Opportunities for Women’s and Girls’ Health: Building Global Support to Prevent Cervical Cancer in Developing Countries

Background Paper 2

Fight against cervical cancer:
challenges and opportunities for women’s right to health
27-28 September 2007, Brussels
Opportunities for Women’s and Girls’ Health: Building Global Support to Prevent Cervical Cancer in Developing Countries

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Introduction

Strains of human papillomavirus (HPV) – a large family of viruses – are the proven cause of cervical and anal cancer. This paper focuses on the opportunities for improving women’s and girl’s health through expansion of services that combine recent HPV vaccines with new and existing cervical cancer screening methods. An expanded program of screening and treatment could greatly reduce worldwide morbidity and mortality related to cervical cancer, which is the leading cause of cancer deaths among women in the developing world. Like so many other diseases, the burden of cervical cancer disease and death is disproportionately felt among women in developing countries, as well as poor, uninsured women in some industrialized countries. Combining newly-developed tools with existing strategies could have a profound impact on this disease of women’s poverty. To optimize this impact, stakeholders from many different arenas including sexual and reproductive health, adolescent health, HIV/AIDS, cancer, public health must work together. This background document reviews the demographics of cervical cancer and describes the various stakeholders whose input could help move this critical issue forward. It is a companion paper to “Cervical Cancer Prevention and Treatment” and “Preventing Cervical Cancer: The Imperative of Women’s Right to Health”.

Global Demographics of Cervical Cancer

Every year, nearly half a million women are diagnosed with cervical cancer¹, a potentially deadly cancer caused by certain strains of human papillomavirus (HPV). More than half of these women will die of the disease.² Most of these deaths are preventable with the use of tools that exist today. Many women who live in industrialized countries have ready access to gynecological health care which includes the tools to detect and treat precancerous cervical lesions.

The same cannot be said for women in developing countries. With over-burdened health care systems, fierce competition for financial and human resources, and a low priority assigned to women and girls health, the vast majority of less developed countries (LDCs) have struggled—or failed to attempt—to implement cervical cancer screening and treatment programs on a national scale.

As a result, women in LDCs bear a disproportionate burden of disease from cervical cancer, both in terms of morbidity (the number of women who develop the disease)

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and mortality (the number of women it kills). Data discussed below show that this disproportionate burden is directly related to poor rates of screening. Denny et al. estimate that approximately three quarters of women in industrialized countries have received at least one screening in the last five years, while the number of women in developing countries who can say the same is less than five percent.

Cervical Cancer Worldwide: Select Statistics

- Throughout Africa, cervical cancer is the number one cause of cancer fatalities in women, far surpassing breast cancer.
- Nearly 80% of African women diagnosed with cervical cancer die of the disease.
- India bears a fifth of the world’s total cases of cervical cancer, but lacks a national screening program.
- Every year, five times as many women living in countries in Central and South America receive a cervical cancer diagnosis, compared with their neighbors in the US and Canada.

Africa

In Africa, regional age-standardized incidence rates (ASRs) range from 12.1 per 100,000 women per year in Northern Africa to 42.7 per 100,000 women in Eastern Africa, with a continental average of 29.3. ASRs are used to account for the fact that cervical cancer does not strike all age groups equally. Overall, this translates to 78,897 cases per year, of which 61,671 are fatal – a mortality rate of nearly 80 percent. This far exceeds the global figures: worldwide, the death rate from cervical cancer is roughly 50 percent—in itself a high figure reflecting poverty and poor health systems in many other parts of the world. Screening remains poor throughout the continent. Although South Africa is among the most economically advanced and politically stable of African countries, its policy of screening women over 30 years of age once per decade (much less frequently than in developed countries) is not yet widely followed.

Asia

In Asia, the incident ASR is 15.4 per 100,000 women for the continent, and more than half of these women – 8.4 per 100,000 – die every year. The Middle East, perhaps as a consequence of cultural norms, has some of the lowest rates in the world – a mortality ASR of only 2.9. In Eastern Asia, the same rate is 3.7, but there is more than a four-fold

increase when looking at Southern Asia, where the mortality ASR is 15.4 per 100,000.\textsuperscript{7} India lacks a national screening program—even though it accounts for a fifth of the world’s cervical cancer diagnoses. In the Philippines, fewer than half of the nation’s hospitals have any screening available, and less than ten percent of hospitals have a trained pathologist on the staff to read Pap smears.\textsuperscript{8} In total, the region sees 265,884 cases and 142,735 deaths annually.\textsuperscript{9} Nearby Oceania (Australia and Pacific islands) fares somewhat better: its ASR of disease incidence is 11.5, and its death ASR is only 4.6 per 100,000 women. Much of this is due to Australia’s high screening rates, however, since Melanesia is among the hardest-hit countries globally. Its incident ASR is 38.1, and its mortality is 21.7 per 100,000 women.\textsuperscript{10}

**North and South America**

Comparing rates of cervical cancer in North and South America provides a clear illustration of the role of poverty and economic development in women’s risk of dying from the disease. In North America, the ASR of mortality from cervical cancer is 9.1 per 100,000 women, and cervical cancer incidence ranks 12\textsuperscript{th} among incidence of cancers in women. By contrast, Central and South American rates are much higher: in the Caribbean region, the mortality ASR for women is 32.6 per 100,000 women. Cervical cancer ranks second among all cancers in women in the Caribbean and South America, and first in Central America. Each year, five times as many women in the Caribbean, South and Central America are diagnosed with cervical cancer, as compared with women in Canada and the United States. Many more of these women also ultimately die of the disease: the Caribbean, Central and South America have respective mortality ASRs of 16, 15 and 12.9, while North America’s is only 2.3 per 100,000 women.\textsuperscript{11} Much of this disparity can be attributed to the fact that women in the United States have excellent screening rates compared to much of the rest of the world: 82.4\% of women have had a Pap smear in the last three years.\textsuperscript{12}

**Europe**

The overall incident ASR (rate of new cases) in Europe is 11.9 per 100,000 women, with the highest rate (14.5) in still-developing Eastern Europe. Northern, Western and Southern Europe’s ASRs are closer to North America’s at 9, 10 and 10.7 per 100,000 women per annum. The mortality ASR is 5 per 100,000 women, more than twice North America’s but still far below that of developing countries. In terms of mortality, Eastern

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Europe again has the bulk of European cases: out of 29,812 deaths annually, 17,197 are in Eastern Europe. Thus, the relatively poorer countries of Eastern Europe have less than half of the continent’s female population, but more than half of its cervical cancer deaths. This is due to the fact that most Eastern European countries do not have organized screening programs. The screening that does occur in these countries is usually when women happen to go to a gynecologist. This results in very low screening participation.

**Positions of Stakeholder Groups**

As the above statistics demonstrate, women in developing countries experience a disproportionate burden of death and disease associated with cervical cancer. Relatively simple tools can be used to screen, diagnose and even treat early-stage precancerous lesions. The world also has an unprecedented opportunity to help stop cancer with a vaccine, as the newly licensed HPV vaccines appear to provide complete protection against most cancer-causing strains. Vaccines alone cannot address this unmet health need, as they do not cover all oncogenic strains and all women require ongoing screening and treatment. However, together with other services, HPV vaccines can be a powerful tool for fighting a disease that is painful and, in many settings, deeply stigmatized.

Many stakeholder groups have recognized the urgent imperative to make HPV vaccines and screening technologies available to women who need them most, regardless of where they live. Some are motivated by previous global failures in expanding access to newly-licensed vaccines, such as hepatitis B vaccine, which took nearly twenty years to become widely available in developing countries. Others are motivated by the opportunity to address a critical women’s health issue. Youth advocates, cancer prevention advocates and HIV/AIDS advocates have also come forward as champions of this critical effort.

Different stakeholder groups will, undoubtedly, approach the issue of HPV vaccine and cervical cancer screening and prevention from different angles. Similarly, developing and industrialized countries will take different approaches to rolling out this new technology. With coordination and collaboration, this diversity of views and approaches can be a source of strength and of critical information as groups and countries that have moved forward share their advocacy strategies and programmatic insights on a global level.

Listed below are some of the critical stakeholder groups that are now engaged in efforts to expand access to cervical cancer screening and treatment, including HPV vaccines:

**Women’s groups:** As a uniquely female disease, cervical cancer has long been neglected, and morbidity and mortality rates are probably higher than reported; many women die of cervical cancer without ever receiving a diagnosis. The high rates of

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maternal mortality in many countries, and the lack of progress toward reducing those numbers, speak louder than words as to the value our global society places on the lives of the world’s most vulnerable women.\textsuperscript{16} The World YWCA, the Grassroots Sisterhood Foundation and many other organizations and advocates for women have expressed support for a comprehensive package of HPV vaccination and cervical cancer screening as a simple way to save hundreds of thousands of lives\textsuperscript{17}.

**Health care providers:** Medical professionals are critical gatekeepers and crucial allies for the introduction and successful delivery of new health technologies. At these early stages, health care providers have been critical champions of and advocates for using new HPV vaccines and screening tests as part of expanded cervical cancer screening and prevention programs.

In every country and at regional and global levels, health care providers including women’s health clinicians, cancer specialists, pediatricians and other primary care providers will have specific issues and concerns. In resource-constrained settings, there may be concerns about allocating staff time and resources to cervical cancer as opposed to many other women’s health concerns. In other settings, such as the US and some European countries, introduction of HPV vaccine has raised debates about whether this will encourage girl’s promiscuity and early sexual activity. There may also be concerns about unanswered scientific questions such as duration of protection or efficacy against strains that are not found in the vaccine. As mentioned in “Cervical Cancer Prevention and Treatment,” there are still no data to inform decisions about immunizing boys and men, girls younger than nine, and special populations such as pregnant women and HIV-infected women. These open questions may also raise issues for health providers, who will have to work with their patients to make individualized decisions even as data are being collected. Donors and national governments may also influence these decisions as national and programmatic policies are developed.

Meanwhile, in the United States and some European countries, a debate rages as to whether HPV vaccination should be mandatory or not. There is some concern that parents and local communities will see vaccinating girls as an admission that those girls will have premarital sex, and that the undesirability of this admission will stigmatize girls who have been vaccinated. Some doctors argue that mandating vaccination – for instance, as a requirement for entering public school – can remove that stigma. Some proponents argue that protecting girls and women from cervical cancer is an ethical imperative.\textsuperscript{18} While others are concerned that long-term effects of vaccination are necessarily unknown at present, and that mandatory vaccination in the absence of more data is unwise and possibly risky. They also argue that it is important to educate women and girls about why the vaccines should be given as part of a comprehensive health care approach, rather than simply require the immunizations.

**Public health and development experts:** Many groups see equitable, North-South access to life-saving medical strategies as a moral imperative. There is also a sound public health and economic argument to be made for the introduction of comprehensive

programs. From an economic development perspective, preventing cervical cancer is sound fiscal policy. One group of researchers estimate that achieving thorough coverage of adolescent girls with a vaccine that is 98% effective against HPV-16 and 18 would save well over 100,000 lives every year, thus sparing the woman, her insurer or her government the direct expense of treatment, prolonging her contribution to the economy by decades, and sparing her family the expense and time that would be taken out of their lives to care for her or assume her domestic responsibilities. Another modeling study showed that various methods of cervical cancer screening in South Africa would cost €28 - €59 per year of life saved. This is clearly more than compensated for by the woman's earning power and the cost of treatment saved.

**Government leaders:** Political will and national leadership is essential to expanding access to HPV vaccine and cervical cancer screening and prevention programs. This is particularly true in developing country settings where resources are limited, and tough decisions must be made about which new strategies to introduce. Ministers of health, civil society advocates and parliamentarians from a range of developing countries have been instrumental in consultations on HPV vaccines and cervical cancer to date. In addition to providing support and helping to build momentum, they have also focused on some critical roadblocks to mobilizing political will in developing countries. First: the tangible benefits of the vaccine—reduced rates of cervical cancer—will not be easy to demonstrate on a national level until decades have passed, i.e., when the first young female cohort to receive the vaccine matures, and has a substantially lower rate of cervical cancer compared to their mothers or grandmothers. The political lifetime of most decisionmakers is considerably shorter than this time frame, and politicians may be reluctant to fight for policies that do not yield concrete victories in the short-term. Second, the vaccine is expensive, and pharmaceutical industry commitments to affordable access have not yet been fleshed out with a clear, tiered pricing schedule. In the absence of this information, ministers of health and other political leaders will likely be wary of embracing such an expensive intervention. Third and perhaps most importantly, many developing countries lack good data on rates of cervical cancer morbidity and mortality, making it difficult for political leaders or champions to argue the case for vaccine introduction.

**Cancer advocates:** A wide array of groups involved in cancer treatment and prevention have taken a strong leadership role in early efforts to accelerate global access to HPV vaccines and cervical cancer screening technologies. Aside from hepatitis B, this is the only vaccine which appears to prevent cancer in eligible recipients. This major breakthrough has been embraced by advocates, who also emphasize the importance of scaling up screening and treatment services for women who are already infected with HPV and so cannot benefit from the vaccine.

**Reproductive health advocates:** Cervical cancer is caused by a sexually transmitted infection (STI), HPV, and so has significant implications for reproductive health. In developing countries, few sexual and reproductive health services target young women and adolescent girls. These populations often experience social stigma when they do seek

services such as family planning, STI treatment, condoms, and so forth. Reproductive health advocates have been among the stakeholders pushing for HPV vaccine delivery to these vulnerable groups, as part of an integrated package which also includes prevention of other STIs and pregnancy prevention.

**HIV/AIDS advocates:** The fight to bring antiretroviral therapies to poor people with HIV has been one of the signal battles against global health inequities. Recognizing the connection between women’s and girls’ overall health, susceptibility to HIV, and the moral imperative to ensure global access to life-saving technologies have drawn many HIV/AIDS advocates to the issue of access to HPV vaccines. Groups working specifically on HIV prevention have pointed out that successful introduction of HPV vaccines could lay the groundwork for, and will certainly provide critical information on, strategies for introducing a future AIDS vaccine or microbicide, should one become available. The parallels and differences between HPV vaccines and potential HIV prevention strategies have been explored in several documents and international NGOs focused on HIV vaccines have been actively involved in planning for HPV vaccine introduction. In fact, studies have shown that providing parents with adequate information makes them more, not less, receptive to HPV vaccination.

**Youth advocates:** Many youth-oriented groups have also expressed interest in HPV vaccines, often making a strong case that the vaccines should be incorporated into a larger adolescent health platform that would meet the critical needs of this vulnerable, under-served population. Adolescents as a population often fall through the cracks in general medical care, as in many settings they have aged out of eligibility for pediatric care but often do not return for adult primary care until they are in their childbearing years. Girls in many countries do not see doctors after childhood, and may not access reproductive health services until they have had their first child and are seeking help in child spacing. Youth advocates argue that HPV vaccines could be a drawing point for adolescent health clinics, or for programs that also offer information on tobacco, general sexual health and other age-appropriate issues. Providing young women with HPV vaccines offers an opportunity to educate them about HPV and cervical cancer, emphasizing the importance of returning for screening later in life. By the same token, there are also concerns that it may be difficult to mobilize the resources for a comprehensive healthcare platform, and that linking the vaccines exclusively to such a method of introduction could slow or even prevent their widespread introduction.

**Industry:** Merck and GlaxoSmithKline (GSK) have each developed HPV vaccines which are becoming commercially available. The United States first licensed Merck’s vaccine Gardasil® in 2006 and GSK’s Cervarix® was first licensed in Australia in 2007. The vaccines are rapidly gaining licensure in both industrialized and developing countries.

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Both companies have stated that they are committed to providing these vaccines at steeply tiered prices for developing countries, however these structures have not been clarified to date. Industry also has a critical role to play in developing low-cost diagnostics which could be rolled out alongside HPV vaccine as part of comprehensive screening and treatment programs. Qiagen markets an HPV DNA test which can detect the presences of oncogenic strains of HPV and is mostly used in developed countries. In partnership with PATH and the Bill & Melinda Gates Foundation, it is developing a faster, cheaper HPV DNA test for use in LDCs. Merck, GSK and Qiagen, as well as the various companies which manufacture equipment necessary for Pap smears, all have a financial stake in expanding preventive technologies to all women worldwide. NGOs and donor agencies can take advantage of this interest and of the companies’ willingness to create partnerships for the common goal of reducing cervical cancer deaths.

**Public-private partnerships (PPPs):** PPPs for development of new technologies are becoming increasingly popular, but are probably not the most appropriate model for the rollout of new cervical cancer prevention technology. PPPs have to date been used as a “push” mechanism, meaning that they stimulate research and development of a new product. With new life-saving products in hand, existing stakeholders should direct their energy toward developing a new civil-society driven model, similar to the Accelerated Development and Introduction Plans (ADIPs) created for the Pneumococal and Rotavirus vaccines. This effort will be instrumental in ensuring that new and existing technologies become available quickly to those who need them most.

**Current Coalition-Building Efforts**

A number of different stakeholder groups are invested in expanding cervical cancer screening and treatment programs to offer HPV vaccines and a range of other services to women and girls. In a little over a year since vaccine licensure, various consultations and dialogues have helped to identify the points of synergy among these groups and to highlight some of the different ways that HPV vaccine and cervical cancer prevention can be positioned—as a cancer issue, a women’s health issue, a youth issue, etc. To date all stakeholders have also recognized that an “either/or” approach to advocacy is unnecessary and potentially detrimental to the broader effort.

On the advocacy and awareness-raising front, strong work has already been done, bringing together a diverse array of groups. The World Health Organization (WHO) convened a Technical Consultation on HPV Vaccines and Sexual and Reproductive Health Programmes in March 2006, and later issued a document intended to provide guidance not just to the sexual and reproductive health community, but immunization, child and adolescent health and cancer control specialists as well, all of whom participated in the Consultation\(^{25}\) (this document has since been updated).\(^{26}\) Both Merck and GSK participated in the consultation as observers and to answer questions. Each company has been open to collaborating with NGOs and bilateral/multilateral donors who are also collaborating with the other company.

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In the meetings that have taken place to date, all interested stakeholders have agreed with core principles that have also been articulated in the report from a WHO-UNFPA consultation on the issue:\(^\text{27}\): that HPV vaccines and cervical cancer screening will save lives, that rapid and widespread deployment is desirable; and that country- and context-specific delivery strategies are critical. For example, HPV vaccines and related services could potentially be provided via reproductive health services; a comprehensive adolescent health program which encouraged girls to bring their mothers as well; or as a mother-daughter intervention built around infant and child immunization programs. In short, there is no one-size-fits all model for introduction or for advocacy. A broad range of approaches and of strategies must be employed.

The WHO has also convened multiple meetings of relevant experts (in cervical cancer and related fields), and there are some notable professional meetings that have of late served as a forum for discussion of this common cause. These include the annual International Papillomavirus Conference and Clinical Workshop,\(^\text{28}\) the annual European Research Organisation on Genital Infection and Neoplasia (EUROGIN) meeting,\(^\text{29}\) and the triennial International Federation of Gynaecology and Obstetrics (FIGO) conference.\(^\text{30}\) The newest collaborative effort is the Global Call to Stop Cervical Cancer, which grew out of the Stop Cervical Cancer meeting in London in December 2006. National and international NGOs have come together to make a strong showing of support for rapid access to HPV vaccines and increasing access to cervical cancer screening and treatment where they are needed most. Sponsoring organizations include: the AIDS Vaccine Advocacy Coalition, the American Cancer Society, Family Care International, International Federation of Gynecologists and Obstetricians (FIGO), the International AIDS Vaccine Initiative, the International Planned Parenthood Federation, JHPIEGO, the Medical Women's International Association, PATH, the Rockefeller Foundation, the Latin American and Caribbean Society of Medical Oncology (SLACOM), the International Union Against Cancer (UICC) and the World Young Women's Christian Association. Nearly 400 organizations and 800 individuals have signed the Global Call to date. The Global Call will provide specific, actionable goals and will be presented to policymakers around the world in October 2007.\(^\text{31}\) Information on the call, which is available in six languages, can be found at http://www.cervicalcanceraction.org.

Conclusion

The development of new HPV vaccines and a variety of cervical cancer screening methods present an opportunity for healthcare workers, policymakers, health advocates and political leaders to join together to save hundreds of thousands of women from a slowly debilitating, deadly disease. Unless action is taken quickly, the high rates of morbidity and mortality outlined in this paper will undoubtedly continue. Funding, political will, human and financial resource shortages are some of the major challenges to rapid expansion of access to HPV vaccine and cervical cancer screening and treatment services. These barriers can be overcome through successful advocacy strategies which will require coordination and harmonization of a wide range of stakeholders, who must be able to present a united front to all interested parties.


\(^\text{28}\) http://www.ipv2007.org

\(^\text{29}\) http://www.eurogin.com

\(^\text{30}\) http://www.figo.org

\(^\text{31}\) Global Call to Stop Cervical Cancer. www.cervicalcanceraction.org/home/home.php.