

The recently developed HPV vaccine offers some hope in reducing the levels of cervical cancer but concerns have been expressed about its efficacy and the usefulness of vaccination programmes – particularly with regard to long-term effects and that it only protects against 4 out of the 200 HPV viruses. Key questions need to be asked about how vaccination is offered and to whom. It is only effective in women if given before commencing (heterosexual) sexual activity and herd immunity will only be achieved if both young men and women are vaccinated. Vaccination programme effectiveness would also need to be based on known rates of HPV infection as cervical cancer can also be caused by strains other than those for which the vaccine provides protection. Studies in the United States of America suggest that the incidence for types 16 and 18 is significantly lower than previously thought, that infection rates vary by age and most HPV infections are asymptomatic.<sup>4-7</sup>

This is an important point when considering the primary prevention of cervical cancer and HPV infection. Cervical cancer is usually a sexually transmitted disease, yet as many as two-thirds of women who are infected with the HPV virus will not develop cervical cancer. Primary prevention strategies providing factual information regarding transmission of sexually transmitted infection (STI) and the teaching of safer sex negotiation skills are potentially highly effective at a relatively low cost.<sup>8</sup> Condom use has been shown to help prevent the transmission of the HPV virus as well as other STIs. However, in many circumstances it is not always possible for women to negotiate the use of the condom, especially within marriage. Of particular interest, therefore, are current studies being undertaken in Nairobi and Zimbabwe to examine the use of the diaphragm as a tool to prevent the transmission of not only HPV, but also HIV and other STIs.<sup>9,10</sup> The advantage of the diaphragm for women is that her partner is not necessarily aware that she is using the device, which can be cleaned and reused.

While of obvious benefit and importance, cervical cancer screening programmes and HPV vaccination are not in themselves totally effective strategies. Screening may detect early (or more advanced) lesions but this is not without problems. Likewise, a population vaccination programme for HPV also raises questions that have, so far, not been answered satisfactorily. Primary prevention through education and promotion of safe sexual practices must, therefore, remain a key plank of any programme aimed at reducing cervical cancer deaths in the long term and substantially contributing to the MDGs. ■

#### References

1. Raffle AE, Alden B, Quinn M, Babb PJ, Brett MT. Outcomes of screening to prevent cancer: analysis of cumulative incidence of cervical abnormality and modelling of cases and deaths prevented. *BMJ* 2003;326:901. PMID:12714468 doi:10.1136/bmj.326.7395.901
2. Dyer O. Government fails to meet targets for sexually transmitted infections. *BMJ* 2003;326:900. PMID: 1157074
3. Fahey MT, Irwing L, Macaskill P. Meta analysis of Pap Test accuracy. *Am J Epidemiol* 1995;141:680-689. PMID:7702044

## Round table discussion

### A sexual health prevention priority

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Wittet and Tsu are right to point to the link between cervical cancer deaths and achieving the MDGs and the inequity in the burden of cervical cancer between developed and developing countries. Any programme that reduces cervical cancer incidence and mortality rates in low-income and lower middle-income countries is clearly to be welcomed. Addressing women's welfare, family education and thus poverty through screening, treatment and prevention will play an important role in tackling inequalities, although access to screening and vaccination is likely to be inequitable if programmes are not provided in a systematic and comprehensive way. We would argue, though, that cervical cancer screening and HPV vaccination should be seen as integral parts of, rather than separate from or instead of, a wider sexual health promotion programme.

Cervical cancer prevention can be viewed in a similar way to any other sexually transmitted infection. Screening women for cervical cancer is clearly important but a comprehensive and universal screening programme requires substantial resources and infrastructure and so the opportunity costs of such a programme need to be carefully considered. All cancer screening programmes result in unnecessary intervention or lack of intervention due to the sensitivity and specificity of tests that can be costly in terms of public spending but also in personal anxiety and distress.<sup>1-3</sup> As Wittet and Tsu report, however, new "see and treat" programmes will make an important contribution to cervical cancer treatment.

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4. Winer RL, Lee SK, Hughes JP, Adam DE, Kiviat NB, Koutsky LA. Genital human papillomavirus infection: incidence and risk factors in a cohort of female university students. *Am J Epidemiol* 2003;157:218-226. PMID:12543621 doi:10.1093/aje/kwf180
  5. Ho GYF, Bierman R, Beardsley L, Chang CJ, Burk RD. Natural history of cervical human papillomavirus infection in young women. *N Engl J Med* 1998;338:423-8. PMID:9459645 doi:10.1056/NEJM199802123380703
  6. Dunne EF, Unger ER, Sternberg M, McQuillan G, Swan DC, Patel SS, et al. Prevalence of HPV infection among females in the United States. *JAMA* 2007;297:813-9. PMID:17327523 doi:10.1001/jama.297.8.813
  7. Zimmerman RK. Ethical analysis of HPV vaccine policy options. *Vaccine* 2006;24:4812-20. PMID:16603278 doi:10.1016/j.vaccine.2006.03.019
  8. Shepherd J, Peersman G, Weston R, Napuli I. Cervical cancer and sexual lifestyle: a systematic review of health education interventions targeted at women. *Health Educ Res* 2000;15:681-94. PMID:11142076 doi:10.1093/her/15.6.681
  9. Bakuski EA, Kungu D, Duerr A, Tevi-Benissan C, Sunderam M, Cohen CR. Acceptability of the diaphragm among women at risk for sexually transmitted diseases in Nairobi, Kenya [Abstract no. MoPeD3658Int]. *Int Conf AIDS*, 7-12 July 2002.
  10. Van Der Straten A, Mi Suk Kang, Posner S, Kamba M, Chipato T, Padian N. Predictors of diaphragm use as a potential sexually transmitted disease/HIV prevention method in Zimbabwe. *Sex Transm Dis* 2005;32:64-71. PMID:15614123 doi:10.1097/01.olq.0000148301.90343.3a
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