

Report of an African Regional Meeting on Cervical Cancer

September 14–15, 2010
Kampala, Uganda



Improved Cervical Cancer Prevention: Planning Now for a Better Future



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Foreword

Ministry of Health of Uganda

Honorable Dr. Richard Nduhuura, State Minister, General Duties

We were very pleased to welcome everyone, especially our international delegates, to this conference to discuss improving cervical cancer prevention and to share the success story of the Uganda HPV vaccine demonstration project and our experience with screening and treating adult women in Uganda. We hope that this success will inspire others to work toward implementing HPV vaccination programs in their regions and to improving screening programs.

I have personally been involved in efforts to prevent cervical cancer both at local and international levels. This is because I believe that women and girls worldwide have the right to equal access to life-saving technologies, including both vaccination and screening, no matter where they live.

Screening and treatment of early precancer must be a key element of cervical cancer reduction strategies. It is unacceptable that we have such high numbers of our women suffering and dying from cervical cancer at this time when we have technologies for preventing this devastating disease.

This conference has allowed delegates from nine African countries to come together to share ideas and to encourage one another in implementing programs. It is my hope that these discussions will bear fruit in the form of renewed energy and concrete plans for everyone.

World Health Organization Regional Office for Africa

Dr. Jean-Marie Dangou, Medical Officer, Cancer, Division for Prevention and Control of Non-communicable Diseases

Every year, an estimated 53,000 African women are dying of cervical cancer—yet this is a totally preventable disease. HPV vaccines have great potential to reduce the global cervical cancer burden, and screening strategies that decrease barriers now offer hope in low-resource regions.

In its 2009 position paper on HPV vaccines, WHO recommended that routine HPV vaccination should be included in national immunization programs provided that vaccine introduction is programmatically feasible; sustainable financing can be secured; and the cost-effectiveness of vaccination strategies in the country or region is considered. The primary target population should be girls within the age range of 9 or 10 years through 13 years.

We also need screening and treatment for those who are beyond the ages for which vaccination is recommended, and even for those who are vaccinated, since the vaccines do not protect against nearly 30 percent of HPV infections. Visual inspection, a low-technology approach, and HPV DNA testing, which will soon be possible through simple low-cost technologies, offer new approaches for our countries. This latter is especially promising, given its high sensitivity and the possibility of self-sampling.

With these new tools in hand, we are more hopeful than ever that cervical cancer cases will soon decrease, especially in our African countries. I congratulate our conference participants on a successful meeting and hope that everyone makes great progress!

World Health Organization Uganda Country Office

Dr. Joachim Saweka, WHO Country Representative, Uganda

The latest statistics from WHO tell a harsh story: in Uganda, cervical cancer has by far the highest estimated incidence and mortality of any cancer in women: 48 per 100,000 and 35 per 100,000, respectively. In fact, this is the highest mortality for any cancer for men or women in this country.

HPV vaccines have great potential to prevent deaths, but there are challenges to delivering the vaccines to the target population, since this group is older than the population normally targeted for routine childhood immunizations.

In addition to introducing vaccinations, countries must increase access of women to screening and early treatment. Cervical cancer prevention includes the areas of reproductive and sexual health, cancer, and immunization, so collaboration among these departments is essential to ensure efficient and effective programs.

Finally, the HPV vaccines must be made affordable to developing countries, where they can have the most impact. Together, African countries can negotiate prices that will allow us to establish sustainable vaccination programs.

Association of Obstetricians and Gynaecologists of Uganda

Dr. Daniel Murokora, President, AOGU

Clinicians play a pivotal role in cervical cancer prevention, not only in their care of patients but also in their interactions with colleagues and community leaders. We need to further encourage the training of nurses, midwives, and other health workers—as well as doctors—in visual inspection as a screening method, because the demand for screening and treatment of precancerous lesions is far beyond the available capacity in our countries.

Our ability to provide radiotherapy and other tertiary care is also severely limited, and we need to lobby for improvements in these programs as well as in palliative care, especially until the day when HPV vaccinations begin having a measurable effect on the number of cases of invasive cancer.

Our goals should include encouraging comprehensive cervical cancer prevention, such as advising our adult women patients to take their daughters or granddaughters for HPV vaccination when available.

A goal for all the African countries attending this meeting is to put in place official strategic plans for comprehensive cervical cancer prevention. In Uganda we now have the *Strategic Plan for Cervical Cancer Prevention and Control*, but it is not funded directly by government. Funding constraints at all levels are a major problem, so clinicians must work with community leaders to lobby for this support. Only when all stakeholders assent to the overwhelming need for a strategic plan and the funds to implement it will we see a significant decrease in the numbers of women dying from this preventable disease.

Abbreviations

ACCP	Alliance for Cervical Cancer Prevention
AFRO	Regional Office for Africa (WHO)
AOGU	Association of Obstetricians and Gynaecologists of Uganda
CDP	Child Days Plus
EPI	Expanded Programme on Immunization
HPV	human papillomavirus
IARC	International Agency for Research on Cancer
IEC	information, education, and communication
LEEP	loop electrosurgical excision procedure
MOH	Ministry of Health
MOHSW	Ministry of Health and Social Welfare
NGO	nongovernmental organization
PAHO	Pan American Health Organization
PATH	Program for Appropriate Technology in Health
START-UP	Screening Technologies to Advance Rapid Testing—Utility and Program Planning
UICC	Union for International Cancer Control
UN	United Nations
UNEPI	Uganda National Expanded Programme on Immunization
UWHI	Uganda Women’s Health Initiative
VIA	visual inspection with acetic acid
VILI	visual inspection with Lugol’s iodine
WHO	World Health Organization

Executive Summary

On September 14 and 15, 2010, an African regional meeting, Improved Cervical Cancer Prevention: Planning Now for a Better Future, was held in Kampala, Uganda, and was hosted by PATH's Uganda project office. Nine countries participated: Cameroon, Ghana, Kenya, Lesotho, Malawi, Rwanda, Tanzania, Uganda, and Zambia. Participants from departments of cancer, reproductive health, and immunization were particularly encouraged to attend, because cervical cancer prevention stands at the intersection of these fields.

Delegates shared their experiences in cervical cancer prevention and participated in workshops to identify priorities, establish goals, and determine areas in which they needed technical assistance. Representatives from Uganda presented results from a human papillomavirus (HPV) vaccine demonstration project, with the goal of sharing practices that worked best for gaining acceptance and attaining high coverage.

The conference began with a keynote address by Dr. Jean-Marie Dangou of the World Health Organization Regional Office for Africa, who reminded the audience that cervical cancer affects an estimated 530,000 women worldwide and kills 275,000 annually, with 85 percent of the deaths occurring in developing countries. Yet cervical cancer is preventable, using both primary and secondary prevention strategies. Primary prevention can be accomplished by vaccination with one of the two vaccines against HPV infection. Secondary prevention—screening and treatment for precancer—has been problematical in developing countries, but low-cost, low-technology methods are revolutionizing the field and will have a dramatic impact if countries muster political will and allocate funding to implement the programs. These technologies include visual inspection (e.g., visual inspection with acetic acid, VIA) and HPV DNA testing. The latter is especially promising, with its high sensitivity and the possibility of self-sampling. Both methods can be used in the screen-and-treat approach, which is important for helping women comply with treatment after a positive screening test.

Reports from the Uganda HPV vaccine demonstration project provided details on two implementation approaches: a school-grade–based strategy and an age-based strategy via the Child Days Plus (CDP) program, which is also conducted in schools. The school-grade–based program attained higher vaccination coverage based on survey results, but both approaches were deemed successful. Key lessons learned in the project included the following:

- Endorsement by government is critical to community acceptance.
- Comprehensive and effective educational materials and community sensitization create an enabling environment for acceptance.
- Adequate preparation of the health and education systems facilitates feasibility.
- Schools can be used as venues for HPV vaccinations.
- Selecting girls for HPV vaccination based on their grade/class in school was easier to implement than selecting by age.
- HPV vaccines can be integrated into the existing management and administration strategies used for routine immunizations.

Several other countries reported vaccinating at a pilot scale. In Cameroon, vaccine was donated for over 6,000 girls in five regions. In Tanzania, a pilot study of HPV vaccination is being implemented for 5,200 primary school girls in one district and a memorandum of understanding has been signed for a donation of vaccine for a five-year program. Another pilot vaccination program was implemented in Lesotho: this began in 2008 with vaccine donated to vaccinate 40,000 girls in two districts, and another donation was received to continue in 2011 in the same districts. In Ghana and Rwanda, proposals for vaccination programs are under review and may be implemented soon. On the other hand, Kenya, Malawi, and Zambia have no organized HPV vaccination programs to date.

In reporting on secondary prevention, most countries noted that screening coverage was very low, for example, less than 5 percent in Ghana and Malawi, less than 1 percent in Kenya, and no organized program in Rwanda. A number of countries have limited cytology services available in urban areas, but many are starting to implement the more feasible method of VIA. In Zambia, a new program has had success in using digital cervicography in performing VIA.

In Uganda, the *Strategic Plan for Cervical Cancer Prevention and Control* was recently published, although no funds have yet been allocated to implement recommendations. The Ministry of Health expects to enlist the support of several partners, and a technical advisory committee will guide the overall approach to cervical cancer prevention. Training sessions in selected areas in VIA and cryotherapy were conducted in 2009 and 2010.

In order to assess the potential of HPV DNA testing as a primary screening method appropriate for developing countries, PATH and partners are evaluating the *careHPV™* Test, a new, low-cost method. Uganda is one of the countries where testing is under way to demonstrate how to organize and monitor HPV DNA testing programs using the *careHPV™* Test.

The second day of the conference included workshops at which participants set priorities and planned activities. Some of the short-term goals set by countries included preparing national strategic cervical cancer prevention plans, training health workers for cervical cancer screening, raising awareness and advocating for prevention, establishing HPV vaccine pilot projects, and sensitizing policymakers. Long-term goals included introducing HPV vaccines, strengthening and scaling up screening programs, integrating full-scale screening and vaccination into routine health services, improving monitoring and evaluation at all levels, and introducing or improving palliative care facilities.

Dr. Jean-Marie Dangou summed up some of the important steps that conferees indicated should be taken after the conference:

- Set up national cervical cancer coordination committees.
- Advocate and mobilize for comprehensive cervical cancer prevention programs.
- Share the Uganda HPV vaccines project report with all African countries.
- Scale up HPV vaccine demonstration and pilot projects.
- Develop plans for HPV vaccine introduction before donations arrive.
- Provide skilled personnel and equipment for screening at all levels.
- Lobby together to obtain the lowest price for HPV vaccines.

Introduction

Cervical cancer remains a major public health problem in developing countries, especially in Africa where an estimated 53,000 women die of the disease every year. Fortunately, we now have measures that offer unprecedented opportunities for preventing this cancer that devastates families: efficient, low-cost screening approaches suitable for low-resource areas and vaccines that are efficacious in preventing the infections and precancerous changes that can lead to cervical cancer.

Over the past four years Uganda has been gaining experience both with vaccination of young adolescent girls against human papillomavirus (HPV), the virus that causes cervical cancer, and with new situation-appropriate methods for cervical screening and precancer treatment of older women. The latter include visual inspection with acetic acid (VIA) and cryotherapy, as well as screening tests using HPV DNA technologies. Other countries in the region also have valuable experience to share related to cervical cancer prevention, such as pilot vaccination programs and digital technologies for cervical screening.

This conference was organized by PATH in collaboration with the Ministry of Health of Uganda and the World Health Organization (WHO). Representatives were invited from eight other African countries that have shown commitment to cervical cancer prevention, including an interest in HPV vaccination. Special effort was made to invite colleagues from the fields of cancer, reproductive health, and immunization, since cervical cancer prevention stands at the intersection of these fields.

The intent of the conference was to create an environment where ministry of health (MOH) participants and other key stakeholders could find common ground and begin to craft strategies on country-specific agendas for cervical cancer prevention and control.

The objectives and expected results of the meeting were as follows:

Objectives

- Share available scientific evidence regarding the HPV vaccination demonstration project in Uganda (coverage, acceptability, feasibility, and cost of implementation; delivery strategies and strategies for monitoring and evaluation).
- Share available evidence regarding approaches and technologies for cervical cancer screening (current HPV DNA tests, the new *careHPV*[™] Test, and visual inspection methods) and discuss approaches for screening and precancer treatment according to different resource levels and in different settings.
- Share experiences from African countries in assessing new technologies for cervical cancer prevention and incorporating them into public health programs.
- Prioritize and plan collaborative activities among country-level participants to strengthen cervical cancer prevention programs and support introduction of new approaches and technologies in their countries.

Expected Results

- Deepened knowledge of the available scientific evidence regarding technologies for cervical cancer prevention, including new and affordable screening tests and HPV vaccines.
- Awareness of available tools and resources for program managers to strengthen cervical cancer prevention programs and aid decision-making regarding introduction and scale-up.
- Country-specific action items in support of stronger cervical cancer programs.
- Strengthened partnerships and alliances among MOH departments and across other participating organizations to promote synergies for improved cervical cancer prevention.



Conference Opening



Welcome

*Honorable Dr. Richard Nduhuura
State Minister, General Duties
Ministry of Health, Uganda*

Dr. Richard Nduhuura welcomed participants to the conference, especially the international delegates. He emphasized the fact that the burden of cervical cancer is borne largely by women in developing countries and that this is unacceptable, especially now when we have technologies for preventing this devastating disease. Noting that the vaccine is most effective when administered to young adolescent girls before sexual activity begins, Dr. Nduhuura reminded the audience that reduction of the incidence of cervical cancer in the next generation can only be achieved if we implement widespread HPV vaccination among girls. In addition to vaccinating girls for HPV infections, he stressed that it is essential that comprehensive prevention programs include screening and treatment of precancerous lesions in women. African women continue to die because they have little or no access to screening and early treatment.

Dr. Nduhuura reported that he was happy that during the conference, Uganda would share the success story of an HPV vaccine demonstration project that was implemented in partnership with the MOH, PATH, the Ministry of Education and Sports, and district and local governmental administrations. The encouraging results from this project are beginning to pay off not only in Uganda but across the African region.

If we do not act now, we shall be judged harshly by the next generation.

In conclusion, Dr. Nduhuura reaffirmed his belief that women and girls worldwide have the right to equal access to life-saving technologies, including both vaccination and screening for cervical cancer. He challenged the participants to implement the recommendations that came out of this meeting, noting that if we do not act now, we will be judged harshly by the next generation.



Overview of Cervical Cancer Prevention Strategies for Africa

Dr. Jean-Marie Dangou

Medical Officer, Cancer

Division for Prevention and Control of Non-communicable Diseases

World Health Organization, Regional Office for Africa

Dr. Jean-Marie Dangou gave the keynote address for the meeting, reminding the audience of the high toll that cervical cancer takes, with 85 percent of the estimated annual deaths worldwide occurring in developing countries. While the incidence of breast cancer is slightly higher than that of cervical cancer in Africa, the latter is more deadly, causing more deaths in women than any other cancer. Persistent infection with HPV causes virtually all cervical cancers, with two oncogenic viral types accounting for about 70 percent of the cases—HPV types 16 and 18.

The WHO has a four-point global action plan for its fight against cancers of all types: to prevent what is preventable; cure what is curable; relieve pain and improve the quality of life; and manage for success. These strategies can be applied to cervical cancer prevention as detailed below.

Prevent what is preventable (primary prevention strategies): avoiding and reducing exposure to risk factors

Cervical cancer is preventable, using both primary and secondary prevention strategies. Primary prevention can be accomplished by vaccination with one of the two vaccines against HPV infection—these vaccines have great potential to reduce the global burden of this disease.

The current HPV vaccines have very high efficacy against HPV vaccine-type disease in HPV-naïve women but efficacy is much lower in women already exposed to HPV types 16 and 18. Antibodies against the vaccine types persist for at least six years (period available to date), and the safety profile for both vaccines is good. Communities must continue to raise the issue of the high cost of the vaccines and the question of how vaccinations can be financed in low-resource areas.

Communities must continue to raise the issue of the high cost of HPV vaccines.

WHO recommends that routine HPV vaccination be included in national immunization programs targeting girls within the age range of 9 or 10 through 13 years.

Cure what is curable (secondary prevention strategies): early detection, diagnostic, and treatment strategies

Secondary prevention refers to detecting precancerous cervical lesions and then treating them. Dr. Dangou emphasized that screening methods in industrialized countries, specifically cytology (the Pap smear), are not practical or accessible to most women in developing countries because of lack of health system infrastructure and the need for repeat visits that most women in low-resource settings cannot manage.

Alternative screening strategies to cytology that decrease structural barriers for women in low-resource areas include visual inspection, a low-technology approach based on viewing the cervix with the naked eye after applying acetic acid (VIA) or Lugol's iodine (VILI); and HPV DNA testing, particularly with simpler, low-cost, rapid tests. HPV DNA testing shows both high specificity and sensitivity and is particularly valuable in detecting high-grade precancerous lesions in women aged 30 years and older. Further, there is a probability that vaginal self-sampling for HPV DNA testing will provide results equal in quality to those from provider-collected cervical specimens, which is important in many settings.

Screening remains necessary even with HPV vaccines in use, both because of the unvaccinated population and because the current vaccines do not protect against all oncogenic HPV types.

Whether visual inspection or HPV DNA testing is used for primary screening, another vital component of secondary prevention in low-resource areas is the availability of the screen-and-treat approach. This can make screening and treatment available in one or two visits, eliminating the need for multiple visits, which often results in loss to follow-up. Cryotherapy is a method of treatment that can be used by health care providers at lower-level health centers to immediately freeze and destroy precancerous tissue during the same visit at which visual inspection reveals the lesions.

Preventing cervical cancer contributes to reducing gender inequity in health care and to meeting women's health needs, and is essential for women's rights.

WHO recommendations for target ages and frequency of cervical cancer screening in these settings are the following:

- New programs: start screening women aged 30 years and older.
- Existing organized programs: should not include women 25 years of age or younger.
- If screened only once in lifetime: best ages are between 35 and 45 years.
- For women over 50 years old: a five-year screening interval.
- For women aged 25 to 49 years: a three-year interval can be considered.
- Annual screening is not recommended at any age.
- Screening is not necessary for women over 65 years of age with the last two previous screenings negative.

Relieve pain and improve the quality of life: palliative care strategies

Emphasizing the unfortunate reality, Dr. Dangou posited that the three most significant features of cervical cancer in Africa are: "1. Late presentation, 2. Late presentation, and 3. Late presentation." This results in lower cure rates, more suffering and death, and more need for palliative care. To counter the problem, countries need to educate health care workers and the public to detect disease earlier.

WHO recommendations for care for women with late stage cervical cancer include:

- Use existing palliative care services or establish new ones, with special attention to pain control.
- Ensure that opioid, non-opioid, and adjuvant analgesics, particularly morphine for oral administration, are available.

Manage for success: strengthening national management, and monitoring and evaluation strategies

Some of the challenges for national cervical cancer programs are a shortage of trained health workers, lack of up-to-date information, and lack of national policies and programs on cervical cancer prevention. Because cervical cancer is caused by an infectious agent that is sexually transmitted, various governmental and other groups must work together as they have not had to in the past, including immunization, sexual and reproductive health, cancer control, child and adolescent health, school health, and health systems strengthening.

Finally, Dr. Dangou reviewed the WHO recommendations on cervical cancer prevention, which include:

- A comprehensive and integrated approach to cervical cancer prevention and control that includes screening for cervical lesions or HPV infection among adult women and integrating this with other health interventions.
- HPV vaccine is one element of a cervical cancer prevention and control strategy.
- Because of HPV vaccine cost, critical issues of equity associated with the new vaccine must be addressed.
- Preventing cervical cancer contributes to reducing gender inequity in health care and to meeting women's health needs, and is essential for women's rights.



Welcome

*Dr. Geoffrey Bisoborwa
Country Advisor, Child and Adolescent Health
World Health Organization Uganda Country Office*

Dr. Geoffrey Bisoborwa welcomed the conference participants with a message from Dr. Joachim Saweka, WHO Country Representative for Uganda. He reminded the audience of the harsh statistics on cervical cancer worldwide, including the prediction by WHO that deaths could increase by 80,000 by the year 2030.

The two HPV vaccines that have been approved have great potential to prevent an increase in deaths, but there are challenges to delivering the vaccines to the target population, since this group is older than the population targeted for routine childhood immunizations. The Uganda HPV vaccine demonstration project will help guide the MOH in planning for delivery of this vaccine, and other country experiences will also offer valuable lessons. Further, several groups, including the MOH, the Uganda Women's Health Initiative (UWHI), WHO Uganda Country Office, Makerere University, and PATH

worked together to formulate and publish the *Strategic Plan for Cervical Cancer Prevention and Control in Uganda*, which includes statements of vision, goals, objectives, and an implementation strategy for the strategic plan.

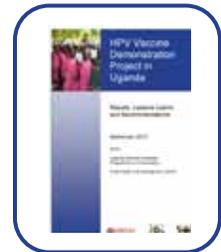
In addition to introducing vaccinations, countries must increase women's access to screening and early treatment. Cervical cancer prevention includes the areas of reproductive and sexual health, cancer, and immunization, so collaboration among these departments is essential to ensure efficient and effective programs.

Finally, Dr. Bisoborwa stated that the vaccines must be made affordable in developing countries, where they can have the most impact.



Uganda HPV Vaccine Demonstration Project

A more comprehensive report on the HPV vaccine demonstration project described in the next nine presentations can be found in the *Results, Lessons Learnt, and Recommendations* report from the Uganda project, in the Resources section at the end of this document.



HPV Vaccines: Evidence for Impact

Dr. Aisha Jumaan

*Director, HPV Vaccines: Evidence for Impact Project
PATH*

Dr. Aisha Jumaan described PATH's work on cervical cancer prevention as comprehensive, including both vaccination and screening activities. In discussing the HPV vaccine demonstration project, she emphasized the participation of in-country MOH and research personnel in the decision-making and implementation of the projects.

For this project, teams in four countries—India, Peru, Uganda, and Vietnam—assessed methods that governments could use to implement HPV vaccination programs should they choose to add HPV vaccine to their immunization schedules. The objectives of the overall project are the following:

- Generate critical data and experience for evidence-based decision-making, strengthening essential health system capabilities, and creating a supportive social and political climate for HPV vaccination programs in four countries.
- Leverage country introduction activities to inform and support global advocacy efforts, regional HPV vaccine strategies, and country government introduction plans.
- Develop and disseminate strategic forecasts, investment cases, and decision-making tools to inform and influence industry production capacity and pricing decisions, international agency financing initiatives, and country government introduction.

To provide a solid foundation for the vaccination demonstration projects, PATH and its country research partners first conducted formative research, which illuminated the health systems and policy context in each country, as well as societal and cultural beliefs, attitudes, knowledge, and behaviors related to cervical cancer, HPV, and vaccination. Some of the general findings of the formative research were the following:

- Cervical cancer and HPV are not well-known.
- Immunization is generally seen as valuable and effective.
- The link between HPV and sexual relations is not a major barrier for vaccination.
- Schools are seen as an acceptable venue for vaccination by most.
- The main influencers of the decision to vaccinate are parents, extended families, community leaders, official government support, teachers, and health workers.

With this important cultural and systems information in hand, each country designed its own HPV vaccine delivery strategies for selected districts. Strategies included school-based programs, health center-based programs, and adding HPV vaccination to existing outreach programs.

While the demonstration projects focused specifically on delivering HPV vaccines to young adolescent girls, Dr. Jumaan emphasized the importance of establishing programs that provide comprehensive cervical cancer prevention. Some project resources were allocated for screening and treatment of adult women. These programs continue, as ministries of health and other organizations in the project countries are now planning to build on capabilities and expertise developed through the vaccination projects.

In terms of cost-effectiveness of HPV vaccination programs, modeling by partners at the Harvard School of Public Health has shown that for GAVI-eligible countries, HPV vaccination is cost-effective at US\$2 per dose for the vaccine cost alone, or \$10 per fully vaccinated girl, including program costs. For Latin America, HPV vaccine is cost-effective at \$25 per vaccinated girl (\$5 per dose for the vaccine) and compares favorably to other new vaccines being introduced (i.e., rotavirus and pneumococcal vaccines).

While the demonstration projects focused on delivering HPV vaccines to adolescent girls, it is important to establish programs that provide comprehensive cervical cancer prevention.

In conclusion, Dr. Jumaan stated that HPV vaccines offer an opportunity to overcome difficulties with screening, by preventing infection with two of the most common oncogenic HPV types. Screening will still be necessary because of slow uptake of the vaccines and because current vaccines do not protect against all oncogenic HPV types. We need international and national efforts to ensure fair, acceptable, and affordable distribution of vaccination and screening services.



HPV Vaccine Demonstration Project Goal, Design, and Implementation

*Dr. Emmanuel Mugisha
Country Project Manager, Uganda
PATH*

Dr. Emmanuel Mugisha explained that the Uganda HPV vaccine demonstration project implemented two vaccine delivery strategies, using vaccine donated by GlaxoSmithKline. In Ibanda District, HPV vaccine was delivered in a school-based strategy to girls attending grade Primary 5 or to out-of-school girls 10 years of age. In the second strategy, in Nakasongola district, HPV vaccine was delivered via the CDP program to 10-year-old girls in schools and outreach to out-of-school girls. CDP is a routine program to deliver health interventions (such as vitamin A supplements, de-worming, and nutrition education) to children at schools every six months.

Key aspects of both school and CDP strategies were diligent microplanning for the logistics of implementing vaccinations (including planning for vaccine supply and transport) and training of health officials, health workers, and teachers. The project team developed a training manual as well as a facilitator's guide. Trainers from the Uganda National Expanded Programme on Immunization (UNEPI) and from PATH trained district trainers, who then trained health workers, teachers, and mobilizers at lower levels. Training sessions were carried out approximately four weeks prior to the first vaccination sessions.

A key aspect of both school- and CDP strategies was diligent microplanning for the logistics of implementing vaccinations.

Successful immunization campaigns rely on getting the word out and making sure that the community—parents, girls, community leaders, religious leaders, and medical personnel—has a favorable view of the program. To this end, the project produced information, education, and communication (IEC) materials appropriate for different audiences, including fact books for teachers, posters for community meeting places, radio talk shows, handbooks for health workers, and leaflets for parents and girls.

Project goals and research questions were as follows:

- Achieve high coverage.
 - What level of coverage can be achieved by using different strategies?
 - What strategy is best for reaching out-of-school girls?
- Implement acceptable vaccine delivery strategy.
 - Is the vaccine acceptable to key stakeholders?
 - What are the information needs and communication strategies/messages for girls, parents, and communities to facilitate uptake?

- Ensure delivery strategy is feasible.
 - What are the challenges of selecting girls by grade versus age?
 - What are the capacity requirements?
 - What is the impact on other services?
- Quantify costs associated with delivery strategies.
 - What is the cost per girl immunized for each strategy?
 - What is the start-up cost versus recurrent costs?

The next presentations addressed how these questions were answered.



Ibanda District Experience on the Implementation of the HPV Vaccination Demonstration Project

***Dr. Julius Bamwine
District Health Officer, Ibanda District
Ministry of Health, Uganda***

In Ibanda District, the project team implemented a vertical school-class–based vaccine delivery strategy, targeting all girls in grade Primary 5 and delivering the three required doses in two program years. For out-of-school girls, the target population was girls 10 years of age.

Training in Ibanda followed the cascade plan for district and sub-county health workers and community mobilizers. In addition, trainers conducted refresher courses for subsequent vaccination sessions. IEC activities included showing a film on cervical cancer prevention in Uganda via a traveling MOH van and airing spots on radio sports and talk shows.

IEC materials on cervical cancer and HPV vaccinations in English and in the local languages were distributed widely. Because vaccinations took place at schools, teachers were essential to successful sessions, and their sensitization and training was an important component of the project.

The vaccine implementation project revealed several advantages of vaccinating girls by school grade:

- Ease of identification of the eligible girls.
- Ease of following up with girls to ensure completion of all three doses.
- Minimal disruption to the school, as only one class is involved.
- Class teacher becomes the school connection to the project.
- Easy for the community to understand and remember who is to be vaccinated.

This approach also presented a number of challenges:

- Classes include girls of different ages and a few are above 15 years old (could be sexually active).
- Classes also include girls under the age of 10 years, who must be screened out (the vaccine is licensed for ages 10 years and older; the project was planned for those in Primary 5 or 10 years of age).
- Time is required to explain to the community why a particular class is selected.



HPV Vaccine Immunization in Nakasongola

*Dr. Gerald Kalule Ssekitto
District Health Officer, Nakasongola District
Ministry of Health, Uganda*

In the district of Nakasongola, HPV vaccinations were integrated into CDP, a routine program to deliver health interventions to children at schools twice per year. This meant that the first and third HPV vaccine doses could be delivered as part of CDP, but the second dose, which occurs one month after the first, had to be delivered by outreach, also at the schools.

The project targeted 10-year-old girls both in and out of school, identified by age. Preparation for vaccination sessions included registering girls who were 10 years of age by checking school records, asking families, or simply estimating age from other information.

As in the school-based program in Ibanda, district and sub-county opinion leaders were sensitized and mobilized, health workers were trained, and microplanning for logistics was carried out. Parents and girls received IEC leaflets and were invited to information sessions. The project team assessed the capacity of the district to handle HPV vaccinations in addition to routine work and made adjustments as necessary.

The high coverage rates indicated that sensitization and mobilization efforts had paid off: stakeholders clearly accepted the HPV vaccinations.

While the Nakasongola strategy was incorporated into CDP, almost all CDP activities occurred in schools and 98 percent of girls targeted for vaccination were attending schools. Some challenges did arise, including absenteeism that required the health workers to return several times to schools to ensure that all eligible girls were vaccinated.

Routine administrative data showed that vaccine coverage was high, indicating that the CDP strategy was successful and that the infrastructure could support the vaccinations, although some budget increases would be necessary if the strategy were to be adopted by the district. The high coverage rates indicated that sensitization and mobilization efforts had paid off: political leaders, health officials, communities, and families clearly accepted the vaccinations, and the program was feasible.

However, when a survey based on WHO methodology was done later to ask parents of 10-year-old girls if they had been vaccinated, results showed lower coverage. See the next presentation for an analysis.

While the CDP strategy was largely successful, some challenges arose. Foremost among these was determining the age of girls, since births are not always carefully documented in Ugandan culture and it was not always possible to contact parents to verify ages. Another challenge was difficulty in complying with the three-dose schedule for vaccinations, since the time for the second dose did not coincide with the timing of CDP visits to schools. Further, girls who started on the regimen sometimes left the school or the district before completing the three doses, especially during the first year, since vaccination started in October and there was a summer break before administering the third dose.



HPV Vaccine Coverage in Uganda

*Dr. D. Scott LaMontagne
Country Research Manager, HPV Vaccines: Evidence for Impact Project
PATH*

Dr. Scott LaMontagne described the goals, research questions, and objectives of the operations research aspect of the HPV vaccination project. Research was nested within the demonstration project to answer critical questions for decision-makers concerning operational planning (i.e., coverage, acceptability, feasibility, and cost of each strategy implemented).

The operations research included a quantitative survey of parents or guardians of girls eligible for the HPV vaccine, to assess the level of coverage achieved by different strategies and to measure acceptability of the vaccine according to reasons given for either accepting or refusing vaccination. According to the survey, vaccine coverage was high, above 85 percent in the Ibanda District vertical school-grade-based approach, similar to the routine administrative data.

However, the coverage numbers for Nakasongola (CDP vaccinations for all 10-year-old girls) differed when comparing survey and routine data. The explanation for the discrepancy appears to lie in the problem with determining the age of the girls in Nakasongola. Schools often did not have the girls' ages and it was not always possible to contact parents or guardians for this information. When families were surveyed to find if their 10-year-old girls had been vaccinated, only eligible households were contacted, so girls who were not 10 years of age were not surveyed.

This implied that some girls who were outside the 10-year-old group had been vaccinated, resulting in high coverage numbers in the administrative records. Because of this, a special survey was done in Nakasongola after the second year of vaccinations, and we found that the girls who received vaccine who were not 10 years old included about half slightly younger and half older than 10 years. These results suggest that an age-based selection strategy where age is difficult to determine may not be feasible.

The coverage survey also asked parents and guardians about the reasons they agreed to have girls vaccinated. Three reasons stood out, with between 77 and 84 percent of all adults citing at least one of these:

- Protection against cervical cancer.
- Disease or infection prevention.
- Vaccines are good for health, or families wanted the girl to be healthy.

Reasons that girls were not vaccinated were mostly programmatic: girls were absent from school on days of vaccination, or were not aware of the vaccinations, or age was not correctly determined. In contrast to concerns during planning stages of the project, a concern that parents might worry that vaccination would encourage early sexual activity was not cited by any of the survey respondents as a reason for refusing vaccination.

Overall, the survey found that vertical school-based delivery—selecting by grade—achieved high coverage. Delivery with CDP, also in schools, performed well, but selecting by age was difficult to implement, resulting in lower coverage among eligible girls. Future vaccine delivery strategies could overcome these obstacles by selecting girls by grade in school and offering active follow-up sessions to include those absent or out of school.



HPV Vaccine Acceptability

Dr. Anne Katahoire

*Associate Professor and Director, Child Health and Development Centre
Makerere University, Uganda*

Dr. Anne Katahoire and colleagues carried out an assessment of the acceptability of HPV vaccination among stakeholders. The study was both qualitative, using focus group discussions and interviews, and quantitative, assessing acceptability by means of a survey, as described above by Dr. LaMontagne.

Dr. Katahoire reported that acceptability was explored among girls, parents, health workers, teachers, and community and district leaders. A particular group's willingness to create a positive and supportive environment for HPV vaccinations was used to assess acceptability.

Analyses of the focus group discussions and interviews with various stakeholders revealed that vaccine acceptability was generally high in both districts. Several key influencers of acceptability were identified:

- Positive attitudes toward vaccinations in the communities, which created a supportive environment for the introduction of the HPV vaccine.
- Endorsement of the vaccinations by district and community leaders and health workers.
- Lack of adverse effects following initial vaccinations.

In conclusion, acceptability was highest where the key stakeholders understood that the vaccine protected against a deadly disease and that most girls were potentially at risk of getting the disease if not vaccinated; that there was a good reason for vaccinating only girls of a particular age or class; and that the vaccine was generally safe, as was confirmed by the lack of adverse effects following the vaccinations.



Feasibility of HPV Vaccination Implementation in Uganda

Dr. Dan Murokora

Medical Director, Uganda Women's Health Initiative

and President, Association of Obstetricians and Gynaecologists of Uganda

According to Dr. Dan Murokora, feasibility of HPV vaccine introduction was assessed by conducting interviews with teachers, health workers, and UNEPI personnel and by reviewing documents such as registers for HPV vaccinations, HPV training manuals, microplans, and supportive supervision reports. The objectives of the feasibility evaluation were the following:

- Assess health system preparedness to conduct the HPV vaccination project.
- Assess the impact of the vaccinations on health and education systems.
- Assess effectiveness of training to prepare health workers and others to implement the vaccination exercise.
- Explore the extent to which existing health and education systems and structures had normalized the HPV vaccination program in the second year.

Assessment of the impact on health systems revealed that the program did increase demand on human resources, leading in some cases to postponement or cancellation of routine clinic services, and staff had to be re-deployed to address the shortages. However, this only occurred during the vaccination days three times per year. In spite of the challenge of attaining high coverage with HPV vaccinations, the systems performed well, and health workers benefitted from new knowledge and skills. Some improvements were made to the cold chain, so there were few challenges in this system in the program.

HPV vaccinations are feasible using existing education and health systems, but planners must assess systems before starting a program and tailor interventions accordingly.

Researchers found that the vaccination project did not significantly disrupt school programs, although teachers ultimately performed more tasks than were anticipated during training. These included watching girls for 15 minutes after vaccination (for fainting) and helping with record keeping. Schools offered an excellent venue for reaching girls in both the school-based and the CDP strategies. The major challenge for reaching the target population was the need for age verification in the district where girls were vaccinated by age in the CDP strategy.

Dr. Murokora and the research team concluded that HPV vaccinations are feasible using existing education and health systems. However, planners must assess the status of the systems before starting a program, in order to tailor the interventions. Excellent planning, coordination of activities, and stakeholder support are critical for program success.



Program Costs of Two Delivery Strategies for HPV Vaccination in Uganda

*Dr. John Odaga
Researcher, Child Health and Development Centre
Makerere University, Uganda*

The objectives of the cost analysis of the HPV vaccine demonstration project were to provide estimates of the average cost per dose and the average cost of fully immunizing one eligible girl. Estimates were made for both the school-based program in Ibanda District and the CDP program in Nakasongola District.

Dr. John Odaga explained that these program costs included activities such as training and microplanning, advocacy and social mobilization, distribution of supplies and data collection, implementation of vaccinations (including supervision and monitoring), vaccine handling, and cold chain maintenance. Also included were personnel costs, supply costs, transportation, and depreciation of vehicles and the cold chain infrastructure. The costs represent values of all inputs consumed in the course of delivering and administering the vaccine from the national (UNEPI) level to the district, sub-county, health facilities, and vaccination-post level. Note that the cost of the vaccine was not included: vaccine was donated by the manufacturer.

While cost per dose delivered was analyzed in several ways, Dr. Odaga suggested that the most practical scenario is one that excludes depreciation but retains staff costs, since staff time was required and this did cause some disruption to routine activities.

The CDP strategy appeared to be slightly more favorable concerning program costs, but this must be balanced against other findings. For example, coverage was higher in the school-based strategy, although that may be resolved by better methods of determining the ages of girls for the target population in the CDP strategy.



Uganda HPV Vaccine Demonstration Project: Lessons Learned

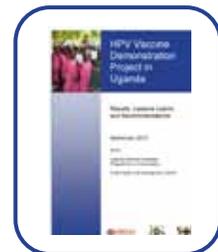
*Program Manager, Uganda National Expanded Programme on Immunization
Ministry of Health, Uganda*

Dr. Rachel Seruyange of UNEPI presented some of the lessons learned from the Uganda HPV vaccine demonstration project. These were based on the formative research done prior to vaccinations, the implementation phase of the project, and the operations research described above.

Key lessons:

1. Formative research enhances understanding of sociocultural and health systems and facilitates the design of an effective HPV vaccine delivery strategy.
2. Endorsement by government is critical to community acceptance.
3. Comprehensive and effective educational materials and community sensitization create an enabling environment for acceptance.
4. Adequate preparation of health and education systems facilitates feasibility.
5. Targeted training of persons involved in program implementation is essential for program success.
6. Close coordination of efforts leads to effective implementation.
7. Schools can be used as a venue for HPV vaccinations.
8. Selecting girls for HPV vaccination based on their grade/class in school may be easier to implement than selecting by age.
9. HPV vaccines can be integrated into the existing management and administration strategies used for routine immunizations.
10. Monitoring and supportive supervision strengthens the capacities of health workers and improves performance.
11. Adding HPV vaccine to an existing, funded health program, such as CDP, can reduce recurrent program costs.

Recommendations based on these lessons learned are in the *Results, Lessons Learnt, and Recommendations* Uganda report in the Resources section at the end of this document.



Questions and Answers

1. *What were the difficulties encountered during the Uganda demonstration project?*

A participant asked the Uganda HPV vaccine team to discuss more of the problems they found with implementing vaccinations, in addition to the successes. Dr. Bamwine mentioned the difficulty of following up with girls who change schools or drop out of school. Further, some girls did not get dose 1 of the vaccine when the project began: they waited to see if there were side effects in those who got vaccinated. Then they came to the session for dose 2, but they needed dose 1. Their dose 2 would be needed one month later, but vaccinators would not be at the school for five months, when dose 3 was needed for the first group. Another problem was that girls might not retain vaccination cards, or might forget to bring them to school for doses 2 and 3.

Dr. Ssekitto reiterated the problem of age determination that was discussed for the CDP vaccination strategy.

Dr. Seruyange related that Uganda had done a cold chain inventory just prior to the initiation of the HPV vaccine project, so UNEPI knew where the problems were and was able to fix them. She recommended that anyone starting an HPV vaccination program do a cold chain assessment first. Dr. Seruyange also commented on the variability in quality of training: not all trainers are equally good, and this will show up in how health workers perform their tasks. Microplanning also depends on the efforts that people put into it, and this causes variations in quality of the program. Another difficulty is finding the target population if census data are old. New schools may even have been established since the last census, and program managers must be sure their information is up to date.

Dr. Jumaan commented on the cost analyses for the project. She noted, "We know that the price of the vaccines is coming down rapidly and eventually may reach as low as \$0.50 for three doses, for the country co-payment, once GAVI is able to support HPV vaccinations. Uganda is a GAVI-eligible country, and we are waiting to see what support GAVI will be able to contribute, with its current economic problems."

Dr. Jumaan also responded to a question about the difference between the vaccine coverage found in the routine administrative data versus that found by the coverage survey. As noted in the presentations, this was a result of the difficulty of determining ages for the target population. However, in spite of the fact that the coverage of 10-year-old girls was around 60 percent (coverage survey) quite a number of girls outside this age group were vaccinated, because they were estimated to be 10 years of age at school but families later reported that they were not the target age. This means that these girls are now vaccinated and are protected, just as the 10-year-olds are, so the community did receive this benefit.

Dr. Katahoire commented that one reason cultural factors did not prevent families from agreeing to the vaccination program was that the initial formative research helped the team build appropriate messages into the IEC materials. She emphasized the point that if people are well-informed, acceptability goes up. Their fears must be addressed, not avoided.

Questions and Answers

2. *How were the districts in Uganda chosen for the vaccination demonstration project?*

Dr. Mugisha explained that the two districts for the Uganda project were chosen for regional variation, willingness, and ability (e.g., availability of health workers) to work with the program, and availability of the correct number of girls to match the number of doses of vaccine donated. Nine districts were potentially qualified in terms of numbers of girls to match the number of doses of vaccine available, and these were all visited to determine those that were interested and able to participate.

In regard to a question about consent for vaccination, Dr. Mugisha noted that there was no written consent from families to have girls participate, but the community and parents were informed by extensive IEC efforts, and the goal was to make this program similar to the regular Expanded Programme on Immunization (EPI) (which does not require written consent), so that unnecessary fears would not be generated.

3. *Was vaccine acceptability related to social or economic factors? Was reluctance of girls and parents to receive vaccine based on religious or cultural factors?*

Dr. Bamwine responded that reluctance on the part of families to participate in the vaccination program occurred in isolated cases and did not seem to be linked to religious beliefs nor to educational levels but rather to rumors about problems with the vaccine. Dr. Ssekitto added that those who refused HPV vaccination frequently did not accept any immunization programs.

4. *The problem with the high rates of cervical cancer is not that our women are at fault for not getting screened; it is a problem with our health systems. How much priority are ministries of health giving to health system improvement?*

Dr. Dangou responded that health systems strengthening is indeed a critical issue, and that WHO is focused on this. In the past, they have focused on infectious diseases but are now turning attention to the non-communicable diseases, including cancer. WHO is seeing member states implementing cancer control plans, and is providing assistance.

Country Experiences in Cervical Cancer Prevention



HPV Vaccination Dissemination and Cervical Cancer Prevention Planning: Current Situation in Cameroon

*Dr. Isaac Sandjong
Official, National Cancer Program
Ministry of Health, Cameroon*

Dr. Isaac Sandjong began his presentation by saying that Cameroon has started cervical cancer prevention activities but is not as far along as Uganda. Gardasil® was licensed and registered in 2009, but in private clinics the cost is \$100 per dose, while the EPI makes it available for \$70.

A donation of vaccine to the Cameroon Baptist Convention Health Board through AXIOS International has provided vaccine for 1,600 girls in two regions in Phase 1 of the program, and in Phase 2, 4,800 girls should receive vaccine in three regions. In Phase 1, the cost to administer vaccinations was \$4 per dose, while in Phase 2, the cost is estimated to be \$1. While vaccinations thus far have been carried out in health clinics, the hope is that the next phase will occur in schools and that eventually HPV vaccinations will be a part of the national EPI.

For cervical cancer screening, national campaigns have been organized since 2003. These campaigns have been carried out in large cities, where 4,000 to 5,000 women are screened in three to four days. Very little screening is done in villages. The screening program has trained nurses and midwives to do screening in remote areas and has trained cytotechnicians to read Pap smears. In a study comparing VIA and Pap tests, among 4,813 women screened, VIA performed very well, with a sensitivity of 70.4 percent and a specificity of 77.6 percent.

Recommendations include the following:

- National screening campaigns should be extended to rural areas, where most advanced cases are found.
- Simple methods of treating precancerous lesions should be implemented.
- Women with invasive cervical carcinoma must be referred to regional hospitals to receive proper treatment.

In conclusion, to improve our cervical cancer screening and treatment, we would like to start using VIA for the see-and-treat approach for women with precancerous lesions and we need to refer women with invasive lesions to oncology units of regional hospitals.



Ghana's Experience in Cervical Cancer Control

*Dr. Kwame Amponsa-Achiano
Public Health Specialist, Family Health
Ghana Health Service*

According to Dr. Kwame Amponsa-Achiano, cervical cancer is the second most common cancer affecting women in Ghana. Every year, an estimated 3,050 women are diagnosed with this disease, and 2,000 die. Reliable data are not available on incidence, with estimates ranging from 16.5 to 49.9 cases per 100,000 women.

A protocol for a national cancer registry has been prepared. In addition, there is a proposal for drafting a strategic plan for prevention and control of cancers during the period of 2007 to 2011. This would provide policy, standards, and protocols for cervical cancer screening, treatment of precancerous lesions, and management of invasive cervical cancer.

Currently, primary prevention includes education on lifestyle modification and on reducing high-risk sexual behavior. In regard to HPV vaccinations, the vaccine is available in private clinics but there is no national program. There is a proposal for a vaccination pilot project for the Western region by the Africa Oxford Cancer Foundation.

In regard to secondary prevention, a few specialized hospitals provide Pap smears, and VIA is performed in two centers. Screening coverage is less than 5 percent for the country.

For invasive cervical cancer, some care—including surgery, radiotherapy, and chemotherapy—is available in tertiary centers, and some palliative care is provided.

The challenges for cervical cancer prevention in Ghana are many:

- No structured national vaccination program.
- No comprehensive program for vaccination and screening.
- Low public awareness about cervical cancer and its prevention, even among medical personnel.
- Late reporting: most cases are advanced when discovered.
- Limited human resources for screening and case management.
- Data management: cancer registry needed.

In order to move forward, the country needs a national policy as well as increased numbers of trained personnel for screening, case management, and data management. There is need for continued dialogue among stakeholders to ensure funding. Public awareness is also crucial, and mass media should

The Ugandan experience with vaccination and new screening technologies has given other African countries a “window of hope” in looking toward the future.

be used for advocacy and communication. The recent conference in Accra (4th Stop Cervical Cancer in Africa Conference) is an example of increasing awareness and fostering dialogue.

The Ugandan experience with vaccination and new screening technologies has given other African countries a “window of hope” in looking toward the future.



Cervical Cancer Prevention in Lesotho

*Mrs. Florence Mohai
Head, Family Health Division
Ministry of Health and Social Welfare, Lesotho*

Mrs. Florence Mohai reported that in 2006 the Ministry of Health and Social Welfare (MOHSW) of Lesotho conducted a review to determine the magnitude of cervical cancer incidence in the country. The age standardized incidence rate was found to be 66.7 per 100,000 women. Guidelines on screening were developed in 2007 and training was conducted for health professionals in four of the ten districts in the country in 2008.

In 2008, the MOHSW in collaboration with Lesotho-Boston Health Alliance received a donation of more than 120,000 doses of Gardasil® to target approximately 40,000 nine- to eighteen-year-old females in two districts, using schools as the venue. To prepare for the pilot vaccination programs, nurses were oriented; IEC materials were developed; and sensitization workshops were conducted for decision-

Communities must be informed and educated about cervical cancer and HPV vaccines in order to dispel misconceptions.

makers, parliamentarians, parents, school teachers, and children. The MOHSW received support from United Nations (UN) agencies and from partners during the vaccination sessions; the sessions were integrated into the routine EPI program without any change to the cold chain. Because of a successful application for more vaccine, vaccinations will continue in 2011 in the same districts.

In the first round of vaccinations, the coverage was 90.5 percent, in the second, 85.6 percent, and in the third, 84.5 percent. Challenges for introducing HPV vaccine on a large scale include the cost of the vaccine and associated program costs. In the pilot projects, girls missed second or third doses because of inclement weather, school examinations, or pregnancy, and some families avoided vaccinations because of rumors spread by email.

While the pilot vaccinations were successful, there is need for human resources and infrastructure support for scale-up. Other government agencies, in addition to the MOHSW, must support cervical cancer prevention. Communities must be informed and educated about cervical cancer and HPV vaccines, in order to dispel misconceptions.

For screening, Pap smears have been available and recently VIA was introduced. Lesions are treated with cold conization, but no information is available on cryotherapy. Women who are diagnosed with invasive cervical cancer are referred to the Republic of South Africa, where those with advanced cases

receive radiotherapy or chemotherapy, and palliative care is offered. The challenge for cervical cancer treatment is the shortage of trained personnel and lack of infrastructure. Resources must be mobilized to start other screening services for early detection and treatment, namely VIA and cryotherapy.



Cervical Cancer Prevention Program: The Experience from Tanzania

Dr. Julius Mwaiselage

*Chief, Cancer Prevention and Research Division
Ocean Road Cancer Institute, Tanzania*

Cervical cancer screening was first established at the Ocean Road Cancer Institute in 2002 with support from the International Agency for Research on Cancer (IARC) through the Bill & Melinda Gates Foundation. These efforts focused on VIA for women 25 to 50 years of age, according to Dr. Julius Mwaiselage. Through this program, 218 doctors and nurses and 155 stakeholder participants were trained, and over 43,000 women were screened in 15 regions between 2006 and 2010. The mean age of those screened was 36.5 years; 6.6 percent screened positive and 2.2 percent had invasive cervical cancer.

Grounds for Health, Jhpiego, and PATH have all started screening programs in Tanzania, but there has been no coordination of efforts at the MOH. In 2009, an office was established for reproductive cancers, and in 2010 a cervical cancer technical advisory group was set up to help in coordination.

At this time, there is no national program for HPV vaccination in Tanzania; vaccination is done opportunistically in private hospitals and is very expensive at \$60 per dose. The prevalence of high-risk HPV types among healthy women is estimated at 21 percent, while among HIV-positive women, it is estimated to be 47.8 percent.

A pilot study of HPV vaccination in primary school girls is being conducted by the London School of Hygiene and Tropical Medicine and the National Institute for Medical Research of London. Implemented in the district of Mwanza, this program aims to vaccinate approximately 5,200 girls, with evaluation of coverage, acceptability, logistics, serious adverse events, and cost of delivery strategies.

At this time vaccination is done opportunistically in private hospitals and is very expensive.

Discussions for a national HPV vaccination program are under way between the MOH and Merck & Co., Inc. A memorandum of understanding has been signed for a donation of vaccine for a five-year program, including three years of complete support. The target population would be girls aged 9 to 13 years, who would be vaccinated at schools starting in July 2011.

Other initiatives include the following:

- Development of national cervical cancer service delivery guidelines (started August 2010).
- Development of a national cervical cancer training package (started September 2010).
- Development of a national cervical cancer prevention and control strategy (started September 2010).
- Implementation of the strategy is slated to begin in July 2011.



Overview of Strategic Plan for Cervical Cancer Prevention and Control in Uganda, 2010–2014

*Dr. James Sekajugo
Principal Medical Officer, Non-communicable Diseases Program
Ministry of Health, Uganda*

Dr. James Sekajugo reviewed the highlights of the recently developed *Strategic Plan for Cervical Cancer Prevention and Control in Uganda*. Guiding the development of this document was a vision of Uganda where all women are free of cervical cancer. The goals of the plan are to reduce HPV infection incidence and prevalence; reduce cervical cancer incidence, prevalence, and mortality; and improve the quality of life for cervical cancer survivors. Dr. Sekajugo noted that the strategic plan had important support from the First Lady of Uganda and the MOH.

Specific goals to reach by 2015 are the following:

- 90% of Ugandans will have access to IEC materials about cervical cancer.
- 80% of girls aged 10 to 14 years will have access to HPV vaccine.
- 80% of women aged 30 to 55 years will have access to screening and treatment for precancerous lesions and diagnostic services.
- 10% of invasive cervical cancer patients will have access to surgery.
- 65% of women with cervical cancer will have access to radiotherapy/chemotherapy services.
- 25% of cervical cancer patients will have access to palliative care services for improved quality of life.

In addition, operations research should be conducted to guide the scheduling for screening programs to ensure they are carried out in an efficient and cost-effective manner; to monitor women who have received HPV vaccination and/or screening for cervical cancer for development of the disease; and to monitor the outcome of treatment modalities for invasive cancer, including surgery, radiotherapy, and palliative care.



Comprehensive Cervical Cancer Control in Kenya

Mr. John Mwangi

*Reproductive Health Officer, Division of Reproductive Health
Ministry of Health, Kenya*

Mr. John Mwangi spoke about the challenges for cervical cancer prevention in Kenya. Because of the weak infrastructure, women do not have access to early detection and treatment. As a result, diagnosis comes late, and the resulting long hospital stays put a stress on hospitals. The national reproductive health strategy is to improve the information base by collecting data through cancer registries and to improve access to early detection and management of cases.

Plans to provide integrated services for cervical cancer include the following:

- Strengthen reproductive health services at all levels to provide prevention, screening/early diagnosis, and management.
- Strengthen oncology services at appropriate levels to meet the needs of prevention/early diagnosis, including adoption of emerging technologies such as HPV vaccines.
- Develop and/or regularly review guideline and procedure manuals for early detection and management.

Operational research is being carried out in Tigoni by the University of Nairobi, Kenyatta National Hospital, and the International Centre for Reproductive Health at the University of Ghent. Other research partners include the University of Washington and the Coptic Hospital Hope Center.

Recommendations for national priorities include the following:

- HPV vaccination
 - Identifying barriers to vaccinations.
 - Setting up a pilot program.
 - Monitoring vaccine uptake, safety, and in-country efficacy data.
- Management of premalignant and malignant lesions
 - Early detection with scale-up of screening.
 - Diagnosis and treatment.
 - Strengthen and expand referral centers for the management of invasive cervical cancer (radiotherapy services).

- Coordination of services
 - Strengthen coordination of cervical cancer control activities, including monitoring and evaluation.
 - Collaboration and partnerships with internal and external partners/stakeholders.
 - Training for screening and management including VIA/VILI, cryotherapy, and loop electrosurgical excision procedure (LEEP).



Cervical Cancer Prevention Program in Malawi

*Mr. Marshal Lemerani
Reproductive Health Officer
Ministry of Health, Malawi*

Mr. Marshal Lemerani noted that a cervical cancer prevention program was conducted in Malawi by Project Hope from 1999 to 2004, and subsequently Jhpiego took over the activities, working until 2007. In 2008, the MOH integrated cervical cancer prevention into its reproductive health services. The current program areas include advocacy and awareness activities such as holding meetings with stakeholders, partners, politicians, and community leaders; mass media campaigns using radio and newspapers; and development of posters and leaflets. Unfortunately, funding for these activities cannot always be found: the posters and leaflets that were developed have not been printed because of lack of funds.

The program has achieved some solid goals: it has developed cervical cancer prevention guidelines and strategies and has integrated these services into the sexual and reproductive rights policies. Twenty “Training of Trainers” sessions have been conducted, out of a planned thirty, and 165 providers out of 600 have received training. VIA is now performed at 63 out of 540 health care sites (some in each of the 28 country districts), with cryotherapy available at 41 out of 125 sites (in 23 districts), with the result that over 35,000 women have been screened. However, this is only about 5 percent of the nearly 670,000 women targeted.

Many challenges remain, such as reaching rural women, obtaining sufficient cryotherapy units and other supplies, and training more providers.

Many challenges remain, such as reaching rural women, obtaining sufficient cryotherapy units and other supplies, and training more providers. Malawi does not have a functional histopathology laboratory or a vaccination program to prevent HPV infections. Supportive supervision occurs irregularly, and funding in general is inadequate.



National Strategic Plan for Prevention, Control, and Management of Cervical Lesions and Cancer in Rwanda

Dr. Eugene Ngoga

Consultant, Obstetrics and Gynecology, King Faisal Hospital, Kigali and Vice-Chair, Rwanda Medical Council

According to Dr. Eugene Ngoga, there are currently no centrally organized cervical cancer prevention activities in Rwanda. However, there is now a proposed five-year strategic plan for cervical cancer prevention, control, and management. The two key sections of the plan are HPV vaccination and a screening program. Some of the specific objectives of the proposed plan are the following:

- Raise awareness about and advocate for cervical cancer prevention and treatment.
- Reduce the incidence and prevalence of HPV infection through HPV vaccination of girls in grades P6 through P9.
- Increase access to cervical precancer screening and treatment services by integrating into the routine package of clinical services for women with high risk of cervical cancer (aged 35 years and older), with a goal of two screenings per lifetime.

The proposed national vaccination program with donated vaccine would first target girls in several school grades in order to benefit as many as possible, but eventually the program would be only for girls in grade P6. For screening of adult women, the proposed goal is to screen 80 percent of women aged 35 years in year 1, and 80 percent of women aged 35 to 45 years in subsequent years.

At the national level, a media campaign should be launched to raise awareness about HPV and cervical cancer issues.

In order that the proposed programs be successful, strong advocacy and communication strategies will be necessary. Local authorities and community members must be equipped with information about cervical cancer prevention by vaccination of girls and screening of women. Clear communication should be planned for the targeted girls, parents, older family members, and community leaders. At the community level, educational materials and leaflets must be distributed within schools and areas relevant to the target populations. At least one community education session will be held for the sector surrounding each health center.

At the national level, a media campaign should be launched to raise awareness about HPV and cervical cancer issues, and to encourage immunization and screening where appropriate. An official HPV vaccine launching ceremony should be planned, including coverage by the international press.



Encouraging Results from Expanded Secondary Prevention of Cervical Cancer Activities in Uganda

Dr. Dan Murokora

*Medical Director, Uganda Women's Health Initiative
and President, Association of Obstetricians and Gynaecologists of Uganda*

In speaking about screening activities in Uganda, Dr. Dan Murokora pointed out the huge boost that cervical cancer prevention has received from advocacy efforts by the First Lady, the MOH, Parliament, and a number of nongovernmental organizations (NGOs). The First Lady, the Honorable Sarah Nyombi (Member of Parliament), and Princess Nikky Onyeri of the Princess Nikky Breast and Cervical Cancer Foundation have been especially influential. The media have also been responsive, with free airtime given for live television and radio shows on cervical cancer prevention and stories published in leading local newspapers.

Partners in advocacy efforts include WHO, the Association of Obstetricians and Gynaecologists of Uganda (AOGU), UWHI, and PATH.

The MOH recently published a five-year strategic plan for cervical cancer prevention that focuses on a phased approach, beginning with regional referral hospitals. The MOH expects to enlist the support of several partners, and a technical advisory committee will guide the overall approach to cervical cancer prevention. The Ministry has also developed curriculum materials, including the *Course in Visual Methods for Cervical Cancer Screening and Cryotherapy for Treatment of Precancer*, published this year.

The media have been responsive, giving free airtime for live television and radio shows on cervical cancer prevention, and publishing stories in leading local newspapers.

Training sessions in VIA and cryotherapy were conducted in 2009 and 2010. In a cascade approach, national trainers were trained in March 2009, followed by training of trainers in July, and training of health workers at three district hospitals over the following months. National trainers also received training in colposcopy and LEEP.

The number of screening centers is increasing, with more than a dozen hospitals, clinics, and health centers now offering services. To support these services, monitoring tools have been developed and tested, and supervisors are visiting sites after training to measure competency to perform VIA and cryotherapy.

Challenges for cervical cancer prevention and control in Uganda include the fact that demand for screening and treatment of precancerous lesions is far beyond current capacity, a situation that, ironically, is a result of successful advocacy campaigns! Equipment for treating precancerous lesions is also limited (i.e., cryotherapy and LEEP).

Human resources are a general constraint, with a constant need for trainers and skilled health care workers. In regard to invasive cervical cancer, the capacity for radiotherapy and other tertiary care is limited. Finally, funding constraints are a basic challenge at all levels, as the strategic plan is not funded directly by the government. Recommendations include a budget line for cervical cancer prevention in the MOH budget.



Cervical Cancer Prevention Program in Zambia

Dr. Sharon Kapambwe

Head, Cervical Cancer Prevention Program in Zambia

Center for Infectious Disease Research in Zambia

Dr. Sharon Kapambwe introduced her presentation by reminding the audience that as in most African countries, women with cervical cancer in Zambia are usually in advanced stages when they seek medical help. This cancer causes more deaths in women than any other cancer in the country, and is the most common cancer regardless of gender. The barriers to cervical cancer prevention in Zambia are familiar and include a general lack of health literacy, competing health needs, and a severe shortage of human resources.

To overcome these barriers, the Center for Infectious Disease Research in Zambia has outlined a blueprint for cervical cancer screening using digital cervicography. Because of the shortage of doctors and other trained health personnel, the program is carried out by nurses. The nurses perform VIA, and a photograph of the cervix taken with a digital camera is displayed on a monitor, where it can be used by the nurse for further evaluation, for patient education or, when sent to a physician, for consultation. The nurse can provide cryotherapy at once, or can refer the patient for further services.

Barriers to cervical cancer prevention in Zambia include a general lack of health literacy, competing health needs, and a severe shortage of human resources.

Since the beginning of the program, 50,000 women have been screened and approximately 10,000 have been treated for precancerous lesions. One-third of those screened have been HIV-positive.

The Zambian system of "electronic cervical cancer control" bypasses many of the historic barriers to the delivery of preventive health care to women in low-resource environments while facilitating monitoring, evaluation, and continued education of primary health care providers, patient education, and medical records documentation.

Goals for the future include expansion of the program to the national level under government leadership, incorporation of HPV-based technology (both HPV vaccinations and HPV DNA screening), and the use of existing community structures, such as traditional marriage counselors, to make the programs more accessible and acceptable.

Questions and Answers

1. *Why has Uganda set a goal of providing surgery for only 10 percent of women with invasive cervical cancer, and providing palliative care for only 25 percent who need it?*

Dr. Sekajugo responded that the infrastructure to do more at this point is simply not in place, so the goal cannot be set higher.

2. *Why did Lesotho target 9- to 18-year-old females for HPV vaccination, when the older females may well have initiated sexual activity and been exposed to HPV already? We know the vaccine does not work well in those already exposed.*

Mrs. Mohai replied that in the programs starting in 2011, the target population will be girls aged 9 to 13 years.

3. *What about involving men in the cervical cancer prevention efforts?*

Mrs. Mohai of Lesotho agreed and illustrated the value of this approach with an anecdote. Her team had made a point of sensitizing members of Parliament. Subsequently, when some schools refused to allow the vaccination program, a father and a male member of Parliament went to the school and convinced them to allow the program.

4. *Is the digital technology in Zambia available at every Level 1 health center?*

Dr. Kapambwe stated that the technology is available in all the health centers where screening is currently being done. However, internet service is very slow in the rural centers, so the plan is to use cell phones to send information and photos and to eliminate use of computers.

5. *What about integrating HIV services with cervical cancer screening?*

A participant from Zambia noted that when women come to the clinic for cervical cancer screening, they also do HIV testing in the same room, because if the woman is sent down the hall for HIV testing, she simply goes home without the test.

6. *Is vaccinating for HPV in schools the best approach?*

Dr. Susan Wang of WHO Geneva commented that proponents of school vaccinations for the HPV vaccine often say this is necessary because there is no EPI program for the target group: young adolescent girls. However, not too long ago there was no EPI program for two-month-old children for routine immunizations—this illustrates that programs do evolve. Eventually it will probably work better to move HPV vaccinations to health centers, and this will also be an opportunity to provide other needed interventions for adolescents at the centers.

Review of the Scientific Evidence



A Global Perspective on Prevention and Control of Cervical Cancer

*Dr. Susan Wang
Medical Officer, New Vaccines
World Health Organization, Geneva*

Dr. Susan Wang reminded the audience of the grim statistics on cervical cancer worldwide: it is the second most common cancer in women and fifth most common cancer overall, with an estimated 530,000 new cases and 275,000 deaths in 2008. But new opportunities for prevention now offer hope of reducing these figures significantly.

First, new HPV vaccines offer a novel strategy by preventing infection with approximately 70 percent of the viruses that lead to cervical cancer, and the *Human Papillomavirus Vaccines WHO Position Paper* states that both vaccines have good safety profiles. We also have new assays such as HPV DNA tests, and new algorithms such as the single-visit approach, for improved cervical cancer screening, which may permit identification of precancerous and cancerous lesions with greater accuracy, less complexity, and fewer barriers to access. Along with the new technologies have come new advocates, new interest, and new energy for comprehensive cervical cancer prevention programs.

In spite of the advances in the field and the large toolbox now available for preventing cervical cancer, challenges remain. Each country must identify the best and most affordable practices for vaccine delivery and screening algorithms, and, because cervical cancer lies at the intersection of several health areas, countries must encourage coordination between partners who are not used to working together: immunization, sexual and reproductive health, cancer control, child and adolescent health, school health, and health systems strengthening. In addition, these programs suffer from the shortages that face many health interventions: trained health workers and an adequate budget for new technologies and delivery systems.

The WHO position paper recommends that vaccination be introduced into national programs where prevention of cervical cancer and other HPV-related diseases is a public health priority; vaccine introduction is programmatically feasible and financially sustainable; and cost-effectiveness aspects have been duly considered. The primary target population is girls aged 9 to 10 through 13 years, because the vaccine is not therapeutic and should be given before exposure to HPV. The paper emphasizes that vaccination should be introduced as part of a coordinated strategy to prevent cervical cancer and other HPV-related diseases.

Dr. Wang went on to review the challenges unique to introducing HPV vaccines. Because the target population is not one routinely served by immunization programs, a new delivery platform is needed, so operational costs will be higher and more human resources will be required. Further, currently licensed vaccines require three doses over the course of six months, which will add to program costs. Delivery

strategies should be compatible with resources, affordable, cost-effective, sustainable, and should be able to achieve the highest possible coverage.

Other challenges include the following:

- Monitoring safety, coverage, and impact.
- Integrating vaccine into a broader package of adolescent health services.
- Initiating a comprehensive approach to cervical cancer prevention and control.
- Engaging new stakeholders and partners, not only the traditional child health partners.
- Finding a programmatic "home" or ownership for HPV vaccination (i.e., immunization, cancer control, reproductive health, adolescent and/or school health); interdisciplinary coordination needed.
- Finding solutions for high vaccine cost.

In regard to vaccine donations, Dr. Wang mentioned the WHO-UNICEF Joint Statement on Vaccine Donations. According to that document, all countries accepting donations should have the following:

- A published process for registration of vaccines for use within the country.
- Surveillance of vaccine field performance (i.e., monitoring for adverse events following immunization).
- Expertise to analyze documents on vaccine shipping and storage conditions in transit.
- Capacity to properly store vaccines until they are administered.
- Immunization plan to detail how vaccines will be used.

WHO has a wealth of publications to help countries plan their cervical cancer prevention programs, available at the WHO website.



The Evidence on New Screening Approaches

*Dr. Jose Jeronimo
Director, START-UP Project
PATH*

After reviewing the natural history of HPV infection and progression to cervical cancer as well as the remarkable decline of the disease after introduction of cytological screening (Pap tests) in industrialized countries, Dr. Jose Jeronimo pointed out the advantages of VIA in low-resource settings.

VIA is well accepted by health workers and patients, is simple to perform and gives immediate results, and is suitable for the screen-and-treat approach. While the sensitivity of this method is not optimal, it is

similar to or better than that of the Pap test. Although the method is quite simple and lower-level health care workers can learn the skill, adequate training is mandatory.

The newest technology for cervical cancer screening is HPV DNA testing, and PATH and partners are evaluating the *careHPV*[™] Test, a low-cost method appropriate for developing countries. Easy-to-follow instructions and color-coded reagents make it possible for lower-level technicians to perform the test after a short training period.

Sensitivity of HPV DNA testing on specimens from vaginal self-sampling is nearly as high as that from cervical samples obtained by health care providers.

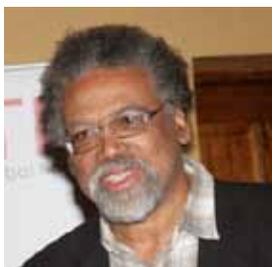
Results are encouraging: the sensitivity of the test has been reported at over 90 percent, and a study has estimated that a woman with a negative test result has a negligible chance of developing precancer over the subsequent ten years.

Further good news is that the sensitivity of the test on specimens obtained by vaginal self-sampling is nearly as good as that in cervical samples obtained by health care providers, at 81 percent compared with 90 percent in a recent clinical study, suggesting that self-sampling could be an important option in the future.

Dr. Jeronimo emphasized the continuing need for VIA and associated training: the paradigm for screening with HPV DNA testing is that women who test DNA positive must then have VIA (or some other method of visualizing the lesions) and treatment with cryotherapy, or if the lesions are more advanced, they must be referred for higher-level care.

With clinical studies showing promising results, the PATH Screening Technologies to Advance Rapid Testing—Utility and Program Planning project (START-UP) is now under way in Uganda, India, and Nicaragua to demonstrate how to organize and monitor HPV DNA testing programs.

In conclusion, cervical cancer screening and treatment is evolving, with molecular tests becoming available in developing countries. In addition to the technical advantages mentioned above, the possibility of using vaginal samples self-collected by women holds great promise for increasing the number of women willing to take advantage of cervical cancer screening.



The Unseen Forces Guiding the Cervical Cancer Prevention Effort in Zambia: How We Started the Climb up a Steep Snow-Covered Mountain Without Shoes

*Dr. Groesbeck Parham
Co-Director, Cervical Cancer Prevention Program, Zambia
Center for Infectious Disease Research in Zambia*

Dr. Groesbeck Parham inspired the audience with his comparison of trying to prevent cervical cancer in Zambia to climbing a snow-covered mountain—with the snow and jagged rocks reminding him of the difficulties surrounding cervical cancer prevention in Africa:

- Extremely high cervical cancer incidence and death rates.
- Advanced cases.
- High HIV prevalence.
- Stark poverty.
- Pockets of corruption.

Complicating the climb are burdensome attitudes, or “climbing conditions,” such as myths and misconceptions and the prevalence of gender inequality, and a dearth of good equipment.

However, in spite of previous failed attempts to climb the mountain with the wrong plan (cytology), a small brigade “operating with a spirit of abundance” decided that if they started the climb, reinforcements would arrive. The Zambian “feet” for the climb included an ample supply of well-trained nurses, a network of government-operated clinics, government approval of the screen-and-treat approach and provision of VIA supplies, and a small amount of funding from the US President’s Emergency Plan for AIDS Relief.

Once the feet were on the ground, the shoes arrived in the form of cameras for digital cervicography (described in an earlier presentation). The outcomes of the climb thus far are that Zambia now has 15 clinics, 18 nurses, and 35 volunteer community health workers in this program for cervical cancer screening, with 50,000 women screened and 10,000 treated. Further, in these clinics 70 percent of the cancers detected are early stage, whereas the typical presentation has been at very late stage. This work is providing a platform for HPV-based vaccination and screening and a springboard for national expansion. For HIV-positive women, it is estimated that one death is prevented for every 46 women screened.

Dr. Parham concluded that in Zambia, the brigade now has shoes but is only halfway up the mountain. However, the climbers see Uganda at the top of the mountain, throwing them the rope of experience from the HPV vaccine demonstration project. Further, the brigade has been reinforced: the government has endorsed HPV vaccination and screening technologies and has expressed the desire to lead the next phase of the climb.

Questions and Answers

1. *What does WHO recommend specifically for Africa in regard to HPV vaccination?*

Dr. Wang replied to this question by saying that the WHO position paper on vaccines against HPV is for global use and does not make recommendations for specific regions or countries. This is different from papers on, for example, measles, where the WHO position is a blanket recommendation. As the HPV vaccine position paper states, each country must look at its priorities and whether vaccination programs will be sustainable.

2. *Are men involved in the screening projects in Zambia?*

Dr. Parham commented that the teams spend considerable time talking with men about the fact that HPV is a sexually transmitted disease, and about how important it is for women to be screened.

3. *How will screening change in future years, after many girls have been vaccinated?*

Dr. Jeronimo commented that if the incidence of HPV 16 and 18 (the major types current vaccines protect against) decrease in the population, precancerous lesions may not be as easy to detect with VIA or colposcopy. However, HPV DNA testing is very good for finding all oncogenic HPV types.

4. *What is the recommended age for HPV DNA testing?*

According to Dr. Jeronimo, women should be aged 30 years and older for DNA testing. Most women (and men) become infected with HPV shortly after initiating sexual activity, and most are able to clear the infections with normal immune responses. Precancerous lesions and cervical cancer typically develop only after persistent infection, so testing women aged 30 and older is the most efficient way to screen.

5. *Can HPV DNA tests be used in remote areas?*

The low-cost *careHPV*TM Test does not require running water. It does need electricity, but this can be provided by a battery.

6. *How do women view self-sampling for the HPV DNA test?*

Dr. Jeronimo noted that the START-UP study teams expected that women would not respond positively to this approach, but they were surprised to find that the opposite was true. In the Nicaragua and India studies, they are finding that 80 to 85 percent of women prefer self-sampling to provider sampling.

7. *How can countries train physicians to provide cervical cancer screening and treatment programs?*

A participant pointed out that what is needed is training for nurses and midwives in VIA and cryotherapy—physicians are not needed for this.

Dr. Parham of the Zambia team stated that we need physician training for treatment rather than screening. For early stage invasive cervical cancer, we need skilled surgeons and radiation treatment. Many surgeons have not been trained for this surgery.

Questions and Answers

A question about whether WHO could offer technical support for surgical training prompted Dr. Dangou of the WHO Regional Office for Africa (WHO/AFRO) to remind attendees that if a country wants technical support from WHO, the ministry of health must request the assistance, and should do so two years in advance of the planned program. He mentioned that of the 46 member countries of WHO/AFRO, only 5 had asked for assistance.

Dr. Jumaan commented that the World Bank supports regional efforts and has indicated interest in supporting cancer programs. Dr. Dangou suggested that Dr. Parham and others interested in this topic should write a one-page concept letter to the World Bank before leaving the conference.

8. *Can African countries negotiate together to purchase HPV vaccine in bulk, perhaps through the African Union?*

A participant noted that this could work if the countries applying are all at the same stage in their planning for vaccination programs.



Planning for the Future



The Role of the UICC Cervical Cancer Initiative

*Dr. Julius Mwaiselage
Chief, Cancer Prevention and Research Division
Ocean Road Cancer Institute, Tanzania*

Founded in 1933, the Union for International Cancer Control (UICC) is the leading nonprofit, international, nongovernmental organization dedicated exclusively to global control of cancer. UICC has more than 380 members in 120 countries and its mission is to connect, mobilize, and support cancer organizations and individuals with the knowledge and skills they need to be effective.

The World Cancer Declaration is a tool to help bring the growing cancer crisis to the attention of government leaders and health policymakers in order to significantly reduce the global cancer burden by 2020. The objective of UICC for 2011 is to collect one million signatures on the Declaration by the time of the UN High Level Summit on Non-Communicable Diseases, to be held in New York in September 2011. This will show the magnitude of the support behind this call.

The UICC Cervical Cancer Initiative is a four-year program with four priorities for action:

- Advocacy for prevention and control of cervical cancer.
- Communication and awareness campaigns.
- Professional education.
- Pilot projects (in Tanzania and Nicaragua).

Key partners are the Cervical Cancer Action coalition, the Alliance for Cervical Cancer Prevention (ACCP), and the WHO/Institut Català d'Oncologia Information Centre on HPV and Cervical Cancer.

The aim of the pilot project in Tanzania is to establish comprehensive cervical cancer planning. Activities initiated thus far are a feasibility study supporting national planning, mapping of partner activities, and training opportunities (fellowships, capacity building workshops, and grants).

An objective of UICC is to collect one million signatures by the time of the UN High Level Summit on Non-Communicable Diseases in September 2011.

In Nicaragua, the goal of the pilot project is strengthening the coordination of professional education opportunities to support implementation of the national plan. Activities include supporting training of the ministry team in early detection and management of women with positive screening tests and mapping of stakeholder activities.

In 2009 ACCP discussed the need to review the main training materials used for training and workshops in resource-constrained settings, in order to identify gaps, harmonize content, and update as necessary.

Essential materials have been collated and the review is to be finalized by mid-October. Materials include manuals developed by WHO, PATH, the International Network for Cancer Treatment and Research, UICC, IARC, Jhpiego, The International Federation of Gynecology and Obstetrics, and the American Society of Clinical Oncology. Feedback on materials has been collected in the WHO/AFRO countries, and a similar process is under way in Latin America.



New Tools for Cervical Cancer Prevention Planning

Mr. Scott Wittet

*Lead, Advocacy and Communication, Cervical Cancer Prevention Programs
PATH*

Mr. Scott Wittet addressed the means by which organizations can promote a comprehensive cervical cancer prevention approach. Three areas for advocacy include translating evidence for diverse audiences, facilitating national planning, and mobilizing support.

RHO (www.rho.org) is a website that provides a large library of cervical cancer resources, including materials on vaccination and screening; publications in Spanish, French, and other languages; videos, podcasts, and webcasts, and links to many partner publications. Another resource is the Cervical Cancer Action coalition, which publishes issue briefs several times a year on important topics such as cervical cancer screening, HPV vaccine safety, and strategies for HPV vaccination in the developing world.

With the wealth of new data on feasible, cost-effective prevention strategies, it is time to make practical plans for introducing some of the new tools into low-resource areas. There is high demand for vaccination and screening in these areas, and the price for the HPV vaccine is coming down rapidly. From a high of \$120 per dose in industrialized countries, the price is now approximately \$17 for the Pan American Health Organization (PAHO) countries, and other regions and individual countries are negotiating similar low prices.

Three areas for advocacy include translating evidence for diverse audiences, facilitating national planning, and mobilizing support.

In order to assist program managers and others in planning for HPV vaccination and for screening and treatment of precancerous lesions, PATH has developed the Cervical Cancer Prevention Action Planner, now available on RHO (www.rho.org/actionplanner). This tool includes the text resources of the RHO library, a BBC film on cervical cancer and HPV vaccination in Uganda, and video mini-lectures on cervical cancer. The heart of the tool is an interactive module that allows users to view results of putting in place different types of interventions. For example, a user can see the reduction in lifetime risk of cervical cancer in an area based on how often women are screened and whether girls are vaccinated.

With the new technologies—efficacious vaccines that are becoming affordable and highly successful screen-and-treat methods that are low cost—it is imperative that we mobilize support and keep the

momentum going. Now is the time for country managers to urge their ministries of health to move forward, to contact GAVI and request assistance, and to ask regional WHO offices to advocate for them.

Finally, the entire cervical cancer prevention community must urge prioritization of cervical cancer prevention at high-level conferences, especially the UN High Level Summit that will take place in September 2011.



*Lobbying for Support from African Policymakers and Parliamentarians:
The Uganda Experience*

*Honorable Sarah Nyombi
Member of Parliament, Uganda*

As a parliamentarian herself, the Honorable Sarah Nyombi proposed a strong agenda for parliamentarians in promoting cervical cancer prevention. These elected officials are ideally placed to facilitate and support formulation of policies and management guidelines; to support allocation of resources to reproductive health and cervical cancer prevention programs; to advocate for prioritization of women's health on the national agenda; and to mobilize resources for these programs. Especially important strategies are involving men in the planning, and reaching out to the office of the President.

Cervical cancer prevention activities in Uganda have brought many members of the Ugandan Parliament on board for support. The list of achievements includes the following:

- Successful walk for cervical cancer awareness.
- Free screening of women members of Parliament.
- Government technical advisory committee has worked to streamline all efforts into a national cervical cancer prevention program.
- Guidelines for prevention of cervical cancer have been developed.
- Cervical cancer prevention has been included in the Uganda Health Sector Strategic Plan.
- Parliament passed the Atomic Energy Bill, including a provision for importing a radiotherapy unit.
- A BBC film was produced in conjunction with the PATH HPV vaccine project.
- A petition was sent to GAVI to make HPV vaccine available.
- Efforts on behalf of prevention programs have involved the office of the First Lady.

Sometimes unexpected information is gained through these activities. In the free screening program for women in Parliament, some women confided that they were not comfortable going for a speculum examination. This fear is not confined to uneducated or rural women.

Challenges remain for keeping cervical cancer prevention efforts high on the list for Parliament. Among these are the full schedules of policymakers, limited involvement of men so far, and competing government priorities.

The strategy going forward is to work for a comprehensive approach. Because awareness of the vaccine is increasing, we must also keep the importance of screening and treatment (particularly the screen-and-treat approach) in the public eye. Beyond advocating to both Parliament and the public, we must sensitize health workers in all departments to refer women for screening, and we should consider alternate screening methods such as mobile clinics and camps. Finally, we must involve international partners to scale up programs to the national level.

Cervical cancer prevention activities in Uganda have brought many members of the Ugandan Parliament on board for support.



Questions and Answers

1. *Now that Sarah Nyombi has lost bid for re-election, how will she continue her work?*

The Hon. Sarah Nyombi announced that she would continue her efforts on behalf of cervical cancer prevention; now that she is not in office, she will be able to devote even more time to the effort. She also voiced the idea of traveling to other country parliaments to speak.

Dr. Parham suggested that Hon. Sarah Nyombi and other women in positions of authority visit corporations in Africa to speak to employers about setting up cervical cancer prevention programs.

2. *What are other ways to continue the efforts?*

Suggestions were made for enlisting any politician who can be persuaded to join the effort, for finding champions in every country, and for engaging the media in promoting prevention efforts. One participant noted that political will exists because of the noise made by public advocacy, so that must continue.

Working Groups on Cervical Cancer Prevention Priorities

The next phase of the conference was devoted to country group work. Three working groups were formed:

Group 1: Kenya, Tanzania, and Uganda

Group 2: Lesotho, Malawi, and Zambia

Group 3: Cameroon, Ghana, and Rwanda

For the first activity, participants from each country compiled a list of priorities, action items, and technical assistance needed in their own country for cervical cancer prevention. These reports from individual countries are included in Annex 6.

Each country then reported to its three-country group, and all three discussed common challenges. Each group then prepared a brief report on key findings and possible actions to be taken. The sections below highlight points from these combined reports.

Group 1: Kenya, Tanzania, and Uganda

In Group 1, several challenges were found across countries:

- Lack of adequate capacity, especially in human resources.
- Absence of advocacy for cervical cancer prevention.
- Poor referral systems.
- Low government funding for prevention and treatment services.
 - Much of the funding for procurement of vaccines, human resources, and maintenance of the cold chain is from external sources.
- Lack of leadership, especially at MOH.
 - For example, funds from various organizations can be obtained, but the coordination and implementation of activities becomes a problem.
- Shortage of training materials in appropriate languages.

In its discussion, the group considered how to intervene to strengthen leadership and accountability at all levels. An idea for this was to identify champions in the field who have a vision that can guide others, a focal person who can be counted on to speak with stakeholders at various levels.

Another thought was that coordination must be improved at all levels, since cervical cancer involves reproductive health, cancer, and immunization groups. The countries agreed that a leader from one of these departments would need to be responsible for moving the cervical cancer prevention agenda forward.

In addition to the MOH departments, ministries of finance must also be brought on board. Program managers must learn to work with health economists, because frequently government officials in the ministry of finance will want to have cost analyses. Crafting these messages carefully is important.

Further, managers or champions must lobby various stakeholders. One suggestion was to set up a sensitization meeting for several members of parliament. Another recommendation was to lobby manufacturers as a regional block, for example, an East Africa block, in order to reduce HPV vaccine prices.

Finally, once a country has put forward a strategic plan for cervical cancer prevention, the plan must be shared and promoted throughout the MOH, with regional hospitals, with other stakeholders, and with colleagues in other countries.

Listed below are some “wish list” priorities from the discussions.

Kenya

- Expansion of screening services to level 2 health centers.
- Training more level 2 and 3 health workers on VIA/VILI.
- Provide rural health facilities with VIA/VILI equipment and cryotherapy machines.
- Have a national budget line on cervical cancer prevention and control.
- Improved cervical cancer registry at the national level.

Tanzania

- Advocacy for cervical cancer prevention.
- HPV vaccination.
- Screening for cervical cancer.

Uganda

- Training at various levels:
 - Training of trainers
 - Pre-service
 - In-service
- Establish practice environment (i.e., a room, privacy, good light, basic equipment needed).
- Resource commitment/mobilization from the various stakeholders.
- Suggested catalysts to aid in mobilizing reproductive health, chronic diseases, and immunization services: UNEPI, Save a Woman Initiative, PATH, and AOGU.
- Continued advocacy.

Group 2: Lesotho, Malawi, and Zambia

Group 2 found a number of common concerns in their countries:

- Inadequate (or misallocated) human resources.
- Limited awareness of cervical cancer among key stakeholders (including communities and health workers).
- Competing health needs leading to low prioritization of cervical cancer control for funding.
- Absence of cervical cancer control policy.

Behind most problems was a lack of funding. Participants noted several specific difficulties in budgeting:

- In some cases the MOH funds go directly to hospitals (at the district level, for example). Thus, the hospital directors or boards must include cervical cancer prevention in their budget requests, and advocates must work to get these provisions into the hospital budgets.
- Some countries have a family planning budget, but no reproductive health budget, so it is important to know how to fit cervical cancer prevention into the existing structure.
- Unless there is a national policy on cervical cancer, it is difficult to lobby for funding. Implementers on the ground cannot fit their needs into the list on the official budget unless cervical cancer prevention is a priority and has a budget line.
- In many instances, human resources are available, but they are not doing the right things; thus, it is a matter of misallocation of funding.

Other discussion points included how to present technical points to policymakers, coordination of donor programs, and the need for one leader to coordinate cervical cancer prevention efforts in a country.

- Policymakers may be confused when they hear requests for different technologies for cervical cancer prevention (i.e., vaccine, DNA tests, and VIA). Advocates need to know their science and to package it in an understandable way for lawmakers.
- Sometimes outside programs bring help to countries, but nothing is sustainable without government commitment and funding. Further, there is a need to coordinate these outside programs.
- Strong opinions were voiced on the need to identify one person from the programs involved in cervical cancer prevention—immunization, cancer, and reproductive health—to take charge of the country agenda and move it forward.

Listed below are some “wish list” priorities from the discussions.

Lesotho

- Establish a cancer registry.
- Develop guidelines and indicators for monitoring and evaluation as well as impact analysis.
- Advocacy, generate new interest, instill new energy.

- Involve policymakers (parliamentarians).
- Financial resources for new technologies (i.e., HPV DNA testing at point of care, vaccine).
- Training and education.
- Screening—VIA/cytology/DNA/colposcopy (pilot studies and full-scale rollout).

Malawi

- Screening and management of treatment, including palliative care.
- Strengthen the referral system.
- HPV vaccination.

Zambia

- Country-wide campaigns promoting cervical cancer prevention.
- National expansion of screening; integrate HPV DNA testing into screening programs.
- Establish HPV vaccination program.

Group 3: Cameroon, Ghana, and Rwanda

Common challenges across countries in this group included:

- The cervical cancer burden is not accurately known.
- Current cervical cancer prevention policies are not comprehensive.
- Low possibility of government financing for strengthening screening services or for HPV vaccination.
- Cancer control is generally neglected as part of the non-communicable disease agenda.
- Lack of awareness of cervical cancer among clinicians and patients.
- Lack of equipment for screening and treatment.
- Women have a fear of being screened.
- Sustainability of the cervical cancer prevention program.
- Low capacity for screening and treatment of precancerous lesions and palliative care.

As with the other groups, coordination of activities for cervical cancer prevention across reproductive health, cancer, and immunization was a central concern. Here, the teams suggested the creation of a national technical committee to coordinate activities across service providers. The committee would decide which group would do vaccination, screening, and other activities. At the outset, it seems logical that EPI would be in charge of vaccinations, since this group has expertise in immunizations.

Another question was how to coordinate cervical cancer screening with HIV programs. Adding screening to the HIV programs may stigmatize those getting cervical cancer screening, so it may work better to have screening clinics that also offer other services, such as HIV testing, family planning, and nutritional

services. However, the infrastructure is already in place for many HIV programs, so this should not be ignored. Clearly it is important to discuss this with HIV program leaders.

Because lack of awareness of cervical cancer and its prevention is a major problem for all countries, it is important to work on advocacy in communities and with key stakeholders. This is an area where NGOs can be especially helpful, by providing technical support. Another approach is to focus directly on putting a strategic plan in place, which would then bring cervical cancer to attention at high levels.

Listed below are some “wish list” priorities from the discussions.

Cameroon

- Improve screening (HPV DNA screening).
- Establish HPV vaccination program.
- Advocacy.
- IEC materials.

Ghana

- To expand the policy on cervical cancer within the larger context of the reproductive health policy.
- To include HPV vaccination.
- To do a situation analysis of the cervical cancer program on prevention and control.

Rwanda

- Mass sensitization through community education and advocacy.
- Prevention of HPV infection.
- Screening and treatment of precancerous lesions.
- Treatment of cervical cancer.
- Palliative care services of women with advanced cervical cancer.
- Monitoring and evaluation, and operational and basic science research.

Summary of Common Challenges

Across the nine participating countries, several themes emerged as challenges for cervical cancer prevention programs.

- First was the need for advocacy. Participants cited a general lack of awareness of cervical cancer and of prevention methods, both in the public at large and among key stakeholders (e.g., clinicians, government officials, and women).
- This lack of awareness is related to one of the other big challenges, the absence of national policies (especially for comprehensive prevention and control) and of leadership by government ministries or elected officials.

- Another difficulty identified was the shortage of human resources. Personnel shortages mean that programs do not have the capacity to screen and treat women or to provide palliative care for those with advanced cancer. Countries agreed they need more trained health workers, as well as training materials and IEC materials in languages of the local populations.
- Funding remains a critical challenge that affects everything from procuring vaccines to paying health workers to improving the cold chain to purchasing equipment for screening and treating. Funding from NGOs comes with its own challenges: the problems of sustainability and a lack of coordination of efforts.

In addition to these four common themes, other issues mentioned were the fear of many women to undergo screening, the need for cancer registries, and poor referral systems.

With these challenges in mind, country teams discussed priorities and listed the short-, medium-, and long-term activities that each should initiate to move the agenda forward. In addition, each country noted the areas in which they require technical support. These country-specific activities and requirements for technical support are included in Annex 6.



Next Steps



Dr. Jean-Marie Dangou

*Medical Officer, Cancer
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In industrialized countries, expanded screening and treatment have dramatically reduced cervical cancer rates over the last 60 years, while in sub-Saharan Africa, where more than 95 percent of women have never been screened, the death rate from this disease continues to rise. Most of the cancers occur in women at an age when their roles of nurturing families (including the provision of education and health needs of children), contributing to economic activity, and ensuring cohesion in society are critical.

Participants at this Kampala conference called for urgent action to reduce the intolerably high burden of cervical cancer in Africa and to save women's lives. The call recognizes that a comprehensive strategy, combining vaccination of girls with screening and treatment of adult women, will significantly reduce the threat of cervical cancer. It acknowledges that action will be required to give women and girls in Africa rapid access to such powerful new technologies as HPV vaccines and HPV DNA testing. All of this will only be possible when there is strong commitment and action on the part of governments, multilateral agencies, the international donor community and development partners, health professionals, and civil society. Participants agreed on the following next steps:

- Share the report of the Uganda HPV vaccine demonstration project with all African countries and partners involved in cervical cancer prevention and control in Africa.
- Scale up HPV vaccination demonstration and pilot projects with the support of all stakeholders. The Uganda experience is very important for this effort.
- Set up national cervical cancer coordination committees with representatives from national cancer, non-communicable disease control, sexual and reproductive health, immunization, child and adolescent health, and sexually transmitted diseases programs, as well as from training institutions.
- Advocate for comprehensive cervical cancer prevention programs and plans, including treatment for invasive cancer and palliative care.
- Mobilize and allocate appropriate resources for cervical cancer prevention.
- Develop plans for HPV vaccination introduction before donations arrive. Plans must be in place so action can quickly follow.
- Build capacity for skilled personnel, infrastructure, and equipment for cervical cancer prevention at all levels.
- Develop and implement monitoring and evaluation plans for cervical cancer prevention and control.
- Ensure a proactive approach on affordability of HPV vaccine by engaging regional economic communities, international and regional health organizations, the pharmaceutical industry, and other partners to negotiate and purchase HPV vaccines at the lowest price.
- Organize a regional consultation on training on cervical cancer surgical treatment.

Conference Closing

The meeting was brought to a close by Dr. Dan Murokora of AOGU, Dr. Patrick Banura of the WHO Uganda Country Office, Dr. Emmanuel Mugisha of the PATH office in Uganda, and Dr. Rachel Seruyange of UNEPI. All thanked the participants for their energy and commitment.



Cervical Cancer Prevention Resources



Cervical Cancer Prevention Action Planner

An interactive tool that helps country program managers develop evidence-based cervical cancer prevention programs

www.rho.org/actionplanner



Outlook newsletter update on cervical cancer

Progress in preventing cervical cancer: Updated evidence on vaccination and screening

www.rho.org/ccresources.htm#outlook



HPV Vaccine Demonstration Project in Uganda: Results, Lessons Learnt, and Recommendations

http://www.rho.org/files/PATH_Uganda_HP_V_demo_OR_summary_2010.pdf



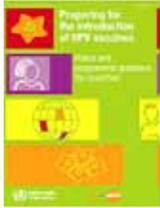
Planning and Implementing Cervical Cancer Prevention and Control Programs

<http://whqlibdoc.who.int/paho/2004/a92126.pdf>

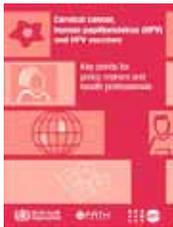


Report of the meeting on HPV Vaccine Coverage and Impact Monitoring: 16–17 November 2009, Geneva, Switzerland

http://whqlibdoc.who.int/hq/2010/WHO_IVB_10.05_eng.pdf



Preparing for the introduction of HPV vaccines
Policy and program guidance for countries
http://whqlibdoc.who.int/hq/2006/WHO_RHR_06.11_eng.pdf



Cervical cancer, human papillomavirus (HPV), and HPV vaccines:
Key points for policy-makers and health professionals
http://whqlibdoc.who.int/hq/2008/WHO_RHR_08.14_eng.pdf



Expert Consultation on the Comprehensive Prevention and Control of Cervical
Cancer, Meeting Report: Kuala Lumpur, Malaysia, 4–6 November 2009
<http://www.wpro.who.int/internet/resources.ashx/RPH/cervical+cancer+meeting.pdf>



Strategic plan for cervical cancer prevention and control in Uganda,
2010–2010
http://www.rho.org/files/PATH_Uganda_cxca_strat_plan_2010-2014.pdf

WHO Position Paper on Vaccines Against Human Papillomavirus (HPV)
<http://www.who.int/wer/2009/wer8415.pdf>

RHO: an online cervical cancer information resource for health program managers
and decision-makers working in developing countries and low-resource settings.
<http://www.rho.org/>

Annex 1: Final Agenda

Improved cervical cancer prevention: planning now for a better future

A country consultation and planning meeting hosted by
The Ministry of Health (Uganda) in collaboration with the WHO Uganda Country Office, PATH, and the
Association of Obstetricians and Gynaecologists of Uganda (AOGU)

September 14–15, 2010
Kampala, Uganda

Introduction and summary

Cervical cancer remains a major health problem, especially in Africa where an estimated 53,000 women die of the disease every year. Fortunately, there are now proven prevention measures. Over the past four years, Uganda has been gaining experience both with vaccination of young adolescent girls against HPV, the virus that causes cervical cancer, and with cervical screening and treatment of older women, through WHO, PATH, and UWHI projects based on VIA and cryotherapy, as well as on the use of new HPV DNA technologies. Other countries in the region also have valuable experience to share related to cervical cancer prevention.

Our intent is to create an environment where MOH participants and other key stakeholders can find common ground and begin to strategize on country-specific agendas that respond to their various interests relating to cervical cancer prevention and control.

Objectives

1. Share available scientific evidence regarding the HPV vaccination demonstration project in Uganda (coverage, acceptability, feasibility, and cost of implementation) and discuss delivery strategies and strategies for monitoring and evaluation.
2. Share available evidence regarding approaches and technologies for cervical cancer screening (current HPV DNA tests, the new *careHPV*[™] Test, visual inspection methods, etc.) and discuss approaches for screening according to different resource levels and in different settings.
3. Share experiences from African countries in assessing new technologies for cervical cancer prevention and incorporating them into public health programs.
4. Prioritize and plan collaborative activities among country-level participants to strengthen cervical cancer prevention programs and support introduction of new approaches and technologies in their countries.

Methodology

The meeting will take the form of PowerPoint presentations, posters, and group discussions. Group work will involve discussion on HPV vaccination, screening and treatment, resource mobilization, and advocacy in Africa.

Expected Results

1. Deepened knowledge of the available scientific evidence regarding technologies for cervical cancer prevention, including new and affordable screening tests and HPV vaccines.
2. Awareness of available tools and useful resources for program managers to strengthen cervical cancer prevention programs and aid decision-making regarding introduction and scale-up.
3. Country-specific action items in support of stronger cervical cancer programs.
4. Strengthened partnerships and alliances among MOH departments and across other participating organizations to promote synergies for improved cervical cancer prevention.

Participants invited to the workshop will be drawn from the following countries:

- Cameroon
- Ghana
- Kenya
- Lesotho
- Malawi
- Rwanda
- Tanzania
- Uganda
- Zambia

It is expected that focal persons for immunization, reproductive health, and cervical cancer from the ministries of health and family health programs, and EPI or National Program Offices from the WHO country offices will attend this meeting.

Agenda

Day 1, September 14

- 8:00 PARTICIPANT REGISTRATION
- Video on HPV vaccination
- 9:00 OPENING CEREMONY
- Objectives of the meeting – *Dr. Rachel Seruyange (UNEPI)*
 - *KEYNOTE ADDRESS – Overview of Cervical Cancer Prevention Strategies for Africa – Dr. Jean-Marie Dangou, WHO AFRO*
 - Welcome remarks from the Uganda WHO representative – *Dr. Geoffrey Bisoborwa*
 - Welcome remarks from the Uganda Minister of Health – *Hon. Dr. Richard Nduhuura*
- Questions and Answers*
- Administrative announcements – Organizers*
- 10:15 TEA/COFFEE BREAK
- 10:30 HPV VACCINE DEMONSTRATION PROJECT
- Session Chair: *Dr. Patrick Banura (WHO)*
- Rapporteur: Tanzania*
- Overview of global PATH HPV vaccine project – *Dr. Aisha Jumaan*
 - Overview of demo project design, goals, and implementation – *Dr. Emmanuel Mugisha*
 - District level implementation experience – *Dr. Julius Bamwine, DHO, Ibanda and Dr. Gerald Ssekitto, DHO, Nakasongola.*
 - Evaluation results (10 minutes each)
 - Coverage (Dr. D. Scott LaMontagne)*
 - Acceptability (Prof. Anne Katahoire),*
 - Feasibility (Dr. Dan Murokora and Dr. Achilles Katamba)*
 - Costs (Dr. John Odaga)*
 - Lessons learned – *Dr. Rachel Seruyange*
- Questions and Answers / Discussion*
- 12:30 Poster session
- 1:00 LUNCH BREAK

- 14:00 COUNTRY EXPERIENCES IN CERVICAL CANCER PREVENTION
Session chair: *Dr. Emmanuel Mugisha*
Rapporteur: Lesotho
- Cameroon
 - Ghana
 - Lesotho
 - Tanzania
 - Uganda's national strategic plan for cervical cancer prevention – *Dr. J. Sekajugo, NCDs*
- Questions and Answers / Discussion*
- 15:30 TEA/COFFEE BREAK
- 15:45 COUNTRY EXPERIENCES IN CERVICAL CANCER PREVENTION (continued) *Chair: Dr. Frank Taulo*
- Kenya
 - Malawi
 - Rwanda
 - Uganda
 - Zambia
- Questions and Answers*
- 17:30 THANK YOU TO GUESTS & HOUSE KEEPING ANNOUNCEMENTS – *Dr. Emmanuel Mugisha*
- 18:00 COCKTAIL RECEPTION FOR ALL GUESTS

Agenda

Day 2, September 15

- 8:30 REVIEW OF SCIENTIFIC EVIDENCE ON NEW TECHNOLOGIES AND APPROACHES
Session Chair: *Dr. Josaphat Byamugisha*
Rapporteur: Kenya
- Global perspectives on new technologies and approaches – *Dr. Susan Wang, WHO HQ*
 - The evidence on new screening approaches – *Dr. Jose Jeronimo*
 - Cervical cancer prevention in low resource setting, Zambia experience – *Prof. G. Parham*
- Questions and Answers*
- 9:30 PLANNING FOR THE FUTURE
Session chair: *Prof. Mirembe*
Rapporteur: Zambia
- Training tools available - UICC representative, *Dr. Julius Mwaiselage*
 - New tools for cervical cancer prevention planning – *Mr. Scott Wittet*
 - Mobilizing political support – *Hon. Sarah Nyombi*
- Questions and Answers*
- 10:30 COFFEE BREAK and view Posters in the Poster Gallery
- 11:00 WORK GROUP SESSION 1
Session chair – *Mr. Scott Wittet*
- Introduction to work group objectives, tasks, and expected output (30 minutes)
 - Country teams assemble at tables
 - Table A: *Kenya, Tanzania, Uganda. Moderator: Dan*
 - Table B: *Lesotho, Malawi, Zambia. Moderator: Emmanuel*
 - Table C: *Cameroon, Ghana, Rwanda. Moderator: Patrick*
 - Country teams complete Prioritization Exercise (60 minutes)
 - Country teams describe Prioritization results to other countries at their table (30 minutes)
- 1:00 LUNCH BREAK
- 14:00 WORK GROUP SESSION 2
- Tables discuss findings, commonalities, differences, and commitments (60 minutes)
 - Tables prepare PowerPoint summary for all work groups (45 minutes)

- 15:45 TEA
- 16:00 WORK GROUP SESSION 3
Session chair – *Dr. Susan Wang*
- Each table makes its presentation to the groups (30 minutes)
 - Questions and Answers / Discussion (45 minutes)
- 17:15 NEXT STEPS – *Dr. Jean-Marie Dangou, WHO AFRO*
- 17:30 CLOSING REMARKS – *Chair: Dr. Emmanuel Mugisha*
Dr. Dan Murokora (AOGU), Dr. Patrick Banura (WHO), Dr. Aisha Jumaan (PATH), Dr. Rachel Seruyange (UNEPI).
- 17:40 ADJOURN

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Annex 3: Cervical Cancer Rates

Cervical cancer incidence in women of all ages in Africa by country¹

Country	Number	Crude rate ²	Age standardized rate ³	Cumulative risk ⁴
Algeria	1,398	8.2	10.4	1.20
Angola	1,504	16.5	30.0	3.38
Benin	925	21.5	35.0	3.91
Botswana	163	16.9	22.2	2.33
Burkina Faso	1,230	16.1	28.6	3.12
Burundi	1,270	30.8	49.1	5.44
Cameroon	1,474	15.4	24.0	2.50
Cape Verde	67	25.7	34.9	3.87
Central African Republic	284	12.9	19.4	2.09
Chad	615	11.2	19.9	2.19
Comoros	110	33.4	51.7	5.66
Congo, Democratic Republic of	3,839	11.8	21.3	2.24
Congo, Republic of	304	16.8	27.2	2.95
Cote d'Ivoire	1,601	15.9	26.9	3.39
Djibouti	36	8.5	12.7	1.47
Egypt	514	1.3	1.6	0.17
Equatorial Guinea	59	17.8	25.0	2.60
Eritrea	180	7.2	12.9	1.46
Ethiopia	4,648	11.5	18.8	2.10
France, La Reunion	88	21.0	18.7	2.14
Gabon	130	17.9	24.4	2.53
Ghana	3,038	26.4	39.5	4.37
Guinea	1,736	35.7	56.3	6.24
Guinea-Bissau	185	23.3	35.1	3.84
Kenya	2,454	12.7	23.4	2.69
Lesotho	279	25.8	35.0	3.61
Liberia	487	25.5	41.8	4.84
Libya	102	3.4	4.8	0.50
Madagascar	1,553	16.2	27.2	3.05
Malawi	2,316	31.0	50.8	5.26
Mali	1,491	23.2	37.7	4.01
Mauritania	364	23.0	35.1	3.87
Mauritius	98	15.2	12.9	1.33
Morocco	1,979	12.3	14.1	1.52
Mozambique	3,690	32.1	50.6	5.46
Namibia	117	10.8	15.8	1.69
Niger	572	7.8	15.6	1.75
Nigeria	14,550	19.3	33.0	3.67

Country	Number	Crude rate ²	Age standardized rate ³	Cumulative risk ⁴
Rwanda	986	19.7	34.5	3.76
Senegal	1,197	19.4	34.7	3.85
Sierra Leone	670	23.5	41.9	4.84
Somalia	541	12.0	20.3	2.28
South African Republic	5,743	22.8	26.6	2.93
Sudan	923	4.5	7.0	0.83
Swaziland	198	33.1	50.0	5.01
Tanzania	6,241	29.3	50.9	5.68
The Gambia	195	23.3	32.4	3.13
Togo	595	18.2	30.0	3.54
Tunisia	314	6.2	6.3	0.66
Uganda	3,577	22.6	47.5	5.21
Western Sahara	48	20.5	28.4	2.99
Zambia	1,839	29.1	52.8	6.14
Zimbabwe	1,855	28.8	47.4	5.26

¹Source: Ferlay J, Shin HR, Bray F, Forman D, Mathers C and Parkin DM. GLOBOCAN 2008, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 10 [Internet]. Lyon, France: International Agency for Research on Cancer; 2010. Available from: <http://globocan.iarc.fr>

²Crude rate: Annual rate per 100,000 persons at risk. This is calculated by dividing the number of new cancers observed during a given time period by the corresponding number of person years in the population at risk.

³Age standardized rate: The number of new cases per 100,000 persons per year. An age-standardized rate is the rate that a population would have if it had a standard age structure. Standardization is necessary when comparing several populations that differ with respect to age because age has a powerful influence on the risk of cancer.

⁴Cumulative risk: The probability or risk of women getting the disease during a specified period. For cancer, it is expressed as the number of new born children (out of 100 or 1,000) who would be expected to develop a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.

Annex 4: Situation Analysis

SITUATION ANALYSIS¹

PROGRAM FOR CERVICAL CANCER PREVENTION AND CONTROL

COUNTRY:

Contact details of the person responsible for completing the survey

First and last name:	
Position:	
Organization:	
Address:	
Email:	
Telephone number:	
Date of survey completion:	/ /

¹Source: Adapted from a questionnaire developed by the World Health Organization.

This survey has been developed as a tool to collect basic information regarding the status of cervical cancer prevention and control programs in Asia. Included are five sections: (I) Demographic data, (II) Burden of disease; (III) Cervical cancer prevention and control programs, (IV) Information systems and monitoring, (V) Financing, (VI) General assessment of the situation.

SECTION I

DEMOGRAPHIC DATA	
1. Total population	
2. Total males	
3. Total females	
4. Urban population	
5. Rural population	
6. Number of women 30-59 years of age	
7. Number of girls 9 years of age	
8. Number of girls 10 years of age	
9. Number of girls 11 years of age	
10. Number of girls 12 years of age	
11. Percentage of girls who have completed primary education	
Note: Please indicate year and source	

SECTION II

BURDEN OF DISEASE	
1. Incidence of cervical cancer	
2. Mortality due to cervical cancer	
3. Number of cases annually	
4. Number of deaths annually	
5. Has any study of HPV infection prevalence been conducted in your country? If yes, please provide reference:	

SECTION III

CERVICAL CANCER PREVENTION AND CONTROL PROGRAMS

1. GENERAL CHARACTERISTICS		
1.1.	Is there a national plan for prevention and control of cervical cancer?	<input type="checkbox"/> Yes <input type="checkbox"/> No
	If yes, indicate date the plan was developed and where it is available:	
1.2.	Check the description that best fits the cervical cancer prevention and control program in your country.	<input type="checkbox"/> Nationally organized <input type="checkbox"/> Organized in selected areas <input type="checkbox"/> Opportunistic screening
1.3.	Indicate whether there is a referral system for women in need treatment or palliative care.	<input type="checkbox"/> Treatment of precancerous lesions <input type="checkbox"/> Treatment of cervical cancer <input type="checkbox"/> Palliative care
1.4.	Indicate whether there are clinical practice guidelines or protocols for cervical cancer prevention and control.	<input type="checkbox"/> Screening tests <input type="checkbox"/> Diagnostic tests <input type="checkbox"/> Laboratories <input type="checkbox"/> Treatment options for precancerous lesions <input type="checkbox"/> Cervical cancer treatment

Comments:

2. PRIMARY PREVENTION: HPV VACCINATION

2.1. Is there a government funded HPV vaccination program?	<input type="checkbox"/> Yes <input type="checkbox"/> No
2.2. Is there any agency or nongovernmental organization that has begun demonstration projects for HPV vaccine introduction in some regions of your country?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, please specify:	
2.3. If there is not national HPV vaccination program, is there intention to start one?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, indicate needs identified for the introduction process:	

3. SECONDARY PREVENTION: SCREENING FOR AND TREATMENT OF PRECANCEROUS LESIONS

3.1. What screening methods are included in your country's cervical cancer prevention and control program?	<input type="checkbox"/> Cytology (Pap smear) <input type="checkbox"/> Visual inspection with acetic acid (VIA) <input type="checkbox"/> HPV DNA test		
SCREENING METHOD	CYTOLOGY	VISUAL INSPECTION	HPV DNA TEST
3.2. What is the age of the target population?			
3.3. How often is screening recommended?			
3.4. What is the screening coverage? What is the coverage objective established by the program?	Coverage: Objective:	Coverage: Objective:	Coverage: Objective:
3.5. What percentage of women with precancerous lesions have received treatment?			

Comments:

4. TREATMENT AND PALLIATIVE CARE	
4.1. What percentage of women diagnosed with cervical cancer receive surgical treatment?	%
4.2. What percentage of women diagnosed with cervical cancer receive radiation therapy?	%
4.3. What percentage of women diagnosed with cervical cancer access palliative care?	%

Comments:

SECTION IV

MONITORING	
1.1. Is program evaluation for cervical cancer (coverage, impact, etc.) conducted in a standardized and consistent manner?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, indicate date of last evaluation report and the implementing agencies:	
1.2. Are there cancer registries in your country?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, specify whether the registries are hospital-based or population-based:	
1.3. Is there an information system that allows for registration of women with abnormal screening tests to ensure that they follow up?	<input type="checkbox"/> Yes <input type="checkbox"/> No
1.4. Is there a system to ensure the quality of cytology across all stages of the screening test (sampling, transport, processing, reading, communication of results etc.) at each step?	<input type="checkbox"/> Yes <input type="checkbox"/> No

Comments:

SECTION V

FINANCING	
1.1. Is there a specific budget for the cervical cancer prevention and control program?	<input type="checkbox"/> Yes <input type="checkbox"/> No
1.2. Is there collaboration from international/local agencies/organizations in support of the cervical cancer prevention and control program?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, list those organizations/agencies and the areas in which they work:	
1.3. Do women need to pay out of pocket for cervical cancer screening tests?	<input type="checkbox"/> Completely <input type="checkbox"/> Partially <input type="checkbox"/> Free of charge
1.4. If the screening test shows an abnormal result, are women required to pay for the diagnostic tests (colposcopy and biopsy)?	<input type="checkbox"/> Completely <input type="checkbox"/> Partially <input type="checkbox"/> Free of charge
1.5. Do women need to pay out of pocket for cervical cancer treatment?	<input type="checkbox"/> Completely <input type="checkbox"/> Partially <input type="checkbox"/> Free of charge
1.6. Do women need to pay out of pocket for access to palliative care?	<input type="checkbox"/> Completely <input type="checkbox"/> Partially <input type="checkbox"/> Free of charge

Comments:

Annex 5: Prioritization Exercise

PRIORITIZATION EXERCISE	
<p>Once the analysis of the cervical cancer prevention and control program components is completed in the previous sections, conduct a general assessment of the situation. Complete the following questions by checking one of the four options:</p> <ul style="list-style-type: none"> - H: High; M: Moderate; L: Low; U: Unknown - VG: Very good; G: Good; NI: Needs improvement; U: Unknown 	
<p>1.1. The cervical cancer burden in your country: High = > 87.3 / 100,000 Medium = 25.8 to 87.3 / 100,000 Low = < 25.8 / 100,000</p>	<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/> U
<p>1.2. The need to improve women's health services: Examples: screening for breast cancer, hypertension, diabetes, domestic violence...</p>	<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/> U
<p>1.3. The need to improve adolescent health services: Examples: immunization against tetanus, rubella, hepatitis B, measles; deworming; distribution of bed nets for malaria prevention; treatment for schistosomiasis, onchocerciasis, filariasis and trachoma; iron and/or iodine supplementation; education about: hand washing; alcohol, tobacco and drug use; life-skills; body-awareness; sexual health...</p>	<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/> U
<p>1.4. The potential for receiving support from external and collaborating organizations is:</p>	<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/> U
<p>1.5. How would you rate current screening policies? Do current policies support or inhibit improved screening and treatment programs?</p>	<input type="checkbox"/> VG <input type="checkbox"/> G <input type="checkbox"/> NI <input type="checkbox"/> U
<p>1.6. The success of current screening policies is:</p>	<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/> U
<p>1.7. How would you rate the current policies on adolescent immunization? Do current policies support or inhibit adolescent vaccination programs?</p>	<input type="checkbox"/> VG <input type="checkbox"/> G <input type="checkbox"/> NI <input type="checkbox"/> U
<p>1.8. The success of current adolescent immunization policies is:</p>	<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/> U
<p>1.9. Political interest in improving <u>cancer</u> control is: To what extent has the government committed to cancer control?</p>	<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/> U
<p>1.10. Political interest in improving <u>cervical cancer</u> control is: To what extent has the government committed to cervical cancer control?</p>	<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/> U

Personal assessments

<p>1.11. What is the possibility that the government will finance the strengthening of screening services?</p>	<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/> U
<p>1.12. What is the possibility that the government will finance HPV vaccine introduction?</p>	<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/> U
<p>1.13. The feasibility of strengthening screening programs in the coming years is:</p>	<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/> U
<p>1.14. The feasibility of introducing HPV vaccination programs in the coming years is:</p>	<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/> U

FUTURE PLANNING

1.15. Reviewing the findings from the previous page, what are the **priorities** to improve cervical cancer programs in your country?

1.16. What action items can your country team commit to implementing in the **SHORT TERM**?

1.17. In the **MEDIUM TERM**?

1.18. In the **LONG TERM**?

1.19. What kinds of **technical support** does your country team need to implement these activities?

Annex 6: Country Priorities, Activities, and Technical Support Needs

Cameroon

Priorities	<ul style="list-style-type: none"> Organization of screening and establishment of HPV vaccination. Increase of IEC in schools. Advocacy.
Activities	<p>SHORT TERM</p> <ul style="list-style-type: none"> Evaluation of screening methods now being performed. Extension of screening and treatment centers. Training new staff. Advocacy to extend HPV vaccinations. <p>MEDIUM TERM</p> <ul style="list-style-type: none"> Strengthening of screening centers. Implementation of a national HPV vaccination program. Sharing of the national experience with other African countries. <p>LONG TERM</p> <ul style="list-style-type: none"> Strengthening capacity building and screening techniques, treatment of precancerous lesions, and HPV vaccination.
Technical support	<ul style="list-style-type: none"> Technical visits to understand the status of our cancer programs. Assistance in obtaining vaccines and equipment to treat precancerous lesions (loop electrosurgical excision, cryotherapy, etc.). Assistance in organizing a sharing meeting.

Ghana

Priorities	<ul style="list-style-type: none"> Do an analysis of the cervical cancer program on prevention and control. Expand the policy on cervical cancer within the larger context of the reproductive health policy. Include HPV vaccination.
Activities	<p>SHORT TERM</p> <ul style="list-style-type: none"> Develop a strategic plan for prevention and control of cervical cancer and to use it to secure funding for the program. Advocacy to educate health workers, politicians, and the general population. Identify collaborators and stakeholders. Organize stakeholders' meetings to solicit support. <p>MEDIUM TERM</p> <ul style="list-style-type: none"> Capacity building for health workers, teachers, volunteers, etc. Pilot programs for HPV vaccination. Scaling up of screening in three other regions. <p>LONG TERM</p> <ul style="list-style-type: none"> Full scale screening and vaccination country-wide. Monitoring and evaluation at all stages.
Technical support	<ul style="list-style-type: none"> Support for capacity building (training, equipment, supply, and maintenance). Research.

Kenya

Priorities	<ul style="list-style-type: none"> • Expand screening services to level 2 health centers. • Train more level 2 and 3 health workers on VIA/VILI. • Provide rural health facilities with VIA/VILI equipment and cryotherapy machines. • Have a national budget line on cervical cancer prevention and control. • Improve cervical cancer registry at the national level.
Activities	<p>SHORT TERM</p> <ul style="list-style-type: none"> • Train health workers on cervical cancer screening with VIA/VILI. • Advocate and create awareness on the availability of screening services. • Develop data collection tools on cervical cancer control. <p>MEDIUM TERM</p> <ul style="list-style-type: none"> • High-level advocacy for political support and good will; resources. • Lobby for provision of supplies and equipment at all levels. • Improve the quality of data collection. <p>LONG TERM</p> <ul style="list-style-type: none"> • Develop an HPV vaccine introduction plan. • Operational research on acceptability and misconceptions about cervical cancer. • Improve the quality of palliative care at the community level.
Technical support	<ul style="list-style-type: none"> • Training and development of training materials. • Building capacity for cervical cancer prevention, diagnosis, treatment, and palliative care. • Developing a communication plan on cervical cancer prevention and control (strategic plan).

Lesotho

Priorities	<ul style="list-style-type: none"> • Advocacy, generate new interest, instill new energy. • Involve policymakers (parliamentarians). • Develop a cervical cancer policy. • Cancer registry. • Financial resources for new technologies: DNA-HPV at point of care, and vaccinations. • Training and education. • Screening—VIA/cytology/DNA/colposcopy (pilot studies and full scale roll-out). • Human resource and infrastructure building for treatment (training of cytologists, oncology nurses, oncology doctors, radiologists; palliative care facilities). • Develop guidelines and indicators for monitoring and evaluation as well as impact analysis. • Research and development.
Activities	<p>SHORT TERM</p> <ul style="list-style-type: none"> • Advocacy, social and community mobilization, awareness campaigns, IEC materials, training workshops, orientation trainings, training of trainers. • Strategic plan and operational plan. • Operational plan. • Resource mobilization and partner collaboration (including public-private partnership). <p>MEDIUM TERM</p> <ul style="list-style-type: none"> • Develop screening guidelines and disseminate to professionals. • Infrastructure improvement; supplies and equipment. • Human resources. • Data management and evaluation. • Training of health personnel: lessons learned on new technologies. • Resource mobilization, need for continuous effort. <p>LONG TERM</p> <ul style="list-style-type: none"> • Secondary prevention (screening) and treatment facilities. • Procurement of equipment and supplies for cryotherapy, LEEP, colposcopy, histology, hysterectomy. • Training doctors and nurses, cytologists, histopathologists, radiologists, oncologists, palliative care practitioners. • Identify palliative care facilities. • Monitoring and evaluation. • Policy development and endorsement.
Technical support	<ul style="list-style-type: none"> • Consultative support for specialized training (cytologists, histopathologists, radiologists, oncologists, palliative care practitioners). • Exchange programs for training of trainers; pre-service curriculum. • Establishing an innovation fund. • Data management and integration. • Tele-medical solutions. • Cancer research institute.

Malawi

Priorities	<ul style="list-style-type: none"> • Screening. • Management of treatment. • Referral. • HPV vaccine. • Palliative care.
Activities	<p>SHORT TERM</p> <ul style="list-style-type: none"> • Form a technical working group. • Sensitize policymakers and politicians. • Strengthen screening sites. • Revitalize training. <p>MEDIUM TERM</p> <ul style="list-style-type: none"> • Develop IEC materials. • Improve data management. • Intensify monitoring and evaluation activities. <p>LONG TERM</p> <ul style="list-style-type: none"> • Introduce palliative care services. • Develop a cancer policy that includes cervical cancer prevention services. • Introduce HPV vaccines through GAVI (or donor). • Establish a cancer center. • Train clinicians and doctors. • Establish histopathology.
Technical support	<ul style="list-style-type: none"> • Implementing HPV vaccination. • Establishing a cancer center. • Training clinicians and histopathologists.
Challenges	<ul style="list-style-type: none"> • Lack of cancer policy. • Inadequate human resources. • Inadequate funding. • Lack of histopathology laboratory. • Inadequate equipment.

Rwanda

Priorities	<ul style="list-style-type: none"> • Mass sensitization through community education and advocacy. • Prevention of HPV infection (primary prevention). • Screening and treatment of precancerous lesions (secondary prevention). • Treatment of cervical cancer. • Palliative care services of women with advanced cervical cancer. • Monitoring and evaluation, and operational and basic science research.
Activities	<p>SHORT TERM</p> <ul style="list-style-type: none"> • Adopt national cervical cancer screening treatment and prevention policy standards and guidelines, and a five-year strategic plan. • Raise awareness and advocacy for cervical cancer prevention and treatment. • Build institutional and technical capacity at district and national referral hospitals. <p>MEDIUM TERM</p> <ul style="list-style-type: none"> • Primary prevention (immunization against HPV). • Secondary prevention (screening and treatment of precancerous lesions). • Establish reporting, monitoring, and evaluation of services provided at each facility, including AEFI surveillance and injection safety. • Palliative care. <p>LONG TERM</p> <ul style="list-style-type: none"> • Increase access to cervical precancer screening and treatment services by integrating them into the routine package of clinical services. • Monitoring and evaluation by conducting research that will inform program decision-making and improvement.
Technical support	<ul style="list-style-type: none"> • Administrative (tools for advocacy, social mobilization, guidelines, policies). • Training (capacity building). • Infrastructure development. • Monitoring, evaluation, and research.

Tanzania

Priorities	<ul style="list-style-type: none"> • Advocacy for cervical cancer prevention. • HPV vaccination. • Screening for cervical cancer.
Activities	<p>SHORT TERM</p> <ul style="list-style-type: none"> • Preparation of strategic plan. • Develop advocacy and training materials. • Identify stakeholders. • Prepare vaccine introduction plan. • Conduct vaccine pre-introduction assessment. • Map stakeholders for screening. • Inventory taking for screening: human resource/clinics/equipment. <p>MEDIUM TERM</p> <ul style="list-style-type: none"> • Conduct advocacy and awareness campaigns. • Ensure that regular resources are available. • Train health workers on HPV vaccinations • Introduce the HPV vaccine into 3 places; ensure regular availability of vaccine supplies and supportive supervision. • Train health workers on screening. • Ensure availability of equipment and supplies for screening, and supportive supervision. <p>LONG TERM</p> <ul style="list-style-type: none"> • Integrate cervical cancer prevention into the existing system. • Ensure sustainability of HPV vaccination. • Integrate HPV vaccination into routine EPI. • Evaluate impact of vaccinations. • Ensure sustainability of screening program. • Integrate screening into existing RH services. • Evaluate impact of screening.
Technical support	<ul style="list-style-type: none"> • IEC materials. • Harmonization of training package. • Cost analysis for advocacy, vaccinations, screening. • Maintenance of equipment, e.g., cryotherapy machines. • Strengthening of monitoring and evaluation tools.

Uganda

<p>Priorities</p>	<ul style="list-style-type: none"> • Training at various levels: TOT, pre-service, in-service. • Establish good practice environment (a room, privacy, a good light, basic equipment needed). • Resource commitment/mobilization from the various stakeholders. • Continued advocacy.
<p>Activities</p>	<p>SHORT TERM</p> <ul style="list-style-type: none"> • Advocacy for cervical cancer screening in all social groups; prevention, palliative care. • Prevention services. Identify partners to support this. • Relevant interaction with politicians. <p>MEDIUM TERM</p> <ul style="list-style-type: none"> • Target pre-service training to change scope. • Strengthen in-service training. • Country team to lobby for package to scale up screening (so that when women bring children for immunization, they are screened). • Continued advocacy and lobbying companies to implement a corporate responsibility policy to support regular breast examination and screening for cancer of the cervix for employees. <p>LONG TERM</p> <ul style="list-style-type: none"> • Comprehensive approach (primary and secondary prevention). • Scale up programs. • Address issues of equity. • Advocate for policy change, e.g., where to assign gynaecologists, to certain districts. • Get support of past and new parliamentarians. • Establish dialogue within the region to lobby as a common market for the HPV vaccine, which can help obtain it at a reduced price.
<p>Technical support</p>	<ul style="list-style-type: none"> • Technical support to ramp up passion in MOH leadership. (How do we do it? Who can do it?). • Assistance to help coordinate various areas, stakeholders (to leverage funds). • Meet: MOH team—three participants (from this conference). • Work with leaders HIV/AIDS program.

Zambia

Priorities	<ul style="list-style-type: none"> • Country-wide health promotion campaign for cervical cancer control. • National expansion of cervical cancer screening control. • HPV vaccination. • HPV DNA screening test integration.
Activities	<p>SHORT TERM</p> <ul style="list-style-type: none"> • National expansion of cervical cancer screening control. • Development of strategic cervical cancer control plan. • Massive health promotion campaigns. • HPV vaccination demonstration project. <p>MEDIUM TERM</p> <ul style="list-style-type: none"> • HPV vaccination—national expansion. • Monitoring and evaluation of cervical cancer control program. • HPV DNA screening integration. <p>LONG TERM</p> <ul style="list-style-type: none"> • Provision of comprehensive cancer control. • Integration of vaccination and screening into routine services. • Development of national cancer institute.
Technical support	<ul style="list-style-type: none"> • Training of people in comprehensive cervical cancer control. • Development of curriculum into pre-service training. • Procurement and maintenance of equipment. • Cold chain expansion for HPV vaccines.