

LATIN AMERICAN MEETING ON INNOVATIVE CERVICAL AND BREAST CANCER CONTROL STRATEGIES



15-16 April 2013
PAHO/WHO Representative Office in Lima, Peru



BACKGROUND

Cervical and breast cancer are the most common types of malignancies among women in the Region of the Americas, with over 400,000 new cases and some 120,000 deaths each year (Globocan 2008). Many lives could be saved, however, with the use of effective HPV vaccination strategies, as well as screening, early diagnosis, and timely treatment of these diseases. There have been many successful initiatives in the Region using innovative strategies for the prevention and control of these cancers of women, Peru being one of the pioneers in their development and implementation. In order to share these experiences and encourage their replication in the Americas, PAHO held the Innovative Strategies for Cervical and Breast Cancer Control meeting, co hosted by PATH and Peru's Ministry of Health (MINSA) and National Cancer Institute (INEN) in Lima from 15 to 16 April 2013.

Annex 1 contains the meeting's agenda.

More than 80 professionals from nine Latin American countries (Bolivia, Colombia, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua, Paraguay, and Peru) attended, including managers of the cervical and breast cancer programs, together with leading experts in the prevention and control of these cancers. Also in attendance were representatives from international NGOs, such as PATH, Basic Health International,

and Grounds for Health, and PAHO, including a contingent from the regional program and the PAHO Representative Offices in Bolivia, Guatemala, and Peru. *Annex 2* contains the full list of participants.

The meeting consisted of presentations, discussion sessions in which all attendees participated, and working groups--all geared to meeting the following objectives:

1. Present the available evidence and share experiences with the use of new technologies in the field of cervical and breast cancer.
2. Identify opportunities for promoting a change in the paradigms for the prevention of these diseases.
3. Underscore the importance of an appropriate mechanism for the training, supervision, and quality control of health care providers.

The main points addressed during the presentations and plenary discussions, as well as the results of the working groups, are summarized below, followed by the conclusions and the next steps agreed on to promote cervical and breast cancer prevention and control in the Region.

CONTENTS

Opening session

Present at the opening session were Dr. Fernando Leanes, PAHO Representative in Peru; Ms. Silvana Luciani, Regional Adviser for cancer prevention and control from PAHO/WDC; Dr. José Jerónimo, Senior Adviser on women's cancers from PATH; Dr. Tatiana Vidaurre, Director of Peru's National Cancer Institute (INEN); and Dr. Cecilia Ma, representative from Peru's Ministry of Health (MINSA).

In their opening remarks, the speakers highlighted the important role played by Peru over the past 15 years in the development of alternative innovative strategies for dealing with cancer in women. The TATI project in the Amazon region of San Martín (2000-2004) conducted one of the world's first pilot tests of the use of visual inspection with acetic acid (VIA) and cryotherapy as a cervical cancer screening and treatment strategy. This effort, which enjoyed backing from the Ministry of Health, INEN, PAHO, PATH, and other partners, demonstrated the effectiveness of this screening strategy and promoted its expansion to other countries in the Region. INEN was consequently named a Center of Excellence for training in VIA and cryotherapy, not only in Peru but in other countries of the Hemisphere as well.

In addition, the reforms adopted to achieve universal health service coverage in Peru, in which cancer has been designated a priority public health problem, are leading to major advances in its prevention and control. Public policies have made timely access to cancer treatment a priority through the Plan Esperanza (Hope Plan), which also emphasizes the need to increase early detection through primary care so that cancer can be diagnosed at earlier stages. This approach is in line with the recommendation of promoting a comprehensive approach to breast, cervical, and uterine cancer through strategies ranging from prevention to diagnosis, treatment, and palliative care.

Finally, it was noted that this meeting not only

represented the culmination of almost two decades of work in Peru but offered an opportunity to share experiences and lessons learned and to propose ways of expanding these capabilities to the rest of the Region to tackle a problem with many common features despite the differences among the countries.

Session I: Cervical cancer. Moderator Dr. Gino Venegas.

1. Cervical and Breast Cancer in Latin America. Ms. Silvana Luciani, PAHO/Washington.

Ms. Luciani reviewed the most salient epidemiological aspects of cervical and breast cancer in the Americas. With almost 400,000 new cases and 120,000 deaths annually, these are the most common cancers among women in the Region, with marked inequalities in the distribution of the disease burden not only between North America and Latin America and the Caribbean, but among and within the countries, underscoring the existing inequities in access to health services. Furthermore, mortality trends for the two diseases have remained virtually unchanged in the majority of the countries, revealing the need for a change in the paradigms and strategies for prevention and control, as well as the importance of designing approaches based on the context and available resources.

Although there are effective interventions for the early detection of both cervical and breast cancer, their success requires a comprehensive approach in which access to diagnostic and treatment services is guaranteed as part of an organized program. The countries of the Region have made great strides in the introduction of new technologies for primary and secondary prevention of cervical cancer, but problems achieving adequate coverage and monitoring rates persist.

In light of this, PAHO has made noncommunicable diseases (NCDs) and cancer a priority, focusing its

work on advocacy and the mobilization of political commitment, technical assistance for the drafting of national plans and programs, greater access to drugs, and resource mobilization. As part of these efforts, the Organization developed the Regional Strategy and Plan of Action for Cervical Cancer, approved by the ministers of health of the Americas in 2008, which identifies seven priority areas of action. Breast cancer guidelines have been developed with the Breast Health Global Initiative (BHGI), proposing interventions for priority prevention and control of this type of cancer based on the available resources. Finally, in February of this year, PAHO launched the Women's Cancer Initiative as part of the Pan American Forum for Action on NCDs (PAFNCD) to create a platform for the creation of public-private partnerships that will serve as a catalyst for the efforts of all organizations working in this field.

Concluding her presentation, Ms. Luciani mentioned the two international congresses on cancer scheduled for this year in the Region: the International Cancer Control Congress (Lima, Peru, 3-6 November 2013) and the 1st South American Meeting on HPV (Santiago, Chile, 4-6 September 2013), inviting participants to submit abstracts as a way of sharing their experiences.

2. Experiences of the Ministry of Health of Peru with Comprehensive Care.

The three presentations summarized below describe three Ministry of Health programs in Peru that have played a key role in improving activities for women's cancer prevention and control—programs that can facilitate expansion of the innovative strategies launched in the country to the national scale.

2.1. Comprehensive Mobile Health Care Brigades for Scattered and Vulnerable Populations (AISPED). Dr. Pedro Ipanaqué, Ministry of Health.

Dr. Ipanaqué described Peru's experience with comprehensive mobile health care brigades, or teams, for scattered and vulnerable populations (AISPED) as a strategy for improving access to services to complement those of fixed public health facilities and

services. Using a risk-based intercultural approach, these brigades, made up of multidisciplinary teams, bring services to scattered communities in remote areas. The package of services that they provide includes health promotion; prevention activities, including screening and early detection; recovery care; home care for at-risk families; maternal and child care; and emergency referrals.

2.2. Family Health Program, Comprehensive Cancer Care with a Family Approach. Dr. Patricia Polo Ubillús, Ministry of Health.

Dr. Polo described the national family health strategy and current opportunities for providing a comprehensive approach to cancer through the country's comprehensive family- and community-based health care model. Reviewing the main lines of Peru's comprehensive family care plan, she described its system of four family visits per year, used to identify risks, develop a comprehensive family plan, and improve self-care. Finally, she presented the "familygram," one of the tools used by the health team to identify biological, social, and psychological risks in up to three generations, and noted the comprehensive family health approach's potential for improving cancer prevention and control.

2.3. ADAMO Program (home care for older persons and cancer patients). Dr. Aldo Lama, Regional Health Director of Callao, Ministry of Health.

Dr. Lama described the home care program for older persons and cancer patients (ADAMO) that was launched in the Callao region on 4 March of this year. ADAMO's main priorities are improving the quality of life of patients and their families, modernizing the health system, and making better use of available resources by reducing the number of hospital admissions. The program consists of free universal health services 24 hours a day throughout Callao. Its direct beneficiaries are terminally ill cancer patients and adults over 60 years of age. Care is provided in the home by a multidisciplinary team and includes the services of a nurse, a general practitioner, and specialist, with procedures to permit outpatient

monitoring of symptoms, thereby reducing hospital admissions and improving the quality of life of patients and their families.

the creation of a sound platform for managing and treating positive cases as key to lowering the burden of disease, regardless of the type of screening employed.

3. Cervical Cancer Screening Alternatives.

Dr. José Jerónimo, PATH.

Dr. Jerónimo began his presentation on cervical cancer screening alternatives by reviewing the natural history of the disease and HVP, the causative agent of this type of malignancy. For years, the only available screening option was cytology, or the Pap test, which has had a positive impact in the developed countries, where high coverage, satisfactory test quality, and good monitoring rates have been achieved. However, the inherent limitations of the test (relatively low sensitivity), together with its opportunistic use and low coverage and monitoring rates, has kept developing countries from achieving comparable success. Efforts in recent years have therefore focused on the design of alternative strategies, including visual inspection with acetic acid (VIA) and HPV DNA detection.

VIA is a simple, noninvasive, and relatively economical technique that requires no special equipment, as it consists of applying diluted acetic acid to the cervix, followed by examination with the naked eye. With a sensitivity similar to that of cytology, VIA has the advantage of permitting immediate treatment of any lesions detected.

HPV DNA testing permits the detection of a high-risk viral infection—with a sensitivity of over 90%. Its negative predictive value, moreover, is very high—a negative result signifying a minimal risk of disease in the next 10 years. The HPV test most commonly used is hybrid capture, whose limitations are cost and infrastructure requirements. In order to overcome these barriers the CareHPV test—a more portable and inexpensive version of the test, with a sensitivity of over 85%—has been developed. New screening strategies, such as protein E6 detection through rapid testing with a reactive strip, are also being developed. Dr. Jerónimo concluded his presentation by stressing

QUESTIONS AND ANSWERS

During the open-ended question-and-answer session following the presentations, the points below were discussed:

- Under the Plan Esperanza—the pillars of which are integration, teamwork, and the expansion of coverage to all Peruvians—the family health program and AISPED platforms offer an opportunity to integrate and expand the scope of Peru’s innovative cancer prevention strategies. Encompassing all health subsectors, the plan is designed to have a real impact at the national level.
- Health brigades are a resource used by several countries in the Region to bring health services to the most distant and vulnerable communities. The inclusion of cervical and breast cancer screening services in these efforts has great potential.
- Some countries have encountered resistance on the part of women and/or their communities to having a male physician perform a gynecological exam. In Peru, this has been addressed by using midwives—health professionals with five years of university training, who have the skills to care for women of childbearing age. Brigade members also receive intercultural training, which helps them overcome this type of barrier.
- Finally, there was discussion of the reasons why patients sometimes refuse cancer treatment. Sometimes it is because of the lengthy wait at health service facilities and poor quality of care.

4. VIA and Cryotherapy Training: Experience of the Center of Excellence in Training (CEC). Dr. Carlos Santos, INEN.

Dr. Santos described the experience of INEN’s Center of Excellence in Training (CEC) in Peru, reviewing some of the key aspects of VIA and cryotherapy training, as well as the CEC’s work nationally and in other Latin American countries.

The CEC has made enabled the national cervical cancer program to respond to challenges in the training and supervision of health service providers, as well as the education of women and their communities. Using the educational pyramid as an instrument for identifying training needs, it has developed an array of training modalities that include health promotion courses for community leaders; courses in VIA and cryotherapy courses to train an adequate number of clinical service providers; and finally, courses to train trainers and master instructors. It has also produced instructional materials for each of these levels that have been

validated by international organizations such as PATH and Jhpiego.

Using this approach, the entire educational pyramid has been constructed in Peru, with the training of 285 health promoters and 93 promoter trainers, 194 clinical VIA and cryotherapy providers, 30 trainers, and 3 master trainers. This same strategy has been used in Colombia and Nicaragua.

The CEC has also developed materials to aid supervision, as well as a methodology for monitoring providers—both key to guaranteeing the quality of VIA and cryotherapy services. Finally, Dr. Santos commented on the growing need to adopt virtual supervision strategies as services are expanded nationwide and the number of providers increases.

5. Lessons Learned in Cervical Cancer Prevention through VIA and Cryotherapy Use in the Countries.

5.1. The experience of Peru. Dr. Aldo López.

Dr. López described San Juan de Lurigancho Hospital's experience with the implementation of VIA and cryotherapy services, supported by INEN's Latin American School for Cervical Cancer. The project began with an exhaustive situation analysis that identified three health centers for pilot testing. This was followed by clinical training for the selected providers and training in information management and counseling for health promoters. The necessary equipment was also provided. Once service delivery commenced, technical assistance and supervision activities were organized, accompanied by an accreditation process for providers and their facilities.

This type of pilot project provides a great deal of value added, generating activities that facilitate nationwide expansion of the services.

5.2. The experience of Nicaragua. Dr. Álvaro García.

Dr. García shared Nicaragua's experience, which dates back to 1998, when a VIA and cryotherapy pilot project was implemented in primary health care (PHC). In 2007, the country's Ministry of Health began promoting training courses that, with support from INEN, trained some 150 professionals, completing the educational pyramid. In 2010, national VIA and cryotherapy standards were issued, confirming the authorities' commitment to promoting this screening strategy. Since then, the Ministry of Health has developed an instrument for collecting VIA data and has provided more equipment for treatment. Screening services are currently offered at fixed health facilities and by brigades.

According to Dr. García, the lessons learned by the country include the need to expand training activities beyond the Ministry to include other service providers; the importance of providing VIA and cryotherapy training in undergraduate studies; and the importance of strengthening supervision and monitoring activities.

5.3. The experience of Colombia. Dr. Mauricio González.

Dr. González described the experience of Colombia, where support from the Ministry of Health has been essential for promoting the introduction of new screening strategies. In fact, the goals of the 10-year Cancer Control Plan, launched in February 2013, include achieving 80% cytology coverage and adopting new strategies that include the HPV test, the see-and-treat strategy based on VIA and cryotherapy, and HPV vaccination for 3.5 million girls and female adolescents in 2013.

Analysis of the disease burden, along with the identification of access barriers to screening services resulting from difficult geographical or social situations has led to the identification of five areas for implementation of see-and-treat strategy based on VIA and cryotherapy. In addition, two departments in the vicinity of Bogotá are using the HPV test, while the rest of the country is making greater use of cytology.

The introduction of VIA and cryotherapy was based on a sound communication and education strategy targeting the community, insurance providers, and health professionals—especially those who were expected to resist this type of screening and treatment. While the clinical providers consist primarily of professional nurses, other types of professionals have also been trained, including leading gynecologists, who have assumed a supervisory role while receiving a refresher course in colposcopy and radiofrequency treatment of lesions.

Standardization of learning, quality control, and monitoring has been important to this process, with virtual tools essential for the supervision of providers. The main challenge still pending is to develop a good information system to guarantee adequate monitoring of the women with abnormal results sent for colposcopy and treatment.

5.4. The experience of Guatemala. Dr. Erick Álvarez

Dr. Álvarez closed the round of presentations on experiences by sharing the Guatemala's work over the past five years. Since 2008, the country has

trained more human resources not only in VIA and cryotherapy, but colposcopy as well, and increased both the colposcopy equipment and cryotherapy and LEEP treatment in every department. The country also has four mobile units that bring services to hard-to-reach remote areas. Throughout this process, Guatemala has improved its own educational materials

and integrated the new screening strategies into its regulations.

One of the challenges for the immediate future is developing an information system with complete, high quality information on the women who receive screening and treatment services.

QUESTIONS AND ANSWERS

Following the presentations on the CEC and country experiences, a discussion period ensued that addressed the issues below:

- The pros and cons of VIA and cryotherapy treatment. This topic was widely discussed in the plenary session. Although VIA yields a known proportion of false positives, cryotherapy treatment has minimal mild side effects that are acceptable, given the benefits of the see-and-treat strategy.
- The duration of training. VIA and cryotherapy training takes an average of six days—a much shorter period than that required for cytology (at least 6 months at a specialized training center). Even so, efforts are being made to minimize in-person training by offering a preliminary virtual course that would cut the course to three days centered on practice.
- The professional profile of providers and master trainers. This depends on the situation in each country. In the case of Peru, midwives are very good candidates, since they have a sound university education, are familiar with pelvic and cervical exams, and have a widespread presence throughout the country. From a technical standpoint, an individual with any professional profile can become a master trainer if he or she has the necessary skills and clinical and teaching ability.
- The treatment of precancerous lesions. In most countries LEEP is restricted to reference centers, where it is performed by a gynecologist, given the risk of hemorrhaging associated with this therapy. There, the procedure can be used as part of a see-and-treat strategy in which it is performed not only for diagnostic but therapeutic purposes as well.
- Situation analysis. In countries that are drafting or amending their cervical cancer screening regulations, it is essential to start with a good situation analysis to identify the different scenarios in the country and their needs.
- Proper patient counseling. This should occur prior to the treatment of precancerous lesions. The issue of informed consent was also discussed.

6. Role of VIA and Cryotherapy in Molecular Screening. Dr. Mauricio Maza, Basic Health, El Salvador.

Dr. Maza gave a presentation on the role of VIA and cryotherapy during molecular screening, sharing El Salvador's experience with the use of CareHPV as part of a research project. This research was designed to remove the barriers created by cytology-based screening, which consist of low coverage and the need for up to seven intermediate steps from the time the specimen is taken from the patient for cytology to the time she receives treatment in the case of an abnormal result.

The project focused on two cohorts (A and B) of women aged 30 to 49 and was based on the use of a self-administered CareHPV test and the same test administered by a health care provider. In cohort A, women who tested positive for HPV were referred for a colposcopy appointment to complete the diagnostic and treatment process. In cohort B, the HPV-positive women were subjected to triage through VIA, and, depending on the outcome, were treated with cryotherapy or referred for colposcopy. The preliminary results of this study show a substantial reduction in follow-up losses in cohort B assigned to visual triage, where some 75%-80% of the women completed treatment, in contrast to only 51% in cohort A, where all women who tested positive were referred for colposcopy.

Given the results of this pilot test, it is hoped that CareHPV teams can be made available nationally, although this poses the challenge of guaranteeing proper management of all women with a positive result. Some additional challenges include obtaining the necessary political backing; effectively combating resistance by certain professional groups, including gynecologists, pathologists, and cytologists; and defraying the costs, both direct and indirect.

7. Virtual Strategy for Supervision and Monitoring of VIA and Cryotherapy. Dr. Mauricio González, Colombia.

Dr. González began his presentation by discussing the role of the National Oncology Institute (NCI) as a health service provider, teaching and research center, and technical adviser to the ministry. One of the NCI's educational strategies is virtual courses, which cover a variety of topics such as taking and reading specimens for cytology, the natural history of HPV infection, standardization of mammography reports, and visual inspection techniques.

The virtual course on visual inspection techniques has been used prior to in-person training to provide basic formation that facilitates the selection of participants and teaching of the in-person course, thus shortening its duration. Virtual monitoring has also been provided through the same platform, using an image bank that facilitates quality control and the identification of retraining or supervision needs. As part of this supervision, providers are tested quarterly for the first year and semiannually thereafter; the test consists of 20-30 cases (30% negative, 60% positive, and 10% with suspected cancer). This approach has made it possible to create individualized learning curves for providers and has proven an efficient supervision and quality control strategy for handling the expansion of screening services and growing number of providers requiring supervision.

QUESTIONS AND ANSWERS

Following the last two presentations of the session on cervical cancer, a question-and-answer period ensued in which the following issues were addressed:

- The cost of the HPV test and the importance of having good information systems with patient registries to avoid overscreening. As screening costs rise, efficient resource use becomes even more important to ensure the desired impact
- The importance of having a well-established monitoring protocol in place before introducing HPV testing as a screening strategy.

SESSION II: BREAST CANCER

Moderator Dr. Ashley Alarcón Rozas

1. Breast Cancer Screening Alternatives: Limitations of Mammograms and Clinical Breast Examinations as an Alternative. Dr. Javier Manrique, INEN

Dr. Manrique began his presentation by reviewing breast cancer incidence and mortality data at the regional level and in Peru, which has only three population registries with partial coverage. Next, he stressed the importance of having a legal and regulatory framework for early detection and timely diagnosis of breast cancer, as well as common directives for all health care personnel based on guidelines and protocols.

As for screening options, he note that numerous uncontrolled studies and retrospective series on women aged 50-70 have shown mammography's capacity to diagnose breast cancer in the early stages, when a positive clinical outcome is possible. The overall sensitivity of this test is approximately 79%, although it is lower in younger women and those with dense breast tissue. Furthermore, mammography requires equipment and radiologists with the necessary professional skills for reading the films, along with an adequate mechanism for quality control.

Clinical breast exams have been proposed as an alternative to mammography and have been

evaluated alone or in combination with that imaging. The value added of these exams is controversial, as their sensitivity is only 51.7% according to some studies.

2. Experience of the Community Breast Health Project in Peru. Dr. Manuel Cedano, Ministry of Health.

Dr. Cedano presented the experience of the community breast health project in Peru's La Libertad region. The objectives of this project, run by the Regional Cancer Institute (IREN) North, are to increase access to screening, diagnosis, and treatment; bring the first steps in the diagnostic process to women; and reduce the time they spend outside the home.

In collaboration with INEN, PATH, and the network of Pacasmayo Province, IREN North launched a pilot project based on the use of clinical breast exams performed by midwives in primary care, followed by the referral of women with positive screenings (palpable nodes) to a network hospital for assessment by trained physicians and FNAB (fine-needle biopsy aspiration). Women with FNAB anomalies are referred to IREN North to complete the diagnosis and treatment.

A Center of Excellence in breast health has been established as a result of this project, and curricula and training in how to perform clinical breast exams

and FNAB have been developed and validated. To date, three training activities have been completed, and instruments for the supervision and monitoring of these activities, including training for supervisors, have also been designed.

3. Cost-effectiveness Study on Breast Cancer Screening and Treatment. Dr. Diego Venegas, Ministry of Health.

Dr. Venegas began his presentation with a description of the basic pillars of the Plan Esperanza, whose purpose is to increase the most vulnerable population's access to cancer prevention and treatment services, as well as palliative care. To this end, the plan covers all health subsectors, harmonizing program criteria and promoting benefit exchanges to achieve more efficient use of resources and broaden the coverage of mammography services.

Dr. Venegas then went on to discuss the main findings of the cost-effectiveness study on breast cancer interventions in Peru, which was conducted by the Netherlands' Radboud University in conjunction with WHO and the Susan G. Komen Breast Cancer Foundation. Under model developed, over 40 different breast cancer prevention and control interventions were evaluated and it was found that the most cost effective strategy is triennial or biennial screening, especially in combination with clinical breast exams (women aged 40-49) and mammograms (ages 50-69). Implementing this strategy would entail costs of US\$56-61 million.

QUESTIONS AND ANSWERS

Following the presentations in the session on breast cancer, a question-and-answers period ensued, in which the issues below were addressed:

- The participants discussed the importance of breast self-examination as a screening tool. Although educational strategies to improve women's knowledge about their bodies can lead them to visit the health services early on, some studies have also shown that women who self-examine their breasts can develop a false sense of security that may cause them to put off their visit to a health professional.
- The participants proposed ultrasound for breast cancer screening, emphasizing its role as a complement to, and not a substitute for, mammograms in women over 50.
- Although cases of breast cancer are found among younger women, the importance of defining a target population for screening programs as a public health strategy was stressed.
- Concerning the use of mammograms, the participants note the significant underutilization of mammography equipment in Peru, with patient return rates five times lower than optimal. The best option for expanding coverage in the country is interinstitutional cooperation, because mobile equipment is very expensive and the use of digital mammograms for remote interpretation is limited by the bandwidth of the Internet connection.
- Finally, the participants underscored the urgent need to increase access to palliative care and opioids for pain relief.

PROVAC INITIATIVE: Cost-effectiveness Studies on Cervical Cancer Strategies. Ms. Cara Janusz, Dr. Andrea Vicari, Dr. Elisa Prieto, PAHO.

Ms. Janusz began the session on the cost-effectiveness of cervical cancer prevention strategies with a description of the PAHO immunization unit's ProVac Initiative and the general characteristics of the CERVIVAC model. The goal of the ProVac Initiative is to bolster the countries' technical capabilities in evidence-based decision-making on the introduction of new vaccines. Working with multidisciplinary national teams, its objectives include the development of supporting tools, including cost-effectiveness models such as the CERVIVAC model. CERVIVAC is a simple, transparent Excel based model that permits the evaluation of HPV vaccination in a single cohort of adolescent girls and screening strategies in a single cohort of adult women who are not eligible for vaccination. Studies using the CERVIVAC model are currently under way in nine countries in the Region (Argentina, Bolivia, Costa Rica, Ecuador, Guatemala, Honduras, Paraguay, Peru, and Uruguay), and a study in Jamaica has already been concluded.

Dr. Vicari then reviewed the HPV vaccination component of the CERVIVAC model. She began by describing the most important characteristics of the two available vaccines (bivalent and quadrivalent), including key considerations on their immunogenicity. Next, she defined the baseline scenario that should be evaluated with the model, characterized by the "attainable situation" of a well performing program—that is, a 3-dose series, assuming lifelong protection and vaccination coverage similar to that achieved with other vaccines. Using this baseline scenario, she proposed several alternative scenarios to evaluate with the model, including lower coverage, the need for a booster dose, a 2-dose series, a potential increase in cross-protective efficacy between the bivalent and quadrivalent vaccines, and catch-up.

Finally, Dr. Prieto discussed aspects of the CERVIVAC

model's screening component. She stressed the importance of formulating operational questions on screening that can be evaluated by the model and are important for strengthening the program, since these questions are what will guide data collection and analysis. The model includes six screening strategies (cytology, visual inspection with acetic acid (VIA), HPV test (self-administered or administered by a clinician), followed by triage through cytology or VIA) and enables the user to manipulate a series of parameters linked with programming aspects of screening (age range, screening frequency, test sensitivity, percentage of coverage and monitoring). Using these options, the evaluation question can be geared to optimizing the screening program without modifying the test or introducing a new paradigm. Dr. Prieto stressed the importance of basing questions on a good situation analysis and review of the scientific evidence on the subject and the value of the research process for program planning and strengthening.

QUESTIONS AND ANSWERS

In the period following the presentation of the ProVac Initiative and CERVIVAC model the issues below were addressed:

- Economic concepts related to cost-effectiveness analysis, including the meaning of the incremental cost-effectiveness ratio.
 - The fact that the model was not designed to assess the impact of the quadrivalent vaccine on genital warts, since cervical cancer is the priority public health issue.
 - The value added of this type of analysis for planning and strengthening the cervical cancer program. In the case of the screening component, evaluating a strategy with the model does not mean that it will be implemented right away, but that its future introduction will be facilitated by having information on its costs and impact.
-

WORKING GROUPS

Day two of the meeting was devoted to group work to identify cervical and breast cancer control priorities in each country and the activities and assistance required in the short, medium, and long term. *Annex 3* contains instructions for organizing the group activities.

In order to complete this task, the following working groups were formed: 1) Central America, made up of the representatives from El Salvador, Guatemala, Honduras, and Nicaragua; 2) South America, made up

of the representatives from Bolivia, Colombia, Ecuador, and Paraguay; and 3) Peru, which as the host nation had a large contingent of professionals from different institutions and regions throughout the country. The main results of the working groups presented in the plenary session appear below.



WORKING GROUP FOR CENTRAL AMERICA

Summary of the priorities and activities proposed for the cervical and breast cancer prevention and control in the short, medium, and long term (continues next page):

COUNTRY	CANCER	ACTIVITIES		
		SHORT TERM	MEDIUM TERM	LONG TERM
EL SALVADOR	Cervical and breast cancer	1. Strengthening programs - Update programs and technical guidelines for cervical and breast cancer. - Disseminate the guidelines through training activities. - Raise awareness among national professionals about cervical cancer screening and management. 2. Information system - Harmonize data collection tools and train personnel in their use.	1. Administer HPV vaccine 2. Boost productive capacity and increase human resources in laboratories (cytology, pathology, and molecular biology) 3. Train health workers to perform screening and diagnostic tests. Training aimed at "seeing and referring"	1. Establishment of a national radiation therapy center 2. Development of a palliative care center
HONDURAS	Cervical cancer	1. Information systems - Prepare an implementation plan for the system: final review of SISLOC; training and equipment 2. Review of standards - Review and update cervical cancer screening standards 3. Implementation of VIA - Develop a plan for implementing VIA and cryotherapy (screen and treat) 4. Cervical pathology clinics - Gather documentation and prepare a training plan	1. Information systems - Conduct SISLOC in the various health regions, with gradual training of the individuals responsible 2. Review of standards - Finish and distribute the standards 3. Implementation of VIA - Train health workers in the regions 4. Cervical pathology clinics - Procure equipment	
	Breast cancer	Situation analysis	Training and promotion of clinical breast exams	Information system - Include breast cancer screening in SISLOC

WORKING GROUP FOR CENTRAL AMERICA

COUNTRY	CANCER	ACTIVITIES
NICARAGUA	Cervical and breast cancer	<p>1. Training</p> <ul style="list-style-type: none"> - Train physicians from sectors other than the public sector and include contents on cervical cancer and screening tests in university training. - Build capacity by region to ensure that the regions are autonomous. <p>2. Equipment</p> <ul style="list-style-type: none"> - Map equipment (cryotherapy/mammography) <p>3. Monitoring and follow-up</p> <ul style="list-style-type: none"> - Systematize the information
GUATEMALA	Cervical cancer	<p>1. Strengthen the see-and-treat strategy</p> <ul style="list-style-type: none"> - Train personnel to perform VIA, the Pap test, cryotherapy, and colposcopy with supervision and monitoring - Disseminate information on the critical path for referral and counter-referral of patients who test positive, with coordination among the various institutions <p>2. Introduction of the HPV test</p> <ul style="list-style-type: none"> - Develop pilot projects for estimating costs and implementing the DNA test for the conditions of Guatemala - Evaluate the cost-effectiveness of introducing the HPV test through the CERVIVAC model <p>3. Introduction of the HPV vaccine</p> <ul style="list-style-type: none"> - Finish and distribute the CERVIVAC study <p>4. Develop a cervical cancer information system</p> <ul style="list-style-type: none"> - Hold intra- and interinstitutional technical meetings to devise the information system
	Breast cancer	<p>1. Finalization of policy document on managing breast pathology</p> <ul style="list-style-type: none"> - Hold technical meetings to reach a consensus and finalize the policy document and critical paths (1 and 2) <p>2. Critical path for managing breast pathology</p> <ul style="list-style-type: none"> - Define the referral and counter-referral flow for patients who test positive and ensure coordination among institutions <p>3. Training and supervision of health workers who perform clinical breast exams</p> <ul style="list-style-type: none"> - Hold training workshops - Develop monitoring and evaluation standards <p>4. Update mapping of human resources and materials for breast cancer</p> <ul style="list-style-type: none"> - Hold technical meetings to disseminate data and provide training on use of the data collection form for equipment and human resource mapping.

WORKING GROUP FOR SOUTH AMERICA

Identified short-, medium-, and long-term priorities for breast and cervical cancer prevention and control:

TIMELINE	PRIORITIES
SHORT TERM	-Implement projects in demonstration areas to determine how to best implement new strategies.
MEDIUM TERM	- Create forums to share experiences and lessons learned for cooperation among countries.
LONG TERM	<ul style="list-style-type: none"> -Include the issue of machismo, which prevents specimens from being taken and screening interventions, in the promotion component under the “habits and customs” category. -Increase quality counseling, specimen-taking, and screening activities in PHC centers. -Educate and inform the community using a cultural identity approach that respects community idiosyncrasies. Generalizations cannot be made about community characteristics in our countries. -Implement activities based on the existing structure. -Employ a management approach in programs from the outset. -Continue advocacy activities.

WORKING GROUP FOR PERU

Priorities for strengthening cervical and breast cancer prevention, with emphasis on creating competency development centers:

PRIORITIES
<ul style="list-style-type: none"> • Competency development centers: First-level centers, ongoing training in VIA and breast exams. • Identify regions for setting up competency development centers. • Include these activities in daily work. • Certification of competency development centers: Review guidelines and draft certification standards (for all subsectors). Administration could be regional (adapted from the national administration). Certify trainers and providers. • Advocacy with regions. Joint efforts with regional governments to empower every region. • Develop national guidelines: standardize activities, indicators, and instruments. • Develop management skills for sustainability. • Gather information on professionals trained at the different training levels. • Monitor facilitating groups (6 teams)— standardize skills and evaluate competencies. • Implement public policies: these should not be pilot projects. • Improve public health. • Train motivated personnel—integrate professional and economic incentives with institutional indicators and goals. • Consider the budget allocated: trainers and individuals trained; political commitment (sectoral committee, Plan Esperanza). • Multisectoral reference model for training activities. • Combine in-person and virtual activities. • Implement training activities plan. • Involve nonphysicians (midwives) in training activities. • Certification of trainers: universities. • Develop multisectoral trainers’ groups; comprehensive development of sectors involved in cancer control (standardized activities). • Use cancer model for other noncommunicable diseases.

The working group for Central America also identified the challenges listed below, as well as subregional and regional opportunities for addressing them:

Common challenges	OPPORTUNITIES
Information systems	-Publicity about the ELS/HON information system (Elluminate/field visits) -RINC working group
Review and updating of screening standards	-PAHO/WHO guidelines and recommendations -GUA regulation and manuals
Mechanism for procuring equipment and supplies	-Explore potential role of the PAHO Strategic Fund
Training, supervision, and monitoring of human resources	-Virtual VIA and cryo course of the PAHO virtual campus -GUA standards
Introduction of HPV vaccine	-CERVIVAC study
Introduction of new screening technologies (VIA/HPV/breast cancer screening)	-CERVIVAC study -Checklist for introducing El Salvador's CareHPV
Strengthen capacity for diagnosing patients (laboratories/colposcopy)	-International cooperation
Strengthen the capacity of services to handle cases	-IAEA
Develop regulations and palliative care services	-Course/workshop on palliative care in the USAC GUA (graduate)

Finally, the working group for South America noted the following shared challenges at the subregional level:

- Strengthen cancer prevention and control programs using an integrated approach.
- Implement activities in the cervical and breast cancer control component, including promotion, screening, diagnosis, treatment, and palliative care.
- Implement new strategies and activities to increase coverage and manage the cases detected.
- Identify intervention areas based on the feasibility of employing the most suitable strategy for the community in question.
- Initiate joint activities chosen by consensus for university training in cervical and breast cancer preventive activities.
- Registry system for managing the screening process and integrated approach. In the operational area, it is implemented through functional networks.
- Train intervention teams to implement the VIA strategy.

CONCLUSIONS

- The scientific evidence underpinning innovative strategies for the prevention and control of cervical and breast cancer is clear, and the implementation of these strategies is feasible, as the successful experiences of some countries in the Region show.
- All the participating countries demonstrated their interest and commitment to integrating these new approaches into their cervical and breast cancer prevention and control programs.
- Although the countries' situations vary widely, common challenges and areas for sharing experiences and South-South cooperation were identified and PAHO's role as a facilitator was noted, along with the need for support from other partner organizations.
- Generally speaking, cervical cancer control programs are more developed in the Region, although there is still a need to promote the introduction of new technologies for primary prevention (HPV vaccine) and secondary prevention (VIA and the HPV DNA test); strengthen training and supervision of screening service providers; improve coverage; and guarantee adequate monitoring of women with abnormal results.
- Implementation of breast cancer prevention and control programs is still in its infancy in many of the countries despite the growing burden of disease. It is necessary to improve the performance of mammography teams, guarantee appropriate human resources education, improve quality control systems, and promote the introduction of innovative strategies to bring early detection services such as clinical breast exams followed by FNAP of palpable lesions closer to women.
- Most of the countries indicated the need to develop and/or strengthen cervical and breast cancer information systems. Having registries based on a unique personal ID is key to generating coverage data and adequately monitoring women with abnormal results.

ANNEX 1



INNOVATIVE CERVICAL AND BREAST CANCER CONTROL STRATEGIES

15-16 April 2013
PAHO/WHO Representative Office in Peru.
Lima, Peru

AGENDA

Day 1: April 15, 2013

Time	Topic	Presenter
08.00-08.30	Welcome and registration	
08.30-08.45	Opening	Dr. Fernando Leanes, OPS/OMS Perú Dr. José Jerónimo, PATH Dr. Tatiana Vidaurre, INEN
Session I: Cervical cancer <i>Moderator: Dr. Gino Venegas Rodríguez</i>		
08.45-09.00	Cervical and Breast Cancer in Latin America	Ms. Silvana Luciani, PAHO
09.00 – 09.45	Experiences of the Ministry of Health of Peru with Comprehensive Care: <ul style="list-style-type: none"> Comprehensive Mobile Health Care Brigades for Scattered and Vulnerable Populations (AISPED). Dr. Pedro Ipanaqué, Ministry of Health. Family Health Program, Comprehensive Cancer Care with a Family Approach. Dr. Patricia Polo Ubillús, Ministry of Health. ADAMO Program (home care for older persons and cancer patients). Dr. Aldo Lama, Regional Health Director of Callao, Ministry of Health. 	Dr. Maria Pereyra, MINSA Dr. Patricia Polo Ubillús, MINSA Dr. Aldo Lama, MINSA
09.45-10.00	<i>Questions and answers</i>	
10.00-10.15	Cervical Cancer Screening Alternatives	Dr. José Jerónimo, PATH
10.15-10.30	<i>Questions and answers</i>	
10.30-10.45	Coffee break	
10.45-11.45	Lessons Learned in Cervical Cancer Prevention through VIA and Cryotherapy Use in the Countries.	Peru: Dr. Aldo López Nicaragua: Dr. Álvaro García Colombia: Dr. Mauricio González Guatemala: Dr. Erick Álvarez
11.45 – 12.00	<i>Questions and answers</i>	
12.00 – 12.15	Role of VIA and Cryotherapy in Molecular Screening. Dr. Mauricio Maza, Basic Health, El Salvador.	Dr. Mauricio Maza, Basic Health
12.15 – 12.30	<i>Ronda de preguntas</i>	
12.30-12.50	VIA and Cryotherapy Training: Experience of the Center of Excellence in Training (CEC).	Dr. Carlos Santos, INEN
12.50-13.00	Virtual Strategy for Supervision and Monitoring of VIA and Cryotherapy.	Dr. Mauricio González, Colombia
13.00 -14.00	Lunch	
Session II: Breast cancer <i>Moderator: Dr. Ashley Alarcón Rozas</i>		
14.00-14.15	Breast Cancer Screening Alternatives: Limitations of Mammograms	Dr. Javier Manrique, INEN

	and Clinical Breast Examinations as an Alternative.	
14.15-14.30	<i>Questions and answers</i>	
14.30-14.45	Experience of the Community Breast Health Project in Peru.	Dr. Manuel Cedano, MINSA
14.45-15.00	Cost-effectiveness Study on Breast Cancer Screening and Treatment.	Dr. Diego Venegas, MINSA
15.00 -15.15	<i>Questions and answers</i>	
15.15-16.00	<i>Plenary session</i>	

Day 2: April 16, 2013

Time	Topic	Presenter
08.00-08.30	Welcome	
Session III: Working groups		
<i>Moderator: Dr. José Jerónimo</i>		
8.30-9.15	PROVAC INITIATIVE: Cost-effectiveness Studies on Cervical Cancer Strategies.	Ms. Cara Janusz, PAHO Dr. Andrea Vicari, PAHO Dr. Elisa Prieto, PAHO
9.15-9.30	<i>Questions and answers</i>	
9.30-9.45	Working group instructions	Dr. José Jerónimo, PATH
09.45-10.50	Working groups	Group A: Central America Group B: South America Group C: Peru
10.50-11.00	Coffee break	
11.00-13.00	Working groups	
13.00-14.00	Lunch	
14.00-16.15	Working groups presentations	Group A Group B Group C
16.15-16.45	Final agreements: Priorities and recommendations	Ms. Silvana Luciani, PAHO Dr. José Jerónimo, PATH
16.45-17.00	Adjourn	INEN representative MINSA representative

ANNEX 2

INNOVATIVE CERVICAL AND BREAST CANCER CONTROL STRATEGIES

15-16 April 2013

PAHO/WHO Representative Office in Peru.
Lima, Peru

Participants list

Bolivia
Milton Soria
Chief of Pathology Lab
Instituto Nacional de Laboratorios en Salud

Bolivia
Fernando Nuñez
Pan American Health Organization

Colombia
Omaira Roldán Sanchez
Specialist, Cancer group
Ministry of Health

Colombia
Mauricio Gonzalez
National Cancer Institute, Bogotá

Colombia
Hernán Urdaneta
Coordinator, Women's Health
Etnollano Foundation

Costa Rica
Andrea Vicari
Regional Advisor
Pan American Health Organization

Ecuador
Sofia Cañadas
Program Manager
Ministry of Health

Ecuador
Walter Moya
Cervical and breast cancer expert
Hospital Maternidad Isidro Ayora

El Salvador
Maria Estela de Garcia
Colposcopy and Cervical
Pathology Association

El Salvador
Mauricio Maza
Medical Director
Basic Health International

Guatemala
Walter Guerra
Director
National Cancer Institute
Dr. Bernardo del Valle

Guatemala
Erick Jacobo Alvarez Rodas
Cervical Cancer Program Manager
Ministry of Health

Guatemala
Daniel Frade
Cervical cancer focal point
Pan American Health Organization

Honduras
Jaqueline Figueroa
National Cancer Control Program
Secretary of Health

Honduras
Annabelle Ferrera
School of Microbiology
Universidad Nacional Autónoma de Honduras

Nicaragua
Álvaro García
Hospital Bertha Calderon

Paraguay
Fernando Llamosas Bozzano
Director of the Pathology department
National Cancer Institute

Paraguay
Gladys Concepción Aquino Orrego
Director, Breast and Cervical Cancer
National Program
Ministry of Health

Peru
Fernando Leanes
Representative
Pan American Health Organization

Peru
Celeste Cambria
Health Promotion Advisor
Pan American Health Organization

Peru
Fabiana Michel
Regional Advisor immunization
Pan American Health Organization

Peru
Alfredo Guzman
Sexual and reproductive Health specialist
Pan American Health Organization

Peru
Fabiana Visconti

Peru
Inés Contreras
PATH-PERU

Peru
Diego Venegas
Plan Esperanza Coordinator
MINSA

Peru
Olga Pamela Polo Ubillús
Coordinadora Nacional de la Estrategia Familiar
MINSA

Peru
Elizabeth Anaya Ramirez
INS

Peru
Luz Miraval
INS

Peru
Patricia Pimentel
Chief of Oncology
EsSalud

Peru
Reina Bustamante
Hospital Maria Auxiliadora

Peru
Carlos Farfán Tello
Oncologist
Hospital Maria Auxiliadora

Peru
Gino Venegas Rodriguez
Director
Liga Peruana de Lucha contra el cáncer

Peru
Luis García Bernal
Chief of Oncology-Gynecology
Hospital Arzobispo Loayza

Peru
Aldo Lama
Regional Director of Health, Callao

Peru
Roger Ocón
Hospital Arzobispo Loayza

Peru
Jaime Ramos Tejada
DGSP-DAIS- MINSa

Peru
Manuel Cedano Guadamos
IREN Norte

Peru
Pedro Ypanaque
DGSP-MINSa

Peru
David Zavala Corzo
FISSAL

Peru
Jorge Fernandez
Surgeon
DGSP-MINSa

Peru
Uriel Vasquez Chahuilla
FISSAL

Peru
Berenice Rodriguez Zea
IREN Sur

Peru
Elva Edith Huaman Avila
Equipo Técnico
DGRH

Peru
Miriam Salazar De La Luz
DGSP - MINSa

Peru
Braulio Cuba Corrido
Executive Director
DGRH

Peru
Rosario Ique Rios
DGSP - MINSa

Peru
Carmela Fernandez Lozano
Chief of Staff
DPUS - DGSP- MINSa

Peru
Cecilia Ma Cardenas
Medical Administrator
MINSa-Despacho Ministra

Peru
Luis Beraun Milla
Dirección Regional de Salud Junín

Peru
Tatiana Vidaurre Rojas
Institutional Chief
IREN

Peru
Victor Dongo

Peru
Julio Abugattas Saba

Peru
Manuel Alvarez Larraondo
Chief, Department of gynecology
INEN

Peru
Carlos Velarde Navarrete
Department of gynecology
INEN

Peru
Henry Valdivia
Department of gynecology
INEN

Peru
Aldo Lopez Blanco
Department of gynecology
INEN

Peru
Albert Zevallos Cardenas
Department of gynecology
INEN

Peru
Jessica Gomez Quito
Asistente Dirección de Control de Cáncer
INEN

Peru
Carlos Santos Ortiz
Director
Dirección de Control de Cáncer
INEN

Peru
Javier Manrique Hinojosa
Chief, Health Promotion Department
Cancer Prevention and Control
INEN

Peru
Abel Limache
Health Promotion Department
Cancer Prevention and Control
INEN

Peru
Miriam Salazar Robles
Coordinadora General de Prevención
Promoción y Diagnóstico Precoz del Programa
Presupuestal de Cáncer
INEN

Peru
Daphne Yakelin Malqui Flores
Technical team
Cancer Control
INEN

Peru
Mirtha Yarleque
Technical team
Cancer Control
INEN

Peru
Dahjana Arce
Health Promotion Department
Cancer Prevention and Control
INEN

Peru
Miguel Ruiz
Health Promotion Department
Cancer Prevention and Control
INEN

Peru
Carmen Nuñez
Health Promotion Department
Cancer Prevention and Control
INEN

Peru
Carmen Carpio Ricaldi
Health Promotion Department
Cancer Prevention and Control
INEN

Peru
Gustavo Sarria
Radiotherapy department
INEN

Peru
Martin Otoyá
Regional Director of Health, Piura

Peru
Zarela Quispe Tello
Surgeon - C.S. Caja de Agua
MINSA

Peru
Jorge Vargas Pacheco
VIA National Trainer
Peru. C.S. Montenegro, SJL

Peru
Jorge Dunstan Yataco
Breast
Surgery department
INEN

Peru
Roxana Regalado Rafael
Departamento de Normatividad
Calidad y Control Nacional de Servicios
Oncológicos
INEN

Peru
Milward Ubillus Trujillo
Medical assitant
Departamento de Estadística y Epidemiología

Peru
Mariela Pow Sang
INEN

Peru
Yoselyn Aznaran
INEN

USA
Martha Pineda
Coordinator- Peru
Grounds for Health

USA
Cristely Prefinda Mejía Córdova
Coordinator
Grounds for Health

USA
Marin Brownell
Asistente de Programa
Grounds for Health

USA
Silvana Luciani
Advisor
Chronic Diseases
Prevention and Control
Pan American Health Organization

USA
Elisa Prieto
Chronic Diseases
Prevention and Control
Pan American Health Organization

USA
Jose Jerónimo
PATH Seattle

USA
Tara Hayes Constant
PATH Seattle

ANNEX 3

INNOVATIVE CERVICAL AND BREAST CANCER STRATEGIES April 15-16, 2013

WORKING GROUP TASKS

PURPOSE	
In the context of the breast and cervical cancer national programs, to identify activities that can be implemented at the country level, taking into consideration existing opportunities, new approaches and technologies that can improve program effectiveness.	
PARTICIPANTS	
FACILITADORES	COUNTRIES
Group A (Central America) Moderator: Dr. Daniel Frade Rapportuer: Dr. Anabelle Ferrerra	Group A: El Salvador Honduras Guatemala Nicaragua
Group B (South America) Moderator: Dr. Dr. Fernando Nuñez Rapportuer: Dr. Milton Soria	Group B: Bolivia Paraguay Colombia Ecuador
	Group C: Peru
WORKING GROUP TASKS	
9.45am	PRESENTATIONS: Brief round of presentations and explanation of the working group tasks
10.00 am	TASKS FOR THE COUNTRY TEAMS: <ul style="list-style-type: none"> The country team will discuss the priorities for the country to strengthen the cervical and breast cancer program. For each priority, the team will identify activities that can be accomplished in the short, medium and long term. The team will identify required support from other countries and partner organizations for each of the priorities and activities.
10.50am	COFFEE BREAK
1:00am – 1:00pm	WORKING GROUP DISCUSSION: <ul style="list-style-type: none"> Discussion on how the prioritized activities can be implemented, considering the lessons learned from countries that have undertaken similar activities, and identify areas in which other countries and partner organizations can provide their support.
1:00pm – 1:30pm	CONCLUSIONS AND PREPARATION OF THE GROUP PRESENTATION using the attached template

