

# Preventing Cervical Cancer in Low-Resource Settings: From Research to Practice



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Harshad Sanghvi

Maryjane Lacoste

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Conference Report

Bangkok, Thailand

4–7 December 2005

in collaboration with  
Chulalongkorn University Faculty of Medicine



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[www.chula.ac.th/chula/en/index.html](http://www.chula.ac.th/chula/en/index.html)

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Cover: Thai women who were the first clients to access cryotherapy in their country. Photo by JHPIEGO.

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# TABLE OF CONTENTS

Abbreviations and Acronyms.....	iv
Acknowledgments.....	v
Overview.....	1
Opening.....	2
Introduction of Keynote Speaker, Mr. Mechai Viravaidya.....	3
Keynote Speech: Thinking Out of the Box and Ahead of the Curve.....	4
Epidemiology of Cervical Cancer in Developing Countries.....	7
Testing for Cervical Cancer Prevention.....	10
Overview of Cervical Precancer Treatment in Low-Resource Settings.....	14
The World Health Organization’s Position on Cervical Cancer Prevention in Low-Resource Settings.....	17
The Alliance for Cervical Cancer Prevention (ACCP): Where Do We Go from Here?.....	19
Preventing Cervical Cancer: The Single Visit Approach.....	21
Can We Afford to Prevent Cervical Cancer?.....	26
Preparing Nurses and Midwives as VIA Providers: Using Competency-Based Training Approaches.....	27
Putting It All Together: Toward a National Cervical Cancer Prevention Program in Thailand.....	28
Prospects for an HPV Test for Low-Resource Settings.....	32
Prospects for a Vaccine to Prevent Cervical Cancer.....	33
Addressing the Challenges of Treating Cervical Cancer.....	35
Small Group Discussions.....	39
How Can Donors and Programs Support Cervical Cancer Prevention Efforts?.....	45
Key Commitments from Country Representatives.....	51
Summary and Call to Action.....	53
Conclusion.....	54
Appendix A: Conference Agenda.....	57
Appendix B: Conference Participants.....	62
Appendix C: List Of Available ACCP Resources.....	66
Appendix D: Country Action Plans.....	70
References.....	99

## ABBREVIATIONS AND ACRONYMS

ACCP	Alliance for Cervical Cancer Prevention
ACOG	American College of Obstetricians and Gynecologists
AOGIN	Asia-Oceania Research Organisation in Genital Infection and Neoplasia
CECAP	Cervical Cancer Prevention Program
CIN	cervical intraepithelial neoplasia
CPIS	cervical precancer information system
DOH	Department of Health
FIGO	International Federation of Gynecology and Obstetrics
FP	family planning
GP	general practitioner
HMIS	Health Management Information System
HPV	human papillomavirus
IAEA	International Atomic Energy Agency
IARC	International Agency for Research on Cancer
IEC	information, education and communication
LEEP	loop electrosurgical excision procedure
LLETZ	large loop excision of the transformation zone
M&E	monitoring and evaluation
MOH	Ministry of Health
MOPH	Ministry of Public Health
NGO	nongovernmental organization
Ob/Gyn	obstetrician/gynecologist
PACT	Programme of Action for Cancer Therapy
Pap smear	Papanicolaou smear
PDA	Population and Community Development Association
RH	reproductive health
RTCOG	Royal Thai College of Obstetricians and Gynaecologists
SAFE	safety, acceptability, feasibility and program effort
SIL	squamous intraepithelial lesion
UN	United Nations
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development
VI	unaided visual inspection
VIA	visual inspection with acetic acid
VIAM	visual inspection with acetic acid and magnification
VILI	visual inspection with Lugol's iodine
WHO	World Health Organization

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JHPIEGO would like to thank the following organizations that supported participants and speakers at the conference:

Alliance for Cervical Cancer Prevention  
Asia-Oceania Research Organisation in Genital Infection and Neoplasia  
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GlaxoSmithKline  
International Association for Research on Cancer  
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PATH  
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World Health Organization

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# PREVENTING CERVICAL CANCER IN LOW-RESOURCE SETTINGS: FROM RESEARCH TO PRACTICE

## OVERVIEW

Cervical cancer remains a major public health problem. Approximately 500,000 women develop cervical cancer annually, and almost half will die (Waggoner 2003). More than 80% of new cases of cervical cancer occur in developing countries (Ferlay, Parkin and Pisani 1998). From 4 to 7 December 2005, the JHPIEGO/Cervical Cancer Prevention (CECAP) Program held a conference in Bangkok, Thailand, to review the evidence for approaches to preventing cervical cancer and explore strategies for scaling up interventions in the field (see **Appendix A** for the conference agenda). One hundred thirty-four participants from the following countries attended the meeting:

Afghanistan	Nepal
Australia	Netherlands
Bangladesh	Pakistan
Bhutan	Philippines
Cambodia	South Africa
Ethiopia	Singapore
France	Sri Lanka
Ghana	Sudan
India	Switzerland
Indonesia	Thailand
Kenya	United States
Malawi	Vietnam
Maldives	

Participants were policymakers and program managers from ministries of health, researchers, clinicians, faculty from medical and nursing schools, in-service trainers, leaders of nongovernmental and international donor organizations, and representatives from pharmaceutical and biotechnology corporations. In addition, representatives from the World Health Organization (WHO) and International Agency for Research on Cancer (IARC) were present. (See **Appendix B** for a complete list of conference participants.)

The overall goal of the conference was to move evidence-based interventions for preventing cervical cancer into common practice. The objectives of the conference were to:

- Review the evidence supporting strategies for preventing cervical cancer in low-resource settings.

- Examine best practices for implementing large-scale programs for preventing cervical cancer.
- Develop specific country action plans to prevent cervical cancer using evidence-based approaches and best practices.

Expected products of the meeting were:

- Descriptions of country situations (posters)
- Country action plans developed using a performance improvement framework
- Statements of personal commitment from participants

## OPENING

Dr. Harshad Sanghvi

Nearly 200,000 women will die from cervical cancer—a disease that for all intents and purposes is preventable in developed nations—and many more women will suffer a long illness that will burden their families, the health care system and society in general.

It is only recently that these grave statistics have spurred us into taking dramatic actions, and even today many low-resource countries have no localized or national cervical cancer prevention programs. One reason is that the technology for screening that has worked so well in rich nations, the Pap smear, has failed to establish itself in any poor nation of the world.

Over the last few years we have been successful in defining better solutions for such countries—solutions that are safe, acceptable, feasible and effective, and, more important, solutions that are within the reach of many poor and low-resource countries. A large part of this research has already been done. It is now time to translate this research into practice and scale up small projects into national programs.

We want to ignite and catalyze our institutions, our programs, our ministries of health and our development partners to make a change that will move us toward eliminating cervical cancer as a major cause of death.

Dr. Mahmoud Fathalla, former president of the International Federation of Gynecology and Obstetrics (FIGO), once said about maternal death:

*Women are not dying because of diseases we cannot treat... they are dying because societies have yet to make the decision that their lives are worth saving.*

What Dr. Fathalla said for maternal death is also true for cervical cancer. Women are not dying because of cervical cancer, because we know very well how to *prevent* most cases of cervical cancer. Women are dying

because we have not taken to scale simple prevention measures and treatments, we have not worked out how to take care to the most vulnerable and needy, and we have failed to empower our communities and most peripheral health workers to prevent cervical cancer. And, in Mahmoud Fathalla's words, they are dying because societies have yet to make the decision that their lives are worth saving.

## **INTRODUCTION OF KEYNOTE SPEAKER, MR. MECHAI VIRAVAIIDYA** **Dr. Harshad Sanghvi**

The Population and Community Development Association (PDA) is one of Thailand's largest and most successful private, nonprofit development organizations. Since 1974, PDA has initiated community-based family planning (FP) services, innovative poverty reduction programs and large scale rural development and environmental programs, as well as groundbreaking HIV/AIDS prevention activities, throughout Thailand.

Mr. Mechai's role was pivotal in the hugely successful FP program in Thailand, which saw one of the most rapid fertility declines in the modern era: the rate of annual population growth declined from over 3% in 1974 to 0.8% in 2002, and the average number of children per family fell from seven to under two. Mr. Mechai pioneered and championed many of the extraordinarily innovative social mobilization and community desensitization efforts that we now take for granted.

Mr. Mechai was appointed to the Thai Senate in 1987 and again in 1997, serving each term for three years. Under Thailand's new constitution in 2000, he was elected to serve a six-year term. He was appointed as Minister in the Office of the Prime Minister in 1991 and 1992, during which time he was the chief architect for building a comprehensive national HIV/AIDS prevention policy and program in Thailand. This initiative is regarded as the most outstanding national effort by any country in combating HIV/AIDS, and by 2004 Thailand had experienced a 90% reduction in new infections of HIV. In recognition of this effort, he was appointed Ambassador for UNAIDS in 1999.

Mr. Mechai has received numerous awards including the United Nations Population Award in 1997, the Ramon Magsaysay Award for Public Service in 1994, the Paul Hoffman Award and the United Nations Gold Peace Medal in 1981. He has been granted decorations from the Governments of Thailand, Australia and the Federal Republic of Germany. He was a Visiting Scholar at the Harvard Institute of International Development from 1988 to 1989, and holds several honorary doctoral degrees from universities in Thailand and abroad.

Ladies and gentlemen, Khun Mechai's vision, his persistence in the face of many challenges, his imagination and innovativeness, and above all his

tenacity, were the ingredients for the massive success of the FP and HIV/AIDS programs he has led. I believe that these very same characteristics are needed for the prevention of cervical cancer. On a personal note, I first heard Mechai speak when I was just a resident in Kenya. And in the next few years I heard his contemporary Malcolm Potts speak about Mechai's work, and his protégé, Apichart Nirapathpongporn, describe the socialization effort pioneered by Mechai. It was largely due to this extraordinary man that Kenya adopted a community-based distribution program for contraceptives and achieved one of the highest contraceptive prevalence rates in Africa.

It gives me great pleasure to welcome Khun Mechai Viravaidya.

## **KEYNOTE SPEECH: THINKING OUT OF THE BOX AND AHEAD OF THE CURVE**

*Mr. Mechai Viravaidya, Founder and Chairman of the Population and Community Development Association (PDA), made the keynote address. He described many of the challenges faced by Thailand and some of the innovative activities conducted by PDA to successfully meet these challenges.*

PDA's major activities are in the areas of:

- Reproductive health (RH) and HIV/AIDS
- Poverty reduction
- Environmental protection
- Education and skills training
- Gender equality
- Emergency relief (tsunami)

Thirty-five years ago, Thailand faced two major problems: rapid population growth and poverty. In 1974, there was an average of seven children per family and an annual population growth rate of 3.3%. First, we tackled population growth.

### **Population Growth**

Traditional FP policies called for doctors to prescribe oral contraceptives to women. The problem was that there was only one doctor per 110,000 people. PDA thought out of the box and convinced policymakers to allow nurses and midwives to prescribe oral contraceptives, thereby increasing coverage. PDA took the concept of increased coverage a step further and moved ahead of the curve, using innovative solutions to make oral contraceptives easily accessible to women as they went about their daily activities. Hairdressers and village shopkeepers began prescribing the pill. FP floating markets were started. Teachers held condom-blowing competitions to educate their students and show them there was no need to be embarrassed by condoms. Police officers even got involved, handing out condoms to passing motorists in the streets.

We didn't stop there, though. We thought way ahead of the curve—we had experts study Buddhist scripture, where they found the message that “many births cause suffering.” This message was placed on the monks' prayer fans, and monks blessed contraceptives with Holy water.

We also focused our efforts on vasectomy. Mobile vasectomy vans brought the procedure to the men. Potential patients were even permitted to observe some vasectomy procedures, thereby dispelling many myths, including a prevalent one that vasectomy involved cutting from the neck to the ankles! We even offered the “vasectomy tour bus” on which vasectomy card holders received a free ride. Other activities include the Millionaire Vasectomy Day at the Lottery Bureau, a Father's Day Vasectomy Festival on the King's birthday, and even a Fourth of July Independence Day Festival, where visiting Americans were brought to the front of the line—just one example of Thailand's foreign assistance to the United States!

### **Poverty Reduction**

We began to tackle poverty, using approaches integrated with FP, by launching the non-pregnancy agricultural credit scheme. In this program, non-pregnancy status was used as collateral for loans, and interest rates were halved for women who were not pregnant. Next came our FP/pig-raising program for women. If the woman was not pregnant for one year, she received two pigs on credit. If not pregnant for two years, four pigs; if not pregnant for three years, six pigs. After four years, a cooperative was established and some women became major pig breeders, giving financial security to their husbands. From 1974 onward, family size and the population growth rate continued to decline. Between 1974 and 2000, the number of children per family decreased from 7 to 1.6, and the population growth rate decreased from 3.3% to 0.8%.

In the early 1980s, in partnership with the business sector, we expanded our income generation and poverty reduction endeavors. For example, we established a micro-credit loan fund (capital formation) through tree planting (environmental protection). Company staff and villagers joined together to plant trees. For every tree planted, \$0.50 USD is contributed by the company. Ten thousand trees planted earns \$5,000 USD for the micro-credit fund of the “village bank.” This activity was recently used to replant mangrove trees in areas affected by the tsunamis. Funds are deposited in the village bank, which is operated by an elected committee comprising 50% women.

PDA also became involved with village youth governments, because youth are the agents of change and the leaders of tomorrow. Elected youth:

- Practice democracy, transparency and gender equality;
- Manage community affairs and effect change through new initiatives;

- Prepare project proposals; and
- Coordinate with outside institutions.

## HIV/AIDS

Thailand was interrupted by the spread of HIV in the middle of the 1980s. Government denial did not arrest the pandemic. In 1986, PDA launched its prevention activities, which were subsequently adopted in January 1991 by the new government. The year 1991 was the beginning of enlightenment. The Prime Minister became the chairman of the National AIDS Committee. A new National AIDS Prevention Program was launched. Uniformed and religious personnel were involved in public education. Radio and television announcers and reporters were trained in HIV/AIDS, and there were 30 seconds of compulsory AIDS education messages during every hour of broadcast on 488 radio and six television stations. Television and movie stars, producers and directors were recruited to help, and television plays and movies were subsidized if HIV/AIDS information was included.

The business sector joined in the movement with AIDS education in the workplace. They understood that sick staff can't work and dead customers don't buy. Information and condoms were available for customers at gas stations. "Cops and Rubbers" activities were re-introduced. Condoms were given out at bus stops, at toll booths and in banks. Condoms were even handed out to customers at McDonald's. HIV/AIDS education materials were produced and distributed by the business sector and included in educational institutions. A mobile "sex education van" was used to increase awareness of the disease. Primary schools held condom blowing competitions, and primary school children distributed HIV/AIDS information and condoms to village households. Condom-blowing was even featured as an event at the Miss Condom pageant. Citizens' AIDS assemblies were held at the village, regional and national levels. Between 1991 and 2000, annual new HIV infections fell by 90%.

- Condoms— Save some lives with a weapon of mass protection.
- How about some Nike condoms? After saving so many soles, let's save some lives.
- Buddhism doesn't have a god, so in rubber we trust.

The positive partnership loan fund was established as a micro-credit fund for people living with HIV/AIDS, with the aim of achieving economic empowerment and reducing discrimination. This project provides access to credit as a human right for people living with HIV/AIDS. A loan is made to an HIV-positive person and his/her HIV-negative business partner to start a business. A key role of the HIV-negative business partner is to generate understanding and acceptance of HIV-positive people in the community and to remind the HIV-positive partner to take medications regularly. Seventy percent of participants are women. HIV-positive members are now being treated with antiretroviral drugs at government hospitals in 10 rural districts. After two years, 84% of the loans have been repaid on time.

Examples of business activities include:

- Laundry service
- Fruit stall
- Stone carving
- Handicraft design
- Picture framing business
- Motorcycle repair shop
- Internet and computer games

Already, villagers' attitudes toward HIV-positive people have become much more enlightened. The new economic opportunities have given them gainful employment and new reasons to live. Their lives are now meaningful and filled with hope.

### **Revenue Generation**

To ensure our financial sustainability, PDA established businesses to generate revenue to fund our charitable endeavors, including health care, mobile exhibition vans, food and agricultural products, restaurants and catering, retail, training, research and consulting services, construction and building materials, factory real estate, manufacturing, rural and eco-tourism, and resorts/hotels.

[www.pda.or.th](http://www.pda.or.th)

[www.cabbagesandcondoms.co.th](http://www.cabbagesandcondoms.co.th)

## **EPIDEMIOLOGY OF CERVICAL CANCER IN DEVELOPING COUNTRIES**

*Dr. Rengaswamy Sankaranarayanan, Head of the Screening Group at the International Agency for Research on Cancer (IARC), reviewed the epidemiology and natural history of cervical cancer and described why countries should invest in cervical cancer prevention.*

Cervical cancer is a major burden in most developing countries:

- Approximately 500,000 new cases of cervical cancer occur every year.
- Approximately 274,000 deaths each year are due to cervical cancer.
- More than 80% of cases of cervical cancer occur in developing countries.

Risk factors for cervical cancer include:

- Age at first sexual intercourse
- Parity
- Reproductive tract hygiene
- Socio-economic status
- Smoking
- Other infections

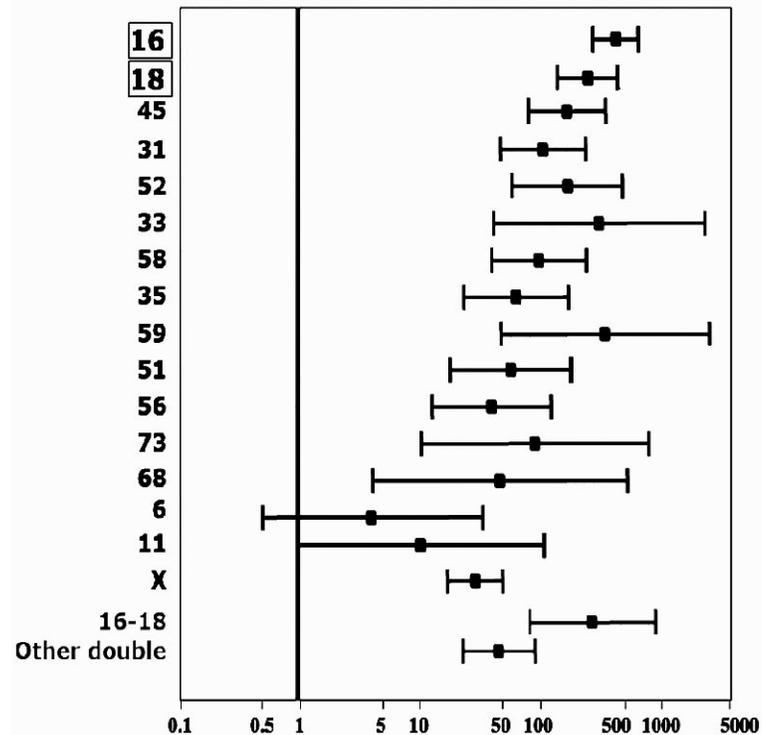
Cervical cancer is a disease strongly influenced by socio-economic development, and survival rates can be used to indicate the quality and efficiency of health care services. Large differences in cancer survival rates exist between developed areas and areas that are rural or have poorly developed services, due to a lack of resources available for screening and treatment, and a higher incidence of advanced cancer.

Without intervention, almost 50% of cases with high-grade lesions progress to cervical cancer. Efforts are therefore directed at detecting and treating these high-grade lesions. In areas where diagnosis is difficult, any clinical sign of cervical precancer should be treated.

Infection with the human papillomavirus (HPV) is responsible for virtually all cases of cervical cancer. HPV infection is often spontaneously cleared from the body by mechanisms that are still not clearly understood. Cervical cancer is a rare, long-term outcome of persistent infection with one or more high-risk HPV types (i.e., types 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 68, 73 and 82).

Cervical HPV prevalence in developing countries, determined through worldwide surveys conducted by IARC, is highest in northeast Africa and lowest in southeast Asia (34% vs. 4.9%). Type 16 is the most prevalent high-risk HPV type in all regions of the world, except in Africa where it is second to type 35. Although types 16, 18 and 45 are most prevalent, several other HPV types are also associated with cervical cancer. **Figure 1** shows HPV type-specific risk estimates for cervical cancer (Munoz et al. 2003).

Figure 1. HPV Type-Specific Risk Estimates for Cervical Cancer



Adapted from: Munoz et al. 2003.

**Notes:**

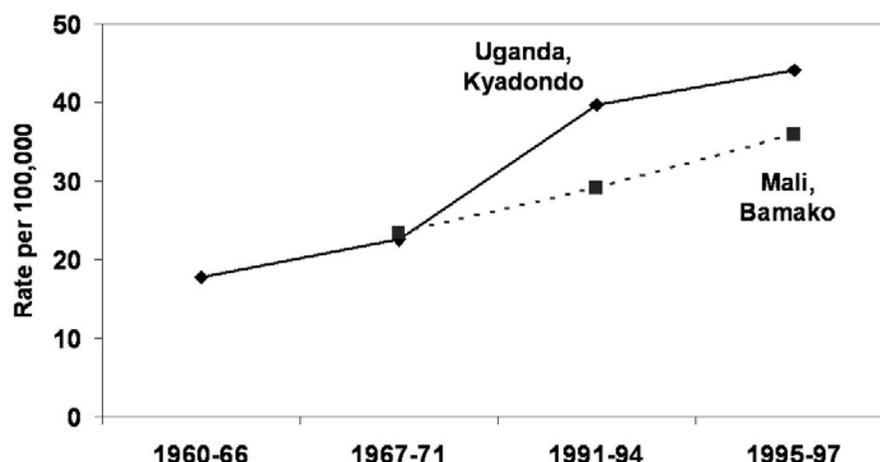
- Values presented are the odds ratio and 95% confidence interval. The odds ratios were adjusted for age and study center.
- HPV type X denotes specimens that were positive in the polymerase chain reaction assay but did not hybridize with any of the probes for the 33 types tested.
- "16-18" indicates co-infection with HPV types 16 and 18.
- "Other double" indicates infection with two types of HPV other than 16 and 18.

As with HPV prevalence, the frequency of cervical intraepithelial neoplasia (CIN) II-III (moderate to severe cervical dysplasia) lesions also varies in different regions of the world, but in regions with long-standing screening programs, the prevalence is low because with repeated screening the lesions are detected and treated early:

- Europe, North America and Australia: less than 0.3% in a given screening round
- South Asia: 1–1.5% in cross-sectional studies
- Sub-Saharan Africa: 1–3% in cross-sectional studies
- Latin America: 1–2% in cross-sectional studies

While many countries have had improvements in socio-economic indicators, which are tied to improvements in cervical cancer screening programs, Sub-Saharan Africa is lagging behind in almost all socio-economic indicators and is one of the only regions of the world showing an increase in cervical cancer. This is illustrated by the trends in Mali and Uganda, where there has been a significant increase in the incidence of cervical cancer from 1960 to 1997 (Figure 2).

**Figure 2. Trends in Cervical Cancer Incidence in Mali and Uganda**



A successful cervical cancer prevention program requires three key elements:

1. Linking screening and treatment,
2. Using an effective and safe treatment, and
3. Increasing screening coverage.

*After the presentation, there was a discussion on whether male circumcision should be included in cervical cancer prevention programs. The conclusion of that discussion is presented here.*

In populations where male circumcision is prevalent, cervical cancer rates are lower, but this does not mean that male circumcision should be implemented as a means to prevent cervical cancer. If male circumcision becomes part of HIV control programs, there will be an opportunity to make observations about its relationship to cervical cancer, but this will take a generation to determine. Many countries are, however, moving ahead to set up these services, and WHO is developing general guidelines.

“Investment does not translate into health care benefit without proper organization.”  
—Dr. Rengaswamy Sankaranarayanan, IARC

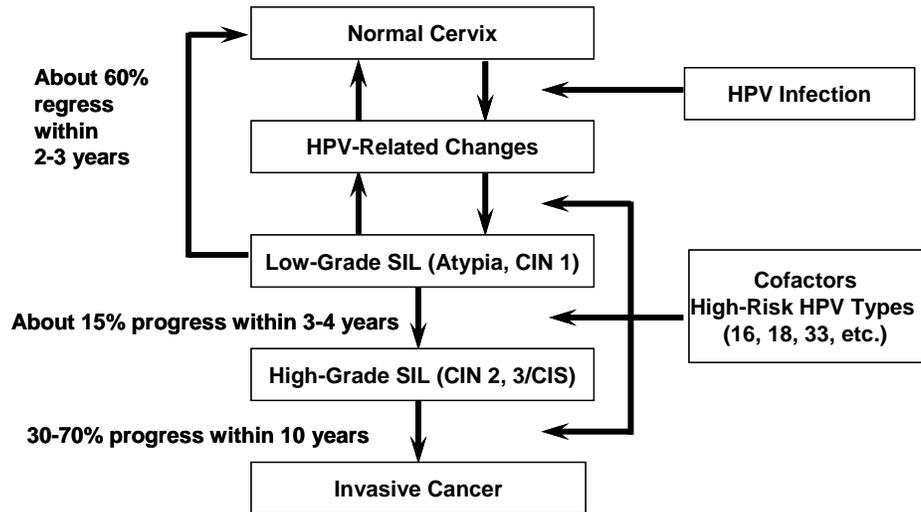
## TESTING FOR CERVICAL CANCER PREVENTION

*Dr. Paul D. Blumenthal from the Department of Gynecology and Obstetrics at The Johns Hopkins University School of Medicine reviewed characteristics of the available screening tests and the challenges of implementing these tests in low-resource settings.*

Prevention of HPV infection is the primary way to prevent cervical cancer, but secondary methods of cervical cancer prevention—such as identifying and treating precancerous lesions before they progress to cancer—can be implemented with immediate results. In addition, identifying and treating early cancer, while the chance of cure is still good, can prevent death.

Much is known about the natural history of cervical cancer (Figure 3). There is often a long period of time between exposure to HPV and development of cervical cancer, and about 90% of low-grade lesions regress spontaneously. The difficulty is in knowing how to determine which clients might not be available for treatment in the future, and when to take the opportunity for treatment of these lesions.

**Figure 3. Natural History of Cervical Cancer**



Women develop cervical cancer mainly because they are not screened and they are not advised of their risk. A new approach for detecting precancerous changes in the cervix is needed because available and accepted screening methods, such as Pap smears and colposcopy, are not practical or accessible to the majority of women living in many countries.

In order to be effective, a good prevention program must be able to reach a significant proportion of at-risk women, effectively test these women, treat women who test positive, ensure effective follow-up, and monitor and evaluate program impact. Furthermore, the program must use a screening test that is:

- Safe
- Accurate
- Actionable
- Affordable
- Accessible
- Practical

Table 1 shows a comparison of the characteristics of available screening methods.

**Table 1. Characteristics of Screening Tests**

Characteristic	Reference	Conventional Cytology	HPV DNA Tests	VIA	VILI
Sensitivity	Sankaranarayanan et al. 2005b	47–62%	66–100%	67–79%	78–98%
	Gaffikin et al. 2003	44–94%	81–98%	64–98%	–
Specificity (for high-grade lesions and invasive cancer)	Sankaranarayanan et al. 2005b	60–95%	62–96%	49–86%	73–91%
	Gaffikin et al. 2003	60–97%	51–89%	64–98%	–
Number of visits required for screening and treatment		Two or more visits	Two or more visits	Can be used in single visit approach where outpatient treatment is available	

In most developing countries, detecting disease and being able to offer immediate treatment determine program success. In selected developing country settings where infrastructure and quality assurance requirements are consistently met, cytology-based programs can be implemented effectively. But programmatic constraints are often present in low-resource settings, including:

“Cervical cancer prevention is not about doing the best test. Cervical cancer prevention is about doing the best test that you can do.”  
—Dr. Paul Blumenthal,  
The Johns Hopkins  
University

- Lack of clinical expertise,
- Limited capacity for confirmatory or diagnostic testing,
- Limited ability for reporting and monitoring, and
- Difficulty contacting patients for follow-up.

These constraints limit the effectiveness of cervical cytology, and in many settings, similar constraints exist for the HPV tests currently available.

Specific limitations of cervical cytology include:

- It is a complex laboratory test requiring sampling instruments, slides, fixatives, reagents, cover slips, processing equipment, microscopes, etc.
- Trained cytotechnicians and pathologists are needed to read and review the slides.
- Continuous monitoring is required to maintain high-quality results.
- Reports often take months to obtain.
- Follow-up of women is difficult.
- In many countries, the test is available only in large cities.
- Abnormal cytology requires additional examination by colposcopy or biopsy, which requires expensive equipment or complex laboratory methods and supplies.

In many low-resource settings, visual inspection of the cervix may be the most appropriate alternative to cervical cytology, though regular and consistent quality assurance is required due to the subjective nature of this method. There are three methods for visual inspection:

- Visual inspection with acetic acid (VIA),
- Visual inspection with acetic acid and low magnification (VIAM), and
- Visual inspection with Lugol's iodine (VILI).

A joint statement by several national obstetrics/gynecology societies, including the American College of Obstetricians and Gynecologists (ACOG) and FIGO, validated the single visit approach as a safe, acceptable and cost-effective approach to cervical cancer prevention in low-resource settings (ACOG 2004). This is a major paradigm shift in cervical cancer prevention.

This policy:

- Establishes the need for practical and affordable interventions;
- Recognizes obstacles associated with implementing cytology-based screening;
- Validates the single visit approach, which links a detection method with an immediate management option, as a safe, acceptable and cost-effective approach to cervical cancer prevention;
- Calls for ob/gyn organizations worldwide to play a greater role in advocating for sustainable cervical cancer prevention programs; and
- Challenges funding agencies to underwrite cost-effective, resource-appropriate interventions.

*A discussion followed Dr. Blumenthal's presentation on testing in cervical cancer prevention programs. The key points of that discussion are highlighted below.*

- A negative visual inspection can be reassuring, because this result indicates that there is less than a 1% chance that the woman has disease.
- HIV infection increases the risk for HPV infection and dysplasia. WHO's *Guide to Essential Practice in Comprehensive Cervical Cancer Control* recommends that the same guidelines be used for women regardless of their HIV status.
- Cytology has been successful as a screening test because it is done repeatedly. In low-resource settings, we need a test that is easy and inexpensive enough to be done frequently, even if it is not the best test.
- In the single visit approach, performing cryotherapy on a woman who is VIA-positive means that her diagnosis cannot be proven by histology. If it is possible to confirm the diagnosis, then this should be done. In many cases, however, this is not feasible, and several studies have shown that it is safe, effective, reasonable and cost-effective to perform cryotherapy without confirmation by colposcopy or biopsy. Not treating in the absence of confirmation is a rate limiting step—if we insist on a biopsy for confirmation, what are the chances that the woman will never receive treatment? Ten years ago, Thailand traced all of the women with abnormal Pap smears and found that only 50% were treated. This underscores the importance of linking screening to immediate treatment.

## OVERVIEW OF CERVICAL PRECANCER TREATMENT IN LOW-RESOURCE SETTINGS

“Testing by itself has no intrinsic preventive value. It is only by linking testing to treatment that you close the circle of prevention.”

—Dr. Paul Blumenthal,  
The Johns Hopkins  
University

*Dr. Fredrik F. Broekhuizen, Professor of Gynecology and Obstetrics at the Medical College of Wisconsin, described CIN treatment options and discussed the advantages of using cryotherapy over other treatment methods in low-resource settings.*

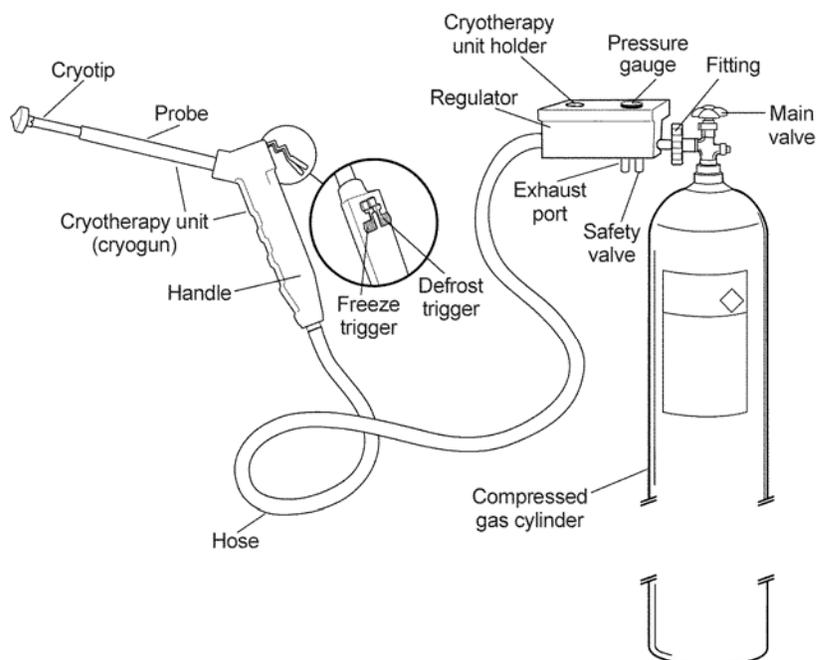
In low-resource settings where follow-up is limited, the treatment for cervical precancer needs to be highly effective. There is no single solution for every country and every setting. Current CIN treatment modalities include cold knife conization, hysterectomy, large loop excision of the transformation zone (LLETZ)/loop electrosurgical excision procedure (LEEP), laser ablation/cone biopsy, electrofulguration and cryotherapy.

In general, treatment of cervical precancer in low-resource settings requires:

- Access to services for diagnosis/treatment of advanced or complicated disease;
- Ability for follow-up of women who may still require additional evaluation;
- Availability of equipment and skilled providers;
- Acceptance of over-treatment, because patients may have lesions that would spontaneously regress without treatment;
- Acceptance of the possibility of under-treatment, although even in the most sophisticated health care systems patients may be lost to follow-up, resulting in under-treatment; and
- Acceptance of risks/complications.

In low-resource settings, clinicians often lack training and experience, and supplies and essential equipment are not available for most methods of treatment. Cryotherapy is the logical choice in these settings. **Figure 4** shows a cryotherapy unit, and **Table 2** compares the strengths and limitations of cryotherapy with other treatment modalities.

**Figure 4. Cryotherapy Unit**



Source: Blumenthal 2004.

**Table 2. Strengths and Limitations of Cryotherapy**

Strengths	Limitations
<ul style="list-style-type: none"> <li>● Cure rates 85–91% at one year</li> <li>● Simple/inexpensive equipment</li> <li>● Can be performed by trained/competent non-physician in primary remote care setting</li> <li>● Requires 11–15 minutes</li> <li>● No anesthesia required</li> <li>● No electricity required</li> <li>● Few complications</li> <li>● Equipment easy to decontaminate with high-level disinfection methods</li> </ul>	<ul style="list-style-type: none"> <li>● May be less effective for large/CIN III lesions</li> <li>● Less effective for lesions extending into endocervical canal</li> <li>● No tissue sample available for histology</li> <li>● Requires access to CO<sub>2</sub> or N<sub>2</sub>O gas</li> <li>● Problems can occur in cryotherapy instruments requiring modification of the technique, particularly in warm climates</li> <li>● Profuse, watery vaginal discharge following treatment is usual</li> </ul>

A Cochrane review found that there was not one superior surgical technique to treat cervical precancer/cancer (Martin-Hirsch, Paraskevaidis and Kitchener 1999). They concluded that the choice of treatment should be based on cost, morbidity and whether excisional treatment is required for a more reliable sample for histology. Regarding cryotherapy, the review concluded that:

- Cryotherapy is a viable option when resources are limited—it is easy, inexpensive and associated with the lowest morbidity.
- The double freeze technique has a higher success rate than single freeze.
- Failure rates of cryotherapy are related to lesion size and location (e.g., extension too far into cervix) and probe type and size, not grade of lesion as determined by histology.

ACCP (2003) reviewed 32 studies and found that with cryotherapy the average cure rate was 89.5%—the lowest rate for large lesions extending into the endocervical canal (LEEP cure rates were 85–95%). Cryotherapy can be performed by trained non-physicians and was found to be safe, although questions remain regarding length of freeze time, type of refrigerant and depth of freeze.

ACOG issued a practice bulletin on whether excision or ablative therapy is a better treatment for cervical precancer (ACOG 2005). Their statement included the following points:

- There is a large body of evidence, including a meta-analysis, indicating that clearance of CIN lesions is the same for LEEP, laser and cryotherapy, and the rates of cervical stenosis are comparable.
- In the absence of other indications, women with CIN II-III should be treated with ablation or excision.
- Excision has the advantage of histologic confirmation (although this may not be possible in low-resource settings), but the disadvantage of increased surgical complications, bleeding and future pregnancy complications.

Cervical cancer prevention is first and foremost about achieving coverage. If we cannot achieve 70–80% coverage, we will not have an impact on mortality. Programs need to be simple and affordable to achieve high rates of coverage. A step-wise approach should be used to implement programs; conference participants should not be daunted by the need to reach up to 80% of the target population. Most countries are now engaged in five-year planning, and it is important to have cervical cancer prevention programs added to these plans.

*After the presentation, there was discussion among the participants.*

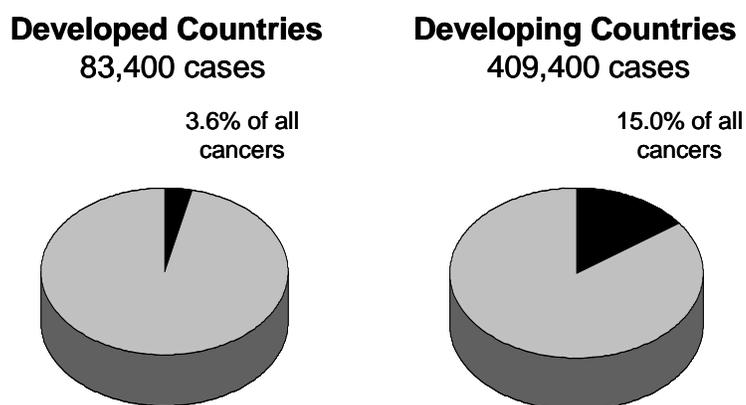
A participant from Indonesia asked if it was necessary to train midwives to perform cryotherapy, because only about 10% of women need this treatment. In general, each country will have to design its own program based on prevalence rates and the local situation. If women cannot travel far to access services, it might be worth the investment to provide services at the lowest level of health center; but if the women have access to transport, it might make more sense to centralize services. It is important to have good counseling so that women will make the extra effort to get treatment if the decision is made not to equip and train all midwives. There is also the issue of maintaining competency of providers in cryotherapy. In some settings, it may be better to separate VIA and cryotherapy services, whereby a few midwives perform all of the cryotherapy and maintain competency while others perform VIA only. The single visit approach does not necessarily mean that the woman gets treated at the same visit, but that she knows what the next step is and why she needs to take the next step.

## THE WORLD HEALTH ORGANIZATION'S POSITION ON CERVICAL CANCER PREVENTION IN LOW-RESOURCE SETTINGS

*Dr. Catherine d'Arcangues, Department of Reproductive Health and Research at the World Health Organization, discussed WHO's cancer control strategy and commitment to cervical cancer prevention.*

In May 2005, the World Health Assembly Resolution on Cancer Prevention and Control was approved and signed by 192 countries. This resolution expresses the strong commitment of WHO and its Member States to give priority to the control of cancers, such as cervical cancer, that are amenable to early detection and treatment. This is an important step in reducing the incidence of cervical cancer in developing countries, which is significantly higher than in developed countries (Figure 5).

**Figure 5. Cervical Cancer Incidence, 2002**



Key points of the WHO cancer control strategy are:

- Developing and reinforcing partnerships,
- Advocating for placing cancer higher on health agendas,
- Building capacity for policy and development of programs,
- Developing guidelines and operational tools based on evidence,
- Developing demonstration projects, and
- Implementing interventions in a step-wise fashion.

A variety of generic guidelines and tools are available—from WHO and partnerships such as ACCP—for use in developing a comprehensive approach to planning and implementing cancer control programs. Country or regional adaptation of these generic guidelines and tools is needed to:

- Ensure that national policies and guidelines are consistent with evidence-based guidelines;
- Ensure that guidelines consider local priorities and resources;

- Make guidelines feasible for implementation through the national health system;
- Reach consensus among stakeholders on interventions that must be provided at different levels of the health care system;
- Promote local ownership and commitment of key partners; and
- Link researchers, program managers and service providers, thus reducing the gap between knowledge and actual practice.

Currently, IARC recommendations for VIA (IARC 2005) are the following:

- In very low-resource settings, VIA may be a viable alternative to cytology-based screening.
- Research is needed to establish quality assurance markers for VIA.
- Studies that are currently in progress should provide evidence on the impact of a single test on cumulative incidence of invasive cancer and advanced disease.

WHO is currently supporting work in six African countries to assess the acceptability and feasibility of implementing a cervical cancer prevention program based on a single visit approach using VIA. The project will also create and assess awareness about cervical cancer, its effects and the availability of prevention services. Results are expected in about two years.

There are new strategies for cervical cancer prevention including the exciting possibility of an HPV vaccine. However, more data are necessary, including information on:

- Most appropriate age for vaccination
- Whether both women and men should be immunized
- Most effective and efficient immunization regimen
- Effect on women infected with HPV or HIV
- Cost

Other questions about the HPV vaccine include:

- How can these women get equitable access to an affordable, quality vaccine?
- Will there be adequate quantities of vaccine available at an affordable price for developing country programs?
- What will be the role of existing programs and services?

## THE ALLIANCE FOR CERVICAL CANCER PREVENTION (ACCP): WHERE DO WE GO FROM HERE?

*Dr. Vivien Tsu, Senior Program Officer of Reproductive Health at PATH, described the work of ACCP over the last five years and encouraged countries to begin working today to prevent cervical cancer.*

ACCP is a group of five organizations (PATH, EngenderHealth, Pan American Health Organization, IARC, JHPIEGO) with a goal of improving women's health and saving women's lives through cervical cancer prevention programs in developing countries. The ACCP has four focus areas:

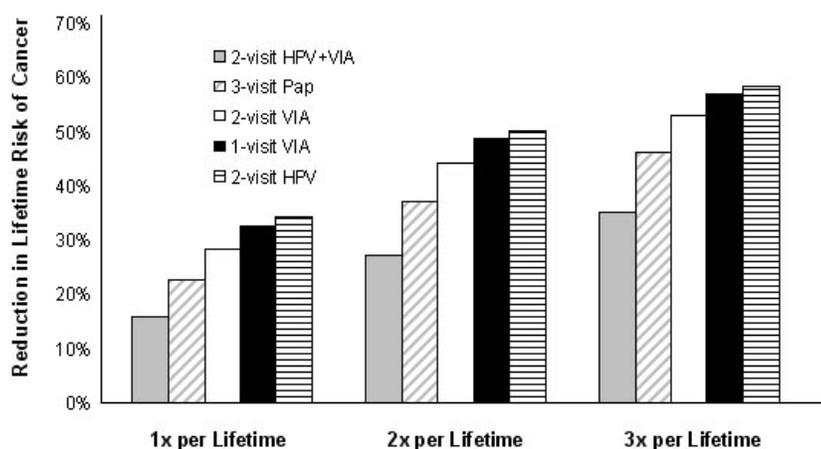
1. Assess the safety and effectiveness of new screening and treatment approaches.
2. Develop service delivery guidelines for using new technologies and protocols.
3. Involve communities in program planning, implementation and evaluation.
4. Advocate for appropriate and effective cervical cancer prevention programs.

ACCP has findings in three key areas:

1. Program organization: Demand for cervical cancer prevention services is strong among women and communities, and organized prevention programs are feasible and can be integrated within existing services.
2. Screening and treatment methods: HPV and visual screening tests are acceptable in a range of settings, and cryotherapy is safe and effective and can be delivered by trained non-physicians.
3. Number of visits: The single visit approach is safe and effective in low-resource settings, and represents a major paradigm shift in cervical cancer prevention.

Programs based on single visit VIA or two-visit VIA or HPV testing are very cost-effective (i.e., the cost per years of life saved is less than the gross domestic product) in India, Kenya, Peru, South Africa and Thailand. Single visit VIA and two-visit HPV testing achieve the greatest reduction in lifetime risk of cancer compared with other testing approaches, and additional reductions in risk are achieved by increasing the number of lifetime screenings from one to two, and from two to three. The greatest difference in reduction is achieved by going from once per lifetime to twice per lifetime screenings. **Figure 6** shows the reduction in lifetime risk of cancer with different testing approaches, as demonstrated in India (Goldie et al. 2005).

**Figure 6. Reduction in Lifetime Risk of Cervical Cancer in India (Based on Modeled Data)**



Source: Goldie et al. 2005.

Although ACCP has achieved significant results, more research is still needed, including:

“There is sufficient evidence to act now; the tools with which to act are available. There is no need to continue to wait for more research.”  
—Dr. Vivien Tsu, PATH

- Broader data on characteristics of VILI,
- Data on longer-term impact of VIA/VILI screening on disease incidence and mortality,
- Evaluation of various community mobilization strategies, and
- Post-introduction surveillance of effects of single and multi-visit approaches.

ACCP has produced a variety of materials for use by policymakers, health care providers, program planners, community organizers, researchers and educators. These materials and others, such as sample curricula and community education materials, are available on the ACCP website: [www.alliance-cxca.org](http://www.alliance-cxca.org). See **Appendix C** for a listing and description of available materials.

We know enough to get started. The time to act is now. Countries can begin by:

- Calling together stakeholders to determine the most appropriate local approach given the available resources and disease burden;
- Developing or refining guidelines based on new evidence from ACCP projects and modeling; and
- Adapting existing ACCP materials and curricula to train providers and engage communities.

## PREVENTING CERVICAL CANCER: THE SINGLE VISIT APPROACH

*One strategy for optimizing the effects of screening in low-resource settings is to offer screening and treatment at the same visit—the single visit approach. Participants from Ghana and Thailand described projects conducted in their countries to establish the safety, acceptability, feasibility and program effort (SAFE) associated with implementing the single visit approach in low-resource settings. Several studies evaluating the single visit approach and screening tests conducted in India were also presented.*

*Dr. Sylvia Deganus, JHPIEGO/Ghana CECAP Quality Assurance Advisor, described the single visit approach in Ghana.*

Cervical cancer is the leading cause of cancer-related death in Ghanaian women, accounting for about 25% of all adult female cancers in Ghana. Before the SAFE study, no systematic, nationally available testing or treatment was available for the average Ghanaian woman—less than 1,500 Pap smears were performed per year in the capital city, Accra, where the population of 20- to 49-year-old women was more than 300,000. Despite the fact that most women in Ghana presented with late stage disease, there was limited capacity to manage large precancerous lesions or invasive cervical cancer.

The “Cervicare” project in Ghana included five doctors and eight nurses who were trained in VIA and cryotherapy and provided services at one rural and three urban sites. Women were referred for large lesions, suspected cancer and other gynecologic problems. There was an extensive protocol for follow-up and data collection, and quality assurance was provided by clinical supervisors (physicians) through co-assessment and performance improvement.

The project also included outreach activities, including partnering with Rotary clubs (local and international). Ten trained outreach staff underwent a two-day training program in community entry skills and message delivery.

In preparing for a national program, a national policy and program document was prepared for scaling up screening services. Four technicians were trained in cryotherapy unit repair and maintenance, and equipped to perform these services. A clinical training skills course was held for nine doctors and nine experienced nurses.

Results of the Cervicare project include:

- Total number of women screened: 19,326
- VIA-positive rate: 5–9% (higher in urban sites)
- Total number of women receiving cryotherapy: 1,456 (91.7%)
- Women receiving immediate cryotherapy: 21–72% (varied between rural and urban sites)
- No major complications from cryotherapy

Clubs like Lions Club and Rotary International have been making huge advances in many areas of health care in low-resource settings. Upon seeing an exhibition of JHPIEGO’s work in Ghana at one of their annual conferences, a local Rotary club connected with Rotary International and raised funds (approximately \$40,000) to support community education campaigns in Ghana to raise awareness of cervical cancer.

- High satisfaction among clients (Tables 3 and 4)
- Cancer diagnosed in 16 women, who were referred/treated

It is important to note that nine nurses were capable of screening the more than 19,000 women while still performing their regular clinical duties.

**Table 3. Ghana SAFE Project: Women’s Satisfaction with VIA**

Experience with VIA	Percentage of Women Satisfied
No discomfort	85.1%
Experience better than expected	83.6%
Informed enough about procedure	99.7%
Satisfied with decision	79.8%
Would recommend to others	99.2%

**Table 4. Ghana SAFE Project: Women’s Satisfaction with Cryotherapy**

Experience with Cryotherapy	Percentage of Women Satisfied
Experience better than expected	82.5%
Informed enough about procedure	98.8%
Very satisfied or satisfied with decision	98.5%
Would recommend to others	99.8%

A qualitative assessment of the Cervicare project, conducted in 2003, found that the single visit approach was highly acceptable to women, their male partners and providers. Other stakeholders (e.g., policymakers, community leaders) expressed no major concerns regarding the use of VIA and cryotherapy provided by nurses.

Current constraints and challenges of cervical cancer screening in Ghana include:

- Cervical cancer prevention is not considered a high priority.
- Development of a comprehensive National Cervical Cancer Prevention Program has been delayed in spite of existing policy.
- Households and communities remain unaware about cervical cancer and its prevention.
- Socio-cultural barriers mean that families do not share information on or support each other in good RH practices.
- Most health care providers lack the skills to provide screening services and identify and appropriately manage cases of cervical cancer.

The way forward must include development of a National Cervical Cancer Prevention Program. Screening must also be included as one of

the services covered by the National Health Insurance Scheme. An in-country training program should be implemented, and new sites should be developed to increase access and coverage. There is also a need to establish referral networks, procure equipment and enhance outreach and education activities to increase demand and male involvement.

Our goal is that by the year 2010, households, communities and the government work together so that:

- Each woman in Ghana and her family know about cervical cancer and how it can be prevented.
- The woman seeks and receives screening services at a facility within her community.
- Treatment for cervical cancer and related abnormalities is available and within the woman's reach.

*Professor Pisake Lumbiganon of the Faculty of Medicine at Khon Kaen University described the single visit approach in Thailand.*

Roi-et Province was selected as the site for the SAFE demonstration project in Thailand. This province is located in the poorest region of Thailand, the Northeast, where the population is underserved and women have little access to important health programs. The project began in four pilot districts and has since been expanded to all 17 districts in Roi-et Province. VIA and cryotherapy were provided by mobile teams in up to 30 rural village health centers and static teams in four district hospitals.

Women were included in the SAFE project if they were 30–45 years old, sexually active and gave informed consent. Women were excluded if they had a history of hysterectomy, previous cervical cancer or were more than 20 weeks pregnant. Women with large lesions, suspected cancer or other gynecologic problems were referred. The study included an extensive protocol for follow-up and data collection, and quality assurance was provided by clinical supervisors (gynecologists) through co-assessment and performance improvement.

A project orientation workshop was conducted with health care workers from the province, and a competency-based approach was used for training of supervisors and providers in rapport, pelvic examination, VIA and cryotherapy, followed by clinical practice in VIA and cryotherapy. Twelve nurses were trained in VIA and cryotherapy, and four gynecologists (supervisors) were trained in competency-based training and the humanistic approach. **Figure 7** shows nurses receiving training in cryotherapy.

**Figure 7. Training Nurses in Cryotherapy**



Results of the Thailand SAFE project include:

- Total number of women screened with VIA: 5,999
- Percentage of women VIA-positive: 13.2%
- Total number of women receiving cryotherapy: 756 (12.3%)
- High acceptance among clients (Table 5)
- No serious complications
- Only 2% of women reported minor side effects
- Of 704 clients followed up at one year, 689 (99%) were considered cured

Since the conclusion of the SAFE project, approximately 150,000 women in Roi-et Province have been screened with VIA.

**Table 5. Thailand SAFE Project: Women's Satisfaction with VIA**

<b>Experience with VIA</b>	<b>Percentage of Women Satisfied</b>
Experience better than expected	89.6%
Informed enough about procedure	99.8%
Satisfied or very satisfied with decision	98.5%
Would recommend to others	99.8%

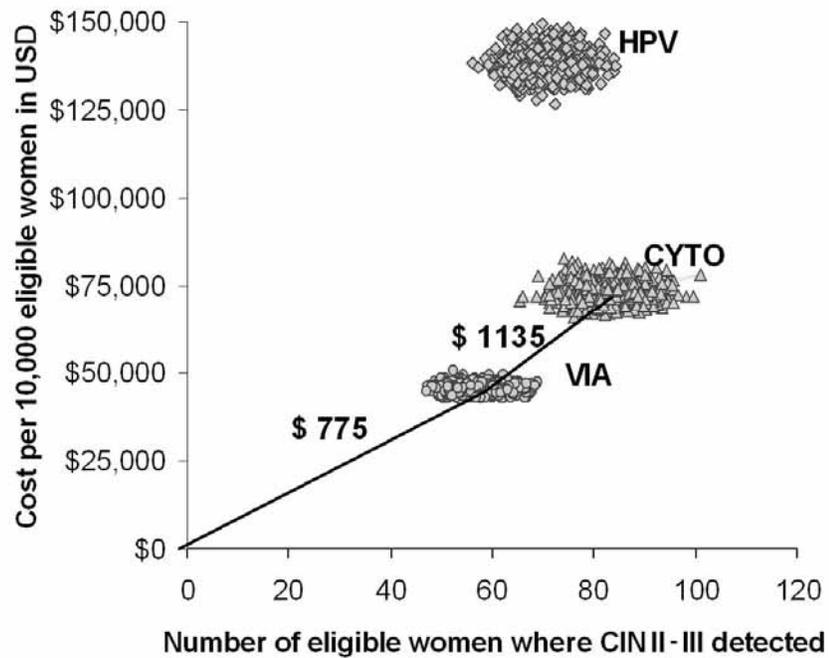
*Dr. Ramani S. Wesley, Head of Community Oncology at the Regional Cancer Centre in India, described the single visit approach in India.*

Approximately one-quarter of the global burden of cervical cancer is borne by India. The frequency of cervical cancer varies in different regions of India, from 15% to 51%, and more than 70% of cases present in advanced stages of the disease.

There are no organized cervical cancer screening programs in India. Screening programs that are based on frequently repeated screening rounds are not feasible in India because of the high costs, inadequate infrastructure, lack of trained health care providers and logistical difficulties. Defining suitable cervical cancer programs is therefore an urgent priority.

A comparison of the efficacy of VIA, conventional cytology and HPV testing in cervical cancer screening found rates of positive tests of 14% for VIA, 7% for cytology and 10.3% for HPV (Sankaranarayanan et al. 2005a). The detection rate of high-grade lesions was similar among all the screening groups. Assessment of the cost-effectiveness of these screening methods (Figure 8) found that screening with VIA was the least expensive option, but it also detected fewer cases of CIN II-III than other methods (Legood et al. 2005). Cytology was more effective at detecting cases than VIA, but it was also more expensive. HPV, available at a subsidized rate of \$6, was still too expensive to be a cost-effective screening strategy.

**Figure 8. Cost per CIN II-III Detected in Osmanabad District Cervical Cancer Screening Project**



Source: Legood et al. 2005.

Indian studies also examined the effectiveness of treating cervical precancer with cryotherapy or LEEP (Table 6).

**Table 6. Effectiveness of Cryotherapy and LEEP in Treating Cervical Precancer**

Lesion	Total		Cured at One Year	
	Cryotherapy	LEEP	Cryotherapy	LEEP
CIN I	1,264	296	90% (N = 1,137)	96% (N = 283)
CIN II-III	234	336	79% (N = 184)	86% (N = 288)

In India, political will and resource allocation for programs is the need of the hour. Research findings from published studies can guide program development in the different states of India with varying resources.

### CAN WE AFFORD TO PREVENT CERVICAL CANCER?

*Dr. Diljeet Singh, Assistant Professor at Northwestern University, described the costs of cervical cancer prevention programs and contrasted them with the costs of other public health interventions.*

Timely implementation of a cost-effective screening strategy for use in developing countries is particularly critical. The cost of treating invasive cervical cancer is considerably greater than the cost of treating preinvasive disease, and the cost of care increases as stage of cancer at presentation increases. The loss of life and productivity due to cervical cancer has a profound economic impact.

In the context of other public health interventions, single lifetime screening strategies are as cost-effective as:

- Immunization for hepatitis B
- Second-line treatment for tuberculosis
- Insecticide-treated bed nets for malaria

ACCP studied the cost-effectiveness of cervical cancer screening strategies in five countries—India, Thailand, South Africa, Kenya and Peru—where traditional three-visit cytology screening at frequent intervals has not been effective in reducing rates of cervical cancer (Goldie et al. 2005). The most effective strategies were those that enhanced the linkage between screening and treatment, through either a reduced number of visits or improved follow-up, and that relied on less laboratory infrastructure than did conventional cytologic methods. The screening of women with one-visit or two-visit VIA or HPV DNA testing at about 35 years of age was found to reduce the lifetime risk of cervical cancer by 25–36%.

## PREPARING NURSES AND MIDWIVES AS VIA PROVIDERS: USING COMPETENCY-BASED TRAINING APPROACHES

*Dr. Enriquito R. Lu, Senior Reproductive Health Advisor at JHPIEGO, explained how innovative, competency-based training approaches can produce competent non-physician providers of VIA and cryotherapy services.*

The goal of clinical training is to develop providers who are competent to perform counseling, VIA screening and cryotherapy. An effective clinical training course is relevant to the participant's job description and uses different techniques to keep participants engaged. Clinical training should be competency-based and incorporate humanistic training techniques, such as pelvic models and role plays, to increase opportunities for practice before the participants ever see actual clients.

Competency-based training is a methodology that ensures providers have the essential knowledge, skills and attitudes. Participants progress at their own rate, and their performance is objectively assessed using standardized skills checklists. While assessment of competency takes the participant's knowledge and attitudes into account, actual performance of the competency is required. The clinical trainer serves as a facilitator and provides coaching before, during and after practice.

Conducting a competency-based training program requires:

- Clinical trainers who:
  - are qualified and proficient clinical providers,
  - have standardized skills including skills for pelvic examination, and
  - are available for the entire training course;
- Training materials, including a relevant learning package, anatomic models and instruments; and
- Adequate caseload for development of VIA and cryotherapy skills.

A competency-based clinical training course is typically 10 days and includes 10 to 15 participants and two clinical trainers.

JHPIEGO has prepared a cervical cancer learning package comprising the following:

- Reference manual with background information and “need to know” information for providing services;
- Participant's handbook with a course syllabus, learning guides and practice checklists for essential skills, and a course evaluation form;
- Trainer's notebook with the course outline, various knowledge evaluation tools and a performance evaluation checklist; and
- Learning aids such as a CD-ROM containing validated cervical images in a digital format.

During the discussion that followed the presentation, Dr. Lu emphasized the following points.

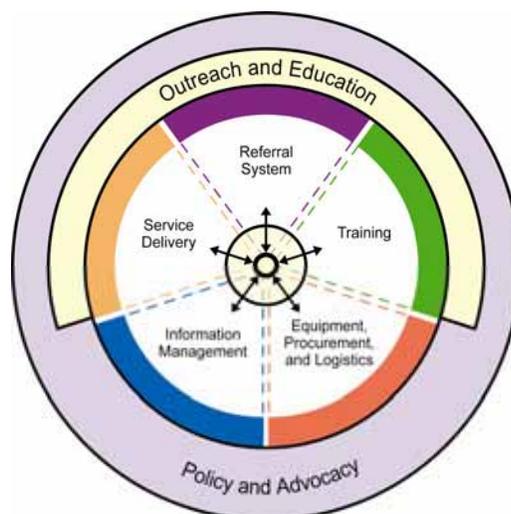
- After the 10-day clinical training skills course, it is important to ensure that trainers have opportunities to conduct a clinical skills course for new providers, under the supervision of master trainers.
- The cervical images on the CD-ROM, obtained using real clients, can be used in small groups (shown on a screen/laptop or printed on flash cards) to learn to identify normal and abnormal, as well as which clients to treat with cryotherapy and which to refer. Once competent, participants can move to clinical practice. The images are particularly useful when there is insufficient caseload to achieve competency.
- Just as the participants can use the cervical images to achieve competency in VIA, they can use sausages to achieve competency in the cryotherapy procedure before they see actual clients.

## PUTTING IT ALL TOGETHER: TOWARD A NATIONAL CERVICAL CANCER PREVENTION PROGRAM IN THAILAND

*Thailand has achieved considerable success in implementing the single visit approach. Dr. Khunying Kobchitt Limpaphayom, Emeritus Professor of Obstetrics and Gynecology at Chulalongkorn University and Director of JHPIEGO's CECAP Project in Thailand, shared the lessons learned by Thailand in taking research to practice in developing a national cervical cancer prevention program.*

An effective screening program using the single visit approach has multiple components (Figure 9), as described below. All components must be present for the program to have an impact on the incidence of cervical cancer.

**Figure 9. Components of Programs Using the Single Visit Approach**



## Advocacy and Policy Development

Cervical cancer prevention programs have to fit within the legal, economic and social context of a country's overall health care system. In advocating for the single visit approach, the following questions should be addressed:

A national cervical cancer screening program should include:

- Advocacy and policy development
- Competency-based training
- Adequate equipment and supplies
- Service delivery and referral
- Information management
- Community outreach and education

- Who can provide which services? In Thailand, nurses are permitted to provide VIA and cryotherapy.
- At what levels of the health care system are services going to be available? VIA and cryotherapy are provided at the lowest level of the health system—the village health centers—in Thailand.
- How frequently are services recommended? Thailand's policy is to screen 80% of all Thai women 30–45 years old within five years.
- How are services financed? Thailand's Health Care Reform finances the district programs.

## Competency-Based Training

Training is a crucial element of any program. Important goals when planning a training program include:

- Minimizing training time;
- Ensuring competency;
- Ensuring proficiency after training; and
- Training the maximum number of providers with the least amount of resources.

In Thailand, regional training teams have been established to conduct 10-day VIA and cryotherapy courses that have been adapted to local needs. Local nurses are trained to provide VIA and cryotherapy, and Thai master trainers teach the trainers, who then train the providers. A strong external supervision system is in place for quality assurance. Experienced nurses are used as trainers and supervisors, and they are also being trained to collect and manage data.

## Equipment and Supplies

Lack of available equipment and supplies is a key reason why cytology-based services are not a viable option in many low-resource settings. VIA- and cryotherapy-related supply issues do exist, however, and it is important that solutions feasible for low-resource settings be identified. Relevant questions to consider include:

- Are the necessary supplies available? In Thailand, general supplies for VIA and cryotherapy are available through the district hospital's supply service.

- Can equipment be repaired or purchased in-country? Thailand has conducted training in repair and maintenance of the cryotherapy unit, and maintenance kits are available.

### Service Delivery and Referral

For the single visit approach to successfully achieve coverage, provision of services must be feasible given the realities of the setting, and minimum standards must be in place. Most districts in Thailand are providing mobile services at least one or two days per week. Where mobile services are offered three or more days per week, the number of monthly tests is 300% higher than when offering static services alone. Thailand also uses the existing national referral system to ensure referral of women to willing ob/gyns who can offer colposcopy, biopsy and LEEP when necessary. Nurses also use the existing health network to verify patient status and contact women, if necessary.

### Information Management

The information management component supports program monitoring and evaluation (M&E) and provides the basis for modifications to program design and implementation at all levels.

A pilot project in Roi-et Province has been assessing a computerized precancer data management system, the Cervical Precancer Information System (CPIS), to store and track information. Logbooks are still maintained by providers, and monthly summaries are collected for use by the district and provincial health offices to track key indicators.

### Community Outreach and Education

Due to the strong network of health centers and village health volunteers, and the participation of the District Health Committee, Thailand has been able to inform and educate women about the single visit approach, and motivate them to be tested. If women have personal contact with a volunteer or health center staff member, or with a woman who has had a positive experience, they are more likely to seek testing. Thailand has conducted a qualitative evaluation of the acceptability of VIA and learned from women and their partners that the majority of them appreciate the benefits of the service and recommend it to others.

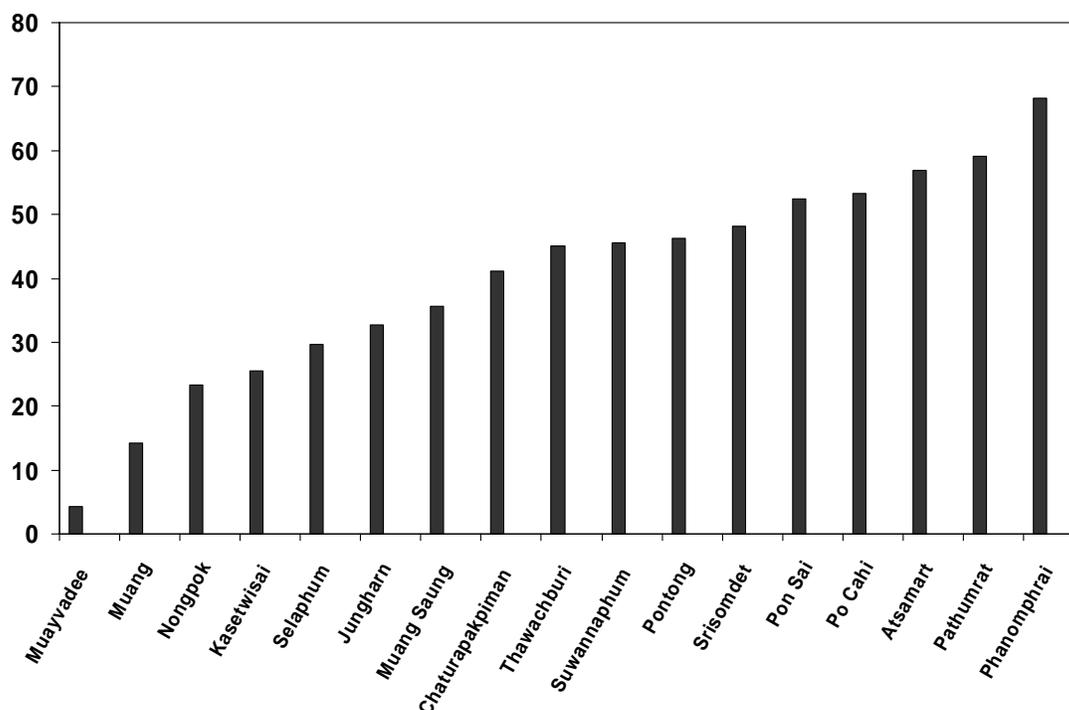
### Results

Figure 10 shows the increase in VIA coverage in Roi-et Province between February 2000 and October 2005. As of October 2005, approximately 150,000 women in the target group have been screened with VIA, and 8–10% of those women have been offered cryotherapy. Twelve provinces are now using this approach.

Four key actions have contributed to the success of the single visit approach in Thailand:

1. Recognition of the importance of linking testing to treatment
2. Use of competency-based training methods to prepare service providers, clinical supervisors and master trainers
3. Use of mobile and static clinics for service delivery, ensuring greater access for women
4. Communication to build national consensus and support of the program

Figure 10. VIA Coverage in Roi-et Province (February 2000–October 2005)



*After the presentations, there was a question-and-answer session with the participants.*

- Is this program integrated with other programs available at the primary health care level? The Thai program is integrated with the primary health center, where two nurses are responsible for many programs. In Ghana, the program has been integrated with FP services, because these nurses have the least heavy caseload.
- What is the coverage rate in Thai districts? Coverage is currently about 50% in Roi-et and 30% in Nankai, but not more than 10% in the other 10 provinces.
- Does the government of Thailand fully fund the program, or are resources obtained from elsewhere? At the beginning, the program was funded by the Bill & Melinda Gates Foundation. Then, each provincial health office received some funds from the Ministry of Health to train and establish the program. The Department of Health also received some government funds to conduct about four trainings per year.

## PROSPECTS FOR AN HPV TEST FOR LOW-RESOURCE SETTINGS

*Dr. John Sellors, Senior Medical Advisor at PATH, described the HPV tests currently under development for use in low-resource settings.*

IARC/WHO recommendations now include HPV testing as an acceptable method of primary screening for cervical cancer prevention. An advantage of the HPV test is that it provides more information about the infection compared to VIA, and may allow for selection of more appropriate management. Efforts are under way to develop HPV tests specifically for low-resource settings (Table 7).

**Table 7. Comparison of HPV Tests Being Developed for Low-Resource Settings**

	<b>Rapid Batch Test</b>	<b>Rapid Strip Test</b>
<b>Time</b>	2 hours	15 minutes
<b>Detects</b>	HPV DNA	E6 biomarker protein <sup>a</sup>
<b>Setting</b>	Static or mobile clinic	Near patient
<b>Number of samples</b>	10–46 samples per batch	1 or more samples at a time
<b>Cost</b>	\$1–5 per sample	\$1–5 per sample

<sup>a</sup> Expression of the E6 biomarker protein correlates not with infection but with transformation from CIN II-III to cancer. Before this test can be used, more information is needed on what the presence of this protein means in terms of treatment options.

Prototypes of these tests will be validated in 2007 through field-testing in China and India. Efforts will also focus on the logistics of making the tests available for purchase in the public and private sectors in low-resource settings, including identifying partners that will manufacture/assemble, market and distribute the tests in-country. The tests will be available at a reduced price in the public sector in low-resource settings for at least 10 years. It is hoped that the rapid batch test is available by 2008 for global demonstration projects.

*During the discussion, Dr. Sellors highlighted additional points about the HPV tests, and responded to questions from the participants.*

- The HPV rapid batch test can be used as a primary screening tool instead of VIA or cytology, and it would identify about 96% of the women with high-grade lesions or cancer. How these women would be managed would be up to the provider, but could include VIA and directed biopsy and treatment. The rapid strip test, which detects the biomarker protein, would tell the provider that the woman with CIN II-III is about to progress to cancer. Additional research is needed before clinicians can rely solely on this method. The test could be useful, however, in triaging women after testing with the rapid batch test.
- The new rapid batch test does not require refrigeration, which is an advantage for shipping and storage.

- The most economical way to run the batch test is to run the maximum number of samples (i.e., 46) so that use of the control samples, which are expensive, can be reduced. Ideally, samples would be collected from 46 women in the morning, the test would be performed, and then in the afternoon the women testing positive could be treated and sent home that night.

## PROSPECTS FOR A VACCINE TO PREVENT CERVICAL CANCER

*Dr. Jeffrey Tan, Secretary General of the Asia-Oceania Research Organisation in Genital Infection and Neoplasia (AOGIN), described the HPV vaccines currently under development and discussed how and when these vaccines will have an impact on public health programs in low-resource settings.*

Globally, there are an estimated 100 million women currently infected with a high-risk type of HPV. These women could benefit from an effective therapeutic vaccine, yet these vaccines are still in the early stages of development. For now, the most promising approach is a prophylactic vaccine to prevent infection with HPV. Research has shown that the antibodies generated in response to the prophylactic vaccine are protective, long-lasting, type-specific and neutralizing.

Most research to date has focused on prophylactic vaccines against the most common HPV types: more than 60% of cervical cancers are associated with infection with HPV type 16 (HPV-16), an additional 10% of cancer cases are associated with HPV-18, and approximately 90% of genital warts are due to HPV types 6 and 11. Table 8 summarizes three vaccines currently being studied.

**Table 8. Comparison of Prophylactic HPV Vaccines**

Vaccine	HPV Types	Efficacy against Persistent Infection	Reference
Monovalent	16	100%	Koutsky et al. 2002
Bivalent	16 and 18	100%	Harper et al. 2004
Quadrivalent	6, 11, 16 and 18	90%	Villa et al. 2005

There are still several challenges that must be overcome before the prophylactic vaccine can have any impact on incidence of cervical cancer. These challenges include:

- The level of protection from the vaccine and the need for booster immunizations to maintain protection are still unknown.

Each country should begin collecting data on the prevalence of HPV types in cervical cancer in the country, so that the HPV vaccine can be adapted to be most effective.

- The prevalence of HPV types varies nearly 20 times between some populations, making it necessary to adapt the vaccine to include the most common HPV type(s) in different countries or regions.
- There is low public awareness that cervical cancer is caused by HPV, which could limit acceptance of the vaccine.
- The most appropriate age for immunization of girls must be determined, with the goal of immunizing before the onset of sexual activity. It must be decided whether boys should also be vaccinated.

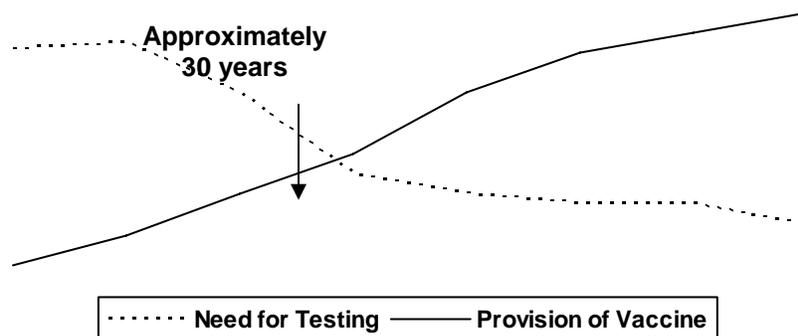
*The discussion following the presentation centered on the challenges of implementing immunization campaigns for the prophylactic HPV vaccine, as well as the importance of continued screening.*

Assuming that 70–80% coverage of the population is achieved, it could be 20–30 years before the HPV vaccine's effect on cervical cancer incidence is seen (**Figure 11**). We are therefore ethically obligated to continue emphasizing the importance of screening and treatment for pre-cancer.

Dr. Tan acknowledged that requiring three doses of the HPV immunization for full efficacy presents several challenges in low-resource settings. Although current research is focusing on whether two doses will be enough to provide sufficient protection from infection with HPV, the data are not yet available.

Another challenge is that immunizations are not routinely given to adolescents in low-resource settings. The solution to this will probably vary by country, and could include school-based programs or community outreach. HPV immunization could also be integrated with other outreach efforts. It may also be feasible to vaccinate all women who show up for screening, even if there is the possibility that they have been previously exposed to HPV; these women may still benefit from the vaccine because if they were exposed, it may have been to a different HPV type. This approach, however, will depend on the cost of the vaccine and upcoming research on potential side effects.

**Figure 11. Challenge: Reconciling Provision of Vaccine with Continued Need for Testing**



Source: Blumenthal 2005.

## ADDRESSING THE CHALLENGES OF TREATING CERVICAL CANCER

*Dr. Harshad Sanghvi, Medical Director at JHPIEGO, discussed the challenges of making cervical cancer treatment available in low-resource settings.*

Without treatment, cervical cancer is fatal within two years for 95% of cases. Good results can be achieved if the disease is caught early and the woman receives treatment—such as radical surgery, radiotherapy or chemotherapy—but these treatments are expensive and often associated with significant risks of morbidity and mortality (Table 9), even in an optimal setting.

**Table 9. Comparison of Treatment Options for Cervical Cancer**

Radical Surgery	Radiotherapy	Chemotherapy
<ul style="list-style-type: none"> <li>• Removal of cervix, uterus, parametria, upper vagina, lymph nodes</li> <li>• Indicated for stage 1 and some stage 2A cancers</li> <li>• Typically performed at tertiary hospital</li> <li>• Requires blood bank, gynecologists trained in radical pelvic surgery and wide range of support staff; in low-resource settings, is often performed by general surgeons or gynecologists who lack appropriate training</li> <li>• Costs about \$15,000 to equip operating theater</li> <li>• Risk of significant complications including blood loss, infection, operative morbidity and estimated 4–5% mortality</li> </ul>	<ul style="list-style-type: none"> <li>• Brachytherapy—radioactive source introduced into cervical canal and vagina (i.e., internal radiation)</li> <li>• Teletherapy—delivery of radiation as a beam from external source (i.e., external radiation)</li> <li>• Indicated for all stages of cancer</li> <li>• Requires radiation oncologists, physicists and wide range of support staff</li> <li>• High-dose brachytherapy costs approximately \$250,000 to set up and \$35,000 annually to treat about 1,000 patients per year</li> <li>• Teletherapy costs between \$350,000 and \$1 million to set up, but if well maintained can be offered for long period of time</li> <li>• Risk of significant morbidity</li> </ul>	<ul style="list-style-type: none"> <li>• Most often used in combination with radiotherapy for advanced cases, palliative care and recurrence</li> <li>• Requires doctors and nurses experienced in chemotherapy and laboratory and other support</li> <li>• Costs \$200–1,000 for full course of treatment</li> </ul>

Source: ACCP 2004.

Many factors influence the outcome of cervical cancer, the most important of which are the type of cancer, stage of disease, age, general physical condition of the woman and quality of care. The highest survival rates are found among treated women with stage 1A (90–95%) or 1B (85–90%) disease at presentation. Five-year cervical cancer survival rates in developed countries (US, England and Wales, Australia) are much higher than in developing countries, because women in low-resource settings very often receive suboptimal care for cervical cancer due to a variety of factors. For example:

- The proportion of cases that are caught in early stages of disease is very small. Only 11% of disease detected in Mumbai is localized to the cervix. In Chiang Mai, Thailand, only about 20% of cases are detected early enough that surgery is a possible treatment option. For comparison, in the United States about 54% of cases are detected early.
- The cancer is often found to be more invasive at surgery due to inadequate preoperative staging and long delays between staging and surgery (e.g., due to lack of blood or surgeons).
- Most general gynecologists are not trained in radical surgery, so inexperienced surgeons are often compelled to provide care.
- Some radiotherapy centers do not have the resources for brachytherapy.
- Palliative care is rarely available.
- There are often delays in recognition of a problem, prompt referral for treatment and appropriate response.
- Most low-resource settings do not have proper medical record systems.

The box below highlights the challenges of treating cervical cancer in Africa.

#### **Challenges of Treating Cervical Cancer in Africa**

In Kenya, the age-standardized incidence of cervical cancer is 36.56 per 100,000 women. Approximately 3,000 new cases are diagnosed and 1,524 women die from cervical cancer every year. Approximately 85% of cases present in late stage disease—stage 2B and above—and women often wait to seek care; the mean duration of experiencing symptoms before seeking care is 10 months. Comprehensive treatment for cervical cancer is offered only at the Kenyatta National Hospital, with a capacity to handle only about 500 cases per year. There are only five hospices, and cervical cancer accounts for 16% of their patients.

Similar challenges are found throughout East and Central Africa, where many women have an advanced stage of disease upon first presentation. In these countries, about 46% of provincial hospitals have adequate surgical facilities but only about 21% have trained gynecologists. Only a few national hospitals have gynecologic oncologists, only five countries have radiotherapy facilities, and palliative care is almost universally unavailable in the region.

#### **The Way Forward**

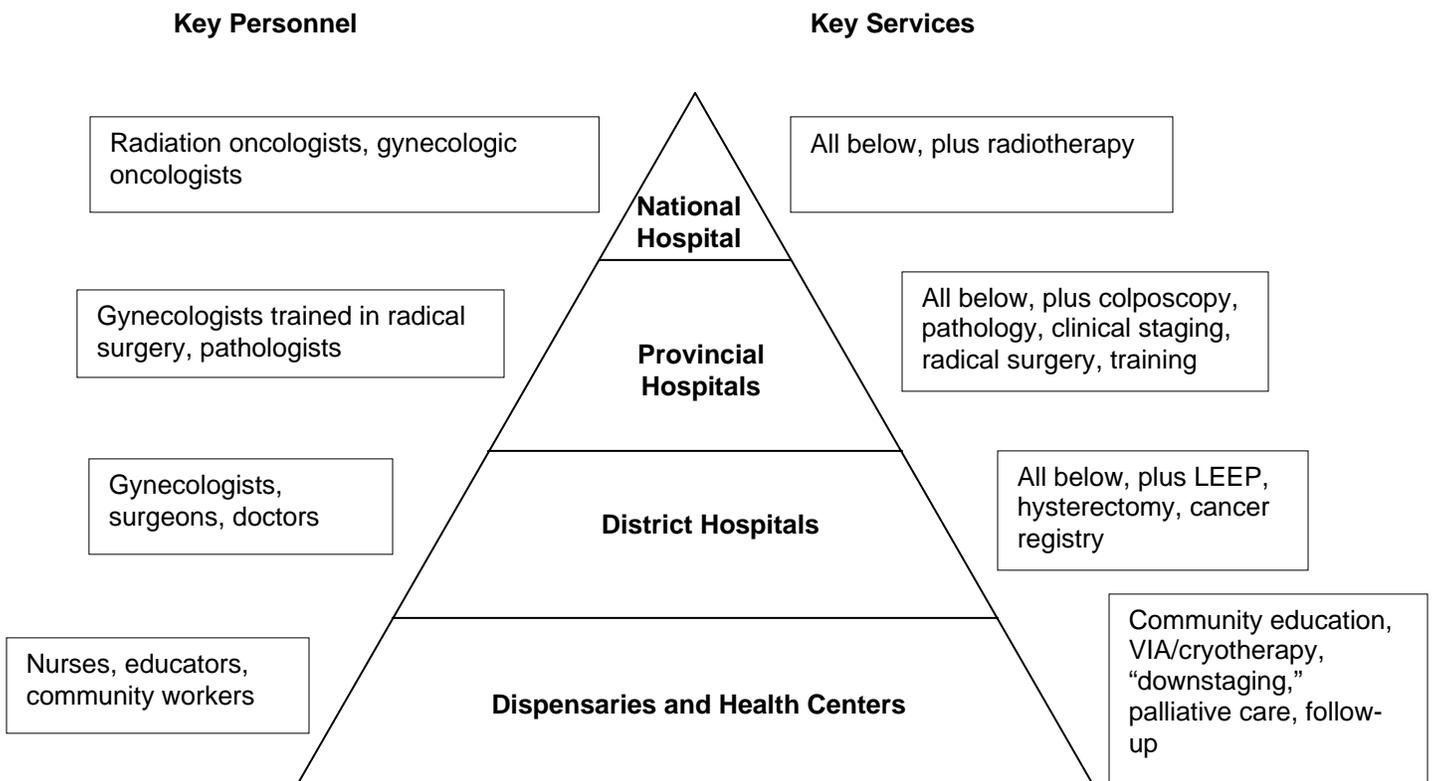
The first priority must be to establish widespread cervical precancer detection and treatment programs in low-resource settings:

- Document the true burden of cervical cancer—through proper record systems that can collect good data—to convince policymakers of the need to invest resources in prevention and treatment.
- Take every opportunity to offer women pelvic examination and VIA. If a woman comes for any other service, educate her about cervical cancer and offer cervical cancer screening services.
- Offer palliative care at all levels of the health care system.
- Offer radical surgery at all provincial and selected large district hospitals, and establish central radiotherapy centers.

- Invest in the development of human resources; this is critical, because without oncologists, histopathologists, oncology technicians, etc., a cancer service cannot operate efficiently.

Figure 12 shows a sample plan for cervical cancer services based on a model from Kenya. While the plan is good, it will require a huge amount of technical and financial support. These are the types of programs that we need to advocate for and support in so many countries. It is the only way we will succeed in our fight against cervical cancer.

Figure 12. Sample Cervical Cancer Services Plan



### Final Thoughts

- Health care systems should not be content with curing only those few patients who come to clinics and hospitals; they should seek solutions for those women who remain in rural areas that are hard to reach.
- We should be more concerned about acts of omission (failure to make screening accessible and available) than we are about acts of commission (offering substandard treatment for invasive cancer).
- We can provide good quality treatment for cervical cancer even in low-resource settings for a small number of patients who develop cancer despite good screening and precancer treatment programs.

*During the discussion, Dr. Sankaranarayanan commented on cancer treatment programs at the International Atomic Energy Agency (IAEA), and Dr. Sanghvi answered questions from the participants.*

For information on the IAEA Programme of Action for Cancer Therapy (PACT), contact Mr. Massoud Samiei, PACT Program Manager, [pact@iaea.org](mailto:pact@iaea.org), or visit the IAEA PACT Web site at <http://www.iaea.org>.

Plans for developing cervical cancer services should not be made in isolation. There are many programs that can help, and WHO has a good framework that has been adopted by many countries. There are many success stories in Asia where there is availability of and access to cancer centers. However, looking outside of the country for assistance in establishing services is not realistic until resources have already been mobilized by the Ministry of Health. Those programs that rely heavily on external assistance are often remarkable in how poorly they perform. The IAEA, working through their Programme of Action for Cancer Therapy (PACT), has been instrumental in assisting countries where there are no radiotherapy services. In Ghana, for example, the IAEA has worked in partnership with the government to establish services. IAEA is now working to assist Ethiopia, Angola, Kenya and Tanzania to establish similar services.

Many countries still do not have access to cancer services, particularly in Sub-Saharan Africa, and there is a need to develop human resources, particularly in Africa; without oncologists, histopathologists, etc., developing services does not mean anything. All of the components of a cancer treatment program must come together to have any impact.

But which service should come first—screening or treatment? The reality is that treatment facilities are not available in many countries. If there were only a small number of cancer cases, the countries could effectively treat them, but the only way to get the number of cancer cases that small over time is by screening and treating precancer. Screening itself will result in detection of more cases of cancer, so the next challenge is to have surgeons available for the cases where the cancer is detected early. Most low-resource countries do not have the luxury of specialist surgeons, so gynecologists need to be trained while in school and empowered to perform radical surgery. But we also need the facilities in which to perform these procedures. The bottom line is that we must get past this vicious cycle, and this can be accomplished only by establishing screening programs that, in the long-term, can reduce the burden of cancer cases on the system. In the meantime, there are services that can be provided at all levels of the health care system for patients who are dying. The ACCP manual for managers is an excellent resource for palliative care options in low-resource settings.

## SMALL GROUP DISCUSSIONS

### Policy and Advocacy

In most countries, cervical cancer screening has not been a top priority like the Millennium Development Goals. In some countries, cervical cancer is grouped under RH and is considered a small component. Thus, to become a top priority in a country, the cervical cancer prevention program should be a separate entity. This can be achieved by:

- Collecting data at the country level; if necessary, regional data can be used to convince the government that a problem exists
- Developing a specific policy for cervical cancer prevention, and clearly identifying strategies
- Linking the policy to the budget
- Using the policy as the basis for developing service delivery guidelines
- Ensuring the country's policy focuses on that individual country's needs rather than following Western models that have worked in their setting
- Advocating for a focus on prevention, which is less costly than treatment
- Ensuring that screening is linked with treatment; without this link, change is not possible
- Identifying the best possible health care solution that has maximum coverage
- Ensuring that monitoring and auditing are part of any cervical cancer prevention program
- Identifying champions to advocate for policy and implementation of programs

### Standards, Guidelines and Quality

- Develop or change policy to incorporate the single visit approach using VIA and cryotherapy:
  - Obtain political commitment with support from professional organizations, such as ob/gyn and nursing societies. The Royal Thai College is an example of an organization that was actively involved in supporting changes in policy.
  - Involve the Ministry of Health (MOH) in research programs from the very beginning.
  - Use the media to effect change; politicians are very sensitive to the media.
  - Include politicians in an advisory committee.
  - Use experts to help develop appropriate policies.
  - Form a technical advisory group.
  - Follow successful examples from other countries.

- Involve a variety of “agents for change” as members of a Program Advisory Panel, including researchers (clinical and programmatic), politicians, media, women’s groups, etc.
- Derive standards from applicable research that are realistic given the situation in your particular country.
- Analyze the current situation:
  - Conduct a situation analysis to lay the foundation for programs and research.
  - Review Demographic and Health Survey reports and other existing survey results.
- Obtain support and solicit resources:
  - Approach commercial companies about supporting cervical cancer prevention programs; they might be interested if women’s products could be linked to cervical cancer prevention messages.
  - Involve local bankers and community groups (e.g., Lions, Rotary) in programs.
  - Use celebrities to advocate for VIA.

## Training

The beginning of a cervical cancer prevention program is not the training event, but an advocacy activity that involves all stakeholders with the purpose of selling the concept of the single visit approach. Stakeholders include professional organizations, the local government, providers and often specialists.

- Seek technical assistance for training of trainers. There are a variety of options for starting a program, including attending a workshop and returning to train colleagues, and self-directed learning using JHPIEGO’s CECAP materials.
- Determine and use appropriate selection criteria for participants and candidate clinical trainers.
- Develop a core team of clinical trainers. Standardize VIA and cryotherapy skills of clinical trainers, and orient trainers to the CECAP curriculum. An effective clinical trainer has both technical and teaching skills.
- Ensure adequate time is devoted to the training course. The training for new providers is about 10 days long, but a longer training time may be needed to ensure adequate caseload for the number of participants in each training event. Simulations with models and standardized digitized photos of the cervix can be used to allow participants to develop classroom competency before seeing clients.
- Supervision is a critical post-training intervention to assist new providers in developing confidence to perform VIA and cryotherapy.
- Select and prepare an appropriate training site. For example, Thailand based its training at the university hospital, where cases from the colposcopy clinic can also be used.

## Monitoring and Evaluation

There is no prescription for monitoring cervical cancer prevention and treatment programs—it depends on the country situation. Decisions need to be made about the calculation of targets, intervals of collection and analysis (using existing information).

### Target Population

- Determine the catchment area, because a denominator is needed to calculate coverage. In the case of Malawi, information from the Health Management Information System (HMIS) was used to determine catchment areas for facilities.
- Determine the target group to achieve the greatest impact on detecting and treating precancerous lesions. This determination should be based on the epidemiology of HPV, CIN and cancer in the country, combined with what the health sector's human resources and other infrastructure can support.
- Use a health information bureau or national census data, if available, to extrapolate the number of eligible women. It is important to note what intervals are used in the national statistics age groupings so that data collection follows the same lines.
- Several methods can be used in determining the target age group for screening:
  - If resources do not exist in the country to treat cancer, the country can make detection of precancer a priority. Therefore, programs should target a younger age group. Malawi reviewed previous programs and determined which age groups had the highest test-positive rates, and then used the age group about five years earlier than that peak. They also developed a database based on their logbook data from VIA and cryotherapy, including test results (positive and negative) and cryotherapy. These data are used to calculate coverage.
  - Existing country data can be used to determine the most appropriate age group for screening and treatment programs. India established hospital-based registers, and analyzed the data after five years. They found that the incidence of CIN differed by age group, and this information was used to guide their decision on age of screening.

We are doing so much work in VIA and cryotherapy, but we have no way to monitor our results. We have many NGOs doing the work, but no way to coordinate. If there is anything developed, it is over when the foreign assistance is removed. Can you help us?

—Participant from India

### Working in the National System

Cervical cancer prevention must be regarded as part of the national health system. In the long run, service statistics can be a critical source of monitoring data.

In Kenya, when the HMIS system was revised, an indicator (number of VIA clients) was added to national registers. This took advocacy, lobbying and working within the review system of the HMIS. Negotiation was also important (only one of the three proposed indicators was accepted).

Malawi has introduced a Microsoft Access database, with the support of the MOH, to analyze routine health data from cervical cancer prevention programs.

### **Monitoring Interval**

- The monitoring interval will vary according to level. For example, a program may want to monitor the performance of providers frequently, but aggregate service statistics quarterly or even annually. The box below lists some of the most important indicators to monitor.
- Countries should review their monitoring system and think about how it is going to improve their program the most. Does the system need to provide immediate support for day-to-day work, or long-term evidence of usage, coverage, etc.? The more immediate needs should have a more frequent monitoring interval, while the long-term trend information can be analyzed at a less frequent interval.

#### **Important Indicators to Monitor in Cervical Cancer Prevention Programs**

- Percentage of women receiving the service out of total eligible women (coverage)
- Percentage of women who are VIA-positive
- Percentage of VIA-positive women who are treated
- Percentage of women who are VIA-positive after treatment (recommended one-year follow-up)
- Number of sites offering the service/eligible population (access)

### **Quality of Care**

- The providers' skills and experience in counseling, communication, infection prevention, VIA and cryotherapy are critical to a successful program. It is therefore important to build measurement of quality of care into the program. In both Malawi and Thailand, supervisors conducting supervision visits use a checklist to assess the skills of providers and verify the diagnosis that the provider has made.
- Post-training assessment can assist in ascertaining the skill level of providers, but it will not answer the question of how the work is actually being done in clinics.
- Regular and frequent supervisory visits should be conducted during the initial introduction of service.

#### **Tips for Monitoring and Evaluating Prevention and Treatment Programs for Cervical Cancer**

- Be realistic! Don't set unrealistic targets, such as reduction of mortality or incidence of cancer.
- Be aware that impact indicators for this type of service will take many years to achieve.
- Even in a highly effective program with high coverage, a drop in mortality rate due to cervical cancer will be seen only after 10–15 years.
- Remember, there may be an increase in number of cases with precancerous lesions, because more screening is being performed.
- In the interim, use intermediate indicators, such as coverage and detection of precancerous lesions.

### **Referral**

Measuring referral can be an important indicator of the quality of counseling, although the decision to “comply” with referral is compounded by many other social, financial and infrastructure problems. Referral, though important to monitor, will always be one of the most difficult aspects to monitor accurately, and probably will never be perfect.

One possible approach is to look at what other functioning referral system works in that country.

Referral can be measured by:

- Sending midwives out to the field to check on whether a client has gone for treatment (successful in Indonesia).
- Requesting a phone number and calling clients to follow up (successful in India).
- Using a tear-off card that the second referral hospital can mail back to the original hospital (successful in Kenya).

#### **Long-Term View of Evaluation**

- If a cancer registry exists, the incidence of cancer or stage of disease can be evaluated. An effective screening program would mean that cancers were being detected at an earlier stage of disease.
- The awareness, attitude and perception of clients and providers can be important to explore as well, possibly in the form of a survey of knowledge, attitudes and practices. If this is done, it is important to conduct a baseline measurement as soon as possible so that data are available for comparison at a later date.

#### **Cost-Effectiveness Evaluation**

- A simple cost-effectiveness evaluation would be to examine how much money has been invested in the program versus how many women have been screened (i.e., cost per woman screened).
- A cost-effectiveness analysis can be performed on different program approaches such as community mobilization or introduction of service into district versus regional levels.

#### **Logistics, Supplies and Equipment**

Several issues need to be included when considering logistics, training, supplies and equipment for cervical cancer prevention programs.

#### **Print Resources**

Print resources that are helpful to programs include:

- *Planning and Implementing Cervical Cancer Prevention and Control Programs: A Manual for Managers*, 2004, ACCP: Seattle, Washington. This manual, developed by all five ACCP partners, contains very useful guidance on policy, service delivery, training and quality assurance.
- *The Model LL100 Cryotherapy System: An Operational and Use Guide to Basic Repair and Maintenance*, 2004, JHPIEGO: Baltimore, Maryland. This guide focuses on the cryotherapy unit manufactured by Wallach Surgical Devices, Inc., but it also contains universal guidance on decontamination and high-level disinfection of cryotherapy units.
- A complete listing of available resources can be found in **Appendix C**.

### **Cryotherapy Training**

- IARC has established cryotherapy training centers in Bangladesh; Mumbai and Calcutta, India; Guinea; and Tanzania; and JHPIEGO has developed a complete package of training materials for the single visit approach using VIA and cryotherapy. Both organizations can be contacted for additional information.
- The number of providers trained should be based on the program's coverage targets.
- VIA can be taught in about four days with clients and using multimedia tools, but cryotherapy requires more time because adequate hands-on practice requires many VIA-positive clients. Supervisors are needed to conduct follow-up visits, because additional cryotherapy training occurs after the course.
- It is important to protect the clients' rights during training.
- It is the responsibility of the local organizers to obtain permission for foreign trainers.

### **Cryotherapy Equipment and Supplies**

- The cryotherapy unit used will depend on the program's budget and needs, as well as local access. It is important to select an equipment manufacturer that can provide responsive, reliable service. Some cryotherapy unit manufacturers are Wallach, Basco and Ascon.
- A source of gas must be found locally. When there are no local CO<sub>2</sub> or N<sub>2</sub>O gas manufacturers, imported gas can be obtained, but it is more expensive. At a minimum, two tanks of gas should be available at each site: one for use and one as a reserve. If possible, three or more tanks should be available on reserve in case of malfunction or breakage.
- In general, the same size probe, usually 20–22 mm in diameter, should be used for all clients to reduce the likelihood of treatment failure.
- Blockage of the cryotherapy unit may occur due to crystallization of gas inside the hose or unit. Using a freeze-thaw-freeze technique helps prevent this problem and does not affect the depth of freeze, but it may decrease the life of the equipment.
- A cryotherapy unit may last anywhere from five to 30 years or more, so it is essential to teach providers how to maintain the equipment. Routine maintenance and use of quality gas are key factors in ensuring the longevity of the unit:
  - It is important that at the end of the freeze the gas is turned off and the tubing is flushed.
  - The gas tank is under pressure, so attention must be paid to the pressure gauge. Gas should be released from the tank if necessary to lower pressure inside the tank.
  - The quality of the gas is an important issue to consider—CO<sub>2</sub> manufacturers may be less likely to follow quality standards than N<sub>2</sub>O manufacturers. A lower quality gas that contains impurities may lead to blockage and damage of the unit. Where possible, “medical” grade gas should be used.

- Decontamination of the cryotherapy unit and probe tip can be performed using a standard chlorine solution. Care should be taken not to leave the tip soaking in chlorine, which will quickly destroy it. High-level disinfection with glutaraldehyde or other products can also be used.
- The JHPIEGO manual *The Model LL100 Cryotherapy System: An Operational and Use Guide to Basic Repair and Maintenance* is a valuable resource that provides guidance on general repair and maintenance issues, as well as information specific to the Wallach cryotherapy unit.

### **LEEP Equipment**

- Approximately 15% of VIA-positive women will have lesions that are too large for cryotherapy. In settings where it is feasible, LEEP treatment can be included for treatment of these women.
- One challenge to using LEEP is the requirement for a source of power. IARC provides a generator for all of its programs, and PATH has devised a system that uses a car battery with an inverter, which can run for four hours on a single battery charge.
- An ultrasonic jewelry cleaner can be used to remove solidified matter from the loops.

## **HOW CAN DONORS AND PROGRAMS SUPPORT CERVICAL CANCER PREVENTION EFFORTS?**

### **Asia-Oceania Research Organisation in Genital Infection and Neoplasia (AOGIN)**

**Dr. Jeffrey Tan**

AOGIN is a new organization that aims to provide up-to-date information to health care providers to improve their knowledge and give them a better understanding of genital infections and cancers, including diagnosis, screening and prevention, and best practice management.

AOGIN aims to work in four main areas:

1. Collaboration and research—The scientific committee will develop and encourage collaboration on clinical and basic research projects.
2. Scientific exchanges, education and training—The organization can be a forum for exchange of views and cooperation among partners. AOGIN will support countries according to their requirements and capabilities.
3. Information—AOGIN will be a teaching and information platform for physicians, patients and public authorities.
4. Surveys and audits—AOGIN may commission surveys to assess medical practice effectiveness. Follow-up support can be provided, and advice and recommendations can be made to enhance good medical practice and improve financial management.

AOGIN works toward its goals by:

- Organizing international congresses to provide a forum to present the latest information and current data;
- Promoting courses and workshops to review current practice, new data and technical developments in cervical cancer screening and management;
- Preparing training sessions to encourage specialized centers to develop screening programs;
- Coordinating and supporting consensus meetings and expert panels to improve medical practice and achieve optimal results in screening, prophylaxis and treatment; and
- Organizing satellite symposia at major international conferences and encouraging the exchange of information with other specialist organizations in the field.

The first meeting of AOGIN was held in July 2005. Individuals from more than 20 countries were in attendance, including many HPV experts who conducted educational courses. The next meeting was held in Sebu, Philippines, in September 2006. The AOGIN website is currently being assembled:

[www.rwh.org.au/microbiology/edu.cfm?doc\\_id=8547](http://www.rwh.org.au/microbiology/edu.cfm?doc_id=8547)

Two other organizations that can be helpful are the Royal Australian and New Zealand College of Obstetricians and Gynaecologists ([www.ranzcog.edu.au](http://www.ranzcog.edu.au)) and the Asia and Oceania Federation of Obstetrics and Gynaecology ([www.aofog.org](http://www.aofog.org)).

### **Female Cancer Programme, Leiden University Medical Center, The Netherlands**

**Dr. Jessica Vet, Medical Director, and Fleur Henderson, Managing Director**

The Leiden University Medical Center's Female Cancer Programme is currently conducting a single visit approach project. The program began 15 years ago with a research group comprising representatives from the departments of gynecology, pathology, epidemiology and immunohematology, with the goals of increasing tumor knowledge, developing prophylactic and therapeutic vaccines, screening downstaging and improving treatment and education. The program recently was awarded a large grant from the Netherlands Foundation to support training and education, and the program has also received funding from the Asia-Link Program funded by the European Commission.

The program is currently working in Indonesia, where almost 15,000 women were screened for cervical cancer in the first year of the demonstration project. The project includes determination of HPV type, viral load, variants and immunologic responses, so that more will be

known about the immunologic response of the local population if an HPV vaccine is developed.

With an Asia-Link Program grant, the program is working to create understanding, sustainability and cooperation. A consortium of several universities, including leading institutions in cervical cancer in Indonesia, has been formed. This consortium collaborates on human resource development, training of trainers and development of university curricula. The program also builds networks among Belgium, Indonesia and The Netherlands. The medical students who are part of this training attend summer school in The Netherlands and Belgium, and all participants are trained in theory and screening and surgical techniques. The program is currently working on developing a website that will be interactive so that every member of the Asia-Link consortium can connect, interact, submit assignments and tasks, etc. ([http://ec.europa.eu/comm/europeaid/projects/asia-link/fundedprojects\\_sciencehealth.htm](http://ec.europa.eu/comm/europeaid/projects/asia-link/fundedprojects_sciencehealth.htm))

### **PATH Dr. Vivien Tsu**

PATH is a nonprofit NGO with offices in 17 countries. Most of PATH's ACCP work has ended, and consequently PATH's grant program has been discontinued for now. It may be possible, however, for PATH to offer some start-up funding in relation to development of an HPV vaccine, which will require a comprehensive approach including a screening program. There are opportunities for collaboration with PATH in developing demonstration projects and field-based studies for the HPV test that PATH is developing with Digene (see the summary *Prospects for an HPV Test for Low-Resource Settings* for more information). Dr. John Sellors can be contacted for more information on opportunities for collaboration ([jsellors@path.org](mailto:jsellors@path.org)).

PATH's publications are a good source of information. Many of these materials are available on PATH's website ([www.path.org](http://www.path.org)), or they can be obtained by contacting Dr. Sellors or Dr. Tsu ([vtsu@path.org](mailto:vtsu@path.org)).

### **International Agency for Research on Cancer Dr. Rengaswamy Sankaranarayanan**

IARC is headquartered in Lyon, France, and is a regional office of the WHO. When the United Nations (UN) was founded after World War II, one of its goals was to count the number of cancers around the world, because cancer was identified as a major health threat. Almost 20 years later, the World Health Assembly founded IARC as an independent UN agency. Only 16 members of the UN—including the US, Switzerland, Australia, Spain, England and Germany—currently contribute to IARC's budget. Asia is now being encouraged to contribute funding as well.

As the cancer research unit of WHO, IARC generates the scientific data useful for developing cancer control policies; it does not work in policy or treatment programs, because of the many complex issues involved that may vary by country. IARC's scientific body works in more than 120 countries through collaborative research agreements. IARC identifies national research projects, obtains approval by local review boards and acquires national clearance for our colleagues.

IARC works in several areas:

- Monitoring global cancer occurrence, including studying cancer incidence and mortality. The major resource for information on cancer incidence is the GLOBOCAN database ([www-dep.iarc.fr](http://www-dep.iarc.fr)), which provides data from cancer registries. The database can be used to perform modeling exercises and other activities, and is an excellent resource for participants to describe the situation in their country. IARC publishes the cancer incidence in countries every five years, allowing for identification of trends. IARC also works in close collaboration with WHO's mortality databank.
- Identifying carcinogens that are then documented in an IARC monograph of carcinogens; national legislators rely on this monograph when developing policies on how to ban certain agents.
- Working in early detection in an effort to control cancer. The screening group at IARC concentrates on low-resource countries and evaluates technologies that can be adopted.
- Training and educating basic researchers, clinical providers, epidemiologists, etc. IARC conducts courses, along with national institutions, in different regions. IARC also collaborates with national institutions to offer one-year fellowships. The application period for these fellowships closes in December. More information on the fellowships can be found on the IARC website.

### **The World Health Organization**

#### **Dr. Catherine d'Arcangues, Department of Reproductive Health and Research**

WHO is a technical agency of the UN that provides support for setting up programs and new technologies. When starting programs and evaluating new strategies, WHO uses an approach that ensures a comprehensive view of the issue by taking into account the users, the new technologies and the complete health care system. WHO's approach is participatory, in that it brings together all stakeholders, including women's groups, communities, governments, technical agencies, etc., and also considers factors such as financing and human resources. WHO's influence can also be used by countries to convene various groups for a common goal.

WHO is currently collaborating with IARC on a study of worldwide prevalence of sexually transmitted infections. The study, last conducted

in 2000, is being updated and will include HPV, thereby providing a broader picture of HPV prevalence. WHO is also conducting a study of the single visit approach in several African countries. If funding becomes available, WHO will also investigate HPV prevalence among women who are HIV-positive in an ongoing study of antiretroviral drugs for prevention of mother-to-child transmission of HIV.

Many materials are available for download from WHO's website, or they can be obtained by writing to WHO (publications@who.int). Many of the materials are available for free. *Comprehensive Cervical Cancer Control: A Guide to Essential Practice*, published in 2006, is now available online: ([http://www.who.int/reproductive-health/publications/cervical\\_cancer\\_gcp/index.htm](http://www.who.int/reproductive-health/publications/cervical_cancer_gcp/index.htm)). Funding is currently needed for translation of the document into French and Spanish. Countries are encouraged to translate WHO documents such as this guide on their own. To translate a document, contact WHO (pubrights@who.int) to obtain permission and specific guidelines for translation and publication.

It is important for countries to remember that they have access to sources of funds at the national level through the country offices of organizations such as the UK Department for International Development and the German technical agency GTZ. Many aid agencies are beginning to shift more of these resources to the country level. WHO and other organizations can design programs that can then be proposed to local funding agencies. This method of obtaining funding is currently under-used by many countries.

**United States Agency for International Development (USAID)  
Support for Malawi Cervical Cancer Prevention Program  
Ms. Maryjane Lacoste, JHPIEGO**

USAID funds usually support activities that are part of a national plan. USAID is signing on as a discrete donor for some activities. If a request for funding comes from local stakeholders, USAID may support it. It is important for countries to be able to show in the proposal how the funding is being used and what results are achieved.

Malawi was the first large-scale cervical cancer service delivery program that USAID was willing to support. Support of the Malawi national pilot program required advocacy with the MOH and USAID using the data and lessons learned from the demonstration projects in Thailand and Ghana. JHPIEGO shared with the USAID Malawi Mission the results of the cervical cancer prevention projects conducted in Thailand and Ghana, and linked cervical cancer prevention to the national plan for improving women's health. JHPIEGO then provided assistance to the MOH to submit a proposal to USAID. As a result, USAID provided funding for two years for the comprehensive program, which included development of guidelines and standards, community mobilization,

M&E, training, etc. USAID has now agreed to provide at least one more year of support.

## **JHPIEGO**

**Dr. Harshad Sanghvi**

JHPIEGO is an international health organization affiliated with The Johns Hopkins University. JHPIEGO works on the front line in low-resource settings to help save and enhance the lives of women and their families. JHPIEGO assists policymakers, educators and trainers to increase access and reduce barriers to high-quality health services related to maternal and child care, family planning and reproductive health, HIV/AIDS prevention and care, infection prevention and cervical cancer prevention. We also establish networks—as we are doing at this conference—for people who have a shared interest in a particular area. JHPIEGO has been working in cervical cancer for more than 10 years; in fact, our first work in cervical cancer prevention was done in Zimbabwe and was funded by USAID, the largest source of JHPIEGO's funding.

What can JHPIEGO do to support your programs? The main grant for JHPIEGO's cervical cancer prevention work is ending, but beyond that there are other options. We hope that in a short period of time we can provide regional training for master trainers, and we will be seeking resources to do that. Currently, JHPIEGO has funding through the Access to Clinical and Community Maternal, Neonatal and Women's Health Services (ACCESS) Program; under this program, which is largely a maternal and neonatal health program, there is a specific indicator for cervical cancer. Request for support from ACCESS must come from the countries—countries must first decide that cervical cancer is a priority and then approach their USAID Mission for assistance. Using the very good information that is available, countries have a better chance of getting support and technical assistance from the agencies represented here. Conference participants are encouraged to contact the presenters for advice and materials, as well as help in developing connections with people and agencies who work in your country.

### **Helpful Tips for Obtaining Funds for a Cervical Cancer Prevention Program in Your Country**

- We talk about the importance of not missing opportunities in our FP programs. When it comes to talking to donors, the same principle applies.
- Keep in mind the role that groups like Rotary, Lions and Masons play in funding programs. These groups are interested in your communities.
- Many corporations have a mandate for corporate social responsibility, and they can be approached for funding health programs.
- It is important for advocacy efforts to have baseline information on the burden of disease in your country.

## KEY COMMITMENTS FROM COUNTRY REPRESENTATIVES

“Our goal that no women in Nepal die of cervical cancer is as high as Mount Everest. We need to work hard to go from the base camp to the summit.”  
—Participant from Nepal

Representatives from each country team presented their action plans for prevention of cervical cancer. **Table 10** summarizes key commitments from the countries. The complete action plan for each country is found in **Appendix D**. During the discussion after the presentations, participants from Vietnam pointed out the need for a master trainer in each country, and suggested that regional trainings for master trainers be organized. Participants also discussed the need for endorsement of VIA by international organizations such as FIGO to increase acceptance of the method by obstetricians and gynecologists.

**Table 10. Key Commitments Regarding Prevention of Cervical Cancer, by Country**

Country	Key Commitments
<b>Afghanistan</b>	<ul style="list-style-type: none"> <li>• Include cervical cancer prevention in health policy.</li> <li>• Initiate a national program using the single visit approach.</li> <li>• Train providers in VIA and cryotherapy.</li> <li>• Implement communication activities to increase awareness and support.</li> <li>• Collect baseline demographic data.</li> <li>• Develop a cancer registry.</li> </ul>
<b>Bangladesh</b>	<ul style="list-style-type: none"> <li>• Increase coverage of the target population.</li> <li>• Introduce cryotherapy.</li> <li>• Expand community mobilization.</li> <li>• Develop a cancer registry.</li> <li>• Expand the training program and initiate supervision and M&amp;E activities.</li> </ul>
<b>Bhutan</b>	<ul style="list-style-type: none"> <li>• Expand availability of cryotherapy and LEEP services.</li> <li>• Train master trainers in VIA and cryotherapy.</li> <li>• Advocate for adoption of VIA as a national screening method.</li> <li>• Improve the existing cancer registry.</li> <li>• Launch a national awareness campaign on cervical cancer and VIA.</li> </ul>
<b>Cambodia</b>	<ul style="list-style-type: none"> <li>• Establish a national cervical cancer prevention working group.</li> <li>• Advocate for development of national policies and guidelines.</li> <li>• Conduct a training needs assessment.</li> <li>• Develop training materials, tools and guidelines.</li> <li>• Establish and implement a quality control and referral system.</li> <li>• Equip health facilities and a mobile clinic to provide services.</li> <li>• Integrate cervical cancer prevention information into existing health education programs.</li> </ul>
<b>Ethiopia</b>	<ul style="list-style-type: none"> <li>• Hold a stakeholder meeting for consensus building.</li> <li>• Present at ob/gyn society meetings.</li> <li>• Develop proposals for training and implementation in training/service delivery sites, and approach donor agencies and NGOs.</li> <li>• Train internal faculty and start implementation at teaching sites.</li> </ul>

Country	Key Commitments
<b>Ghana</b>	<ul style="list-style-type: none"> <li>● Improve knowledge of policy among key stakeholders.</li> <li>● Assign responsibility for cervical cancer prevention program to FP Program Manager.</li> <li>● Require sites to submit monthly summary forms including screening and treatment data to district managers.</li> <li>● Implement M&amp;E activities.</li> <li>● Add cryotherapy equipment to the procurement list.</li> <li>● Advocate for new sites to be fully equipped.</li> <li>● Develop a supervision guide and schedule for facility supervisors.</li> <li>● Develop guidelines and tools to support client and community education.</li> <li>● Design a course/training program and submit to pre-service centers.</li> <li>● Develop a community <b>mobilization plan</b>.</li> </ul>
<b>India</b>	<ul style="list-style-type: none"> <li>● Implement a modified national policy.</li> <li>● Prepare materials in local languages.</li> <li>● Upgrade all facilities for detection and treatment (cryotherapy and LEEP).</li> <li>● Build capacity of infrastructure and human resources.</li> <li>● Develop master trainers and service providers.</li> <li>● Partner with professional organizations, cancer societies and NGOs.</li> </ul>
<b>Indonesia</b>	<ul style="list-style-type: none"> <li>● Establish a national advisory board for Women's Cancer Prevention Program comprising the MOH, FP Coordination Board, Ministry of Women's Empowerment, etc.</li> <li>● Advocate with the MOH to prioritize cancer prevention in existing RH policy.</li> <li>● Encourage the MOH to allow a team-based approach in the single visit approach.</li> <li>● Obtain the women's cancer database for program planning and implementation.</li> <li>● Cover all stages of prevention and levels of service provision, including M&amp;E.</li> </ul>
<b>Kenya and Malawi</b>	<ul style="list-style-type: none"> <li>● Hold a stakeholder meeting for consensus building.</li> <li>● Present at ob/gyn society meetings.</li> <li>● Develop proposals for training and implementation in training/service delivery sites, and approach donor agencies and NGOs.</li> <li>● Train internal faculty and begin implementation at teaching sites.</li> </ul>
<b>Maldives</b>	<ul style="list-style-type: none"> <li>● Incorporate cervical cancer prevention into the RH strategy.</li> <li>● Develop a training program.</li> <li>● Implement a communication campaign to raise awareness and incorporate VIA.</li> <li>● Advocate for a national program.</li> </ul>
<b>Nepal</b>	<ul style="list-style-type: none"> <li>● Advocate for a policy for cervical cancer prevention.</li> <li>● Hold roundtable discussions with the government and key stakeholders.</li> <li>● Prepare a concept paper/proposal.</li> <li>● Initiate training and service delivery in selected sites (demonstration projects).</li> <li>● Discuss with local partners for community mobilization and information, education and communication (IEC) activities.</li> </ul>
<b>Pakistan</b>	<ul style="list-style-type: none"> <li>● Implement a communication campaign to increase public awareness.</li> <li>● Develop nationwide proposal for cervical cancer prevention, including the single visit approach.</li> <li>● Develop a cancer registry.</li> <li>● Incorporate the single visit approach into ongoing fistula repair programs.</li> <li>● Train providers, including training in supervision and M&amp;E.</li> </ul>
<b>Philippines</b>	<ul style="list-style-type: none"> <li>● Support the formulation of an integrated national cervical cancer prevention program.</li> <li>● Align existing DOH policy on VIA to include screening linked to treatment.</li> <li>● Develop detailed action plans for implementation.</li> <li>● Implement monitoring and documentation activities.</li> <li>● Achieve consensus of stakeholders.</li> <li>● Obtain resources for sustainability.</li> <li>● Increase awareness of cervical cancer among the target population.</li> </ul>

Country	Key Commitments
<b>South Africa</b>	<ul style="list-style-type: none"> <li>● Hold a stakeholder meeting for consensus building.</li> <li>● Present at ob/gyn society meetings.</li> <li>● Develop proposals for training and implementation in training/service delivery sites, and approach donor agencies and NGOs.</li> <li>● Train internal faculty and begin implementation at teaching sites.</li> </ul>
<b>Sri Lanka</b>	<ul style="list-style-type: none"> <li>● Reduce the target age group for screening to 35–39 years.</li> <li>● Hold a consensus-building meeting with relevant stakeholders to share new knowledge, and decide on VIA/Pap smear, follow-up and referrals.</li> <li>● Phase in new strategies.</li> <li>● Field-test new approaches.</li> </ul>
<b>Sudan</b>	<ul style="list-style-type: none"> <li>● Hold a stakeholder meeting for consensus building.</li> <li>● Present at ob/gyn society meetings.</li> <li>● Develop proposals for training and implementation in training/service delivery sites, and approach donor agencies and NGOs.</li> <li>● Train internal faculty and start implementation at teaching sites.</li> </ul>
<b>Thailand</b>	<ul style="list-style-type: none"> <li>● Hold dissemination workshops in each target province and district.</li> <li>● Encourage gynecology association to organize training in each target district.</li> <li>● Use mass media outlets to promote health education.</li> <li>● Approach local service organizations (e.g., Rotary) to “adopt” a nurse, and support training and provision of services.</li> <li>● Empower Chief of Provincial Health Office to encourage all government hospitals to offer the single visit approach by 2010.</li> <li>● Seek donors to fund pre-service training in cervical cancer prevention.</li> <li>● Train providers, including holding a clinical training skills course.</li> </ul>
<b>Vietnam</b>	<ul style="list-style-type: none"> <li>● Analyze data from National Cancer Institute to prioritize intervention areas.</li> <li>● Hold stakeholder workshop to increase awareness of VIA/cryotherapy.</li> <li>● Start pilot project in a poorer province where HPV prevalence is high.</li> <li>● Translate training materials and hold a training workshop at provincial level.</li> <li>● Focus on community outreach by working with Women’s Union and health volunteers.</li> </ul>

## SUMMARY AND CALL TO ACTION

*Maryjane Lacoste, Chief Rapporteur, summarized the conference by presenting the following take-home messages:*

- Cervical cancer prevention is not about doing the best test. Cervical cancer prevention is about doing the best test that you can do.
- Testing by itself has no intrinsic preventive value. It is only by linking the test to precancer treatment that you close the circle of prevention.
- The HPV vaccine is an exciting development—but we need to keep in mind that its full effect will not be seen until 20–30 years from now. It is therefore important that we continue with our screening programs.
- We cannot afford *not* to prevent cervical cancer. The cost of treating cervical cancer is significantly more than the cost of treating pre-invasive disease.
- The competency-based approach to training for VIA and cryotherapy is intense but very effective. *It works.*

- Cervical cancer prevention is first and foremost about achieving coverage. If we do not achieve 70–80% coverage, we won't make an impact on mortality. So, choose a test that is feasible and affordable for achieving coverage.
- Much research has been done to inform programs and practice. There is sufficient evidence to act now, and tools are available for use. We need to work now to translate this research into results.
- Sound research has been done and information exists. Use this information to target MOHs to prioritize cervical cancer prevention and to get in-country donors on board.
- Convincing colleagues and stakeholders is part science, part art, part cajoling and, occasionally, part brute force. Be prepared for rejection, but persist!

So, where do we go from here?

- Think big. Start small. But ACT NOW!
- Think outside the box.
- Think ahead of the curve.
- Let's get it started!

## CONCLUSION

"You cannot prevent cervical cancer without champions."  
—Dr. Paul Blumenthal

Dr. Paul Blumenthal directed the participants' attention to the photo of the two Thai women who appeared on the cover of all conference materials. These women were the first two women who accessed cryotherapy in Thailand, and Dr. Blumenthal reminded us that the women did their part to reach the facility, traveling from a distant village in an ox cart. They made the effort to access the services, and now it is our turn to make the effort to ensure that high-quality services are available to the women who need them. Doing so, however, is not without challenges:



"Seek to lessen suffering. Perfection will come."  
—Dr. Paul Blumenthal

- There is a need for coordinated, standardized efforts at the national level so that programs can be compared.
- Start-up costs might be the greatest input necessary. A simple program design will allow the program to reach the lower levels of the health system.
- Persisting in the face of adversity is the most important part.

In closing, conference participant Cecilia Llave from the University of The Philippines College of Medicine gave a tribute on behalf of all participants:

*We realize how privileged we are to be part of this dream meeting. It was all worth it because of what we learned. The creativity and innovations in training demonstrated the tremendous support JHPIEGO has given us. How can we fail when so much is being given to us? Thanks to our fellow participants for setting the model standard with the success of the single visit approach in Thailand, in Africa and in Asia. For those countries ahead of us, you are our champions. We have helping hands, shoulders to cry on. There is no longer any reason for us to be frustrated or for us to fail. Thank you for the awakening. This meeting will indeed make a difference.*



# APPENDIX A

## CONFERENCE AGENDA

### PREVENTING CERVICAL CANCER IN LOW-RESOURCE SETTINGS: FROM RESEARCH TO PRACTICE 4–7 December 2005, Bangkok, Thailand

#### SUNDAY, 4 DECEMBER 2005

1:00–5:00      **Registration**

2:00–3:30      **Meeting of chairpersons, country team leaders and rapporteurs**

#### Session 1

5:30–6:00      **Welcome**

*Harshad Sanghvi (JHPIEGO)*

*Pirom Kamolratanakul (Chulalongkorn University, Thailand)*

*Leslie Mancuso (JHPIEGO)*

*Khunying Kobchitt Limpaphayom (JHPIEGO/Thailand; Chulalongkorn University, Thailand)*

*Catherine d’Arcangues (WHO)*

6:00–6:20      **Official opening**

*Prat Boonyawongvirod (Royal Ministry of Public Health, Thailand)*

6:20–6:50      **Keynote address: Thinking out of the box and ahead of the curve**

*Mechai Viravaidya (Population and Community Development Association)*

6:50–7:00      **Vote of thanks**

*Ronald Magarick (JHPIEGO)*

7:00              **Dinner**

#### MONDAY, 5 DECEMBER 2005

8:15–8:45      **Introduction, objectives of meeting, agenda and expected products**

*Harshad Sanghvi*

#### Session 2

**Chairperson:** *Khunying Kobchitt Limpaphayom*

**Rapporteur:** *Amy Kleine (JHPIEGO)*

8:45–9:15      **Epidemiology of cervical cancer in developing countries**

*Rengaswamy Sankaranarayanan (IARC)*

9:15–10:00     **Testing for cervical cancer prevention**

*Paul D. Blumenthal (The Johns Hopkins University School of Medicine)*

**10:00–10:30 Discussion**

**10:30–11:00 Coffee break**

### **Session 3**

**Chairperson:** *Rengaswamy Sankaranarayanan*

**Rapporteur:** *Amy Kleine*

**11:00–11:30 Overview of cervical precancer treatment in low-resource settings**  
*Fredrik F. Broekhuizen (Medical College of Wisconsin)*

**11:30–11:45 WHO statement on prevention of cervical cancer**  
*Catherine d’Arcanges*

**11:45–12:00 The Alliance for Cervical Cancer Prevention (ACCP): Where do we go from here?**  
*Vivien Tsu (PATH)*

**12:00–12:30 Discussion**

**12:30–1:30 Lunch**

### **Session 4**

**Chairperson:** *Sydney Adedevoh*

**Rapporteur:** *Maryjane Lacoste (JHPIEGO/Indonesia)*

**1:30–1:50 Preventing cervical cancer: Single visit approach in Ghana**  
*Sylvia Deganus (JHPIEGO/Ghana; Tema General Hospital, Ghana)*

**1:50–2:10 Preventing cervical cancer: Single visit approach in India**  
*Ramani S. Wesley (Regional Cancer Centre, India)*

**2:10–2:30 Preventing cervical cancer: Single visit approach in Thailand**  
*Pisake Lumbiganon (Khon Kaen University, Thailand; Royal Thai College of Obstetricians and Gynaecologists, Thailand)*

**2:30–3:00 Questions and answers**

**3:00–3:30 Coffee break**

### **Session 5**

**Chairperson:** *Kurus Coyaji (K.E.M. Hospital, India)*

**Rapporteur:** *Maryjane Lacoste*

**3:30–3:45 Can we afford to prevent cervical cancer?**  
*Diljeet Singh (Feinberg School of Medicine, Northwestern University)*

- 3:45–4:00**     **Preparing nurses and midwives as VIA providers: Using competency-based training approaches**  
*Enriquito R. Lu (JHPIEGO)*
- 4:00–4:30**     **Putting it all together: Toward a national cervical cancer program in Thailand**  
*Khunying Kobchitt Limpaphayom*
- 4:30–5:00**     **Questions and answers**
- 5:30–6:30**     **First country team meeting**

**TUESDAY, 6 DECEMBER 2005**

- 8:15–8:30**     **Review of prior day**

**Session 6**

**Chairperson:** *Paul D. Blumenthal*  
**Rapporteur:** *Zahida Qureshi (University of Nairobi, Kenya)*

- 8:30–9:00**     **Prospects for an HPV test for low-resource settings**  
*John Sellors (PATH)*

- 9:00–9:30**     **Prospects for a vaccine to prevent cervical cancer**  
*Jeffrey Tan (AOGIN; Royal Women's Hospital, Australia)*

- 9:30–10:00**     **Discussion**

- 10:00–10:30**     **Coffee break**

- 10:30–12:00**     **Concurrent small group discussions**

**Working group #1: Policy and advocacy**  
**Facilitator:** *Harshad Sanghvi*  
**Rapporteur:** *Rajshree Jha (Tribhuvan University Teaching Hospital, Nepal)*

**Working group #2: Standards, guidelines and quality**  
**Facilitator:** *Paul D. Blumenthal*  
**Rapporteur:** *Kusum Thapa (Koshi Zonal Hospital, Nepal)*

**Working group #3: Training**  
**Facilitator:** *Enriquito R. Lu*  
**Rapporteur:** *Farhana Dewan (Dhaka Medical College, Bangladesh)*

**Working group #4: Monitoring and evaluation**  
**Facilitator/Rapporteur:** *Marya Plotkin (JHPIEGO)*

**Working group #5: Logistics, supplies and equipment**  
**Facilitator/Rapporteur:** *Robbyn Lewis (JHPIEGO)*

**12:00–1:00**      **Lunch**

**Session 7**

**Chairperson:** *Harshad Sanghvi*

**Rapporteur:** *Melissa McCormick (JHPIEGO)*

**1:00–2:00**      **Poster session: Country efforts at preventing cervical cancer**

**2:00–5:00**      **Concurrent demonstrations and discussions**

**Skills Lab #1: The single visit approach**

*Somkeart Srisupundit (Thai Gynecologic Cancer Society and Ramathibodi Hospital, Thailand)  
and Bandit Chumworathayi (Khon Kaen University, Thailand)*

**Skills Lab #2: Training in VIA**

*Paul D. Blumenthal, Zahida Qureshi and Pissamai Yuenyao (Khon Kaen Hospital, Thailand)*

**Skills Lab #3: Training in cryotherapy**

*Fredrik F. Broekhuizen, Enriquito R. Lu and Wachara Eamratameekool (Panom Phrai District Hospital, Thailand)*

**Skills Lab #4: Mobilizing and educating communities**

*Sylvia Deganus and Amanda Adu-Amankwah (JHPIEGO/Ghana)*

**Skills Lab #5: Integrating cervical cancer prevention into practice: Franchised and NGO health services**

*Reynaldo Chang (Well-Family Midwife Clinic Partnerships Foundation, Philippines)*

**Skills Lab #6: Roundtable discussion on HPV vaccines**

*Jeffrey Tan and Diljeet Singh*

**5:15–5:45**      **Second meeting of country teams**

**6:00**              **Dinner cruise**

**WEDNESDAY, 7 DECEMBER 2005**

**8:30–8:45**      **Review of prior day**

**Session 8**

**Chairperson:** *Sompop Limpongsanurak*

**Rapporteur:** *Sylvia Deganus*

**8:45–9:15**      **Addressing the challenges for treating cervical cancer**

*Harshad Sanghvi*

**9:15–9:45**      **Discussion**

## Session 9

**Chairperson:** *Ronald Magarick*

**Rapporteur:** *Robbyn Lewis*

- 9:45–10:30**    **How can donors support cervical cancer prevention efforts?**  
*Jeffrey Tan, AOGIN*  
*Fleur Cecile Henderson and Jessica Vet, Leiden University Medical Center*  
*Vivien Tsu, PATH*  
*Rengaswamy Sankaranarayanan, IARC*  
*Catherine d’Arcangues, WHO*  
*Maryjane Lacoste, USAID support for Malawi cervical cancer prevention program*  
*Harshad Sanghvi, JHPIEGO*
- 10:30–11:00**    **Coffee break**
- 11:00–12:30**    **Development of action items and third meeting of country teams**
- 12:30–1:30**    **Lunch**

## Session 10

**Chairperson:** *Harshad Sanghvi*

**Rapporteur:** *Amy Kleine*

- 1:30–3:15**    **Presentation of country action items**
- 3:15–3:45**    **Summary and call to action**  
*Maryjane Lacoste*
- 3:45–4:00**    **Closing remarks**  
*Harshad Sanghvi*  
*Paul D. Blumenthal*  
*Cecilia Llave (University of The Philippines College of Medicine, Philippines)*

## THURSDAY, 8 DECEMBER 2005

**Optional site visit to Chiang Mai**

## **APPENDIX B**

### **CONFERENCE PARTICIPANTS**

#### **AFGHANISTAN**

Nasratullah Ansari, JHPIEGO/ACCESS

#### **AUSTRALIA**

Mark Van Asten, Digene Corporation  
Jeffrey Tan, Royal Women's Hospital and AOGIN

#### **BANGLADESH**

Ashrafunnessa, Department of Ob/Gyn, Bangabandhu Sheikh Mujib Medical University  
Farhana Dewan, Dhaka Medical College

#### **BHUTAN**

Ugyen Tshomo, Ministry of Health  
Sonam Wangdi, Ministry of Health

#### **CAMBODIA**

Ouk Vong Vathiny, Reproductive Health Association of Cambodia  
Ping Chutema, Reproductive Health Association of Cambodia

#### **ETHIOPIA**

Kassahun Kiros, Addis Ababa University

#### **FRANCE**

Rengaswamy Sankaranarayanan, International Agency for Research on Cancer

#### **GHANA**

Sydney Adadevoh, CECAP SAFE Project  
Mavis Christiana Apatu, Ghana Health Service/Ridge Hospital  
Amanda Adu-Amankwah, JHPIEGO/Ghana  
Sylvia Deganus, JHPIEGO/Ghana  
Susu Bridget Kwawukume, Trust Hospital

#### **INDIA**

M. Gouramma Adagal, Bangalore Medical College  
Nisha Naruka, Bhagwan Mahaveer Cancer Hospital and Research Center  
Usha Saraiya, Cama and Albles Hospital  
Veluswam Sridevi, Cancer Institute (WIA)  
Alice George Mathew, Christian Medical College and Hospital  
Kurus Coyaji, K.E.M. Hospital  
Parimala Devi, Parimala Hospital and Bangalore Society of Obstetrics and Gynaecology  
Thara Somanathan, Regional Cancer Center  
Ramani Wesley, Regional Cancer Center

## **INDONESIA**

Mohammad Baharuddin, Budi Kemuliaan Maternity Hospital  
Ratna Chairani, Cipto Mangunkusumo Hospital  
George Adriaansz, Indonesian Gynecologic Oncology Association  
Laila Nuranna, Indonesian Gynecologic Oncology Association  
Agustria Zainu Saleh, Indonesian Gynecologic Oncology Association  
Heru Erdiawati, Indonesian Midwife Association  
Oswald L. Simatupang, Indonesian Planned Parenthood Association  
Maryjane Lacoste, JHPIEGO/Indonesia  
Dwiana Ocviyanti, JHPIEGO/Indonesia  
Djoko Soetikno, JHPIEGO/Indonesia  
Sri Hermiyanti, Ministry of Health  
Chamim, Muhammadiyah Hospital Jakarta  
Novita Krisnaeni, Public Health Center Prambanan

## **KENYA**

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## **MALAWI**

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Frank Otisamala Gerald Taulo, College of Medicine, Queen Elizabeth Central Hospital

## **MALDIVES**

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## **NEPAL**

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Rajshree Jha, Tribhuvan University Teaching Hospital

## **NETHERLANDS**

Fleur Cecile Henderson, Leiden University Medical Center  
Jessica Vet, Leiden University Medical Center

## **PAKISTAN**

Aziza Kapadia, Consultant Ob/Gyn Zubaida Medical Centre and Burhani Hospital

## **PHILIPPINES**

Alejandro San Pedro, Bulacan Provincial Hospital  
Cynthia Tan, Dr. Jose Fabella Memorial Hospital  
Lydia Palaypay, Far Eastern University  
Jovelle Fernandez, GlaxoSmithKline/Philippines  
Cesar Salvador Maglaya, JHPIEGO/Philippines  
Imelda Andres, Manila Central University FDT Medical Foundation  
Mayumi Bismark, Manila Central University FDT Medical Foundation  
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## **PHILIPPINES** *(continued)*

Maria Julieta Germar, University of the Philippines College of Medicine  
Cecilia Llave, University of the Philippines College of Medicine  
Reynaldo P. Chang, Well-Family Midwife Clinic Partnerships Foundation, Inc.

## **SINGAPORE**

Gowri Gopalakrishna, GlaxoSmithKline Pte Ltd.  
Elizabeth Hernandez, GlaxoSmithKline Pte Ltd.  
Ingrid Leyssens, GlaxoSmithKline Pte Ltd.  
Derrick Sim, GlaxoSmithKline Pte Ltd.

## **SOUTH AFRICA**

Lunah Ncube, JHPIEGO/South Africa  
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## **SRI LANKA**

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Chandani Galwaduge, United Nations Children's Fund (UNFPA)

## **SUDAN**

Moawia Hummeida, Khartoum University Hospital

## **SWITZERLAND**

Catherine d'Arcangues, World Health Organization

## **THAILAND**

Sunaluke Surapak, Chiangyuen Hospital  
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Soontree Suriyakrai, GlaxoSmithKline  
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Pisake Lumbiganon, Khon Kaen University  
Pissamai Yuenyao, Khon Kaen University  
Kamron Chaisiri, Mahasarakham Provincial Health Office  
Wacharin Kaewmarin, Mahasarakham Provincial Health Office  
Nanta Auamkul, Ministry of Public Health  
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Jittep Kidkasetpaisal, MSD (Thailand) Ltd.  
Christian Sellars, MSD (Thailand) Ltd.  
Gooi Cheen Tan, MSD (Thailand) Ltd.  
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**THAILAND** *(continued)*

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Bundit Wangsantiwongsa, Payakhaphumpisai Hospital  
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Bung-On Simseekaew, Phanomphrai Hospital  
Somkeart Srisupundit, Ramathibodi Hospital and Thai Gynecologic Cancer Society  
Prasert Dithasomboon, Sega District Hospital  
Suvanit Therasakvithaya, Siriraj Hospital  
Pornsom Hutacharoen, Thai Gynecologic Cancer Society  
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**UNITED STATES**

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Gretchen Northern, JHPIEGO  
Marya Plotkin, JHPIEGO  
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Pham Huy Hien Hao, Hanoi Medical University  
Nguyen Thi Thanh Ha, Head, General Planning Department  
Nguyen Bich Hai, Head of Delivery Room  
Nguyen Vu Quoc Huy, Hue University Medical School  
Tran Son Thach, Hungvuong Hospital  
Le Tu Phuong Chi, Gynecologic Oncologist  
Nguyen Thi Minh Tuyet, Gynecologic Oncologist  
Huynh Thi Thu Thuy, Vice Director

## APPENDIX C

### LIST OF AVAILABLE ACCP RESOURCES

#### CERVICAL CANCER PREVENTION ISSUES IN DEPTH

*Effectiveness, Safety, and Acceptability of Cryotherapy: A Systematic Literature Review*

This paper reviews the available data on the effectiveness, safety and acceptability of cryotherapy as an out-patient treatment option for women with cervical intraepithelial neoplasia—the precursor to cervical cancer.

*ACCP Strategies for Supporting Women with Cervical Cancer*

This report provides an overview of current issues relating to cancer treatment in developing countries, followed by descriptions of existing support for cancer patients in countries where ACCP has worked. Finally, this report provides recommendations for provision of basic assistance to women with cervical cancer in low-resource settings.

*The Case for Investing in Cervical Cancer Prevention*

This report provides evidence on the burden of disease and the importance of women's roles in family and community life. It also reviews new approaches to cervical cancer prevention in low-resource settings, provides data on cost-effectiveness and makes the case that, regardless of where they live, women should have access to effective public health programs.

*Improving Screening Coverage Rates of Cervical Cancer Prevention Programs: A Focus on Communities*

This report describes the community focus taken by ACCP projects from 1999 to 2004 in eight countries: El Salvador, India, South Africa, Thailand, Ghana, Kenya, Peru and Bolivia. Included are an overview of the strategies used to increase screening coverage and lessons learned about how to meet women's needs effectively by having a community focus.

#### ACCP FACT SHEETS

*Conclusions from ACCP Clinical Research in Developing Countries* presents conclusions based on currently available clinical research data from ACCP projects.

*Natural History of Cervical Cancer: Even Infrequent Screening of Older Women Saves Lives* discusses HPV as the primary cause of cervical cancer and describes how even infrequent screening and associated follow-up of older women is an acceptable, cost-effective approach to preventing cervical cancer.

*Palliative Care: Supporting Women with Advanced Cancer* describes palliative care of women with advanced cervical cancer, including pain management, barriers to providing care, ethical issues and policy and programmatic implications.

*HPV Testing: Promise and Challenges* discusses testing for HPV, the primary cause of cervical cancer; reviews techniques for detecting HPV, test characteristics, test performance and programmatic issues; and provides key recommendations.

*Key Steps for Meeting Women's Needs* discusses how providing services that meet women's cultural, emotional and practical needs is essential to the success of cervical cancer prevention programs.

*Pap Smears: An Important but Imperfect Screening Method* describes Pap smears, discusses the challenges associated with this method and provides key recommendations.

*Visual Screening Approaches: Promising Alternative Screening Strategies* provides an overview of VIA and provides policy and research recommendations for VIA screening programs.

*Questions Frequently Asked by Women* is designed to assist health care providers in answering questions commonly asked by women who are considering being screened, and offers advice to help providers address women's concerns.

*Treating Precancerous Cervical Lesions* discusses the types of precancerous cervical lesions that should be treated, appropriate treatment technologies and policy implications of various treatments.

*Risk Factors for Cervical Cancer: Evidence to Date* discusses the role of HPV infection in cervical cancer and describes how cofactors such as parity and use of oral contraceptives have been associated with the development of invasive cervical cancer.

## **JOURNAL ARTICLES**

The ACCP members summarized their experiences in several articles and an accompanying editorial presented in a special supplement of the *International Journal of Gynecology and Obstetrics* published in May 2005. The following papers were included in the supplement:

*Editorial: Preventing Cervical Cancer in Low-Resource Settings: Building a Case for the Possible*

*Experience Using Cryotherapy for Treatment of Cervical Precancerous Lesions in Low-Resource Settings*

*Delivering Cervical Cancer Prevention Services in Low-Resource Settings*

*Involving the Community in Cervical Cancer Prevention Programs*

*Training for Cervical Cancer Prevention Programs in Low-Resource Settings: Focus on Visual Inspection with Acetic Acid and Cryotherapy*

*A Critical Assessment of Screening Methods for Cervical Neoplasia*

*Preventing Cervical Cancer in Low-Resource Settings: How Far Have We Come and What Does the Future Hold?*

*Advocating for Cervical Cancer Prevention*

*Safety, Acceptability, and Feasibility of a Single-Visit Approach to Cervical-Cancer Prevention in Rural Thailand: A Demonstration Project*

This paper, published in the March 2003 issue of *The Lancet*, describes key results of a project to demonstrate the value of a single visit approach combining VIA and cryotherapy in rural Thailand.

## **MANUALS AND GUIDES**

*Planning and Implementing Cervical Cancer Prevention and Control Programs: A Manual for Managers*

This manual helps management teams plan, implement and monitor cervical cancer prevention and control services. The manual focuses on the generic program elements crucial to the success of cervical cancer prevention and control programs and deals with the full continuum of care from prevention via screening and treatment to palliative care.

*Cervical Cancer Prevention Guidelines for Low-Resource Settings*

The reference manual is designed for trainers and health care providers in cervical cancer prevention programs that focus on VIA and/or cryotherapy as the core programmatic elements. The manual is

an integral part of a comprehensive learning package that includes a handbook for participants and a notebook for trainers.

*Performance Support/Quality Assurance Handbook for Using VIA and Cryotherapy in Cervical Cancer Prevention Services*

This document provides guidance on conducting performance support/quality assurance visits in connection with cervical cancer prevention programs, and was developed for use in connection with the training manual *Cervical Cancer Prevention Guidelines for Low-Resource Settings*.

*The Model LL100 Cryotherapy System: An Operational and Use Guide to Basic Repair and Maintenance*

This manual provides a technical overview of the Model LL100 Cryotherapy System, including sections on troubleshooting commonly encountered problems and performing basic repairs and maintenance.

## REPORTS

*Implementing the Single Visit Approach to Cervical Cancer Prevention in Low-Resource Settings: Lessons from the Field. Results of a Team Residency at the Bellagio Study and Conference Center*

In March 2004, stakeholders from Ghana, Malawi, Peru and Thailand met in Bellagio, Italy, to discuss practical experiences gained in their respective countries during implementation of the single visit approach. This document summarizes key points from discussions on how to translate research and demonstration project findings into programs and practice. It is meant to provide practical guidance to international organizations and ministries of health in low-resource settings interested in preventing cervical cancer using the single visit approach to cervical cancer prevention.

*Safety, Acceptability, and Feasibility of a Single Visit Approach to Cervical Cancer Prevention: Results from a Demonstration Project in Ghana and Safety, Acceptability, and Feasibility of a Single Visit Approach to Cervical Cancer Prevention: Results from a Demonstration Project in Rural Thailand*

These technical reports describe the key results of two demonstration projects, which found that a single visit approach using VIA followed by immediate treatment with cryotherapy for those testing positive is safe, acceptable and feasible (SAFE) in rural Thailand and urban Ghana, and has the potential to be an efficient method of cervical cancer prevention in similar low-resource settings.

*A Qualitative Evaluation of the Acceptability and Feasibility of a Single Visit Approach to Cervical Cancer Prevention: Roi-et Province, Thailand and A Qualitative Evaluation of the Acceptability and Feasibility of a Single Visit Approach to Cervical Cancer Prevention in Ghana*

These technical reports describe the findings of qualitative evaluations of the SAFE demonstration projects in Thailand and Ghana. The evaluations targeted stakeholders at the national, provincial and district levels, including project staff and providers, as well as men and women at the community level.

*Evaluation of Supply and Demand Factors Affecting Cervical Cancer Prevention Services in Roi-et Province, Thailand*

This technical report describes factors affecting supply of and demand for services in Roi-et Province, Thailand, as demonstrated during the Access and Coverage Expansion (ACE) phase of a cervical cancer prevention initiative involving the use of a single visit approach.

*An Evaluation of the Effect of Outreach on Cervical Cancer Prevention Efforts in Rural Ghana*

This technical report describes the findings of an evaluation of outreach efforts in rural Ghana. The evaluation aimed to document any change in recruitment rates for cervical cancer prevention services outreach began, as well as any subsequent effects of these efforts on other outcomes, such as follow-up rates.

## APPENDIX D COUNTRY ACTION PLANS

	Desired Situation/Goal	Actual Situation	Gaps/Needs	Immediate Interventions (up to 6 months)	Medium-Term Interventions (6 mo–3 yr)	
<b>AFGHANISTAN</b>	<b>Policy and Advocacy</b>	<ul style="list-style-type: none"> <li>National cervical cancer screening and prevention program</li> </ul>	<ul style="list-style-type: none"> <li>No program exists</li> </ul>	<ul style="list-style-type: none"> <li>Need advocacy and policy development</li> </ul>	<ul style="list-style-type: none"> <li>Include cervical cancer prevention in health policy</li> <li>Celebrate International Women’s Day and advocate for prevention of cervical cancer</li> </ul>	<ul style="list-style-type: none"> <li>Develop nationwide proposal for cervical cancer prevention</li> <li>Collect baseline demographic data</li> <li>Develop a cancer registry</li> </ul>
	<b>Service Delivery</b>	<ul style="list-style-type: none"> <li>Prevention program with maximum coverage of urban and neglected rural areas</li> </ul>	<ul style="list-style-type: none"> <li>No program exists</li> </ul>	<ul style="list-style-type: none"> <li>Need to organize plan for coverage</li> </ul>	<ul style="list-style-type: none"> <li>Initiate training of health care providers</li> </ul>	<ul style="list-style-type: none"> <li>Initiate national VIA and cryotherapy program</li> </ul>
	<b>Training, Supervision and Logistics</b>	<ul style="list-style-type: none"> <li>Train maximum number of health care providers</li> </ul>	<ul style="list-style-type: none"> <li>Training occurs during medical education</li> </ul>	<ul style="list-style-type: none"> <li>Plan and organize competency-based curriculum for cervical cancer prevention</li> <li>Organize referral systems</li> </ul>	<ul style="list-style-type: none"> <li>Review logistics for training</li> <li>Initiate training</li> </ul>	<ul style="list-style-type: none"> <li>Expand training program</li> <li>Initiate supervision, M&amp;E</li> </ul>
	<b>Community Education and Social Mobilization</b>	<ul style="list-style-type: none"> <li>Provide community education to maximum number of health care providers and community groups</li> </ul>	<ul style="list-style-type: none"> <li>Only educated class knows about cervical cancer</li> </ul>	<ul style="list-style-type: none"> <li>Need to design and implement education programs</li> </ul>	<ul style="list-style-type: none"> <li>Implement mass communication campaign to increase public awareness</li> </ul>	<ul style="list-style-type: none"> <li>Involve all community leaders (religious, political and social) to reinforce and support the program</li> </ul>

	<b>Desired Situation/Goal</b>	<b>Actual Situation</b>	<b>Gaps/Needs</b>	<b>Immediate Interventions (up to 6 months)</b>	<b>Medium-Term Interventions (6 mo–3 yr)</b>	
<b>BANGLADESH</b>	<b>Policy and Advocacy</b>	<ul style="list-style-type: none"> <li>National cervical cancer screening and prevention program</li> </ul>	<ul style="list-style-type: none"> <li>Done by UNFPA and MOH</li> </ul>	<ul style="list-style-type: none"> <li>Need to coordinate efforts</li> </ul>	<ul style="list-style-type: none"> <li>Strengthen and standardize existing program</li> <li>Celebrate International Women's Day and advocate for prevention of cervical cancer</li> </ul>	<ul style="list-style-type: none"> <li>Achieve 30% coverage of target population (women &gt; 30 years)</li> <li>Develop a cancer registry</li> </ul>
	<b>Service Delivery</b>	<ul style="list-style-type: none"> <li>Prevention program with maximum coverage of whole country and improvement of existing treatment facilities</li> </ul>	<ul style="list-style-type: none"> <li>Cytology is available in several hospitals and VIA is available in 44 centers—25% potentially covered by VIA, with good cytology and reporting system for VIA, but limited treatment</li> </ul>	<ul style="list-style-type: none"> <li>Need to broaden coverage and encourage uniform use of VIA and cryotherapy</li> <li>Need to organize referral systems</li> </ul>	<ul style="list-style-type: none"> <li>Strengthen existing service delivery</li> <li>Introduce cryotherapy</li> </ul>	<ul style="list-style-type: none"> <li>Ensure service delivery for 50% of population</li> </ul>
	<b>Training, Supervision and Logistics</b>	<ul style="list-style-type: none"> <li>Develop trained staff at all levels of the system up to the grassroots level</li> <li>Strengthen supervision and monitoring system</li> </ul>	<ul style="list-style-type: none"> <li>Guidelines on VIA are developed</li> <li>There are 25 master trainers and 100 trained service providers from 16 districts</li> <li>Residency program includes cytology, colposcopy, LEEP and cauterization</li> </ul>	<ul style="list-style-type: none"> <li>Need to further strengthen existing training programs, improve M&amp;E system and develop outreach service delivery system</li> </ul>	<ul style="list-style-type: none"> <li>Ensure supplies in training centers (e.g., cryotherapy unit)</li> </ul>	<ul style="list-style-type: none"> <li>Expand training program</li> <li>Initiate supervision, M&amp;E</li> </ul>
	<b>Community Education and Social Mobilization</b>	<ul style="list-style-type: none"> <li>Provide community education to maximum number of health care providers and community groups</li> </ul>	<ul style="list-style-type: none"> <li>Have posters, flipcharts on VIA, brochure, orientation meetings</li> </ul>	<ul style="list-style-type: none"> <li>Lack of community awareness</li> </ul>	<ul style="list-style-type: none"> <li>Expand community mobilization</li> </ul>	<ul style="list-style-type: none"> <li>Involve all women, mass media and community leaders (religious, political and social) to reinforce and support the program</li> </ul>

	Desired Situation/Goal	Actual Situation	Gaps/Needs	Immediate Interventions (up to 6 months)	Medium-Term Interventions (6 mo–3 yr)	
<b>BHUTAN</b>	<b>Policy and Advocacy</b>	<ul style="list-style-type: none"> <li>National cervical cancer screening and prevention program</li> </ul>	<ul style="list-style-type: none"> <li>UNFPA and MOH</li> </ul>		<ul style="list-style-type: none"> <li>Present data to policymakers to introduce VIA as alternative screening method</li> <li>Celebrate International Women's Day and advocate for prevention of cervical cancer</li> </ul>	<ul style="list-style-type: none"> <li>Adopt VIA as national screening method</li> <li>Improve existing cancer registry</li> </ul>
	<b>Service Delivery</b>	<ul style="list-style-type: none"> <li>More than 50% of women screened</li> </ul>	<ul style="list-style-type: none"> <li>Approximately 10% of women screened with cytology followed by wide range of treatments</li> </ul>	<ul style="list-style-type: none"> <li>Need to increase coverage</li> <li>Need to decrease length of reporting time and loss to follow-up</li> <li>Treatment facilities are inaccessible to most women</li> </ul>	<ul style="list-style-type: none"> <li>Make cryotherapy and LEEP services available at more centers</li> </ul>	<ul style="list-style-type: none"> <li>Screen more than 50% of women</li> <li>Adopt VIA as screening method</li> </ul>
	<b>Training, Supervision and Logistics</b>	<ul style="list-style-type: none"> <li>All female health workers trained in VIA and cryotherapy</li> </ul>	<ul style="list-style-type: none"> <li>Training nurses to perform cytology screening</li> <li>Visit pilot district once a year, follow up abnormal tests by three gynecologist cyto-technicians trained in Mumbai</li> </ul>	<ul style="list-style-type: none"> <li>Need to increase trained personnel</li> <li>Improve M&amp;E system</li> </ul>	<ul style="list-style-type: none"> <li>Train master trainers in VIA and cryotherapy</li> <li>Look for extra funding to introduce VIA</li> </ul>	<ul style="list-style-type: none"> <li>Train at least one gynecologic oncologist</li> </ul>
	<b>Community Education and Social Mobilization</b>	<ul style="list-style-type: none"> <li>Make community fully aware of cervical cancer and importance of screening</li> </ul>	<ul style="list-style-type: none"> <li>Have leaflets, messages on television and high-level advocacy by the Queen and UNFPA Goodwill Ambassador</li> </ul>	<ul style="list-style-type: none"> <li>People in remote areas are unaware of problem</li> </ul>	<ul style="list-style-type: none"> <li>Implement awareness programs</li> </ul>	<ul style="list-style-type: none"> <li>Launch a national awareness campaign on cervical cancer and VIA</li> <li>Add theme of cervical cancer prevention to International Women's Day</li> </ul>

	<b>Desired Situation/Goal</b>	<b>Actual Situation</b>	<b>Gaps/Needs</b>	<b>Immediate Interventions (up to 6 months)</b>	<b>Medium-Term Interventions (6 mo–3 yr)</b>	
<b>CAMBODIA</b>	<b>Policy and Advocacy</b>	<ul style="list-style-type: none"> <li>Prevention of cervical cancer included in RH policies and as part of national five-year strategic plan</li> </ul>	<ul style="list-style-type: none"> <li>Prevention of cervical cancer not yet included in RH and other related policies</li> </ul>	<ul style="list-style-type: none"> <li>No data available to inform policymakers</li> <li>Need to conduct research and advocacy</li> </ul>	<ul style="list-style-type: none"> <li>Establish prevention of cervical cancer working group at national level</li> <li>Conduct operations research with technical assistance</li> <li>Celebrate International Women's Day and advocate for prevention of cervical cancer</li> </ul>	<ul style="list-style-type: none"> <li>Continue to implement operations research and disseminate research results</li> <li>Advocate for development of national policies and guidelines based on research results</li> <li>Hold regular meeting of national Prevention of Cervical Cancer Working Group members</li> </ul>
	<b>Service Delivery</b>	<ul style="list-style-type: none"> <li>Screening available at referral hospital and health center level</li> <li>Screening integrated with existing services for RH and sexually transmitted infections</li> </ul>	<ul style="list-style-type: none"> <li>Services are provided only at some national hospitals and private clinics</li> </ul>	<ul style="list-style-type: none"> <li>No standard guidelines for service providers</li> </ul>	<ul style="list-style-type: none"> <li>Collect information on current practice of prevention of cervical cancer at public and private facilities</li> <li>Present findings with operations research results</li> </ul>	<ul style="list-style-type: none"> <li>Develop training manuals for referral hospital and health center staff (technical assistance is required)</li> <li>Develop tools and standard guidelines for use by service providers</li> <li>Develop plan (including budget) for introduction and expansion of prevention of cervical cancer at public and private facilities</li> </ul>

	<b>Desired Situation/Goal</b>	<b>Actual Situation</b>	<b>Gaps/Needs</b>	<b>Immediate Interventions (up to 6 months)</b>	<b>Medium-Term Interventions (6 mo–3 yr)</b>	
<b>CAMBODIA (continued)</b>	<b>Training, Supervision and Logistics</b>	<ul style="list-style-type: none"> <li>Midwives equipped to provide high-quality services for prevention of cervical cancer</li> </ul>	<ul style="list-style-type: none"> <li>Midwives are not trained in preventing cervical cancer</li> </ul>	<ul style="list-style-type: none"> <li>Limited staff capacity</li> </ul>	<ul style="list-style-type: none"> <li>Conduct training needs assessment as part of data collection of current practice of preventing cervical cancer</li> </ul>	<ul style="list-style-type: none"> <li>Conduct cascade training, up to health center staff</li> </ul>
		<ul style="list-style-type: none"> <li>Quality of services is ensured through developed quality control system</li> </ul>	<ul style="list-style-type: none"> <li>There is no mechanism to introduce or monitor prevention of cervical cancer services</li> </ul>	<ul style="list-style-type: none"> <li>Need to develop a quality control and referral system</li> </ul>	<ul style="list-style-type: none"> <li>Assess current structure of quality control of other RH services and determine how to integrate prevention of cervical cancer quality control within existing system</li> </ul>	<ul style="list-style-type: none"> <li>Train private providers</li> <li>Establish and implement quality control (monitoring tools and checklists) and referral system</li> </ul>
		<ul style="list-style-type: none"> <li>Public and selected private NGO clinics equipped with facilities for prevention of cervical cancer</li> </ul>	<ul style="list-style-type: none"> <li>Lack of proper medical equipment and supplies</li> </ul>	<ul style="list-style-type: none"> <li>Need medical equipment and supplies</li> </ul>	<ul style="list-style-type: none"> <li>Collect data on needs for medical equipment and supplies from public and selected private facilities</li> <li>Use data for planning purposes</li> </ul>	<ul style="list-style-type: none"> <li>Procure and equip health facilities to provide prevention of cervical cancer services</li> </ul>
	<b>Community Education and Social Mobilization</b>	<ul style="list-style-type: none"> <li>Community and families aware of importance of preventing cervical cancer and where to seek services</li> </ul>	<ul style="list-style-type: none"> <li>Volunteer networks are in many parts of country, but they are not equipped to educate their community on preventing cervical cancer</li> </ul>	<ul style="list-style-type: none"> <li>Need to train health volunteers to educate and refer those who need services</li> </ul>	<ul style="list-style-type: none"> <li>Implement small scale community assessment of knowledge and practice of preventing cervical cancer (part of needs assessment and data collection activities)</li> </ul>	<ul style="list-style-type: none"> <li>Develop materials to train health volunteers and staff from other sectors (e.g., Women's Affairs)</li> <li>Educate community by integrating information with existing health education program</li> <li>Develop proper educational materials</li> <li>Educate high school students by integrating information with existing health education program in schools</li> <li>Establish and equip mobile clinic</li> </ul>

	Desired Situation/Goal	Actual Situation	Gaps/Needs	Immediate Interventions (up to 6 months)	Medium-Term Interventions (6 mo–3 yr)	
<b>ETHIOPIA</b>	<b>Policy and Advocacy</b>	<ul style="list-style-type: none"> <li>Resources available to initiate cervical cancer prevention programs</li> </ul>	<ul style="list-style-type: none"> <li>RH policy includes cervical cancer prevention and treatment, but policy is not implemented due to competing health issues</li> <li>Lack of resources for cervical cancer prevention</li> </ul>	<ul style="list-style-type: none"> <li>Need clear guidelines, protocols and training materials</li> </ul>	<ul style="list-style-type: none"> <li>Approach interested NGOs or professional associations</li> <li>Give presentations and express interest to work in cervical cancer prevention program</li> <li>Advocate for resources for training and service delivery within university faculty and hospital</li> <li>Write proposals to donors for training and service delivery within faculty and teaching hospitals</li> </ul>	<ul style="list-style-type: none"> <li>Continue to develop proposals to donors</li> <li>Initiate VIA/cryotherapy on a small scale and document for use for advocacy</li> </ul>
	<b>Service Delivery</b>	<ul style="list-style-type: none"> <li>Secure funds for programs</li> </ul>			<ul style="list-style-type: none"> <li>Implement programs depending on donors and source of funds</li> </ul>	
	<b>Training, Supervision and Logistics</b>	<ul style="list-style-type: none"> <li>Trained faculty and providers</li> </ul>				<ul style="list-style-type: none"> <li>Depending on funding, train faculty and selected providers</li> </ul>

	<b>Desired Situation/Goal</b>	<b>Actual Situation</b>	<b>Gaps/Needs</b>	<b>Immediate Interventions (up to 6 months)</b>	<b>Medium-Term Interventions (6 mo–3 yr)</b>
<b>GHANA</b>	<b>Policy and Advocacy</b>	<ul style="list-style-type: none"> <li>• Cervical cancer policy disseminated to high-level stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>• Policy exists but is not operationalized or widely known</li> </ul>	<ul style="list-style-type: none"> <li>• Need systematic dissemination of policy</li> </ul>	<ul style="list-style-type: none"> <li>• Advocate to increase knowledge about policy among key stakeholders</li> </ul>
		<ul style="list-style-type: none"> <li>• Identify manager responsible for cervical cancer prevention program within Ghana Health Service</li> </ul>	<ul style="list-style-type: none"> <li>• No individual is specifically responsible for cervical cancer prevention program</li> </ul>	<ul style="list-style-type: none"> <li>• Need program manager</li> </ul>	<ul style="list-style-type: none"> <li>• Lobby to appoint FP Program Manager to take responsibility for cervical cancer prevention program</li> </ul>
	<b>Service Delivery</b>	<ul style="list-style-type: none"> <li>• Screening/treatment services available at all Level B health facilities and higher</li> </ul>	<ul style="list-style-type: none"> <li>• Services are available only in four sites out of more than 500 health centers</li> </ul>	<ul style="list-style-type: none"> <li>• Need to expand service delivery according to scale-up program</li> </ul>	<ul style="list-style-type: none"> <li>• Assist regions/facilities ready to develop services by putting together an implementation plan (Note: Two regions are already interested)</li> </ul>
		<ul style="list-style-type: none"> <li>• All screening sites collect routine data and report them regularly to the next level of the health system</li> </ul>	<ul style="list-style-type: none"> <li>• There is no obligation for facilities to report these data, and there is no mechanism to ensure data are reported</li> </ul>	<ul style="list-style-type: none"> <li>• Mandate to report data and monthly reporting forms</li> </ul>	<ul style="list-style-type: none"> <li>• Require existing and new sites to submit monthly summary forms containing screening and treatment data to district managers</li> </ul>
	<b>Training, Supervision and Logistics</b>	<ul style="list-style-type: none"> <li>• Integrate VIA and cryotherapy training with pre-service education in FP and midwifery</li> </ul>	<ul style="list-style-type: none"> <li>• No formal training program exists</li> </ul>	<ul style="list-style-type: none"> <li>• Need to formalize training program</li> </ul>	<ul style="list-style-type: none"> <li>• Design a course/training program and submit to pre-service centers</li> </ul>
		<ul style="list-style-type: none"> <li>• Newly established screening sites fully equipped through national procurement system</li> </ul>	<ul style="list-style-type: none"> <li>• No new service sites exist outside of the project</li> </ul>		<ul style="list-style-type: none"> <li>• Advocate for all newly established sites to be fully equipped at start of service provision</li> </ul>

	<b>Desired Situation/Goal</b>	<b>Actual Situation</b>	<b>Gaps/Needs</b>	<b>Immediate Interventions (up to 6 months)</b>	<b>Medium-Term Interventions (6 mo–3 yr)</b>	
<b>GHANA (continued)</b>	<b>Training, Supervision and Logistics (continued)</b>	<ul style="list-style-type: none"> <li>• Cryotherapy equipment exists on national procurement list and is available in medical stores in Ghana</li> </ul>	<ul style="list-style-type: none"> <li>• Cryotherapy equipment is not on national procurement list and is not available in medical stores</li> </ul>	<ul style="list-style-type: none"> <li>• Need to ensure that cryotherapy equipment exists on procurement list and is in budget</li> </ul>	<ul style="list-style-type: none"> <li>• Lobby to have cryotherapy equipment added to procurement list</li> </ul>	
		<ul style="list-style-type: none"> <li>• All service providers have structured supervision as an integrated component of RH service supervision (clinical and programmatic)</li> </ul>	<ul style="list-style-type: none"> <li>• No structured supervision program exists for current sites</li> </ul>	<ul style="list-style-type: none"> <li>• Need to develop supervision system</li> </ul>	<ul style="list-style-type: none"> <li>• Develop supervision guide and schedule with and for use by facility supervisors</li> </ul>	
		<ul style="list-style-type: none"> <li>• Funds are available in budget for clinical supervision</li> </ul>	<ul style="list-style-type: none"> <li>• No funds are available for clinical supervision in existing sites</li> </ul>	<ul style="list-style-type: none"> <li>• Allocate funding at facility level</li> </ul>	<ul style="list-style-type: none"> <li>• Advocate for allocation of funds for technical supervision</li> </ul>	
	<b>Community Education and Social Mobilization</b>	<ul style="list-style-type: none"> <li>• A community mobilization component included in development of new screening sites</li> </ul>	<ul style="list-style-type: none"> <li>• With the exception of SAFE project sites, no program or funding is available for community mobilization</li> </ul>	<ul style="list-style-type: none"> <li>• Funding to implement community mobilization plans developed as part of new sites</li> </ul>	<ul style="list-style-type: none"> <li>• Draft community mobilization plan for all levels of health care system within the national cervical cancer prevention plan for consideration at national level</li> </ul>	<ul style="list-style-type: none"> <li>• Submit draft community mobilization plan for district and national consideration</li> </ul>
		<ul style="list-style-type: none"> <li>• Standardized messages for cervical cancer prevention developed and used by educators and service providers</li> </ul>	<ul style="list-style-type: none"> <li>• Some messages are inconsistent or inaccurate</li> <li>• Some aids are already available (atlas, homemade models)</li> </ul>	<ul style="list-style-type: none"> <li>• Standardized message package for use by providers and educators</li> </ul>	<ul style="list-style-type: none"> <li>• Develop standard guidelines and tools to support client and community education</li> </ul>	<ul style="list-style-type: none"> <li>• Implement standard guidelines and put tools to use</li> </ul>

	Desired Situation/Goal	Actual Situation	Gaps/Needs	Immediate Interventions (up to 6 months)	Medium-Term Interventions (6 mo–3 yr)	
INDIA	Policy and Advocacy	<ul style="list-style-type: none"> <li>Implementation of modified national policy on cervical cancer prevention</li> </ul>	<p>National policy recently modified with collaboration from WHO to include:</p> <ul style="list-style-type: none"> <li>VIA performed by paramedical staff at most peripheral health units</li> <li>VIA-positive women referred to district hospital/referral center</li> <li>Primary health center doctors receive training</li> <li>District hospital have facilities for LEEP, cryotherapy and colposcopy</li> </ul>		<ul style="list-style-type: none"> <li>Implement modified national policy</li> </ul>	<ul style="list-style-type: none"> <li>Ensure that all programs gain momentum</li> </ul>
	Service Delivery	<ul style="list-style-type: none"> <li>Expanded coverage</li> </ul>	<ul style="list-style-type: none"> <li>Services vary between urban and rural areas and among states (diverse cultures and varying facilities)</li> <li>30% of population is urban; 70% rural</li> <li>Majority of urban women go for gynecologic exam</li> <li>Approximately 15–20% of women get a gynecologic exam, both in private and government sectors</li> <li>Only 2–5% of rural population is covered</li> </ul>	<ul style="list-style-type: none"> <li>Need to cover 50% of urban and 40% of rural population</li> </ul>	<ul style="list-style-type: none"> <li>Prepare materials in local languages (these are already in practice/use but efforts need to be intensified)</li> <li>Partner with various societies like the Federation of Obstetric and Gynaecological Societies of India (FOGSI), local societies, Delhi Medical Association (DMA), NGOs, Rotary and Lions</li> </ul>	

	<b>Desired Situation/Goal</b>	<b>Actual Situation</b>	<b>Gaps/Needs</b>	<b>Immediate Interventions (up to 6 months)</b>	<b>Medium-Term Interventions (6 mo–3 yr)</b>
<b>INDIA (continued)</b>	<b>Training, Supervision and Logistics</b>	<ul style="list-style-type: none"> <li>• All levels of health care workers trained in using modern technology for cervical cancer detection</li> <li>• State government, private practitioners and professional societies involved</li> <li>• Train master trainers, increase training tools and train providers</li> </ul>			
	<b>Community Education and Social Mobilization</b>	<ul style="list-style-type: none"> <li>• Adopt the program according to community</li> <li>• Use a step-wise approach and re-evaluate program every five years</li> </ul>	<ul style="list-style-type: none"> <li>• Awareness programs are limited and need to be intensified</li> <li>• Once national policy is announced it may catalyze community services and capacity building</li> </ul>		

	Desired Situation/Goal	Actual Situation	Gaps/Needs	Immediate Interventions (up to 6 months)	Medium-Term Interventions (6 mo–3 yr)	
<b>INDONESIA</b>	<b>Policy and Advocacy</b>	<ul style="list-style-type: none"> <li>Cervical cancer prevention is included in RH policy</li> </ul>	<ul style="list-style-type: none"> <li>RH program includes cancer prevention but is not considered essential</li> </ul>	<ul style="list-style-type: none"> <li>Need advocacy and dissemination regarding prioritizing cancer prevention in RH policy</li> </ul>	<ul style="list-style-type: none"> <li>Hold dissemination workshops in each province</li> </ul>	<ul style="list-style-type: none"> <li>Hold dissemination workshop in each district</li> </ul>
		<ul style="list-style-type: none"> <li>Standards for screening and precancer treatment are included in national service guidelines</li> </ul>	<ul style="list-style-type: none"> <li>Standards for screening are only in professional organization service guidelines</li> </ul>	<ul style="list-style-type: none"> <li>Need to adapt WHO or other related standards for national service guidelines</li> </ul>	<ul style="list-style-type: none"> <li>Collect all relevant guidelines to develop national service guidelines</li> </ul>	<ul style="list-style-type: none"> <li>Disseminate national guidelines</li> </ul>
		<ul style="list-style-type: none"> <li>Policy allows trained nurses and midwives to provide VIA and cryotherapy</li> </ul>	<ul style="list-style-type: none"> <li>Health Law No. 29 does not allow nurses and midwives to perform cryotherapy</li> </ul>	<ul style="list-style-type: none"> <li>Need to pair nurse/ midwife with doctor to provide VIA and cryotherapy</li> </ul>	<ul style="list-style-type: none"> <li>Introduce cervical cancer screening program in conjunction with health provider who might provide complete services</li> </ul>	<ul style="list-style-type: none"> <li>Adopt team-based approach in national policy</li> </ul>
	<b>Service Delivery</b>	<ul style="list-style-type: none"> <li>50% of target women screened by 2010</li> </ul>	<ul style="list-style-type: none"> <li>Non-targeted coverage through mass screening was conducted by cancer foundation/ professional organization program</li> </ul>	<ul style="list-style-type: none"> <li>Systematic mass screening conducted by various organizations should be managed by MOH or National Cancer Association</li> </ul>	<ul style="list-style-type: none"> <li>Disseminate national cancer prevention program and organize efforts in mass screening, particularly cervical cancer prevention</li> </ul>	<ul style="list-style-type: none"> <li>Conduct mass screening program in at least five densely populated provinces (including Java, Bali, Sumatra and Kalimantan)</li> </ul>
		<ul style="list-style-type: none"> <li>All government hospitals offer single visit approach by 2010</li> </ul>	<ul style="list-style-type: none"> <li>Provide screening but not single visit approach</li> </ul>	<ul style="list-style-type: none"> <li>National dissemination of single visit approach</li> </ul>	<ul style="list-style-type: none"> <li>Disseminate single visit approach as part of cancer prevention program in low-resource setting area</li> </ul>	<ul style="list-style-type: none"> <li>Use single visit approach as standard approach for cervical cancer prevention in government hospital</li> <li>Create service networking to primary health care</li> </ul>
		<ul style="list-style-type: none"> <li>50% of NGO facilities and health centers offer cervical cancer screening daily on weekdays</li> </ul>	<ul style="list-style-type: none"> <li>Cancer screening already offered on daily basis by NGO facilities</li> </ul>	<ul style="list-style-type: none"> <li>Need coordination and collaboration with national/ provincial cancer prevention board to offer standardized screening program</li> </ul>	<ul style="list-style-type: none"> <li>Hold workshops for NGO facilities involved in national cervical cancer prevention program</li> </ul>	<ul style="list-style-type: none"> <li>Involve NGO facilities in national cervical cancer prevention program</li> </ul>

	<b>Desired Situation/Goal</b>	<b>Actual Situation</b>	<b>Gaps/Needs</b>	<b>Immediate Interventions (up to 6 months)</b>	<b>Medium-Term Interventions (6 mo–3 yr)</b>	
<b>INDONESIA (continued)</b>	<b>Training, Supervision and Logistics</b>	<ul style="list-style-type: none"> <li>Performance monitoring tools for RH facilities include a section on cervical cancer screening and treatment</li> </ul>	<ul style="list-style-type: none"> <li>Cervical cancer prevention monitoring tools not available</li> </ul>	<ul style="list-style-type: none"> <li>Need to develop performance monitoring tools</li> </ul>	<ul style="list-style-type: none"> <li>Collect and develop monitoring tools</li> </ul>	<ul style="list-style-type: none"> <li>Disseminate and implement monitoring tools</li> </ul>
		<ul style="list-style-type: none"> <li>20% of all nurses/midwives in RH clinics trained in cervical cancer screening</li> </ul>	<ul style="list-style-type: none"> <li>RH clinics do not have trained nurses/midwives for cervical cancer screening</li> </ul>	<ul style="list-style-type: none"> <li>Need competent providers for cervical cancer screening</li> </ul>	<ul style="list-style-type: none"> <li>Develop competency-based training package for nurses/midwives for cervical cancer screening</li> <li>Obtain endorsement by MOH and professional organizations</li> </ul>	<ul style="list-style-type: none"> <li>Train providers for RH clinic cervical cancer screening program</li> </ul>
		<ul style="list-style-type: none"> <li>A working cryotherapy set is available in all district hospitals</li> </ul>	<ul style="list-style-type: none"> <li>Cryotherapy sets not available</li> </ul>	<ul style="list-style-type: none"> <li>Need to provide cryotherapy sets in district hospitals</li> </ul>	<ul style="list-style-type: none"> <li>Advocate with MOH and local government to ensure availability of cryotherapy sets</li> </ul>	<ul style="list-style-type: none"> <li>Ensure cryotherapy sets available to all selected district hospitals in five provinces</li> </ul>
	<b>Community Education and Social Mobilization</b>	<ul style="list-style-type: none"> <li>Communities knowledgeable about cervical cancer and how it can be prevented</li> </ul>	<ul style="list-style-type: none"> <li>Only a small percentage of communities aware of cancer prevention</li> </ul>	<ul style="list-style-type: none"> <li>Need national program to educate communities on cervical cancer prevention</li> </ul>	<ul style="list-style-type: none"> <li>Include cancer prevention IEC intervention in the existing RH program</li> </ul>	<ul style="list-style-type: none"> <li>Use existing health service system to conduct IEC for cancer prevention at community level</li> </ul>
		<ul style="list-style-type: none"> <li>Local service clubs engaged in cervical cancer prevention</li> </ul>	<ul style="list-style-type: none"> <li>Some local clubs already involved in cancer prevention program</li> </ul>	<ul style="list-style-type: none"> <li>Need promotion and coordination of local clubs in supporting national cancer prevention program</li> </ul>	<ul style="list-style-type: none"> <li>Hold workshops to engage local clubs (led by MOH and National Cancer Society)</li> </ul>	<ul style="list-style-type: none"> <li>Ensure active involvement of local clubs in cervical cancer prevention program</li> </ul>

		<b>Desired Situation/Goal</b>	<b>Actual Situation</b>	<b>Gaps/Needs</b>	<b>Immediate Interventions (up to 6 months)</b>	<b>Medium-Term Interventions (6 mo–3 yr)</b>
<b>KENYA</b>	<b>Policy and Advocacy</b>	<ul style="list-style-type: none"> <li>Expanded cervical cancer prevention services</li> </ul>	<ul style="list-style-type: none"> <li>Cancer prevention/treatment strategy/policy in place, and guidelines are being developed</li> <li>VIA provided only in three regional sites</li> <li>Cervical cancer prevention is integrated with pre-service medical education</li> </ul>	<ul style="list-style-type: none"> <li>Comprehensive cervical cancer prevention provided only in three sites</li> </ul>	<ul style="list-style-type: none"> <li>Present at Kenya Ob/Gyn Society and continue advocacy at Department of Ob/Gyn to reinforce with students</li> <li>Write proposals to donors for implementation in five sites</li> </ul>	<ul style="list-style-type: none"> <li>Advocate for Government of Kenya resource allocation and to obtain commitment from government (using the resolution)</li> </ul>
	<b>Service Delivery</b>	<ul style="list-style-type: none"> <li>Scale up cervical cancer prevention program</li> </ul>			<ul style="list-style-type: none"> <li>Scale up cervical cancer prevention program</li> </ul>	
	<b>Training, Supervision and Logistics</b>	<ul style="list-style-type: none"> <li>Training tools available</li> </ul>			<ul style="list-style-type: none"> <li>Provide training tools to training institutions</li> </ul>	

		Desired Situation/Goal	Actual Situation	Gaps/Needs	Immediate Interventions (up to 6 months)	Medium-Term Interventions (6 mo–3 yr)
<b>MALAWI</b>	<b>Policy and Advocacy</b>	<ul style="list-style-type: none"> <li>Sustainable cervical cancer prevention program</li> </ul>	<ul style="list-style-type: none"> <li>RH policy includes cervical cancer screening and treatment</li> <li>Guidelines and protocols are developed</li> <li>Cervical cancer prevention is included in medical and nursing pre-service curricula</li> </ul>	<ul style="list-style-type: none"> <li>Cervical cancer prevention not included in Essential Health Package</li> <li>Question of sustainability</li> </ul>	<ul style="list-style-type: none"> <li>Advocate for including cervical cancer prevention in District Implementation Plans to ensure sustainability</li> </ul>	<ul style="list-style-type: none"> <li>Continue advocacy efforts</li> <li>Assist nursing institutions to incorporate VIA with pre-service education</li> </ul>
	<b>Service Delivery</b>	<ul style="list-style-type: none"> <li>Scale up VIA/cryotherapy services</li> </ul>	<ul style="list-style-type: none"> <li>VIA/cryotherapy services are being implemented in 13 sites</li> </ul>	<ul style="list-style-type: none"> <li>Need to scale up VIA/cryotherapy services</li> </ul>		<ul style="list-style-type: none"> <li>Implement VIA in nine more sites in next year</li> </ul>
	<b>Training, Supervision and Logistics</b>	<ul style="list-style-type: none"> <li>M&amp;E supervision tools developed</li> </ul>	<ul style="list-style-type: none"> <li>M&amp;E and supervision tools developed</li> </ul>			<ul style="list-style-type: none"> <li>Conduct three training sessions for new service providers</li> </ul>

	Desired Situation/Goal	Actual Situation	Gaps/Needs	Immediate Interventions (up to 6 months)	Medium-Term Interventions (6 mo–3 yr)	
<b>MALDIVES</b>	<b>Policy and Advocacy</b>	<ul style="list-style-type: none"> <li>National cervical cancer screening and prevention program</li> </ul>	<ul style="list-style-type: none"> <li>No national data on cervical cancer, but there is an interest</li> </ul>	<ul style="list-style-type: none"> <li>Need to implement policy</li> </ul>	<ul style="list-style-type: none"> <li>Share workshop experience with clinicians to motivate them</li> <li>Discuss with RH programs to incorporate with RH strategy</li> <li>Collect data for advocacy</li> <li>Celebrate International Women's Day and advocate for prevention of cervical cancer</li> </ul>	<ul style="list-style-type: none"> <li>Encourage advocacy for a national program</li> </ul>
	<b>Service Delivery</b>	<ul style="list-style-type: none"> <li>Establish effective screening and treatment program</li> </ul>	<ul style="list-style-type: none"> <li>Cytology covers 30% but sporadically reaches these women</li> <li>Only one pathologist available to read slides</li> <li>Treatment by cauterization</li> </ul>	<ul style="list-style-type: none"> <li>Need to broaden coverage and encourage uniform use of VIA and cryotherapy</li> </ul>	<ul style="list-style-type: none"> <li>Obtain technical assistance to develop and provide training</li> </ul>	<ul style="list-style-type: none"> <li>Have local trainers provide ongoing service</li> </ul>
	<b>Training, Supervision and Logistics</b>	<ul style="list-style-type: none"> <li>Integrate FP training with cervical cancer prevention program</li> </ul>	<ul style="list-style-type: none"> <li>No training in medical school</li> </ul>	<ul style="list-style-type: none"> <li>No training at present</li> </ul>	<ul style="list-style-type: none"> <li>Ensure logistics for training</li> </ul>	<ul style="list-style-type: none"> <li>Expand training program and initiate supervision, M&amp;E</li> </ul>
	<b>Community Education and Social Mobilization</b>	<ul style="list-style-type: none"> <li>Increased nationwide awareness</li> </ul>	<ul style="list-style-type: none"> <li>Limited leaflets distributed by NGO and public health sector</li> </ul>	<ul style="list-style-type: none"> <li>Need to broaden coverage of current plan</li> </ul>	<ul style="list-style-type: none"> <li>Implement mass communication campaign to raise awareness and incorporate VIA</li> </ul>	<ul style="list-style-type: none"> <li>Involve all community leaders (religious, political and social) to reinforce and support the program</li> </ul>

		Desired Situation/Goal	Actual Situation	Gaps/Needs	Immediate Interventions (up to 6 months)	Medium-Term Interventions (6 mo–3 yr)
<b>NEPAL</b>	<b>Policy and Advocacy</b>	<ul style="list-style-type: none"> <li>• Cervical cancer prevention included in RH policy</li> </ul>	<ul style="list-style-type: none"> <li>• Cervical cancer prevention is not in RH policy documents</li> <li>• Cancer prevention plan (10-year, draft) includes screening for cervical cancer</li> </ul>	<ul style="list-style-type: none"> <li>• Need to formulate policy specific to cervical cancer prevention</li> </ul>	<ul style="list-style-type: none"> <li>• Hold advocacy meetings or round table discussions with government and key stakeholders on cervical cancer prevention policies</li> <li>• Develop long-term plan for prevention of cervical cancer</li> </ul>	<ul style="list-style-type: none"> <li>• Hold workshop with government and key partners to develop policy</li> </ul>
		<ul style="list-style-type: none"> <li>• National service guideline clearly describes standards for prevention of cervical cancer and treatment of precancer conditions</li> </ul>	<ul style="list-style-type: none"> <li>• National Medical Standards Vol. II describes screening for cervical cancer as a part of screening of women</li> </ul>	<ul style="list-style-type: none"> <li>• Need to include prevention of cervical cancer and treatment of precancer conditions in the guideline</li> </ul>		<ul style="list-style-type: none"> <li>• Work with BP Cancer Hospital, cancer focal person at MOHP and key stakeholders to include prevention of cervical cancer in national service guideline</li> </ul>
		<ul style="list-style-type: none"> <li>• Policy allows nurses and midwives to perform VIA and cryotherapy</li> </ul>	<ul style="list-style-type: none"> <li>• Only specialists provide VIA and cryotherapy</li> </ul>	<ul style="list-style-type: none"> <li>• Need to allow nurses/midwives to perform VIA and cryotherapy</li> </ul>	<ul style="list-style-type: none"> <li>• Hold meeting with Nepal Nursing Council and MOHP to allow nurses and midwives to perform VIA and cryotherapy</li> </ul>	
	<b>Service Delivery</b>	<ul style="list-style-type: none"> <li>• 50% of women 30–40 years old screened by 2010</li> </ul>	<ul style="list-style-type: none"> <li>• Limited number of hospitals and NGO clinics offering cytology screening</li> <li>• Single visit approach is almost non-existent</li> <li>• Limited effort from NGOs</li> </ul>			<ul style="list-style-type: none"> <li>• Initiate demonstration project in 1–2 districts</li> </ul>

	<b>Desired Situation/Goal</b>	<b>Actual Situation</b>	<b>Gaps/Needs</b>	<b>Immediate Interventions (up to 6 months)</b>	<b>Medium-Term Interventions (6 mo–3 yr)</b>	
<b>NEPAL (continued)</b>	<b>Service Delivery (continued)</b>	<ul style="list-style-type: none"> <li>All district hospitals, primary health centers and government clinics offer single visit approach by 2015</li> <li>Referral system established</li> </ul>	<ul style="list-style-type: none"> <li>NGO is piloting VIA/VILI screening</li> </ul>	<ul style="list-style-type: none"> <li>Need national program on cervical cancer prevention</li> </ul>	<ul style="list-style-type: none"> <li>Start single visit approach in at least three hospitals</li> <li>Discuss and prepare proposal/concept paper on national cervical cancer prevention program</li> </ul>	<ul style="list-style-type: none"> <li>Develop national cervical cancer prevention program</li> </ul>
		<ul style="list-style-type: none"> <li>50% of FP/maternal and child health clinics (both static and outreach) run by NGOs offer single visit approach</li> </ul>	<ul style="list-style-type: none"> <li>Focal point person and hospital (BP Cancer Hospital) for cancer defined</li> </ul>	<ul style="list-style-type: none"> <li>Focal person and institution need to facilitate single visit approach</li> </ul>		
	<b>Training, Supervision and Logistics</b>	<ul style="list-style-type: none"> <li>All 75 districts have four trained service providers performing VIA and cryotherapy</li> </ul>	<ul style="list-style-type: none"> <li>NGOs and a few centers have limited number of trained persons</li> </ul>		<ul style="list-style-type: none"> <li>Train about 12 service providers working in selected hospitals (Bhaktapur Cancer Hospital, Koshi Zonal Hospital, Tribhuvan University Teaching Hospital)</li> </ul>	
		<ul style="list-style-type: none"> <li>Performance monitoring tools for cervical cancer screening and treatment included in National Cancer Registry</li> </ul>				<ul style="list-style-type: none"> <li>Develop monitoring tool for screening and treatment and include in National Cancer Registry</li> </ul>

	<b>Desired Situation/Goal</b>	<b>Actual Situation</b>	<b>Gaps/Needs</b>	<b>Immediate Interventions (up to 6 months)</b>	<b>Medium-Term Interventions (6 mo–3 yr)</b>	
<b>NEPAL (continued)</b>	<b>Training, Supervision and Logistics (continued)</b>	<ul style="list-style-type: none"> <li>VIA training institutionalized into national training system</li> </ul>	<ul style="list-style-type: none"> <li>Standard training package on VIA and treatment of pre-cancer conditions does not exist</li> </ul>	<ul style="list-style-type: none"> <li>Need to standardize/ adapt for national training package</li> </ul>	<ul style="list-style-type: none"> <li>Build consensus on training course syllabus</li> </ul>	<ul style="list-style-type: none"> <li>Develop standardized training package</li> </ul>
		<ul style="list-style-type: none"> <li>A functional cryotherapy capacity is available in all district hospitals, primary health centers and other clinics</li> </ul>	<ul style="list-style-type: none"> <li>Limited institutions have cryotherapy equipment</li> </ul>	<ul style="list-style-type: none"> <li>Need more cryotherapy equipment</li> </ul>	<ul style="list-style-type: none"> <li>Ensure that six cryotherapy sets are available in three selected facilities</li> </ul>	<ul style="list-style-type: none"> <li>Advocate meeting with Logistics Management Division and other key partners to procure cryotherapy sets and other equipment as per national program</li> </ul>
	<b>Community Education and Social Mobilization</b>	<ul style="list-style-type: none"> <li>Communities knowledgeable about cervical cancer and how it can be prevented</li> </ul>	<ul style="list-style-type: none"> <li>Extremely limited cervical cancer prevention program</li> </ul>	<ul style="list-style-type: none"> <li>Need to launch awareness program</li> </ul>	<ul style="list-style-type: none"> <li>Discuss with national organizations to mobilize Rotary Club, Lions and Cancer Society volunteers</li> </ul>	<ul style="list-style-type: none"> <li>Develop behavior change communication strategy and activities and conduct awareness program</li> </ul>
		<ul style="list-style-type: none"> <li>Community leaders, community-based organizations (CBOs) and service-providing NGOs engaged in cervical cancer prevention</li> </ul>	<ul style="list-style-type: none"> <li>Few NGOs have worked in engaging leaders in this area</li> </ul>	<ul style="list-style-type: none"> <li>Need to involve/ engage community leaders, CBOs and service-providing NGOs</li> </ul>		<ul style="list-style-type: none"> <li>Develop strategy and activities to engage/ involve community leaders, NGOs and CBOs</li> </ul>

	<b>Desired Situation/Goal</b>	<b>Actual Situation</b>	<b>Gaps/Needs</b>	<b>Immediate Interventions (up to 6 months)</b>	<b>Medium-Term Interventions (6 mo–3 yr)</b>	
<b>PAKISTAN</b>	<b>Policy and Advocacy</b>	<ul style="list-style-type: none"> <li>National cervical cancer screening and prevention program</li> </ul>	<ul style="list-style-type: none"> <li>No national program exists</li> </ul>	<ul style="list-style-type: none"> <li>Need advocacy and policy development</li> </ul>	<ul style="list-style-type: none"> <li>Involve policymakers to include single visit approach program</li> <li>Celebrate International Women's Day and advocate for prevention of cervical cancer</li> </ul>	<ul style="list-style-type: none"> <li>Develop nationwide proposal for cervical cancer prevention</li> <li>Collect baseline demographic data</li> <li>Develop a cancer registry</li> </ul>
	<b>Service Delivery</b>	<ul style="list-style-type: none"> <li>Prevention program with maximum coverage of urban and neglected rural areas</li> </ul>	<ul style="list-style-type: none"> <li>Random, opportunistic cytology screening at Ob/Gyns' discretion</li> <li>Poor quality cytology performance, processing and reading</li> <li>Sporadic treatment for paying patients</li> </ul>	<ul style="list-style-type: none"> <li>Need to broaden coverage and encourage uniform use of VIA and cryotherapy</li> </ul>	<ul style="list-style-type: none"> <li>Train health care providers</li> </ul>	<ul style="list-style-type: none"> <li>Incorporate single visit approach program with ongoing fistula repair programs</li> </ul>
	<b>Training, Supervision and Logistics</b>	<ul style="list-style-type: none"> <li>Train to maximum number of health care providers and provide oncology training for gynecologists</li> </ul>	<ul style="list-style-type: none"> <li>Opportunistic screening (cytology) mostly done by poorly-trained technicians</li> <li>VIA is not available</li> </ul>	<ul style="list-style-type: none"> <li>Lack of training of junior doctors and paramedical staff</li> <li>Training in screening does not happen in medical schools</li> <li>No effective training in treatment methods for medical students</li> </ul>	<ul style="list-style-type: none"> <li>Ensure logistics for training</li> </ul>	<ul style="list-style-type: none"> <li>Expand training program and initiate supervision, M&amp;E</li> </ul>
	<b>Community Education and Social Mobilization</b>	<ul style="list-style-type: none"> <li>Maximum number of health care providers and community groups educated</li> </ul>	<ul style="list-style-type: none"> <li>Only educated class knows about cervical cancer</li> </ul>	<ul style="list-style-type: none"> <li>Lack of public awareness</li> </ul>	<ul style="list-style-type: none"> <li>Implement mass communication campaign to increase public awareness</li> </ul>	<ul style="list-style-type: none"> <li>Involve all community leaders (religious, political and social) to reinforce and support the program</li> </ul>

	<b>Desired Situation/Goal</b>	<b>Actual Situation</b>	<b>Gaps/Needs</b>	<b>Immediate Interventions (up to 6 months)</b>	<b>Medium-Term Interventions (6 mo–3 yr)</b>	
<b>PHILIPPINES</b>	<b>Policy and Advocacy</b>	<ul style="list-style-type: none"> <li>Implement National Cervical Cancer Prevention Program</li> </ul>	<ul style="list-style-type: none"> <li>Department of Health (DOH) issued policy statement on cervical cancer screening program in October 2005</li> </ul>	<ul style="list-style-type: none"> <li>Need to develop operational details and implementation, including single visit approach</li> </ul>	<ul style="list-style-type: none"> <li>Advocate for immediate issuance of operating guidelines, systems and procedures for implementation, including single visit approach</li> </ul>	<ul style="list-style-type: none"> <li>Achieve coverage of at least 50% of target pilot areas</li> </ul>
		<ul style="list-style-type: none"> <li>Standards for screening and pre-cancer treatment are included in National Cervical Cancer Prevention Program</li> </ul>	<ul style="list-style-type: none"> <li>Administrative Order No. 2005-0006, "Establishment of a Cervical Cancer Screening Program," issued by DOH in October 2005</li> </ul>	<ul style="list-style-type: none"> <li>Need to institutionalize linkages between screening, treatment, monitoring and post-evaluation</li> </ul>	<ul style="list-style-type: none"> <li>Hold workshops and trainings in target pilot areas</li> </ul>	<ul style="list-style-type: none"> <li>Hold workshops and trainings in target pilot areas, and incorporate lessons learned from initial implementation</li> </ul>
		<ul style="list-style-type: none"> <li>Policy allowing trained nurses and midwives to provide VIA and cryotherapy</li> </ul>	<ul style="list-style-type: none"> <li>Nurses and midwives can provide screening but not treatment</li> </ul>	<ul style="list-style-type: none"> <li>Evaluate possibility of allowing nurses and midwives to provide cryotherapy if under strict supervision of authorized medical doctors</li> </ul>	<ul style="list-style-type: none"> <li>Review existing regulatory framework with goal of developing policy framework conducive for allowing nurses and midwives to provide treatment such as cryotherapy</li> </ul>	<ul style="list-style-type: none"> <li>Issue appropriate regulatory policies allowing nurses and midwives to provide treatment such as cryotherapy</li> </ul>
		<ul style="list-style-type: none"> <li>Financing schemes available to fund cervical cancer prevention program, including but not limited to user fees for paying clients, social insurance protection and government budgetary allocations at national and local level</li> </ul>	<ul style="list-style-type: none"> <li>No budgetary allocation yet, but Administrative Circular provides some general guidelines on fund sourcing</li> </ul>	<ul style="list-style-type: none"> <li>Indeterminate funding gap subject to estimation</li> </ul>	<ul style="list-style-type: none"> <li>Propose inclusion in DOH budgetary proposal starting in 2006, and appropriate allocation of Local Government Unit funds at the local level</li> <li>Formulate appropriate financing schemes such as user fees and others for cost-recovery mechanism</li> </ul>	<ul style="list-style-type: none"> <li>Institutionalize annual budgetary allocation and/or implement viable financing schemes</li> </ul>

	<b>Desired Situation/Goal</b>	<b>Actual Situation</b>	<b>Gaps/Needs</b>	<b>Immediate Interventions (up to 6 months)</b>	<b>Medium-Term Interventions (6 mo–3 yr)</b>	
<b>PHILIPPINES (continued)</b>	<b>Service Delivery</b>	<ul style="list-style-type: none"> <li>• 50% of women of reproductive age in pilot site screened by 2010</li> </ul>	<ul style="list-style-type: none"> <li>• 12% of target women have been screened</li> </ul>	<ul style="list-style-type: none"> <li>• Implement program</li> <li>• Identify pilot sites</li> </ul>	<ul style="list-style-type: none"> <li>• Determine target population from National Statistics Office and Barangay Census</li> </ul>	<ul style="list-style-type: none"> <li>• Screen and treat 50% of target population</li> </ul>
		<ul style="list-style-type: none"> <li>• Build consensus among all possible stakeholders initially in the first pilot site in Region VII (Argao and Sugod in Cebu Province) by 2010</li> </ul>	<ul style="list-style-type: none"> <li>• Consensus built in pilot site in Cebu</li> </ul>	<ul style="list-style-type: none"> <li>• Expand consensus-building to other target pilot sites that are identified</li> </ul>	<ul style="list-style-type: none"> <li>• Create information dissemination and awareness campaign to target pilot sites, aimed at generating consensus among stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>• Tap mass media to assist in nationwide information dissemination and build consensus</li> <li>• Put in place appropriate social infrastructures (e.g., screening facilities, diagnostics, treatment, statistical system, etc.)</li> </ul>
	<b>Training, Supervision and Logistics</b>	<ul style="list-style-type: none"> <li>• 20% of all nurses/midwives in target pilot areas trained in screening and treatment</li> </ul>	<ul style="list-style-type: none"> <li>• Training modules have been developed by University of the Philippines Cervical Cancer Research group, subject to modification consistent with competency-based training module</li> </ul>	<ul style="list-style-type: none"> <li>• Need to incorporate treatment training modules, specifically cryotherapy</li> </ul>	<ul style="list-style-type: none"> <li>• Core group will organize training, involving other specialty societies (Philippine Obstetrical and Gynecological Society, Society of Gynecologic Oncologists in the Philippines, Well-Family Midwife Clinics Partnerships Foundation)</li> <li>• Collect and organize all training materials</li> <li>• Validate, adapt and standardize competency-based curriculum</li> </ul>	<ul style="list-style-type: none"> <li>• Train the trainers, and use cascade training programs to optimize multiplier effect</li> </ul>
		<ul style="list-style-type: none"> <li>• Performance monitoring tools for rural health facilities include cervical cancer screening and treatment</li> </ul>	<ul style="list-style-type: none"> <li>• Not all rural health units include performance and monitoring section, although draft standards for reporting have been developed by DOH</li> </ul>	<ul style="list-style-type: none"> <li>• Need fiat from DOH</li> </ul>	<ul style="list-style-type: none"> <li>• Finalize and implement draft performance and monitoring guidelines</li> </ul>	<ul style="list-style-type: none"> <li>• Use performance and monitoring system</li> </ul>

		<b>Desired Situation/Goal</b>	<b>Actual Situation</b>	<b>Gaps/Needs</b>	<b>Immediate Interventions (up to 6 months)</b>	<b>Medium-Term Interventions (6 mo–3 yr)</b>
<b>PHILIPPINES (continued)</b>	<b>Training, Supervision and Logistics (continued)</b>	<ul style="list-style-type: none"> <li>Working cryotherapy set is available in designated district hospitals in target pilot areas</li> </ul>	<ul style="list-style-type: none"> <li>No cryotherapy set is available, even in provincial hospitals</li> </ul>	<ul style="list-style-type: none"> <li>Patients needing cryotherapy are referred to regional tertiary referral centers in target areas</li> </ul>	<ul style="list-style-type: none"> <li>Identify cryotherapy suppliers/sponsors</li> <li>Raise funds</li> </ul>	<ul style="list-style-type: none"> <li>Set up screening and treatment infrastructure, including performance monitoring, reporting and information management</li> </ul>
	<b>Community Education and Social Mobilization</b>	<ul style="list-style-type: none"> <li>Communities knowledgeable about cervical cancer and how it can be prevented</li> </ul>	<ul style="list-style-type: none"> <li>Knowledge about cancer and how it can be prevented is low or non-existent</li> </ul>	<ul style="list-style-type: none"> <li>Need to educate women, men and other stakeholders in community about cervical cancer and how to prevent and treat it</li> </ul>	<ul style="list-style-type: none"> <li>Implement information campaign, starting with target pilot areas</li> </ul>	<ul style="list-style-type: none"> <li>Tap mass media and training activities to assist in information dissemination and secure support from various stakeholders</li> </ul>
		<ul style="list-style-type: none"> <li>Barangay health units target pilot areas engaged in cervical cancer prevention and treatment</li> </ul>	<ul style="list-style-type: none"> <li>Not all barangay health units are aware of or have implemented cervical cancer prevention programs</li> </ul>	<ul style="list-style-type: none"> <li>Lack of information about extent of data requirement</li> </ul>	<ul style="list-style-type: none"> <li>Establish a working task force to consolidate information about cervical cancer prevention program at the barangay levels</li> </ul>	<ul style="list-style-type: none"> <li>Ensure that all barangay health units in target pilot areas are implementing cervical cancer prevention and treatment</li> </ul>

		<b>Desired Situation/Goal</b>	<b>Actual Situation</b>	<b>Gaps/Needs</b>	<b>Immediate Interventions (up to 6 months)</b>	<b>Medium-Term Interventions (6 mo–3 yr)</b>
<b>SOUTH AFRICA</b>	<b>Policy and Advocacy</b>	<ul style="list-style-type: none"> <li>Expand VIA screening</li> </ul>	<ul style="list-style-type: none"> <li>Cytology-based cancer prevention and treatment policy, guidelines, protocols and strategy in place</li> </ul>	<ul style="list-style-type: none"> <li>VIA not included in policy</li> <li>Need to resolve issues related to integration and over-burdening of nurses</li> <li>Implementation of policy occurring very slowly</li> </ul>	<ul style="list-style-type: none"> <li>Write a report to MOH</li> <li>Meet with relevant stakeholders</li> <li>Determine which provinces are doing VIA and invite them to share their lessons</li> </ul>	<ul style="list-style-type: none"> <li>Implement the strategy</li> </ul>
	<b>Service Delivery</b>	<ul style="list-style-type: none"> <li>Continue implementation of cervical cancer prevention program</li> </ul>			<ul style="list-style-type: none"> <li>Continue to implement cytology</li> </ul>	
	<b>Training, Supervision and Logistics</b>	<ul style="list-style-type: none"> <li>Trained service providers and supervisors</li> </ul>			<ul style="list-style-type: none"> <li>Train service providers and supervisors in cytology</li> </ul>	<ul style="list-style-type: none"> <li>Continue training</li> </ul>

		<b>Desired Situation/Goal</b>	<b>Actual Situation</b>	<b>Gaps/Needs</b>	<b>Immediate Interventions (up to 6 months)</b>	<b>Medium-Term Interventions (6 mo–3 yr)</b>
<b>SRI LANKA</b>	<b>Policy and Advocacy</b>	<ul style="list-style-type: none"> <li>• Cervical cancer screening (cytology) included in RH policy</li> <li>• National guidelines are available</li> </ul>	<ul style="list-style-type: none"> <li>• Cervical cancer screening is included in RH policy</li> <li>• Guidelines already exist</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of consensus among policymakers and professional bodies</li> </ul>	<ul style="list-style-type: none"> <li>• Hold consensus meeting with all stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>• Continue advocacy meetings with relevant stakeholders at different levels</li> </ul>
	<b>Service Delivery</b>	<ul style="list-style-type: none"> <li>• Use primary health care facilities to screen 70% of women 35–40 years old by 2010</li> </ul>	<ul style="list-style-type: none"> <li>• Only 5% of target population covered</li> </ul>	<ul style="list-style-type: none"> <li>• Currently targeting larger population (35–60 years)</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce target group for screening to 35–39 years</li> <li>• Maintain equity across country</li> </ul>	<ul style="list-style-type: none"> <li>• Expand service delivery depending on decisions made by stakeholders</li> </ul>
	<b>Training, Supervision and Logistics</b>	<ul style="list-style-type: none"> <li>• All health facilities are well-equipped and staff are fully trained to conduct clinic</li> </ul>	<ul style="list-style-type: none"> <li>• Inequity of services in remote areas/ National Institute of Education provinces</li> <li>• Turnover of medical officers very high</li> </ul>	<ul style="list-style-type: none"> <li>• Need facilities and manpower in remote or disturbed areas</li> </ul>	<ul style="list-style-type: none"> <li>• Field-test new approaches through training of staff and provision of logistics</li> </ul>	<ul style="list-style-type: none"> <li>• Based on results, implement program through training of staff and provision of logistics</li> </ul>
	<b>Community Education and Social Mobilization</b>	<ul style="list-style-type: none"> <li>• Full participation of community to improve coverage</li> <li>• IEC campaign launched</li> </ul>	<ul style="list-style-type: none"> <li>• Uniform messages/ education not reaching every community</li> </ul>	<ul style="list-style-type: none"> <li>• Need to strengthen IEC campaign to mobilize women to seek campaign</li> </ul>	<ul style="list-style-type: none"> <li>• Increase awareness using health staff and media to improve the coverage</li> </ul>	

		<b>Desired Situation/Goal</b>	<b>Actual Situation</b>	<b>Gaps/Needs</b>	<b>Immediate Interventions (up to 6 months)</b>	<b>Medium-Term Interventions (6 mo–3 yr)</b>
<b>SUDAN</b>	<b>Policy and Advocacy</b>	<ul style="list-style-type: none"> <li>Develop policies, guidelines and protocols on cervical cancer prevention</li> </ul>	<ul style="list-style-type: none"> <li>No clear policy, guidelines or protocols on cervical cancer prevention</li> </ul>	<ul style="list-style-type: none"> <li>Need to bring other stakeholders together (e.g., Sudan Obstetric and Gynaecological Society and RH Directorate)</li> </ul>	<ul style="list-style-type: none"> <li>Approach these stakeholders to reach 2,000 practitioners</li> </ul>	<ul style="list-style-type: none"> <li>Use data from demonstration project to advocate with MOH</li> <li>Link with UNFPA, WHO and other international agencies for cervical cancer prevention</li> </ul>
	<b>Service Delivery</b>	<ul style="list-style-type: none"> <li>Secure funds for programs</li> </ul>			<ul style="list-style-type: none"> <li>Implement programs depending on source of funds</li> </ul>	

	<b>Desired Situation/Goal</b>	<b>Actual Situation</b>	<b>Gaps/Needs</b>	<b>Immediate Interventions (up to 6 months)</b>	<b>Medium-Term Interventions (6 mo–3 yr)</b>	
<b>THAILAND</b>	<b>Policy and Advocacy</b>	<ul style="list-style-type: none"> <li>• Cervical cancer prevention is included in health promotion and prevention policy (national policy)</li> </ul>	<ul style="list-style-type: none"> <li>• Using both cytology and VIA is policy</li> </ul>	<ul style="list-style-type: none"> <li>• Must be offered by Chief of Provincial Health Office</li> <li>• Not enough funds</li> </ul>	<ul style="list-style-type: none"> <li>• Empower Chief of Provincial Health Office</li> <li>• Seek donor support to implement proposal: Government, NGOs, JHPIEGO, Bill &amp; Melinda Gates Foundation, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Empower Chief of Provincial Health Office</li> <li>• Plan how to locate funds: Government, NGOs, JHPIEGO, Bill &amp; Melinda Gates Foundation, etc.</li> </ul>
		<ul style="list-style-type: none"> <li>• Standards for screening and precancerous treatment are included in national service guidelines</li> </ul>		<ul style="list-style-type: none"> <li>• Dissemination and implementation are needed</li> </ul>	<ul style="list-style-type: none"> <li>• Hold dissemination workshops in each target province</li> </ul>	<ul style="list-style-type: none"> <li>• Hold dissemination workshops in each target district</li> </ul>
		<ul style="list-style-type: none"> <li>• Policy allows trained nurses and midwives to provide VIA and cryotherapy</li> </ul>			<ul style="list-style-type: none"> <li>• Hold dissemination workshops in each target province</li> </ul>	<ul style="list-style-type: none"> <li>• Hold dissemination workshops in each target district</li> </ul>
	<b>Service Delivery</b>	<ul style="list-style-type: none"> <li>• 50% of target women have been screened by 2010</li> </ul>	<ul style="list-style-type: none"> <li>• 35% of target women have been screened by VIA by 2005</li> </ul>	<ul style="list-style-type: none"> <li>• Need all government hospitals to offer screening by 2010</li> </ul>	<ul style="list-style-type: none"> <li>• Encourage all government hospitals to offer screening by 2010</li> </ul>	<ul style="list-style-type: none"> <li>• Empower Chief of Provincial Health Office to encourage all government hospitals to offer single visit approach by 2010</li> </ul>
		<ul style="list-style-type: none"> <li>• All government hospitals offer single visit approach by 2010</li> </ul>	<ul style="list-style-type: none"> <li>• Only a few hospitals offering single visit approach</li> </ul>	<ul style="list-style-type: none"> <li>• Need a systematic and well-coordinated plan that scales up over time</li> </ul>	<ul style="list-style-type: none"> <li>• Work with key stakeholders to develop proposal for district-wide cervical cancer prevention program</li> </ul>	<ul style="list-style-type: none"> <li>• Seek NGO, donor and government support to implement proposal over one year</li> <li>• Plan scale-up</li> </ul>
		<ul style="list-style-type: none"> <li>• Information system</li> </ul>	<ul style="list-style-type: none"> <li>• Cervical Precancer Information System CPIS (Thai version)</li> </ul>	<ul style="list-style-type: none"> <li>• Need to start using information system</li> </ul>	<ul style="list-style-type: none"> <li>• Hold dissemination workshops in each target province</li> </ul>	<ul style="list-style-type: none"> <li>• Hold dissemination workshops in each target district</li> </ul>

	<b>Desired Situation/Goal</b>	<b>Actual Situation</b>	<b>Gaps/Needs</b>	<b>Immediate Interventions (up to 6 months)</b>	<b>Medium-Term Interventions (6 mo–3 yr)</b>	
<b>THAILAND (continued)</b>	<b>Training, Supervision and Logistics</b>	<ul style="list-style-type: none"> <li>• 20% of all nurses/midwives in RH clinics trained in cervical cancer screening</li> </ul>	<ul style="list-style-type: none"> <li>• National competency-based curriculum for cervical cancer prevention approved</li> </ul>	<ul style="list-style-type: none"> <li>• Large numbers of midwives were not trained</li> </ul>	<ul style="list-style-type: none"> <li>• Encourage gynecology association to organize training in each target district</li> <li>• Hold four provider training courses</li> <li>• Hold one Clinical Training Skills course</li> </ul>	<ul style="list-style-type: none"> <li>• Direct donors to fund pre-service training in cervical cancer prevention</li> <li>• Hold eight provider courses/year</li> <li>• Hold one Clinical Training Skills course/year</li> </ul>
		<ul style="list-style-type: none"> <li>• Performance monitoring tools for single visit approach facilities include cervical cancer screening and treatment</li> </ul>	<ul style="list-style-type: none"> <li>• Have research for measuring provider performance</li> </ul>	<ul style="list-style-type: none"> <li>• Need dissemination and implementation</li> </ul>	<ul style="list-style-type: none"> <li>• Hold dissemination workshops in each target province</li> </ul>	<ul style="list-style-type: none"> <li>• Hold dissemination workshops in each target district</li> </ul>
		<ul style="list-style-type: none"> <li>• A working cryotherapy set is available in all district hospitals</li> </ul>	<ul style="list-style-type: none"> <li>• Prepare cryotherapy set after training</li> </ul>	<ul style="list-style-type: none"> <li>• Need repair and maintenance service for cryotherapy equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Find dealer and service center</li> </ul>	<ul style="list-style-type: none"> <li>• Find dealer and service center</li> </ul>
	<b>Community Education and Social Mobilization</b>	<ul style="list-style-type: none"> <li>• Communities knowledgeable about cervical cancer and how it can be prevented</li> </ul>	<ul style="list-style-type: none"> <li>• Generalized lack of knowledge</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of generalized public awareness</li> </ul>	<ul style="list-style-type: none"> <li>• Use news and all mass media outlets (including health volunteers) to promote health education</li> </ul>	<ul style="list-style-type: none"> <li>• Continue to promote cervical cancer prevention activities</li> </ul>
		<ul style="list-style-type: none"> <li>• Engage NGOs in cervical cancer prevention</li> </ul>			<ul style="list-style-type: none"> <li>• Encourage local service organizations (e.g., Rotary) to “adopt” a nurse, and support training and provision of services</li> </ul>	<ul style="list-style-type: none"> <li>• Encourage local service organizations (e.g., Rotary) to “adopt” a nurse, and support training and provision of services</li> </ul>

	<b>Desired Situation/Goal</b>	<b>Actual Situation</b>	<b>Gaps/Needs</b>	<b>Immediate Interventions (up to 6 months)</b>	<b>Medium-Term Interventions (6 mo–3 yr)</b>	
<b>VIETNAM</b>	<b>Policy and Advocacy</b>	<ul style="list-style-type: none"> <li>National guidelines include VIA and cryotherapy/LEEP</li> </ul>	<ul style="list-style-type: none"> <li>Current national policy specifies cytology but there is no systematic, routine evaluation of cytology at national level</li> <li>National policy does not specify who can perform VIA or cryotherapy</li> <li>No local data are available</li> </ul>		<ul style="list-style-type: none"> <li>Begin translation of training materials from JHPIEGO and PATH</li> <li>Find funding</li> <li>Analyze data from National Cancer Institute (national two-year data) in different provinces to prioritize intervention areas</li> </ul>	<ul style="list-style-type: none"> <li>Start pilot project in poorer province where cytology screening coverage is low and HPV prevalence high (Southern Vietnam)</li> <li>Develop master plan for pilot project</li> </ul>
		<ul style="list-style-type: none"> <li>Students/other stakeholders advocate for cervical cancer prevention</li> </ul>	<ul style="list-style-type: none"> <li>Low awareness of VIA</li> </ul>		<ul style="list-style-type: none"> <li>Hold stakeholder workshop in Hanoi to increase awareness of VIA among medical professionals (e.g., directors of provincial health services and MOH)</li> <li>Find funding</li> </ul>	<ul style="list-style-type: none"> <li>Hold national/regional dissemination workshops for VIA/cryotherapy</li> </ul>
	<b>Service Delivery</b>	<ul style="list-style-type: none"> <li>VIA and cryotherapy/LEEP provided at district level by general practitioners and midwives</li> <li>50% coverage of VIA and cryotherapy/LEEP at national level by 2015</li> <li>Treatment facilities, including cryotherapy/LEEP</li> </ul>	<ul style="list-style-type: none"> <li>Treatment available at only a few provincial hospitals</li> </ul>		<ul style="list-style-type: none"> <li>Seek funding for treatment facilities (from MOH, NGOs, etc.)</li> <li>Prioritize provinces for intervention</li> </ul>	<ul style="list-style-type: none"> <li>Hold training workshop at provincial level</li> <li>Seek funding for treatment facilities (from MOH, NGOs, etc.)</li> </ul>

		<b>Desired Situation/Goal</b>	<b>Actual Situation</b>	<b>Gaps/Needs</b>	<b>Immediate Interventions (up to 6 months)</b>	<b>Medium-Term Interventions (6 mo–3 yr)</b>
<b>VIETNAM</b> <i>(continued)</i>	<b>Training, Supervision and Logistics</b>	<ul style="list-style-type: none"> <li>Medical community (general practitioners and midwives) informed about VIA</li> </ul>				<ul style="list-style-type: none"> <li>Hold training workshop at provincial level</li> </ul>
	<b>Community Education and Social Mobilization</b>	<ul style="list-style-type: none"> <li>Improve community knowledge</li> </ul>	<ul style="list-style-type: none"> <li>Community knowledge is low, but knowledge among members of medical community is high</li> </ul>		<ul style="list-style-type: none"> <li>Work with community-based organizations, namely Women’s Union, for social mobilization</li> </ul>	

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