.³ Most people are unaware they have been infected and, fortunately, their bodies clear the infection naturally with no lasting harm. In an estimated 3-10% of cases, especially among people with a weakened immune systems (e.g. because they are HIV-positive), the virus persists and can lead to serious health problems for both males and females.

HPV infection is widely known to be a cause of cervical cancer, but it is also associated with other anogenital cancers (vaginal, vulval, anal and penile) as well as several head and neck cancers. Overall, HPV is responsible for about 5% of all cancers worldwide. It also causes genital warts, a very common sexual health problem, and a rarer condition known as recurrent respiratory papillomatosis (RRP). RRP is an often disabling breathing disorder caused by non-cancerous tumours in the respiratory tract.

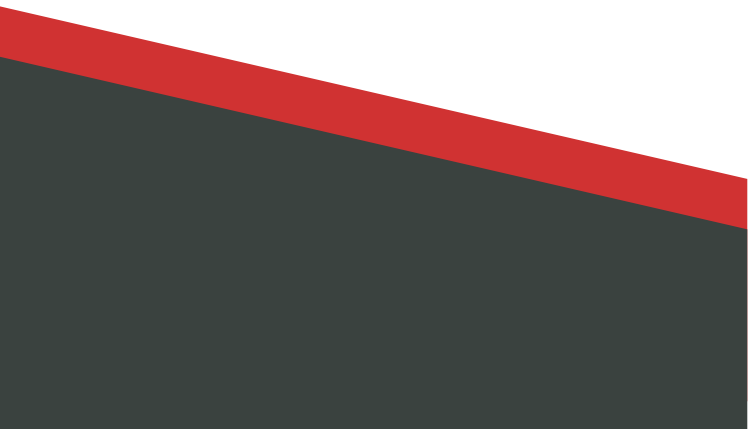
HPV Action estimates that, in the UK in 2011, HPV caused almost 5,000 new cancer cases in women and over 2,000 cases in men.⁴ In addition, HPV causes around 39,000 new cases of genital warts in women and 48,000 cases in men each year. At any one time, some 1,200 people (men and women about equally) live with RRP.

The incidence of anal and head and neck cancers has increased significantly in recent years.

The incidence rate of anal cancer in men in Great Britain has increased almost four-fold since 1975 and in women almost five-fold.⁵ Anal HPV prevalence among women is twice that among men who have sex with women.⁶ While anal cancer occurs most often in women, the incidence of anal cancer is highest in MSM. In fact, the incidence in MSM is estimated to be equivalent to that of cervical cancer in an unscreened population, and is even higher in HIV-infected MSM.⁷ Over 90% of anal cancers are caused by HPV.

An estimated 1,850 cases of head and neck cancer were caused by HPV in the UK in 2011, of which over 1,400 were in men. The incidence of these cancers is rising dramatically: the rate in men and women in England is expected to roughly double between 1995 and 2025.⁸ The head and neck cancer site with the biggest increase is the oropharynx. Cancer in this site is caused by HPV in over 70% of cases and men are much more likely to be affected.

Vaccination is the most effective way to protect against HPV infection and its related diseases, including cancer.



Why vaccinate boys?

There is no doubt that HPV causes disease in both sexes. However, it has been argued that there is no need to vaccinate boys if vaccination rates in girls are high enough (at least 80%) because the boys will be protected by the vaccinated girls. The latest data shows that about 90% of UK girls now receive all their vaccine doses.

Vaccinating girls does indeed reduce HPV infection in boys and leads to falls in the incidence of warts in males of the same age as vaccinated girls.^{9,10} But the reduction in males is significantly smaller than in females and they remain at a higher risk of HPV-related disease.

- Men who have sex with men (MSM) are completely unprotected by the vaccination of girls.
- Men who have sex with unvaccinated women continue to be at risk. With a 90% female vaccination rate, a man has an average 1 in 10 chance of 'meeting' an unvaccinated woman at a new sexual encounter. 20% of men in Britain aged 16-24 have had 10 or more female sexual partners¹¹.
- Men who have sex with women in those areas of the UK where vaccination rates for girls are much lower than the national average, such as East Sussex, Cornwall and several London boroughs, are at greater risk of HPV infection.¹²
- Women in the UK who did not take up the offer of vaccination in adolescence may also be disproportionately likely to acquire or transmit HPV because being unvaccinated is a marker for high-risk sexual behaviour.¹³ If men are vaccinated, unvaccinated women would also be less likely to be infected with HPV.
- There are women who come to the UK from countries where there is no HPV vaccination

programme or where vaccination rates are very low.¹⁴

- Men may have sexual contact with unvaccinated women when they visit other countries. 8% of men of all ages are thought to have had at least one sexual partner from outside the UK in the past five years and the proportion among younger men is far higher: 13% of 16-24 year olds and 15% of 25-34 year olds.¹⁵
- Men may have sex with women who are too old to have been eligible for HPV vaccination as an adolescent in the UK or elsewhere.
- The proportion of girls vaccinated through the national programme might fall in the future as a result of a vaccine scare similar to the one that impacted on MMR vaccination rates a decade or so ago. Vaccination rates have recently fallen sharply in Japan for this reason.¹⁶

While vaccinating girls in sufficient numbers will provide protection for some boys and men, it will not bring about the very important goal of 'herd immunity' (herd immunity occurs when a population has an immunization rate high enough that even those who are unvaccinated are protected from infection because of the very low infection rate among those who have been vaccinated).

Men who have sex with men: a target for vaccination?

MSM are the group of men most at risk of HPV infection and its consequences, particularly MSM who are HIV-positive. MSM are, for obvious reasons, completely unprotected by a girls-only vaccination programme, however high its uptake.

A vaccination programme targeted at MSM aged up to 45, to be delivered through sexual health clinics, has been recommended by the JCVI. HPV Action believes that such a programme would be valuable and help to reduce the risk of infection in those who receive the vaccination. However, there can be no certainty that enough of the MSM population will be reached – or reached at the optimal time – to produce herd immunity in this group.

- Offering HPV vaccinations to adult MSM would be less effective because many will already have been infected with HPV.^{17,18} Vaccination at a younger age also produces a much greater immune response providing a higher level of protection against infection in the future.
- The Stonewall health survey¹⁹ found that 44% of gay and bisexual men had never discussed sexually transmitted infections with a healthcare professional, suggesting they may have never used a sexual health service.
- MSM who attend GUM clinics, often do not do so until their late 20s when they may well already have HPV.²⁰

Despite advice that MSM should have an HIV and STI screen at least annually, and every three months if having unprotected sex with new or casual partners, an estimated 7,200 (16%) MSM who are living with HIV remain undiagnosed.²¹

It is best practice to vaccinate before 'sexual debut' and exposure to HPV. This is especially important for males because they have a poorer natural immune response HPV than females but a very good immune response to vaccination.²² But it would, of course, be neither ethical nor practical to try to identify and vaccinate adolescent boys

who might later become MSM. The best way of protecting MSM is therefore to vaccinate all boys.

Equity and justice

HPV Action believes that it is unethical and discriminatory to withhold a medical intervention of proven effectiveness from a population group – in this case, males – that, if untreated, remains at risk of a range of potentially life-threatening diseases.

Vaccinating females only implies that they alone are affected by HPV-related diseases or are solely responsible for transmitting and preventing HPV. In reality, both men and women transmit HPV and both should be protected against this carcinogenic virus. Not vaccinating boys also minimises the importance of men's health.²³

Excluding boys may be in breach of the Equality Act 2010, the Health and Social Care Act 2012's requirement for health inequalities to be reduced, and the NHS Constitution's commitment to provide 'a comprehensive service, available to all irrespective of gender [and] sexual orientation.'

A further equality issue is that an increasing number of parents, who are well-informed about HPV and who have the financial resources (typically about £400), are choosing to have their sons vaccinated privately. This inevitably means that males in lower-income groups will be left at greater risk of HPV-related diseases.

A vaccination programme for MSM aged up to 45 creates new inequalities because women, and men who have sex with women, in the same age group would be excluded even though they are also at risk.

Other countries

The vaccination of boys as well as girls is now recommended in an increasing number of countries around the world: Australia, Austria, Canada, Israel, Switzerland, the USA and the German region of Saxony (the area around the city of Dresden) as well as the Italian regions of Emilia-Romagna (around Bologna) and Sicily. The Norwegian Institute of Public Health and Ireland's Health Executive have also recommended the inclusion of boys in their national HPV vaccination programmes.

The vaccination of boys is therefore not a peculiar or even particularly innovative concept: it has now become part of mainstream public health policy in an increasing number of countries comparable to the UK.

Parental acceptability

Parental attitudes to HPV vaccination for males in the UK appear to be positive, even though there has, as yet, been no attempt by the NHS to provide information or guidance about this issue. 85% of UK parents already believe that boys should be vaccinated against HPV to reduce the overall transmission of HPV in the population.²⁴ 75% of parents said they wanted their own sons to be vaccinated.

Cost

The JCVI makes recommendations about vaccination policy based on assessments of cost-effectiveness. Such assessments are highly complex but nonetheless limited in scope: they ignore the welfare benefit and employers' costs of ill-health, for example.²⁵ Cost-effectiveness can – and should – be considered alongside other key factors including ethical, social and patient issues.²⁶

Nevertheless, other countries have already deemed it cost-effective to vaccinate boys. In Australia, this was confirmed by the independent Pharmaceutical Benefits Advisory Committee. An academic analysis has also found gender-neutral vaccination to be cost-effective in the Italian context.²⁷

The cost of extending the vaccination programme to boys in the UK would be relatively modest, especially now that two doses of the vaccine are required instead of three. HPV Action estimates the additional cost as being in the region of £20-22m a year at most.²⁸

This amount has to be set against the costs of treatment for HPV-related diseases. The cost of treating anogenital warts alone is an estimated £58.44 million a year in the UK.²⁹ Men make up about 55% of warts cases, so the approximate cost of treating just male warts is over £32 million a year. The costs of treating oropharyngeal cancer have been rising sharply in recent years as the incidence has increased, mainly because of HPV. Between 2006/7 and 2010/11, the secondary care costs alone increased from an estimated £17.21 million a year to £30.32 million, a rise of 76%.³⁰

The cost of treating each case of invasive anal cancer from referral through to either completion of follow-up or death has been estimated at £16,473 in England;³¹ the total cost of treating just the 414 men diagnosed with anal cancer in 2011 will therefore be in the region of £6.8 million. The cost of treating RRP has been estimated at £4 million a year in the UK.³²

A study of the cost of treating nine major HPV-related diseases (the different cancers, anogenital warts and RRP) in Italy produced an estimate of almost €530 (£455) million a year³³; a study of the

economic burden of HPV-related cancers in France estimated the cost to be about €240 (£161) million.³⁴

Timescale

The JCVI's current examination of whether to vaccinate all adolescent boys began in 2013. It was originally envisaged that the JCVI would make a recommendation to the Department of Health in 2015. In 2014, it announced that a decision would be delayed until 2017 to enable the completion of modelling work. The Independent Cancer Taskforce suggested that, even if the JCVI decides in 2017 to vaccinate boys, implementation would not begin before 2020.³⁵ This very long timescale is of great concern as, each year, it leaves a cohort of about 400,000 boys unvaccinated and at risk of a range of HPV-related diseases, including cancer and anogenital warts.

HPV Action believes that the decision-making process must be accelerated and that gender-neutral vaccination should be rolled out nationally as soon as possible.

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About HPV Action

HPV Action (HPVA) is a collaborative partnership of 44 patient, professional and other organisations that are working to reduce the health burden of HPV through the introduction of gender-neutral vaccination. This means that all boys and girls will be routinely offered vaccination against HPV at the age of 12/13.

HPV Action's members are:

British Association for Sexual Health and HIV, British Association of Dental Therapists, British Dental Association, British Dental Health Foundation, British Federation against Sexually Transmitted Infections, British Society for Immunology, British Society of Dental Hygiene and Therapy, Brook, Cancer Focus Northern Ireland, Children's HIV Association of the UK & Ireland (CHIVA), ENT UK, European Men's Health Forum, Faculty of Public Health, Faculty of Sexual and Reproductive Healthcare, Family Planning Association, GMFA (Gay Men's Health Charity), HPV and Anal Cancer Foundation, Let's Talk About Mouth Cancer, London Cancer Alliance, London Friend, MEDFASH (Medical Foundation for HIV and Sexual Health), Men's Health Forum (England and Wales), Men's Health Forum Ireland, Mouth Cancer Foundation, National Aids Manual, National Association of Laryngectomee Clubs (NALC), National Union of Students, Northern Head and Neck Cancer Fund, Oral Cancer Foundation (USA), Primary Care Urology Society, Rainbow Project, Reproductive Health Matters, Royal College of Obstetricians and Gynaecologists, Royal Society for Public Health, The School and Public Health Nurses Association, Sexpression:UK, Society of Sexual Health

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The logo for HPV Action .ORG. The word "HPV" is in a bold, black, sans-serif font. The word "ACTION" is in a bold, white, sans-serif font, set against a red, speech-bubble-shaped background that points downwards. To the right of "ACTION" is ".ORG" in a smaller, black, sans-serif font.

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