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#### PRECONGRESS WORKSHOP

# Sexual and reproductive health and HIV services: Integrating HIV/AIDS and cervical cancer prevention and control



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#### ABSTRACT

People living with HIV are at an increased risk of acquiring HPV and of developing evolutive cervical cancers (women) and penile and anal cancers (men). Low-cost screening—visual inspection with acetic acid, HPV DNA diagnostics and primary care level treatment, cryotherapy for cervical intraepithelial neoplasia (CIN 2), and primary prevention through HPV vaccination of girls aged 9–13 years—makes the goal of eliminating cervical cancer possible in the long term. Integration of cervical cancer screening and treatment into a sexual and reproductive health service package raises programmatic questions and calls for a continuum of care. The latter is only possible when adequate cytopathology skills and treatment for advanced cancer conditions are available. The present paper highlights the role of member societies of the International Federation of Gynecology and Obstetrics (FIGO) in developing the base for an integrated package that responds to women's sexual and reproductive health needs.

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#### 1. HIV in the world and the global response

According to the Joint United Nations Programme on HIV/AIDS (UNAIDS), at the end of 2011, from among the 34 million people living with HIV, 15 million women aged 15 years or more worldwide are living with HIV. A large majority of these, 11.8 million, live in Sub-Saharan Africa. Despite good progress achieved in the past 5 years, the Sub-Saharan region still reports the highest HIV prevalence rates [1].

Nearly 6.2 million people were receiving antiretroviral therapy in Sub-Saharan Africa at the end of 2011, up from 100 000 in 2003. In 1 year only, between 2010 and 2011, 22% more people have access to treatment. The most dramatic progress in access to treatment was in South Africa, Zimbabwe, and Kenya. Other countries, including Botswana, Namibia, Rwanda, and Swaziland, have similarly achieved a high level of treatment coverage.

Globally, as women and men with HIV are living longer, more productive lives, they are facing a growing burden of comorbidity due to noncommunicable diseases, including cancer, cardiovascular disease,

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chronic respiratory diseases, and diabetes. People living with HIV are uniquely vulnerable and more frequently exposed to risk factors for chronic diseases [2].

Low-resource countries now face a growing "double burden" of noncommunicable diseases and infectious diseases for which vertical systems of service delivery or financing are not appropriate [3]. Healthcare systems in most low- to middle-income countries (LMICs) lack the infrastructure, financing, and human resources to effectively address this double burden [4].

#### 2. Cervical cancer in the world

HPV is the most frequent of all sexually transmitted infections, affecting at least 15%–25% of women globally [5–8], with considerable geographical and social variation, and with higher prevalence among more vulnerable populations. Cervical cancer is caused by infections with high-risk strains of HPV that could not be detected and persisted because of the inability of the host immune response to clear the infection.

More than 100 HPV genotypes are now known. Of these, at least 15 are known to be causally associated with cervical cancer, as well as with other anogenital and oropharyngeal cancers [9]. HPV types 16 and 18 cause about 70% of all cases of invasive cervical cancer worldwide, with type 16 having the greatest oncogenic potential [10]. The average time between initial HPV infection and development

<sup>†</sup> The opinions stated in this paper are those of the authors and do not necessarily represent the views of UNAIDS, WHO, or its member countries.

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of cervical cancer is about 20 years [11]. The peak age of infection in women is soon after sexual debut.

In addition, women living with HIV are 5–6 times more likely to develop cervical cancer compared with the general population. In men living with HIV, HPV is associated with the development of anal and penile cancers, particularly in vulnerable key populations such as men who have sex with men, with high relative risks for both cancers, constituting a serious albeit minority problem compared with cervical cancers [12].

The global burden of HPV-associated cancers is extensive and growing. In 2008, 530 000 new cases were diagnosed with cervical cancer and about 275 000 women died of the disease. Of these women, 88% live and die in LMICs, where access to cancer prevention, screening, diagnosis, and treatment services is extremely limited. African and Latin American countries and India have the highest prevalence of cervical cancer in the world (Fig. 1). The incidence of HPV-related anal and oral cancers has also increased, mainly among men [13], and most occur among those living in LMICs [14,15].

## 3. Challenges for prevention, screening, and treatment associated with HPV/HIV co-infection ${\bf r}$

HPV co-infection is common among people living with HIV, in part because HIV and HPV share a set of risk factors and are both transmitted sexually. HPV prevalence varies in both HIV-positive and HIV-negative populations, but is often higher among HIV-positive populations than in their HIV-negative counterparts. For example, in Rio de Janeiro,

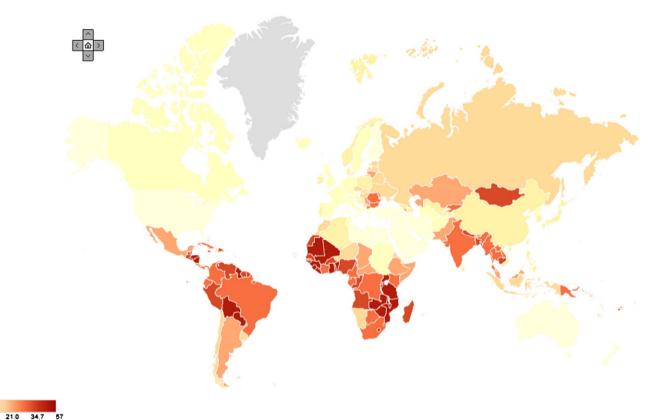
Brazil, 60.6% of HIV-positive women were found to be co-infected with HPV [16]. In Zambia [17], HPV prevalence was 80% among women living with HIV, compared with 55% in HIV-negative participants. In a study in Brazil, 65.6% of HIV-positive men were positive for anal HPV [18].

For women, previous infection with HPV may increase their likelihood of becoming infected with HIV [19]. Owing to their weakened immune systems, people living with HIV are at higher risk of being infected with HPV, often with multiple strains [20,21]. Women living with HIV are also at higher risk of having persistent HPV infections once their HIV infection has progressed to the point of significant immune suppression [22,23]. Furthermore, when women living with HIV are treated for precancers related to HPV, they may experience more frequent treatment failures [24] and disease recurrences than their HIV-negative peers [25]. Finally, HPV infection progresses more frequently and more quickly from early stages of infection to precancerous stages in women living with HIV than in women who are HIV negative [26–28].

Although lower CD4 counts have been correlated with more aggressive forms of HPV disease [29,30], and CD4 counts for people on appropriate antiretroviral therapy regimens rebound to normal levels, antiretroviral therapy does not appear to limit the progression or severity of HPV-related cervical, anal, or oral cancers [31,32].

The risks of acquiring HIV and HPV infection differ slightly. Both HPV and HIV are transmitted via sexual contact, including vaginal, anal, and oral penetrative, but HPV can also be transmitted via nonpenetrative sex. In a heterosexual sexual encounter in which one partner is infected with HPV, there is at least a 20% probability of

#### ▲ Estimated Cervical Cancer Incidence Worldwide in 2008



Roll over the map for country rates.

GLOBOCAN 2008, International Agency for Research on Cancer

Fig. 1. Age-standardized incidence rates for cervical cancer per 100 000 women. Ferlay J, Shin HR, Bray F, Forman D, Mathers C, Parkin DM. GLOBOCAN 2008 v2.0, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 10 [Internet]. Lyon, France: International Agency for Research on Cancer; 2010. Available at: http://globocan.iarc.fr.

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