

Vaccinate boys as well as girls against HPV

Protecting boys as well as girls by vaccinating against human papillomavirus may cut the incidence of genital warts and several cancers among both sexes and may be cost effective, writes **Gillian Prue**

Human papillomavirus (HPV) infection is common in men. Many of these infections are transient and clinically insignificant, but persistent infection with HPV types 6 and 11 can lead to genital warts, and oncogenic types 16 and 18 may lead to some head and neck, anal, or penile cancers. The incidence of each of these cancers has increased worldwide in the past two decades, and HPV causes 5% of all human cancers.

Since September 2008 a free vaccination programme has been available for 12-13 year old girls in the United Kingdom, with a catch-up programme to vaccinate girls aged up to 18. Australia, the United States, two Canadian provinces, and Austria have introduced vaccination for boys as well as girls. And now the UK's Joint Committee on Vaccination and Immunisation, an advisory committee of the Department of Health, is investigating whether to extend the HPV vaccination programme to boys (see www.gov.uk/government/groups/joint-committee-on-vaccination-and-immunisation). The cost effectiveness of the vaccine is a key consideration.

HPV related disease in men causes a considerable burden; therefore, vaccinating boys is likely to produce more health and economic benefits than those from a girls-only programme. A study of 4065 males aged 16-26 found that the quadrivalent HPV vaccine prevented genital warts and penile and anal cancer.¹ And a meta-analysis of 22 studies (including 8360 men) examining men's attitudes and acceptance regarding HPV vaccination found a moderate level of acceptance in this population.²

Various mathematical models have estimated the potential impact of a male vaccination programme, and its cost effectiveness is debated. Many models do not support the inclusion of men, but specifically men who have sex with men (MSM) are often excluded, and the focus is largely on the effect of the vaccine in terms of cervical cancer outcomes and not on predicting its effect on other cancers related to HPV.³ A recent Norwegian study considered all HPV related diseases and extending the programme to

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boys. It concluded that, although it might be cost effective to include boys, increasing the coverage in girls was uniformly more effective and cost effective.⁴

If uptake is low in girls, the benefit of vaccinating boys is easily apparent. However, with high uptake in girls, vaccinating both sexes is less cost effective. Nevertheless, a European study that assessed male vaccination and all HPV carcinomas showed that vaccinating 12 year old boys and girls would be associated with substantial additional clinical benefits—namely, reduced incidence of HPV related genital warts and carcinomas, compared with vaccinating only girls.³ This additional benefit was noted even with an overall coverage of only 70%. In addition, a two dose schedule (in place of the current three dose schedule) will be introduced in the UK in September⁵; this will increase the cost effectiveness of vaccinating boys as well as girls.

Although the UK's vaccination programme reaches more than 80% of girls, many communities have much lower coverage rates: in half of London's primary care trust areas less than 80% of girls are vaccinated⁶; and a University College London study found that uptake was lower among minority ethnic groups.⁷

Concerns are also growing that some new "academy" schools may not accommodate school nurses and vaccination programmes.⁸ Uptake may also be low for boys in these groups, but vaccinating them would help to protect the girls. Boys themselves would be protected from

acquiring HPV infection from non-vaccinated women and from other men.

The current girls-only vaccination programme leaves MSM at particular risk of infection because they do not benefit from any herd protection. Indeed, a programme targeted at MSM in the UK may be the most effective; its benefit may be limited, however, because many MSM acquire HPV as teenagers⁹ and may have been exposed to HPV already.

As for men who have sex with women, the extent to which they benefit from a girls-only vaccination programme even with a high uptake may also be limited. For example, in Denmark HPV vaccination has significantly reduced the incidence of genital warts among women but not among men.¹⁰

The suffering caused by HPV related diseases is self evident. The economic costs are also considerable: a study of treating nine major HPV related diseases in Italy produced an estimate of almost €530m (£420m; \$714m) a year.¹¹ And the cost of treating genital warts was almost £17m in England in 2008.¹²

Ultimately, any decision about whether to vaccinate boys should not be based solely on cost effectiveness. Public health, equity, and the human costs of HPV related disease for both sexes must be the main considerations.

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NO HOLDS BARRED Margaret McCartney

What should we die from?

“If we don’t die of cancer, what are we going to die of?”

“Our objective is to make sure that fewer people die of cancer.”

This was an exchange between the presenter Evan Davis and Harpal Kumar, the chief executive of Cancer Research UK, on Radio 4’s *Today* programme on 29 April. It reminded me of “pass the parcel” in reverse: like the children’s party game, but where you don’t want to be left holding the parcel when the music stops. The parcel represents a person being passed from one healthcare charity to another, none of them wanting the music to stop—that is, for the person to die of a cause related to that charity’s work.

This desire to ascribe the cause of death to something else—is it of any benefit? Would it signify success if no more deaths were caused by cancer? Maybe; some cancers are particularly nasty, causing pain and disability, fracturing life, and causing early death. But other cancers barely cause a blip on our existence.



It can be hard to believe that death can involve anything other than fault and blame

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And what should we die from instead? It’s worth asking, because the cause may well affect the kind of death we have—and we should rightly be concerned about that.

Do we want a sudden death, from a heart attack or a stroke, with no warning and with little pain or suffering? We could live in good health until that moment, unburdened by worry about what lay ahead. But such a death would give us no time to acknowledge the end of our life. Would we miss having the time to draw our families and friends together?

I’ve had the pleasure of witnessing this type of living wake, where the dying person is comfortable, often infused with morphine, central to the room, having their feet rubbed by a son or daughter as food, drink, and bittersweet conversation fill a room already stuffed with love.

Would we prefer a slower decline into frailty—fracturing our hip, being in hospital for weeks, coming home to develop pneumonia, and recovering only to have a stroke—

with a sliding loss of independence?

Certainly, we should not want our lives to be cut short. But in medicine we are often taught to see death as a failed medical endeavour. It can be hard to believe that death can involve anything other than fault and blame—that is, we see it as something that could have been averted with an earlier diagnosis, a quicker scan, or a better treatment.

But thinking like this only makes dealing with death harder. I’m still struck by my own distress about death—whether at home or at work, and even when it’s expected—despite my knowledge of its inevitability and the fact that it’s often a relief. Seldom, in medicine, do we seem to celebrate good deaths; perhaps it’s time we allowed ourselves to.

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ALL THINGS CONSIDERED

If a dog is tied to a bicycle

The senior house officer was fuming: “A&E! They’ve done it again! They’ve sent round an acute coronary syndrome who has blatantly got cholangitis.” He wasn’t prepared to let it go. “You’ve got to say something. This is a waste of our time and our bed.” It was clear that the patient’s initial working diagnosis was wrong and that he needed referral to the surgeons.

But there was little point in being upset; we have to accept that a certain portion of our referrals may have alternative diagnoses. My reply, however, may have seemed cryptic: “If a dog is tied to the back of a bicycle that is being pedalled forwards, which way does the dog run? It only has one choice—run forwards. If it runs backwards, it will go nowhere or, worse still, strangle itself.”

I was reflecting on an episode of the Channel 4 television series *Philosophy: A Guide to Happiness*,¹ in which Alain de Botton takes us through the teachings of Seneca, a Roman

philosopher. In it he shows a London van driver raging daily at the inconsiderate driving habits of others. Seneca called anger “the most hideous and frenzied of all emotions.” He felt we could control it by altering our view of the world. The London van driver set off every day knowing that people would drive in the way that they did. Yet each day, he was surprised and outraged, and each day he found himself getting worked up.

As doctors, we know that diagnoses may have to be revised in the light of new information. We know that things may go wrong during our working day. Yet each day many of us act surprised by what we encounter at work and rail at the injustice of it all. In the TV programme, de Botton rides a bicycle with a dog tied to the back to illustrate Seneca’s example of accepting one’s fate. Unlike dogs, however, we can reason. We can consider what things we can change, and what things we



can’t. When we can’t change things, we need to change our attitude towards them—and accept that the diagnosis on referrals may not reach 100%, that blood samples may go missing, or that there are 25 patients waiting to be seen at the start of your shift. By accepting things a little more “philosophically,” we can focus on what we can change and improve rather than dwelling on what we can’t.

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¹ *Philosophy: a guide to happiness* [TV series]. Channel 4, 2000.

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