HPV vaccine: Can we afford to hesitate?

To the Editor: Cervical cancer, caused by human papillomavirus (HPV) infection, is highly prevalent in sub-Saharan Africa. The estimated annual incidence of cervical cancer is 35/100 000 women, with 22.5/100 000 associated deaths. This is in stark contrast to the 6.6/100 000 cases and 2.7/100 000 deaths reported in developed countries such as the USA, where HPV vaccination has been available since 2006.[1,2]

A vaccine is only approved after extensive clinical trials prove that the benefits of vaccination outweigh any possible risks associated with it. Governmental and non-governmental health organisations scrutinise these clinical trial data through independent medicines review agencies and academic institutions before vaccines are approved and accepted for use (Table 1). Currently, two commercially available HPV vaccines are approved in more than 130 countries, and more than 175 million doses have been distributed worldwide.[3] The USA and Austria in 2006, Australia, Canada, Belgium, France, Germany and Italy in 2007, and the UK and others in 2008 were among the first countries to introduce HPV vaccination as part of their national immunisation programmes.[2] To date, HPV vaccination has been introduced into national vaccination programmes in at least 40 countries,[4] almost all of which have have lower cervical cancer prevalences than South Africa (SA).[2]

The safety of both HPV vaccines has been rigorously tested in clinical trials prior to licensing and as part of ongoing post-marketing surveillance.[2] Data from post-licensure passive, active and population-based epidemiological surveillance studies have not shown any differences in conditions such as Guillain-Barré syndrome, stroke, appendicitis, seizures, allergic reactions, anaphylaxis and venous thromboembolism.[2,5] Reputable global leading health organisations, including the South African HPV Advisory Board, endorse the safety and efficacy of HPV vaccination (Table 1).[6]

Both vaccines showed almost 100% efficacy against precancerous lesions associated with HPV types 16 and 18, which are responsible for around 70% of cervical cancers. Cross-protection was also reported against some non-vaccine types, which could increase protection to up to 85% of cervical cancers.[7] Cancer endpoints will take decades to observe, and it would not be ethical to allow women in a placebo arm of a trial to develop cervical cancer. Several proximal measures of vaccine efficacy such as persistent infection with HPV, incidence of cervical precancers and genital warts, and markers of immunogenicity were therefore used in previous studies. These are now accepted by the World Health Organization for use in future vaccine trials as appropriate endpoints that accurately predict vaccine efficacy against cancer.[4] Data from ongoing follow-up studies show that HPV vaccines are effective for at least 9.4 years; levels plateau early and then stay unchanged, so mathematical modelling studies have predicted long-lasting protection for at least 20 years. In addition, antibody levels, and therefore predicted vaccine efficacy, are highest in girls who receive the HPV vaccine at a younger age, providing a strong incentive for early vaccination.[4]

It can be expected that antivaccine campaigners will take advantage of the HPV vaccine debate, focusing on concerns about safety and isolated reports of adverse events temporally related to vaccination. It is imperative that healthcare professionals are well informed so they are able to answer questions and dispel the myths surrounding HPV vaccination in order to ensure maximum vaccine coverage and herd immunity. The National Department of Health and the SA government are applauded for the bold decision to implement and finance this lifesaving initiative. It deserves the full support of all medical professionals!

Submitted on behalf of the following members of the South African HPV Advisory Board: M H Botha, N Cooreman, G Dreyer, N P Godi, F Guidozzi, B Koller, B G Lindeque, C Maske, J Moodley, M Moodley, A Mouton, K L Richter, L Rogers, T Slavik, T Smith, R Soeters, C Turner, K Voyi, J Whittaker and A Williamson.

The SA HPV Advisory Board is an independent group of clinicians and experts with a special interest in HPV-related disease. The Board is affiliated to the SA Society of Gynaecologic Oncology and the SA Society of Obstetricians and Gynaecologists.

Table 1. Summary of selected leading health organisations that endorse the safety and efficacy of HPV vaccination

Organisation/journal	Available from
World Health Organization's Global Advisory Committee on Vaccine Safety	http://www.who.int/wer/2013/wer8829.pdf http://www.who.int/vaccine_safety/committee/topics/hpv/130619HPV_VaccineGACVSstatement.pdf http://www.who.int/immunization/sage/meetings/2014/april/1_HPV_Evidence_based_recommendationsWHO_with_Appendices2_3.pdf
International Federation of Gynecology and Obstetrics	http://www.figo.org/files/figo-corp/Statement%20on%20Safety%20of%20HPV%20vaccination%20-%20FINAL%20-%20AUGUST%202013.pdf
Global Alliance for Vaccines and Immunisation. Partners include UNICEF, United Nations, Bill & Melinda Gates Foundation, World Bank	http://www.gavialliance.org/support/nvs/human-papillomavirus-vaccine-support/
National Cancer Institute, National Institutes of Health, USA	http://www.cancer.gov/cancertopics/factsheet/prevention/HPV-vaccine
Advisory Committee on Immunization Practices, Centers for Disease Control and Prevention, USA	http://www.cdc.gov/hpv/vaccine.html http://www.cdc.gov/hpv/vaccinesafety.html http://www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/hpv.html
American College of Obstetricians and Gynecologists	http://www.acog.org/Resources%20And%20Publications/Committee%20Opinions/Committee%20on%20Adolescent%20Health%20Care/Human%20Papillomavirus%20Vaccination.aspx
European Medicines Agency, European Union	http://ec.europa.eu/health/sti_prevention/hpv/index_en.htm
Medicines and Healthcare Products Regulatory Agency, UK	http://www.mhra.gov.uk/Safetyinformation/Generalsafetyinformationandadvice/Product-specificinformationandadvice/Product-specificinformationandadvice-G-L/HumanpapillomavirusHPVvaccine/index.htm
Joint Committee on Vaccination and Immunisation, UK	http://clinicalvirology.org/~ukcvn/images/stories/aboutus%20linkspdf/HPV_JCVI_report_18_07_2008virvacc.pdf
Karolinska Institutet, Sweden	http://ki.se/ki/jsp/polopoly.jsp?d=2637&a=168933&l=en&newsdep=2637
Paul Elrich Institut, Agency of the German Federal Ministry of Health	http://www.pei.de/SharedDocs/Downloads/vigilanz/bulletin-zur-arzneimittelsicherheit/2013/3-2013.pdf?__blob=publicationFile&v=4
Immunise Australia Program, Australian Government Department of Health and Ageing	www.australia.gov.au/hpv
National Centre for Immunisation, Research and Surveillance, Australia	http://www.ncirs.edu.au/immunisation/fact-sheets/hpv-human-papillomavirus-fact-sheet.pdf
Ministry of Health, Malaysia	http://www.moh.gov.my/attachments/8106
South African HPV Advisory Board (affiliated to the South African societies of Obstetricians and Gynaecologists and Gynaecological Oncologists)	http://www.sasog.co.za/B_HPVPROPHYLACTICVACCINE.asp http://www.sajgo.co.za/index.php/sajgo/article/view/60/pdf_23
Cancer Association of South Africa	http://www.cansa.org.za/files/2013/11/Fact-Sheet-Human-Papilloma-Virus-Infection-Cancer-Nov-2013.pdf

HPV = human papillomavirus.

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