

## **The WHO Position Paper on Vaccines against Human Papillomavirus (HPV) – the abridged version**

This position paper summarizes essential background data on HPV induced disease and presents the WHO recommendation for programmatic use of the HPV vaccines, emphasizing vaccination against cervical cancer.

### ***Epidemiology and Virology:***

Persistent infection by oncogenic HPV – types is a prerequisite for the development of cervical cancer which each year hits about 500000 women and causes 260000 deaths worldwide. The viral types 16 and 18 alone account for about 70% of all cervical cancers. Other manifestations of HPV infection include vaginal, vulvar, penile and anal cancers, and some cancers of the head and neck. In addition, HPV types 6 and 11 are causing anogenital warts and recurrent respiratory papillomatosis. HPVs are mainly transmitted sexually. Although most individuals become infected shortly after sexual initiation, cervical cancer occurs only in a small fraction of those infected and may take decades to develop. Most victims of HPV induced pathology are found among adult women in low-resource settings.

### ***Vaccinology:***

Two HPV vaccines were recently marketed, both based on non-infectious virus-like particles developed through recombinant DNA technologies. The quadrivalent vaccine contains VLPs for HPV types 6, 11, 16 and 18, whereas the bivalent vaccine targets exclusively on HPV type 16 and 18. 3 intramuscular vaccine doses are recommended over a 6 months period; the possible need for booster doses is not yet established. These vaccines are equally safe and both have shown nearly complete protection against precancerous lesions and other anogenital pathology caused by the respective vaccine-related HPV-types during the 5-6 years of observation so far. The consistency of these observations strongly suggests that similar high rates of protection can be expected also against cervical cancer.

### ***Recommendations:***

WHO recommends that HPV vaccination should be introduced into national immunization programmes where

- i) prevention of cervical cancer is a public health priority
- ii) the introduction is programmatically feasible and economically sustainable, and where
- iii) cost-effectiveness aspects have been duly considered.

As HPV vaccines are most efficacious in females who are naïve to vaccine-related HPV types, HPV-immunization programmes should initially prioritize high coverage in the primary target population of girls aged 9-10 through 13 years. Where possible, such programmes should be part of a coordinated strategy that includes education about risk behaviours for HPV infection and information on the continued value of screening programmes for cervical cancer.

