# Current HPV Vaccines and Future AIDS Vaccines: Common Challenges and Unprecedented Opportunities

Two highly promising vaccines that have become available to prevent cervical cancer have the potential to save hundreds of thousands of women from illness and premature death. These vaccines showed very high efficacy in clinical trials, demonstrating nearly 100% protection against the two strains of human papillomavirus (HPV) that cause 70% of cervical cancers worldwide.

Advocates, researchers and other stakeholders are working to ensure that HPV vaccines will be accessible as quickly as possible in the developing world, where 80% of all cervical cancer cases and deaths occur, and where pre-cancer screening and treatment programs are extremely limited. Ensuring swift and efficient HPV vaccine introduction in developing countries will not only help address the burden of cervical cancer, but as an added benefit, will also provide a valuable opportunity for AIDS vaccine researchers and advocates to learn from the HPV vaccine experiences and apply the lessons learned in planning for future AIDS vaccine introduction.

## Common Challenges and Opportunities

Introduction of HPV vaccines in low and middle income countries is anticipated to be highly complex, and there are many challenges that are likely to be shared with an eventual AIDS vaccine. Of course, the HPV vaccine does not offer a perfect model for an AIDS vaccine – there are some critical differences. For example, HPV vaccines lack a vocal constituency, and there is a general lack of understanding about the linkage between HPV and cervical cancer worldwide. The profile of existing HPV vaccines may be different from an eventual AIDS vaccine in terms of level of protection, duration, and dosing schedule. Nevertheless, there are many areas of common ground and it is critical that the AIDS vaccine field support and learn from the HPV vaccine roll out today in order to inform future access strategies and delivery mechanisms. The following are some of the areas of common concern to both vaccines.

- ***Targeting the same population – sexuality and stigma***: In many countries, HPV vaccines will target pre-adolescent and adolescent girls, a population that is likely to be important for future AIDS vaccine efforts, since young women are at higher risk and are disproportionately infected with HIV during their adolescence, as compared with young men of the same age. A program which provides a vaccine against a sexually transmitted infection (i.e. HIV or HPV) to adolescents and pre-adolescents could arouse community fears about the promotion of early sexual activity or "promiscuity" among vaccine recipients. Alternatively, a vaccine targeted to females could raise undue concerns about the potential impact of the vaccine on future fertility. Such fears could hamper introduction efforts, possibly discouraging those who could benefit from the vaccine from seeking it out, and making it more difficult to persuade parents, the public and governments to support vaccination programs.

- ***New delivery strategies and infrastructure***: Unfortunately, there are few health platforms for reaching pre-adolescent and adolescent girls with any services, including vaccines. Targeting young adolescents will require governments and health care providers to move beyond traditional delivery strategies and vaccination campaigns aimed at infants and young children. Efforts to introduce HPV vaccines may involve school-based or clinic-based delivery strategies, special campaigns, and other approaches. Such services will likely involve additional costs to governments, insurers, and households, but the benefits could be significant. An adolescent delivery platform for HPV vaccines could be enhanced or expanded to include AIDS vaccines and other important health interventions for these populations.

- ***New paradigm for vaccine introduction***: Ensuring rapid access to HPV vaccines in high-need developing countries could help to correct the long-standing paradigm of delayed introduction of novel vaccines in developing countries. There was a twenty-year gap between licensure of hepatitis B vaccine in the West-

Photo Credit: IAVI/Vanessa Vick

ern world and its widespread introduction in the developing world. This is one of the many examples of delays in distributing life-saving vaccines where they are needed most, resulting in avoidable illnesses and deaths. With HPV vaccines there is a concrete opportunity to make good on the promise of early access to life-saving health technologies for people in developing countries.

- ***Complex Messaging***: The introduction of HPV vaccines requires clear communication to an array of audiences about complex concepts such as partial vaccine efficacy and why in some situations girls will be vaccinated, but not boys or adult women. For both HIV and HPV, a vaccine will not replace related efforts, and, in the case of HPV, there is still a need to strengthen cervical cancer screening/testing services, as well as care and support for those already suffering from advanced cancer. As other partially-effective technologies become available, messages will need to be carefully crafted stressing the importance of employing multiple and complementary prevention strategies and to communicate the advantages and limitations of each technology. Getting these messages correct in the context of HPV vaccines is critical and will inform similar complex messaging around HIV prevention.

- ***Demand and Financing***: As with AIDS vaccines, the pharmaceutical industry faces a number of challenges around HPV vaccines. Demand in developing countries is uncertain, and the ability of governments and consumers to pay for vaccines is limited. Special and innovative pricing and financing mechanisms, GAVI purchase funds, and other forms of subsidy and market commitment will be needed to support HPV vaccine introduction. Ensuring sufficient, sustainable resources for vaccine delivery will also be essential.

- ***Women and Reproductive Health***: Women will be a key audience for both vaccines — both as users of the vaccine and as facilitators of access. Reproductive and women's health and rights constituencies may play important roles as advocates for both vaccines. Women often serve as gatekeepers to health care for adolescents and other family members, and play a key role in implementing decisions related to their family's health. Reproductive and maternal and child health services and programs are often a point of entry into the health system for women and adolescents. It will be important to examine the integration of these services with HPV and HIV screening and treatment, and vaccine introduction.

## The Way Forward

AIDS vaccine champions are partnering with allies from the cancer control, reproductive health, adolescent health, and gender equity communities to help accelerate the adoption of HPV vaccines in low and middle income countries, and to ensure that lessons about HPV vaccines are broadly shared with the HIV/AIDS community. As we observe how the global health community considers and secures financing for HPV vaccines, how individual countries make decisions about adoption, and how well the new delivery mechanisms function, the AIDS vaccine field will benefit from a preview of factors that may support or inhibit access and uptake of a future AIDS vaccine. While it will be some years before the development of an effective AIDS vaccine, the opportunity to participate in and learn from HPV vaccine introduction now will help speed the delivery of a future AIDS vaccine so that it can be delivered as quickly as possible to the people who need it most.

### Resources

*AIDS Vaccine Clearinghouse (AVAC)* - www.aidsvaccineclearinghouse.org/hpvwatch.htm

*RHO Cervical Cancer (PATH) Website* - www.rho.org

*IAVI Website* - www.iavi.org

*This brief was made possible by generous grants from the Hewlett Foundation and the Rockefeller Foundation, with additional assistance from the United States Agency for International Development (USAID).*

AVAC AIDS Vaccine Advocacy Coalition
101 West 23rd Street, #2227 New York, NY 10011 USA
avac@avac.org • www.avac.org

*AVAC seeks to create a favorable policy and social environment for accelerated ethical research and eventual global delivery of new HIV prevention options as part of a comprehensive response to the pandemic.*

iavi International AIDS Vaccine Initiative
110 William Street, New York, NY 10038 USA
pubs@iavi.org • www.iavi.org

*IAVI's mission is to ensure the development of safe, effective, accessible, preventive HIV vaccines for use throughout the world.*

PATH
1455 NW Leary Way Seattle, WA 98107 USA
info@path.org • www.path.org

*PATH's mission is to improve the health of people around the world by advancing technologies, strengthening systems, and encouraging healthy behaviors.*