

Bringing Cervical Cancer Detection and Early Treatment Closer to Women: A Peruvian Experience (1996–2000)

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PREFACE AND ACKNOWLEDGMENTS

Between 1996 and 2000, the Cervical Cancer Prevention Program (CECAP) and the Latin America and Caribbean Office of the JHPIEGO Corporation had the opportunity to work collaboratively with the Peruvian Ministry of Health (MOH) to introduce and test alternative screening and treatment options for preventing cervical cancer. We are grateful to the Peruvian MOH for this opportunity. We acknowledge colleagues from the (then) Dirección Nacional de Programas Sociales (DNPS), who were instrumental in promoting this effort, with special thanks to Dr. John Nagahata, the former National Director for the DNPS, and Dr. Jorge Parra, the DNPS Deputy Director. Recognition also goes to Dr. Maria Elena Soler (Johns Hopkins University obstetrician/gynecologist and JHPIEGO consultant), Dr. Ricardo Mier (then Gynecologic Cancer Coordinator), and Dr. Miguel Espinoza (then JHPIEGO's incountry consultant) who participated in the evaluation and assisted with JHPIEGO-funded activities aimed at improving cervical cancer prevention in Peru.

This effort would not have been possible without the support of the United States Agency for International Development (USAID)/Perú and its Health, Population, and Nutrition (HPN) office staff, in particular, Dr. Lucy Lopez. USAID/Peru provided funding for JHPIEGO's technical assistance to the Peruvian MOH. The evaluation of this effort and the report preparation were funded under a grant to JHPIEGO from the Bill and Melinda Gates Foundation through the Alliance for Cervical Cancer Prevention (ACCP).

We extend our gratitude to our colleagues at the health units in Perú as well as the women interviewees; their frank responses provided the basis for this report. We appreciate the assistance from JHPIEGO's Information Resources Office staff in the final preparation of this report, and CECAP Program Director Dr. Paul Blumenthal's guidance and technical assistance to JHPIEGO's efforts in Peru from the beginning. Finally, we thank Dr. Noel McIntosh, JHPIEGO President, who provided institutional support to the initiative, and Dr. Francisco Garcia, who assisted in Peru with various aspects of this initiative, including JHPIEGO-sponsored training and followup visits.

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ABBREVIATIONS AND ACRONYMS

ACCP	Alliance for Cervical Cancer Prevention
CECAP	Cervical Cancer Prevention Program
DISA	District Health Direction
DNPS	Dirección Nacional de Programas Sociales
FP	Family planning
GP	General practitioner
HIS	Health Information System
HPN	Health, Population, and Nutrition
INEM	National Institute for Neoplastic Disease
LAC	Latin America and Caribbean
LEEP	Loop electrosurgical excision procedure
MCH	Maternal and child health
MOH	Ministry of Health
NGO	Nongovernmental organization
Ob/Gyn	Obstetrician/Gynecologist
PAHO	Pan American Health Organization
Pap	Papanicolaou
PATH	Program for Appropriate Technology in Health
RH	Reproductive health
RNM	Registered nurse-midwife
SVA	Single visit approach
TATI	Tamizaje y tratamiento inmediato de lesiones cervicouterinas (screening and immediate treatment of cervical lesions)
USAID	United States Agency for International Development
VIA	Visual inspection with acetic

INTRODUCTION

BACKGROUND

Cervical Cancer Prevention Efforts in Peru

Cervical cancer incidence in Peru is among the highest in the world. The highest rates in the country occur in geographic areas, such as Iquitos and Trujillo, where risk factors for the disease (e.g., sexual initiation at an earlier age and multiple sexual partners) are more prevalent.

Historically, cervical cancer prevention efforts in Peru gained impetus with the creation of the National Institute of Neoplastic Diseases (INEM), founded more than 40 years ago through private funding. The INEM spearheaded the national cervical cancer initiative until the Peruvian Ministry of Health (MOH) formally assumed this role.

In 1996, the Dirección Nacional de Salud Reproductiva y Planificación Familiar (National Directorate of Reproductive Health and Family Planning) proposed a series of cervical cancer prevention activities as part of its 5-year plan (1996–2000). The same year, the Peruvian MOH, the Social Program Directorate, and the United States Agency for International Development (USAID)/Peru's Health, Population, and Nutrition (HPN) Office requested that JHPIEGO help them test an alternative cervical cancer prevention model.

The alternative was intended to provide a model for services in under-served areas, to assist Peru in meeting its coverage and treatment objectives outlined in the 5-year plan. Although Peru had offered Papanicolaou (Pap)-based cervical cancer screening to women at risk for more than 30 years, screening and treatment coverage had remained low in rural areas. Therefore, healthcare authorities identified the need to introduce an alternative model to women in rural and under-served areas.

The alternative screening test proposed by the Peruvian MOH was visual inspection with acid acetic (VIA) because it is a safe test, requires little infrastructure to provide, and, most important, yields immediate test results, allowing for on-the-spot management decisions. Based on the results of research studies indicating that VIA could detect the majority of true cases of disease (i.e., test sensitivity), and the positive local experience when VIA was done by INEM, the Peruvian MOH agreed to introduce and evaluate the use of this alternative test. Additionally, JHPIEGO advocated the use of cryotherapy as an alternative to conization or the loop electrosurgical excision procedure (LEEP) for the treatment of some precancerous lesions. Cryotherapy was advocated because of its record for effectiveness and relatively low cost, and because it does not require electricity or as much training. And, in situations where referral after VIA testing for more confirmatory testing might not be possible, cryotherapy could potentially be used immediately post-VIA to treat eligible test-positives in a single visit approach (SVA).

To launch this initiative, JHPIEGO's Cervical Cancer Prevention Program (CECAP) and Latin America and Caribbean (LAC) Office staff and consultants held meetings with key national cervical cancer stakeholders. Discussed, among other topics, were the relative merits and limitations of VIA, cryotherapy, and the SVA in terms of cost and women's and providers'

satisfaction (acceptability) with the immediacy of results, test accuracy, and treatment effectiveness. The aim was to train providers from areas with little or no access to LEEP treatment and where Pap coverage was below the national average.

To build national capacity, a core group of obstetrician/gynecologists (ob/gyns) from four regional hospitals (Arequipa, Lima [Callao], Pucallpa, and Trujillo) was identified for training (n=13). The second phase of training was directed at ob/gyns and general practitioners (GPs) from smaller healthcare facilities (n=6). The training consisted of 5 days of classroom and clinical practice. The training was humanistic; therefore, participants used anatomic models to acquire and standardize their skills before providing services to patients (under supervision). Because cryotherapy was not previously available in these sites for treating precancer, JHPIEGO donated cryotherapy units to the Peruvian MOH, which were transported to each of the healthcare facilities by the trained providers after the course was completed.

In early 1999, for the first time, the Peruvian MOH approved a National Plan for Gynecological Cancer Prevention, which covered the period 1998–2000. At the time of the evaluation described in this report, this plan was being implemented in all healthcare facilities visited. That same year, the Peruvian MOH officially approved and endorsed the *Manual of Norms and Procedures for the Prevention of Gynecological Cancer* (hereafter referred to as the Norms Manual). Initially developed in 1996, the Norms Manual had been modified in the interim years. This official document, developed with a participatory process involving many national stakeholder groups, included VIA as an alternative to cytology for screening, and cryotherapy as an alternative to LEEP for the treatment of precancerous lesions of the cervix. The Norms Manual was distributed nationwide in June 2000.

Also in 1999, the Pan American Health Organization (PAHO)/World Health Organization (WHO), with funds from the Bill and Melinda Gates Foundation through the Alliance for Cervical Cancer Prevention (ACCP), was invited by the Peruvian MOH to support their National Cervical Cancer Prevention Plan in the San Martin Regional Health Service. The intervention, named TATI (tamizaje y tratamiento inmediato de lesiones cervicouterinas [or screening and immediate treatment of cervical lesions]), focused on area women 25–49 years of age (target population=84,000). At the time of our evaluation, the project involved screening with VIA performed by a professional midwife, and having a medical doctor offer cryotherapy to those who tested positive immediately after confirming the positives using magnified VIA. A biopsy was to be obtained for all women who received cryotherapy. Others with suspect invasive lesions were referred to a facility where a gynecologist could perform a colposcopy, biopsy, and ambulatory or hospital-based treatment for cervical lesions, as indicated. Community outreach was, and still is, a critical component of the project supported by the Program for Appropriate Technology in Health (PATH), another ACCP partner. JHPIEGO's initial cervical cancer assistance in Peru, before the ACCP was developed, was supported with USAID/Peru funds. Once the Gates-funded Alliance had been formed, JHPIEGO, also a member of the ACCP, conducted another training course, performed followup visits, and continued its advocacy efforts using Gates Foundation funds. JHPIEGO assisted PAHO/PATH's efforts in San Martin by training some of their providers in VIA and cryotherapy.

From April to May 2001, JHPIEGO evaluated the progress made during the years 1996–2000 to integrate an alternative to the Pap test-based approach in selected areas of the country where trained providers had been posted. The evaluation team visited various sites during its 2-week evaluation visit. The findings of that evaluation exercise are summarized in the following pages.

Alternative Cervical Cancer Prevention Model

JHPIEGO supported national Peruvian MOH authorities in their development of an alternative model using a three-pronged strategy aimed at:

- Strengthening the policy environment
- Building a core group of providers trained in VIA and cryotherapy
- Helping to strengthen service delivery

Strengthening the Policy Environment

JHPIEGO assisted national stakeholders in advocating for VIA and cryotherapy as alternative techniques to cytology-based screening. In 1996, Peruvian MOH authorities reported that they had intensified efforts during the previous 4 years to encourage women to get screened for cervical cancer using the Pap test. Despite these efforts, healthcare units around the country continued to attend to women with advanced cervical cancer who had not been screened. For a large percentage of Peruvian women, especially those in rural areas or under-served peri-urban areas, it is common to wait for a Pap smear result as long as 3 months. To address this problem, and the problem of dropouts between screening and testing (up to 70% even in Lima at INEM facilities [Santos et al 1996¹]), JHPIEGO proposed a strategy called the single visit approach (SVA) whereby VIA testing is followed by the offer of immediate cryotherapy treatment, when indicated.

To orient stakeholders, JHPIEGO conducted a series of meetings with policymakers and other decision-makers, including some of the USAID/HPN office staff and Peruvian MOH personnel. Both VIA as a screening test and a strategy similar to the SVA – the “test and treat” approach (whereby treatment is offered before biopsy confirmation based on colposcopy findings) – were already familiar to a group of INEM providers and authorities led by Dr. Carlos Santos, Director of the Gynecological Cancer Unit of INEM.

JHPIEGO’s cervical cancer expertise, together with its long history of providing technical assistance to women’s reproductive health (RH) in Peru, enabled CECAP and LAC staff and consultants to play an advocacy role in support of VIA, cryotherapy, and the SVA. Advocacy efforts were made in the context of improving the quality of already existing services safeguarding women’s rights. These efforts resulted in increased interest on the part of the Peruvian MOH and an increased willingness to incorporate VIA, cryotherapy, and, where appropriate, the SVA as a complementary strategy within Peru’s National Cervical Cancer Program for early detection and treatment.

As a consequence of these initial advocacy efforts, JHPIEGO was invited to provide technical assistance related to the development of the Norms Manual. The development process was participatory, with input from many national stakeholders, including representatives from INEM, the Peruvian League against Cancer, local nongovernmental organizations (NGOs), women’s groups, representatives of the USAID/HPN office, and a diverse group of service providers. The manual received Peruvian MOH official endorsement at the highest level under Resolución Ministerial No 122-2000 SA/DM in April 2000. In this document, VIA and cryotherapy were included as an alternative and/or complementary approach to existing

¹ Santos C et al. 1996. One-session management of cervical intraepithelial neoplasia: A solution for developing countries. *Gynecologic Oncology* 61: 11-15.

cytology and other treatment options, respectively. In June 2000, the document was distributed to all health regions nationwide, 34 in total.

Building Incountry Capacity

At the request of USAID/Peru and the Peruvian MOH, JHPIEGO outlined a training strategy aimed at building Peruvian cervical cancer prevention capacity. The objective was to create a core of trained ob/gyns who were nationally known providers and who, in turn, could train a second generation of ob/gyn providers. In December 1998, under the auspices of the Peruvian MOH, JHPIEGO conducted its first training event for 13 participants representing four regional (Arequipa, Lima [Callao], Pucallpa and Trujillo) hospitals. Representatives from INEM, the Maes Heller Institute, and the Peruvian League against Cancer were in attendance, as well as officials from the USAID/HPN office, Peruvian MOH/central level, and JHPIEGO's incountry consultants.

In addition to skills in basic infection prevention, the 5-day training event aimed to update and standardize participants' VIA knowledge and diagnostic skills. In order to safeguard clients' rights, and in keeping with a humanistic training approach, participants first standardized their skills using anatomic models and reviewing numerous slides representing normal and abnormal cervixes. The clinical rotations took place in three different tertiary level healthcare institutions (Ma. Auxiliadora, INEM, and the Peruvian League against Cancer), all located in the Lima Metropolitan District. Dr. Blumenthal, JHPIEGO's international cervical cancer prevention consultant (now the CECAP Office Director), led the training event.

Six months after training, Peruvian MOH officials – Dr. Ricardo Mier, Gynecologic Cancer Coordinator, Dr. Miguel Espinoza, JHPIEGO's incountry consultant, and Dr. Francisco Garcia, JHPIEGO/CECAP's international consultant – conducted a followup visit to trained providers. The aim of the visit was to evaluate the VIA skills of recently trained providers, to offer feedback on their infection prevention practices, and to provide on-the-job coaching. Additionally, the followup team provided guidance in documenting statistics on women screened using VIA.

To further develop Peru's capacity to implement VIA and cryotherapy, two new training events were carried out in June 2000. The first, a refresher training course in VIA for previously trained providers (the 1998 cohort), also provided training in cryotherapy for treating precancerous lesions. The second event, which lasted 6 days, had VIA, cryotherapy, and infection prevention components. Participants in this training included 23 ob/gyns and GPs who were providing services at government secondary and primary healthcare units in the Lima Metropolitan District, and in other regions of the country. During both events, counseling messages were emphasized. In total, 36 professionals (ob/gyns and GPs) were trained in VIA and cryotherapy during the two courses.

Strengthening Services

Activities aimed at strengthening services can be grouped under two categories – post-training followup visits (including on-the-job mentoring to newly trained service providers), and assistance with establishing an information system to document services received. Additionally, after training, as noted above, JHPIEGO donated cryotherapy equipment and carbon dioxide (CO₂) cylinders to the Peruvian MOH to be used in 13 healthcare units throughout the country.

During the second half of 2000 and all of 2001, Peruvian MOH authorities with VIA and cryotherapy skills and JHPIEGO's incountry consultant conducted a series of visits to providers trained in the courses described above. Most of the technical assistance was geared toward ensuring the competency of the providers, especially in the area of cryotherapy skills. In addition, these visits focused on issues related to maintaining an adequate "ice ball" formation (needed to adequately freeze precancerous lesions) as part of the cryotherapy procedure. Finally, the visits provided an opportunity to advocate with District Health Direction (DISA) personnel and healthcare facility staff for the incorporation of the two alternative techniques – VIA and cryotherapy – into routine services.

JHPIEGO also helped to introduce a form for recording information about women screened and treated using these alternative techniques. JHPIEGO's incountry consultant, Dr. Miguel Espinoza, worked with Peruvian MOH central and district-level staff to promote the adoption of a standardized form to be filled out at the healthcare facility. The form was intended to be passed from the healthcare facility to the district level and then to the Peruvian MOH central level. Unfortunately, despite significant effort, the Peruvian MOH had not incorporated the new form into the existing Health Information System (HIS) by the time of the evaluation. (Subsequently, in July 2000, with assistance from TATI Project staff, visual inspection and cryotherapy were officially added to the MOH form.)

In close coordination with the USAID/Peru/PHN office, the Peruvian MOH and JHPIEGO's incountry consultant coordinated the participant and site selection for testing the use of VIA and cryotherapy. Criteria for site selection included geographic representation from various areas (the highlands, coast, and jungle). The latter is where, according to the Peruvian MOH, cervical cancer incidence is the highest in Peru. Additionally, different levels of healthcare facilities (i.e., referral, regional, maternal and child health [MCH]) needed representation. At the time the initiative was being designed, Peruvian MOH authorities decided to have only ob/gyns trained in the new techniques – GPs were involved only in the second training event. Registered nurse-midwives (RNMs) were charged with counseling and assisting the trained ob/gyn or GP provider.

DESCRIPTION OF THE EVALUATION

Objectives

The objectives of the evaluation were:

- To document how VIA and cryotherapy skills acquired through training had been incorporated into cervical cancer prevention services in Peru
- To assess factors inhibiting or promoting successful inclusion of VIA/cryotherapy services

Specific evaluation questions that were addressed are included in the box below.

Specific Evaluation Questions

1. Are VIA/cryotherapy procedures immediately linked, or is there another diagnostic test involved?
2. Are VIA and/or cryotherapy the only screening/treatment procedures available, or are they part of a variety of available tests?
3. Has the volume of screening procedures altered since VIA was introduced as an option?
4. Has the number/volume of treatment procedures for precancer altered since cryotherapy was introduced as an option?
5. Has the number of cases of identified cancer increased?
6. How does demand for screening compare to the ability of the site to provide these services?
7. How does demand for treatment compare to the ability of the site to provide these services?
8. How has the introduction of VIA/ cryotherapy affected provision of other services at the site?
9. How do trained providers feel about how training prepared them to incorporate their skills?
10. How do other site providers/staff feel about the introduction of new options?
11. How do women visiting the site feel about these services?
12. What is the quality of VIA/cryotherapy services?
13. Has a trained provider introduced these skills to other providers at the site?
14. Do skills of these providers differ from those of initially trained providers?
15. How do public officials responsible for services in these sites feel about introduction of these skills?
16. To what extent is the quality of services being monitored (quality assurance system)?
17. To what extent is it likely that VIA and/or cryotherapy will remain incorporated into the array of options available at the site?
18. How could sites better incorporate VIA/cryotherapy and/or improve quality of these services?

Team Members

The following criteria were used in selecting the evaluation team members:

- A clinician familiar with JHPIEGO VIA/cryotherapy training strategies, proficient in VIA/cryotherapy skills, and, ideally, with Peru-specific training experience
- 1-2 evaluation specialists with experience in record reviews, key informant interviews, and group interview data collection methods
- 1-2 persons familiar with Peru's cervical cancer policies, Peru's cervical cancer prevention program, and JHPIEGO's alternative cervical cancer prevention strategies

Based on the above criteria, a five-member team was assembled. Dr. Ricardo Mier, Peruvian MOH Coordinator for the Gynecological Cancer Prevention Program, joined the evaluation team in Peru along with Dr. Miguel A. Espinoza, ob/gyn and JHPIEGO's country program representative. The other evaluation team members included Epidemiologist and JHIPEGO CECAP Program Scientific Director Dr. Lynne Gaffikin (who developed the evaluation framework and associated tools), Dr. Graciela I. Salvador-Dávila, a public health physician (who, together with Dr. Espinoza, designed and implemented JHPIEGO's project supporting this alternative cervical cancer effort in Peru), and Dr. Maria Elena Soler (ob/gyn and clinical trainer who served as trainer during one of the project training courses).

The field visit component of the evaluation was carried out over 10 days. During this time, the team visited 6 of the 13 clinical sites where providers trained in VIA and cryotherapy were posted, as well as the corresponding DISAs (see **Table 1**). Because only a limited number of sites could be visited, the sites selected represented different geographic locations and were selected based on three key factors: urban/rural location; presence of other cervical cancer-

related initiatives (e.g., MOH/PAHO's TATI Project); and variation of the service delivery model being implemented locally.

Tarapoto and Iquitos in the northeast (jungle region) were two of the areas selected. The highest numbers of cases of cervical cancer in the country have been reported in these two areas. In Ilo and Moquegua, two areas in the southwest, services are dispersed and the population is rural and mostly poor. Cusco, the fifth area, is located in the central east and is representative of sites serving relatively large, rural populations (who, in some cases, speak a language other than Spanish, presenting a communication challenge). The sixth area visited, Callao, is one of the largest DISAs in Lima's metropolitan district and represents a more urban population. Alcides Carrión Hospital in Callao, a tertiary level hospital visited during the evaluation, functioned as a major RH center throughout the 1990s, offering both family planning (FP) and cervical cancer services.

Table 1. Areas Visited During the Evaluation

SITE	GEOGRAPHIC LOCATION	TYPE OF AREA	LEVEL OF SERVICES	CERVICAL CANCER PREVALENCE (ESTIMATE)
Callao	Lima Metropolitan District	Urban, Peri-urban	Tertiary Level, Referral Center	High
Cuzco	Central East	Mestizo, Indigenous	Tertiary Level, Referral Center	Medium
Ilo	Southwest	Mestizo, Rural	Health Center	Medium
Iquitos	Northeast (Amazon Jungle)	Urban, Rural, Mestizo, Dispersed Population	Second Level Hospital	High
Moquegua	Southwest	Mestizo, Rural	Second Level Hospital	Medium
Tarapoto	Northeast	Urban, Rural, Mestizo, Dispersed Population	MCH	High

Data Collection

The data for this evaluation were collected through various means including: document reviews and record reviews of clinic logbooks (first and revisits); client records and referral books/forms; key informant interviews among trained providers, clinic supervisors, Peruvian MOH officials, women receiving services, women waiting for services (cervical cancer or other), providers acquiring skills on the job, and providers providing other cervical cancer services; observations of trained providers, providers who acquired skills on the job, infection prevention procedures, group counseling, and clinic set-up; and some group interviews.

The team members divided up and gathered information from providers and local healthcare stakeholders regarding their perspectives on the following main areas of interest: barriers to access, magnitude of cervical cancer, attitudes toward VIA, attitudes toward cryotherapy, and attitudes toward the SVA. Dr. Gaffikin, Dr. Espinoza, and Dr. Mier interviewed local authorities at each DISA visited (DISA Directors and FP Coordinators are responsible for cervical cancer prevention activities). The second team, composed of Dr. Soler and Dr. Salvador-Dávila, gathered information at each of the healthcare facilities visited through interviews with medical directors, chiefs of ob/gyn departments, and with ob/gyns, GPs, midwives, and nurses directly

involved in service provision. In addition to interviews, providers were observed delivering services and their clinical competency was assessed using standardized tools.

The teams gathered information using questionnaires (with open and closed questions) during interviews, and using observation checklists during the clinical procedure and the counseling sessions before the procedure.

FINDINGS

PERCEPTIONS OF THE MAGNITUDE OF CERVICAL CANCER IN PERU

The majority of Peruvian MOH authorities and service providers interviewed identified cervical cancer as one of the top 10 major causes of morbidity and mortality among Peruvian women. A few providers indicated that cervical cancer ranks 4th among the 10 leading causes of death—after infection, abortion, and hemorrhage. The following two quotes are indicative of attitudes toward cervical cancer among those interviewed.

The Iquitos DISA Director said:

It is a regional problem; it is very serious. The number of cases is very large. We see people die because we do not have the resources and the community does not understand the extent of the problem. They do not come in time—they come too late. The solution is to test and immediately treat.

A hospital medical director said:

Here the problem is larger among women between 18–30 years of age. The community and the press do not have a clear understanding of the importance of screening.

According to stakeholders interviewed, cervical cancer is an important issue for the following reasons:

- There is a high incidence of the disease.
- Women come for services at a point when there is nothing that can be done.
- Cultural factors affect use of prevention services.
- The problem will become worse in the future if it is not taken care of now.
- It is a preventable disease and should be caught in time through screening.
- Many women have cervical problems and most are never screened for cervical cancer.

ATTITUDES TOWARD CERVICAL CANCER RISK

District health authorities and healthcare personnel expressed frustration at not being able to address issues that negatively affect cervical cancer prevention efforts. Some reported that various cultural traditions are not being addressed and/or are difficult to change among community members. Limited access to services was identified as a key factor contributing to higher cancer prevalence rates in the communities visited. **Table 2** provides a summary of DISA authority and healthcare provider perceptions about cervical cancer risk.

Table 2. Perceptions of Cervical Cancer Risk

INTERVIEWEE	PERCEPTION
DISA authorities	<ul style="list-style-type: none"> ● Women in the region start their sexual life early. ● Men have multiple sex partners.
Healthcare providers	<ul style="list-style-type: none"> ● Males in part of the country are not circumcised, which increases the chance of getting cervical cancer. ● Contact with more than one partner results in cervical cancer.

BARRIERS TO ACCESSING EARLY SCREENING AND TREATMENT

Barriers mentioned by the people interviewed are similar to those in other countries, according to published literature. A key barrier to treatment relates to the long waiting time for cytology results to be communicated back to women. By the time results arrive at healthcare facilities, many women have forgotten that they had a Pap smear and do not return to learn what next steps they should take. As in many other low-resource settings, not all areas of Peru have the resources to systematically organize followup of women who do not return to the clinic post-screening.

According to providers interviewed, an important barrier to accessing screening is limited knowledge about cervical cancer among community members. Non-symptomatic women do not present for screening and, in most cases, precancer is a silent disease. If women go at all to a clinic, they do so only when the disease has advanced to a stage of cancer that cannot be successfully treated with local resources.

Barriers to screening and early treatment mentioned by interviewees can be classified into four categories: 1) cultural; 2) knowledge; 3) cost; and 4) gender. **Table 3** summarizes interviewee perceptions about barriers (by barrier category).

Table 3. Perceptions of Barriers to Early Screening and Treatment

BARRIER CATEGORY	INTERVIEWEE PERCEPTIONS
Cultural	<ul style="list-style-type: none"> • Women come when it is too late. • Women fear the Pap smear exam because they think it causes problems (even cancer). • Women do not get services because they fear getting a vaginal examination with a speculum.
Knowledge	<ul style="list-style-type: none"> • The community, especially women, do not understand the extent of the cervical cancer problem. • Women seek services when it is too late. • It is necessary to educate women about the sting of vinegar used in VIA (some providers perceived this as a barrier). • VIA is better than the Pap test because women do not have to wait or come back for their results. • In some instances, providers have to scare women a bit because otherwise they do not return – “This is our way.”
Cost	<ul style="list-style-type: none"> • It is difficult to follow up at home with women who have a Pap test and do not return for their results. • Costs and the time delay in getting test results returned make women drop out of the program. • Healthcare providers have not received money to attend additional training. • VIA is free and providers perceive there is potential for greater access. • It is better to have the treatment services at the healthcare facility (SVA) than have to pay to go to Lima or another city to be treated (as women had to do before). • If VIA is more sensitive than cytology and its use can reduce the number of (diagnostic) tests that have to be done, it is better.
Gender	<ul style="list-style-type: none"> • Women do not like to be cared for by male auxiliary nurses (lower level service providers) in rural clinics. • Although husbands and village leaders (<i>apus</i>) did not give permission in the past for women to seek services, providers believe this is changing and they are becoming more flexible regarding the idea of women being examined.

GENERAL PERCEPTIONS OF VIA, CRYOTHERAPY, AND THE SINGLE VISIT APPROACH

The idea of a SVA (in this context, VIA followed by the offer of immediate treatment with cryotherapy to women with test-positive lesions or referral for women with large lesions) has been extremely well received by DISA authorities and healthcare providers at different levels of the system. Those interviewed identified lower cost and the immediacy of receiving results as two key benefits of the approach. **Table 4** provides a summary of perceptions about VIA, cryotherapy, and the SVA.

Other perceptions expressed by providers interviewed were:

VIA is ideal. It can detect early lesions and yields immediate results.

VIA should be offered at all levels of the health system and by physicians, midwives, and nurses.

VIA allows for early detection and also immediate treatment at a very low cost and women can go home the same day.

It is simple and cheap.

It is important to acknowledge that the majority of district authorities interviewed reported knowing that VIA and cryotherapy had been incorporated into the Norms Manual. In addition, they knew that a plan had been outlined for rolling out a new approach to cervical cancer prevention.

A Moquegua DISA official said:

This is what we have been looking for. Currently, the results of a Pap test come back in 2 months and women do not return until they have an invasive cancer. A woman (with a positive Pap test) does not get a biopsy and then she dies.

Table 4. Provider Perceptions of VIA, Cryotherapy, and the Single Visit Approach

INTERVIEWEE CATEGORY	PROVIDER PERCEPTIONS
Providers	<ul style="list-style-type: none"> ● SVA is an optimal strategy. ● VIA is much better than the Pap test – at least 20% of women do not come back for their results with cytology. ● At rural sites, if there is not easy access to the Pap test, VIA is a good option. Lesions are easy to detect with VIA once providers are trained. ● There is a need to increase the specificity of VIA. ● I am all for having VIA in this hospital. ● Having VIA and cryotherapy has not had a negative effect on the hospital; therefore, we need to support these new techniques. ● A national director of the Dirección Nacional de Programas Sociales was worried about any use of cytology. He felt that it is a human right and an ethical issue for providers to tell women their test result after testing. He also asked why the ideas and effort directed at cervical cancer prevention cannot be applied to prostate cancer. ● The SVA is an excellent strategy to increase the number of women who get treatment at lower cost. ● VIA is well studied at the global level because it contributes to the detection of disease and increases treatment rates. ● Cryotherapy is a good technique as well. We should have a medical/obstetric team with treatment equipment during (outreach) campaigns every trimester. The team needs good training in how to provide followup; professional midwives are responsible for organizing the followup and this is now a weakness – they are not doing followup. ● The message to women is that if they are VIA negative, they do not have cervical cancer.

Table 4. Provider Perceptions of VIA, Cryotherapy, and the Single Visit Approach (continued)

INTERVIEWEE CATEGORY	PROVIDER PERCEPTIONS
DISA Authorities	<ul style="list-style-type: none"> ● Providers are usually resistant to new things and may not be initially supportive. They will view VIA and a SVA as additional work; however, after a while, they will support the approach. ● There is a lot of interest among GPs and ob/gyns as a consequence of the Norms Manual. Resistance may come from pathologists who are convinced that VIA is going to put them “out of business.” ● Pathologists are resistant, but ob/gyns will be open to VIA if midwives do it. ● Doctors are convinced that VIA is good. ● We (the DISA authorities) are enthusiastic and committed to the idea of having preservice students rotate through a service which gives them VIA and cryotherapy experience. This will allow them to acquire skills and, when it is time to provide services in rural areas, they will already be trained on screening and treating women for cervical precancer. ● One provider was enthusiastic because we (the DISA) give the provider use of a consultation room in which to provide VIA testing; this did not exist before she went for training. ● We have conducted (second generation) training for all ob/gyns and hospital personnel in VIA and cryotherapy. However, this training is not standardized.

PERCEPTIONS OF COST

There was consensus among providers and district authorities that VIA costs less to provide and that the SVA is cost-effective. The following represent two providers’ responses:

VIA is cheap, fast, and works with adequate specificity.

All should be offering this – it is more cost-effective.

The issue of cost, according to interviewees, related not only to the actual cost of the techniques, but also to women’s expenses (e.g., for transport and the time spent traveling to clinics).

A DISA authority said:

VIA involves lower costs and reduced time to get the results back to women so they don’t drop out of the system. VIA is better on both accounts.

Although many interviewees perceived that there was a cost savings associated with a SVA, a few suggested the need for a comparative study between the SVA and conventional cytology-based approaches.

PROVIDERS’ PERCEPTIONS OF WOMEN’S ATTITUDES

The evaluation data suggest that, before having VIA, women expressed fear that they would experience pain related to the use of vinegar. However, after being counseled, most women did not report any procedure-related discomfort (other than minor stinging during the acid acetic application). Some providers suggested strengthening counseling about this before testing.

According to providers, when women think about getting screened for cervical cancer, they are also afraid of finding out they have cancer. Some women do not understand the concept of premalignant or precancerous lesions.

According to providers, issues related to vaginal discharge following cryotherapy do not appear to be a limiting factor in women's accepting the new treatment technique.

Women in some areas responded more positively to medical care when they received something – medication or some form of treatment – after they were tested. For such women, when the result of VIA testing is negative and no treatment is needed, they are uncomfortable with the idea of not getting anything from the provider.

According to one counselor/RNM from Ilo:

In Ilo, women have negative attitudes. They do not like to accept that there is no treatment needed when they are VIA negative.

Providers from Ilo, Iquitos, and Cuzco said the following regarding women's perceptions of VIA:

First, women get worried and are afraid that (the procedure) is going to hurt. We explain what they are going to feel. Then they get calm and even more calm when they know they will be going home soon.

The women are always afraid and wonder if they are going to be cured and if it is going to be painful.

PERSPECTIVES OF TRAINING

Providers interviewed had participated in incountry training sessions conducted with technical assistance from JHPIEGO. In general, interviewees were satisfied with the training they had received and felt that it provided them with the necessary skills. To gain confidence and to become proficient, however, they recommended that each provider attend more than one training event. As physicians (mostly ob/gyns), many felt that acquiring basic skills was not difficult, but becoming proficient necessitated continual screening and coaching in how to adequately perform cryotherapy.

Provider interviews, supplemented by reports obtained by Peruvian MOH officials and Dr. Espinoza (JHPIEGO's incountry program representative), indicated that 7 of 13 healthcare facilities with cryotherapy units had experienced difficulties post-training. In most cases, the problem related to the "ice ball" formation needed to adequately freeze precancerous lesions. After consultation with Wallach International, the cryotherapy unit manufacturer, JHPIEGO's CECAP staff addressed this problem through promotion of a simple "freeze and defrost" technique. (A subsequent special workshop was held in Peru for previously trained providers to update them in this technique specifically aimed at alleviating ice ball formation problems.)

Most providers interviewed indicated that more ob/gyns should be trained in VIA. Worth noting is that some DISA authorities expressed reservations about having GPs and/or RNMs, rather than ob/gyns, trained in the future.

An ob/gyn from Ilo said:

I am not familiar with the test, but I do not think GPs can differentiate between ectropion and cancer. It is even less probable that RNMs can do it – some of them do not even do the Pap test correctly.

PERCEPTIONS OF FALSE POSITIVES AND FALSE NEGATIVES

Most stakeholders interviewed were comfortable with the false positive and false negative rates reported in the literature up to that time for VIA (up to 25%). Some interviewees, however, indicated that they would prefer values closer to 10%.

A sample of the mixed interviewee responses about this topic follows:

There are always false positives in medicine.

Even at INEM they make mistakes. False negatives may be due to poor provider technique. We need to learn how to do better.

The false positive rate is very high; we should look for factors causing such a high percentage of false positives. Nevertheless, there is a great advantage to using this technique.

It is acceptable to have a false negative rate of 10%.

If the sensitivity is 75%, the false negative rate is high compared to other, more confirmatory tests. Compared to the Pap test, however, it is better.

The specificity is a little low, but it is acceptable if using it will reduce mortality.

WOMEN'S ATTITUDES

Attitudes toward the Approach

The evaluation data indicate that women welcome VIA mainly because it allows them to know their test result immediately. For some women, however, the thought of being told that the lesion may be precancerous caused significant stress due to their limited understanding of the difference between precancerous and cancerous lesions. They appeared to understand what is involved in performing VIA, but had limited knowledge about risk factors.

Women from a site visited said:

Women like VIA because they know the results immediately and they like the post-testing attention because they know the provider cares about them.

Women understand what is going to happen during the procedure, although they do not understand about disease risk factors.

Attitudes toward Cryotherapy

Women in both rural and peri-urban areas usually consult their husbands/partners about issues having an impact on their sexual lives. For this reason, in areas where a SVA was being attempted, cryotherapy was reportedly often not provided immediately post-treatment (in some places, VIA and cryotherapy were incorporated but not as part of a SVA protocol). Specifically, women often asked to let their husband know about the abstinence recommendation and/or the likelihood of vaginal discharge associated with treatment.

RNMs from a clinic in Ilo said:

Women opt to have cryotherapy immediately if they come with their husbands/partners because then they can all participate in counseling—especially about abstinence.

Most women do not have decision-making power. In some situations, the husband/partner forces the woman to have sexual intercourse.

Some women request the provider to write in ‘abstinence’ as part of the post-cryotherapy home-care instructions, so they can show it to their husbands. Even more, they prefer to wait until their husbands/partners are willing to come to the health center to be counseled because they worry about the need for abstinence post-cryotherapy.

Concerns of Women Interviewed

Although the majority of women expressed concern about abstinence, the evaluation team found that some women do not worry about it and are capable of negotiating condom use with their husbands/partners. Clearly, however, a factor facilitating abstinence negotiation and/or condom use is the presence of the husband/partner in the consultation room and/or counseling session.

The possibility that the woman had cancer was a much greater concern to those interviewed than the need for abstinence and/or the likelihood of vaginal discharge post-treatment. Many women found the concept of precancerous lesions difficult to understand. To them, a positive test meant that they had tested positive for cancer, an outcome some believed they could do nothing to change. Counseling, including a review of what constitutes normal (versus pre-malignant or cancerous) lesions, helped some women better understand the differences, but did not dispel women’s fears if they assessed as test-positive.

A sample of women who had cryotherapy said the following:

Women treated with cryotherapy are concerned about whether or not they are going to be cured.

Women worry when they hear the word cancer; some of them decide to wait for treatment.

Women worry about the associated discharge; however, they worry much more about being cured.

Attitudes toward Service Costs

In Peru, many district health regions charge the woman 1.50 soles (the equivalent of 40 US cents) for a Pap test. In Arequipa, the cost is 5 soles (or US\$ 1.40). The test is free of charge for women 20–49 years of age. In some sites, however, the cost is as high as 500 soles (more than US \$140.00). VIA, and the offer of immediate cryotherapy, where available, was most often free of charge at the time of the evaluation visits. In a few selected sites, women paid according to a sliding scale. Providers indicated that women were pleased that they were not asked to pay for the service.

One ob/gyn from a hospital visited said:

Women coming for VIA services are happy because they know that their pocket book is not going to be affected.

EXPANSION STRATEGIES AND SUSTAINABILITY

Most providers and regional and central-level authorities were supportive of the possibility of expanding these alternative services to other areas in Peru. To expand services, however, they requested additional training to create a larger pool of providers with the necessary skills.

An ob/gyn from Ilo said:

These new skills should be transferred to all ob/gyns. Some of them are very interested in offering cryotherapy in their own practice.

District and Health Facility Level

In Cuzco, interviewees were very supportive of the service, indicating that they would like to expand from having one site offer the service (the situation at the time of the evaluation) to four hospitals in the city and, ultimately, to all 258 healthcare establishments in the area around Cuzco (including the 47 healthcare centers).

The costs associated with expanding did not appear to be a concern to some interviewees. They said that the CO₂ cylinder expenses, for example, could be paid for out of their FP/RH budget. They felt that the cryotherapy equipment was not expensive and could be financed by local or international NGOs.

Although interviewees were enthusiastic about expansion, they recommended that services be standardized and that providers more closely observe established clinical protocols.

Some of the sites visited had conducted massive information and education campaigns aimed at women and their communities. The campaigns had focused more on the importance of general good health than on reducing cervical cancer, however. In some instances, cervical cancer was

not even mentioned, to avoid making people fearful. Some providers felt general education was more important, as exemplified by the following comment:

General education of communities (including women) is more important than educating about technical issues.

Central-Level Authorities

Central-level Peruvian MOH authorities expressed several concerns related to expansion and/or sustainability. The authorities interviewed were interested in maintaining an integrated approach within existing FP/RH services. They also felt that cervical cancer prevention efforts should be incorporated as a component of the health insurance package that the government had proposed at that time to improve the health status of Peruvian citizens.

Considering the results of recent research studies, to reduce costs, the Peruvian MOH had adopted the US National Institutes of Health recommendation regarding cytology screening every 3 years (versus every year). While not specifically noted in the Norms Manual, it was understood that repeat VIA testing would also be recommended at 3-year intervals. If the data confirm that the SVA could yield morbidity and mortality reduction benefits at lower cost compared to the traditional cytology-based approach, interviewees indicated that they would be supportive because “it is cheaper.”

In order to expand the use of VIA and cryotherapy, a larger core of providers clearly needs to be trained. To achieve this objective, a training center would have to be established. The idea presented by some central-level interviewees was to have all GPs trained to provide VIA and cryotherapy services. Under this strategy, in some areas, there would be colposcopy capabilities and the ability to provide LEEP; in areas where this was not possible, VIA and cryotherapy could be used.

Central-level authorities indicated that there was an urgent need to screen more women and establish a system of quality assurance that was responsive to women’s rights. Inclusion of VIA and cryotherapy within basic, preservice medical education was proposed by the Peruvian MOH as a cost-effective alternative to developing the pool of cervical cancer prevention providers needed in the country via inservice training.

In one authority’s opinion:

This training should be done early, even before they specialize. There is too much money and effort spent on re-training personnel.

SERVICE DELIVERY

Access to/Demand for Services

Information gathered during the evaluation indicated that healthcare facilities offering VIA have had an increase in the number of women seeking services. All the sites visited had introduced information on VIA as part of their routine FP/RH group education talks. Interviewees’ reported increased levels of awareness about cervical cancer among communities, which was reflected in an increased demand for VIA-based services and cytology.

One Iquitos DISA authority noted:

Women are asking more questions now.

In the healthcare center at Ilo/Moquegua, trained providers had conducted outreach campaigns. The objectives were to inform and educate community members about cervical cancer prevention, and to offer services to interested women who were within the target age range.

Demand for services in the Alcides Carrion Hospital (in the Callao, Lima metropolitan area) increased after the facility began offering VIA-based services using the SVA. Trained providers were rotating to other ob/gyn services, however, which was causing problems.

The local Callao DISA authority felt that this called for closer evaluation:

If more women are going to be tested, there needs to be good organization at the entire health network level. Right now, women are being turned away and this is not fair to the women. There aren't enough providers trained.

Provision of Services

Women between 30 and 49 years of age are the target population for cervical cancer screening (VIA or cytology) by the Peruvian MOH. VIA and cryotherapy (and in some places the SVA) had been integrated into existing FP/RH outpatient services where trained ob/gyns and/or GPs were supported by trained RNMs and auxiliary nurses. The latter were responsible for counseling and infection prevention. With the exception of Ilo, cryotherapy was being performed in the same FP/RH consultation room as VIA. In Ilo, due to insufficient space for the cryotherapy equipment in the FP/RH consultation room, cryotherapy was performed in an operating theater.

Sites visited during the evaluation had established different ways of incorporating VIA and cryotherapy into their cervical cancer prevention services. Most of the sites had allocated 1–2 days a week for the new service. At Alcides Carrion Hospital, according to DISA authorities, women who seek services are the “poorest and usually have the worst problems, with the most advanced disease.”

A Callao DISA nurse-midwife suggested another alternative for this facility:

Only two trained providers are in Alcides Carrion to provide treatment and they cannot cover the patient load. Thus, it is better to recommend a special time and even a special hour for treatment. That way the FP/RH coordinator can call the patient back for services at that specific time to ensure she does not have to wait.

To avoid long waiting times and the increased possibility of women not returning, Callao DISA authorities recommended teams be trained in other locations to expand service availability. Additionally, they recommended establishing a system of community outreach with itinerant teams.

One nurse-midwife DISA authority said:

They should go to the women's houses to increase coverage.

The clinical protocol introduced during training emphasized that, before screening, women should receive information about the test, how it is done, and what to expect. For sites offering cryotherapy treatment as part of a SVA, counseling should also cover information about cryotherapy. In most healthcare facilities visited, nurse-midwives were reviewing cervical cancer risk factors with the women and counseling about available options if the women tested positive.

For VIA-positive women, treatment was provided only after additional counseling was given and informed consent was obtained. The additional counseling session was supposed to cover the treatment procedure, home care instructions (e.g., abstinence and vaginal discharge), and the woman's followup schedule. In terms of followup visits, VIA-positive women treated with cryotherapy were to have a first followup appointment 4–6 weeks after treatment and a second followup visit 12 months after treatment.

At the six sites visited, VIA had been incorporated into their respective cervical cancer prevention services in varying ways. Similarly, cryotherapy had been incorporated as a treatment option, but the criteria upon which to base the decision to provide cryotherapy differed by site. **Table 5** provides a summary of the protocol used at each site visited. As noted, in many sites VIA was provided primarily to only a subset of women who had had a previous positive Pap smear. VIA was used as part of a sequential testing scheme in these sites to increase treatment rates (as women often do not get treated based on their Pap results due to logistical problems associated with the referral system). In this scheme, women with a previous positive Pap test were identified and asked to return for VIA testing. If the subsequent VIA test was positive, in four of the six sites visited (not Tarapoto or Arequipa), women were offered treatment with cryotherapy immediately. In the other two sites, cryotherapy was offered only after more confirmatory testing.

Table 5. Summary of Protocols Involving VIA and Cryotherapy Followed at Different Sites

LOCATION OF HEALTHCARE FACILITY	LEVEL OF HEALTHCARE FACILITY	PROTOCOL IMPLEMENTED
Arequipa	Tertiary level	<ul style="list-style-type: none"> • Pap + → VIA → VIA+ results in cryotherapy • Followup according to provider – most providers asked women to return at 1 week, 1 month, and 12 months (not standardized across providers) • Pap + → VIA → VIA - • Diagnosis of cervicitis
Moquegua	Secondary level	<ul style="list-style-type: none"> • Pap + → VIA → VIA + results in cryotherapy (biopsy taken → high grade lesion confirm → followup in 6 months) • Pap + → VIA → VIA – Cold knife biopsy to confirm cervicitis (they do VIA to confirm Pap results)
Cusco	Tertiary level	<ul style="list-style-type: none"> • Pap + and risk factor → VIA, colpo, and Schiller → + results → cryotherapy and followup every 3 months and at 1 year
Callao	Tertiary level	<ul style="list-style-type: none"> • Pap + human papillomavirus + and risk factor → VIA → VIA + cryotherapy and followup in 6 months and then 12 months
Ilo	Primary level	<ul style="list-style-type: none"> • Pap + → VIA → VIA + results in cryotherapy and followup in 6 months and 12 months
Iquitos	Secondary level	<ul style="list-style-type: none"> • Pap + → VIA → VIA + → cryotherapy and followup in 1 week, 4 months, and 12 months
Tarapoto	MCH	<ul style="list-style-type: none"> • Target group: women between the ages of 25–49 • VIA → VIAM + → cryotherapy and followup in 1, 3, 12, and 24 months

SERVICE PROVIDERS' ATTITUDES

Attitudes about Services

Need for a designated space to provide VIA testing (and cryotherapy for test-positives) was a problem that negatively affected services. In addition, cryotherapy had to be temporarily stopped due to equipment problems (e.g., ice ball formation). Overall, however, providers felt that the new service was positively received by women, especially those coming from distant places. One site, Iquitos, was an exception to this. The Pap test continued to be the most accepted screening option at that site, partly because, as one ob/gyn in Iquitos said, “there is little support (for VIA) from other ob/gyns.” In the other sites visited, this was not the case.

STRENGTHS AND CHALLENGES

The evaluation findings revealed that, as an alternative to cervical cancer prevention in Peru, integrating VIA and cryotherapy as part of routine services has had positive effects in four domains: 1) policy; 2) attitude; 3) services; and 4) data recording. Following is information about these positive effects, as well as remaining challenges as of the date of the evaluation.

POLICY

VIA and cryotherapy were added as alternative options to the traditional cervical cancer prevention approach currently in use in Peru in the *Manual of Norms and Procedures for the Prevention of Gynecological Cancer*. The Norms Manual was distributed to facilities in the 34 health regions of the country. To complement the Norms document, the Peruvian MOH/central level invited regional representatives to develop a National Plan for Gynecological Cancer Prevention for the years 1998–2000. At the time of the evaluation (2001), the plan continued to be in effect. Regional, district, and healthcare facility level personnel interviewed as part of the evaluation were aware of the key elements of the National Plan (i.e., age of the target population, and the use of VIA and cryotherapy as an alternative to the traditional cytology-based approach).

Although facility providers and personnel at all levels of the Peruvian MOH expressed support of the new approach, the evaluation team identified a number of factors detracting from its successful implementation and the potential for sustainability. Funding shortages and limited human resources at the central level limited the capacity of the Peruvian MOH to adequately respond to local requests (e.g., for additional training and the establishment of followup systems).

ATTITUDES

Peruvian MOH/central-level interviewees recognized cervical cancer as a major health problem and one that needs to be addressed by exploring alternatives to the existing cytology-based system. They were enthusiastic about linking cryotherapy with VIA due to its potential for increased cost-effectiveness and the fact that providers using this approach had expressed satisfaction with it. At the regional, district, and healthcare facility levels, people interviewed ranked cervical cancer as one of the top 10 diseases of their region and were enthusiastic about introducing VIA/cryotherapy as an alternative approach to cancer prevention.

All levels of providers interviewed spoke positively about VIA. They found VIA easy to learn and thought linking treatment immediately with testing was cost-effective.

SERVICE DELIVERY

During the first few weeks post-training, approximately half of the providers had difficulty with adequate ice ball formation. However, this problem was communicated to JHPIEGO's Baltimore CECAP staff, who quickly provided a solution. Once the ice ball formation problem had been solved, all of the providers reported that they felt competent. Observations at

healthcare facilities revealed that most providers were in fact competent in providing all components of the SVA service (i.e., counseling, VIA, and cryotherapy). Additionally, RNMs were appropriately counseling about key elements of effective counseling in order to safeguard clients' rights of privacy and freedom of choice. Facility staff were very eager to expand services and were interested in having other cadres of personnel involved. GPs and RNMs were particularly vocal about wanting to have more responsibility or about being assigned to service delivery teams. Their enthusiasm for cryotherapy was apparent from their requests regarding how to obtain cryotherapy equipment for their private practices.

Services were being implemented in all healthcare facilities in which cryotherapy units and CO₂ cylinders had been provided by JHPIEGO during training. Providers reported that it was easy and inexpensive to obtain acetic acid for the VIA test. Moreover, infection prevention practices – such as handwashing, equipment decontamination, disinfection, and waste elimination – were being performed according to the standards taught during training.

Despite this good news, service delivery challenges remained. At the time of the evaluation, sites visited had allocated a single consultation room in which to offer the service. Providers interviewed indicated that they preferred to work in teams. They suggested that RNMs should continue providing pre- and post-test counseling, and that nurses need to be involved with equipment maintenance and infection prevention practices.

During the evaluation visit, the vast majority of healthcare providers not previously trained in the new service expressed an interest in being trained in VIA and cryotherapy to expand services.

An Iquitos DISA official expressed this well:

Expand services to have preservice students rotate through the single visit unit (where VIA and cryotherapy are offered). [In this way,] cryotherapy could be expanded to other districts.

Allocation of appropriate physical space for screening and treatment was not possible in some healthcare facilities, especially the lower level ones. Although physical space was available in higher-level facilities, the lack of available trained personnel was the main factor limiting expansion or the number of days during which the service could be offered.

The evaluation team found considerable variability among each of the sites visited in terms of how VIA and cryotherapy had been incorporated. This was true despite the fact that all the providers interviewed reported receiving a copy of the Norms Manual. Although the sites visited were screening women within the target age group specified in the document, post-cryotherapy followup varied considerably among the sites. The number and timing of followup visits seem to be more a reflection of providers' academic interests or, in some cases, culturally specific attitudes toward what constitutes quality of care (e.g., returning within 1 week).

RECORD KEEPING

At the time of the evaluation visit, providers were obtaining written consent for the service from women and the forms they used were the same in all sites. However, although providers

at the facilities visited were aware of the MOH-developed forms for recording VIA and cryotherapy-related data, none were using them.

Staff in the healthcare facilities visited expressed an interest in registering the women they had tested and treated. However, record keeping had yet to be standardized. It was the same case with consent forms – consent was being obtained for all women, and providers said they understood the value and need for such consent. However, staff were not clear on the protocol for how this form should be appropriately stored.

The Peruvian MOH/central level had developed forms, but they had not yet been adopted as part of the national system. (Subsequent to the evaluation, such forms were officially adopted by the MOH.) At the regional and district levels, there did not seem to be a clear understanding of the importance of recording data or the establishment of a followup system to enable women with precancerous lesions not receiving immediate treatment to be traced.

Table 6. Summary of Record Keeping Findings

NAME OF SITE VISITED	DATA GATHERED USING MOH FORM	MONTHLY REPORT TO DISA	REPORT TO THE HIS	CONSENT FORM OBTAINED	PROTOCOL FOR CONSENT FORM
Callao	Yes	Yes	Yes	Yes	*
Cusco	Yes	No	No	Yes	Kept in providers' office
Ilo	Yes	No	No	Yes	*
Iquitos	Yes	Yes	No	Yes	Chart
Moquegua	Only for outreach campaigns	No	No	Yes	Given to women. HF** copy in chart
Tarapoto	Yes	Yes	Yes	Yes	*

*Information not obtained

**HF=healthcare facility

Women's Perceptions

According to providers, women who agreed to be tested and treated under the new model reported satisfaction with their decision and the services received.

PROVIDER TRAINING

Interviews conducted with healthcare providers and regional, district-, and central-level authorities suggested that a two-pronged training strategy – involving both inservice training of existing personnel and preservice education – would be needed if the Peruvian MOH was interested in expanding this service.

To address the training needs of existing personnel, the Peruvian MOH and other national stakeholders (e.g., INEM) could identify sites that could serve as Centers of Excellence in the provision of cervical cancer prevention services throughout the country. At the time of the evaluation, JHPIEGO was providing technical assistance in other RH services to various centers in the country to enable these sites to function as regional RH training centers. Cervical cancer prevention training could possibly be included in the curriculum of these sites. Preservice training is likely to be more cost-effective in the long run, and training in VIA and cryotherapy should also be incorporated into preservice education for physicians, RNMs, and nurses.

Although the majority of providers trained during one of the three training events reported satisfaction with the training they had received, they had the following suggestions regarding how to strengthen similar future events:

- Higher level of involvement of nurse-midwives
- Training in teams (RNMs and physicians)
- More time reviewing clinical cases
- More time dedicated to patient care
- More coaching

Providers interviewed suggested that the Peruvian MOH and/or any other agency/organization assisting in strengthening services should organize meetings to facilitate the exchange of information and/or experiences.

CONCLUSIONS

Between 1996 and 2001, the Peruvian MOH at the central, regional, district, and healthcare facility levels carried out various activities in an attempt to introduce an alternative approach to cervical cancer prevention in Peru. This approach was promoted as a strategy for expanding the national program's reach to traditionally under-served populations (e.g., inhabitants of the rural and peri-urban locations). Inclusion of the new approach as an option in the Norms Manual provided the legal and policy basis for training of providers in VIA and cryotherapy. Trained service providers seemed to be satisfied with the alternative, as did the ultimate beneficiaries—the women who were tested and treated.

The evaluation revealed that, despite existing national norms and detailed service delivery protocols, trained providers had integrated the alternatives in various ways in response to cultural norms and local realities. In Tarapoto, the Peruvian MOH and PAHO were engaged in a large research-based project with a standardized protocol including VIA and cryotherapy (as indicated). The results of that project were intended to provide solid evidence for future policy and program decisions regarding cervical cancer prevention in Peru. (Those results are currently becoming available.)

Key findings from this evaluation are grouped by focal area and summarized below. Following the key findings are key constraints existing at the time of the evaluation, also in summary format. Some of the key constraints may have been addressed in the interim since this evaluation was conducted.

KEY EVALUATION FINDINGS

Screening

- In the past few years, strengthened community outreach had increased screening coverage.
- Screening had been expanded to include more rural, high-risk groups.
- VIA had been incorporated in some sites as a complementary screening approach to cytology.
- Senior regional and institutional policymakers were generally positive toward VIA as a screening option.
- Trained providers had good to excellent VIA skills.
- The counseling component of services was strong.

Treatment

- Treatment coverage (mostly of Pap-positive women) had increased measurably where test and immediate treatment with cryotherapy (i.e., the SVA) was offered.
- No treatment complications had been reported.
- Cryotherapy skills of providers were mostly good to excellent, including provider infection prevention skills (e.g., handwashing).
- Post-treatment counseling skills were good.
- General attitude toward cryotherapy as a treatment option seemed positive.

Single Visit Approach

- Directors of *dire*s (administrative units), hospitals, departments, providers, FP coordinators, and women interviewed all liked this concept because of the immediacy of the test results.
- Directors and FP coordinators considered SVA a potential strategy to reduce costs.

KEY CONSTRAINTS

Personnel

- A team approach (ob/gyns or physicians, nurses, and auxiliary nurses) at service delivery sites was deemed the most useful.
- Large gaps existed between the need/demand for and supply of service providers.
- Providers were competent, but most still lacked confidence.

Equipment/Supplies

- Cryotherapy equipment problems had mostly been resolved, but equipment maintenance needed addressing.
- Ensuring adequate supplies of vinegar and CO₂ was challenging.
- A large gap existed between the demand for cryotherapy and the supply of cryotherapy units.

Followup

- Despite the existence of a national protocol, patient followup protocol varied by site.
- Following up at the hospitals of women living in very rural areas was challenging.
- The system for monitoring/documenting followup visits and post-treatment problems was quite weak.

Service Delivery

- Screening and treatment coverage needed to be expanded to even more rural areas.
- The current cytology-based approach was characterized by long delays for test results in sites visited and a relatively high cost of analyzing smears.
- The provision of *jornadas* (campaigns) to expand coverage and program reach could result in some reduction in quality of services due to high volume of women those days.
- A routine system for quality control of VIA and cryotherapy that could be operational at the local level needed to be developed.

Training

- A sustainable strategy for future training, consistent with available qualified personnel, needed to be developed.
- Sites meeting the criteria for an adequate training center needed to be identified.
- Trained providers needed updated information and additional practical expertise (mostly in VIA) to maintain competency and confidence.
- Materials were needed, including updated screening information appropriate for the type of provider being trained.

RECOMMENDATIONS

Based on the evaluation findings and identified constraints, the evaluation team came up with the following recommendations, which were shared with Peruvian MOH and USAID/Peru officials at the end of the evaluation visit.

POLICY

- Advocate for the allocation of funds at central, district, regional, and healthcare facility levels for the purchase of necessary supplies (e.g., acetic acid needed for VIA and CO₂ for cryotherapy).
- Allocate financial resources to establish a followup system post-cryotherapy. The protocol needs to be enforced as a means of ensuring quality.
- Advocate for the inclusion of data on VIA and cryotherapy as part of the national HIS.

“Standards should be developed and health units that do not meet standards should be closed.” – Peruvian MOH central-level authority

“Cervical cancer prevention should be included in the National Health Service package; VIA should be the service – it is much cheaper.” – Peruvian MOH central-level authority

SERVICE DELIVERY

- Integrate the alternative service into the daily routine of RH outpatient services. By doing so, access to cervical cancer screening will be increased.
- Standardize the SVA protocol, where used.
- Strengthen regional, district, and healthcare facility supervisory capacity to support protocol standardization.
- As much as possible, conduct the cryotherapy procedure inside the consultation room (not in the operating theater).
- Identify strategies and followup systems that will support successful implementation of the new approach.
- Develop record keeping system protocol and provide assistance to ensure its successful implementation.
- Encourage the development of information, education, and communication materials by regional, district, and healthcare facility level authorities to support counseling, in addition to outreach activities.
- Consider using VIA as a primary screening test where cytology-based screening is not practical.
- Carry out periodic campaigns at the healthcare center level – the first referral level.
 - Plan the campaigns considering likely demand.
 - Limit numbers of women who are provided services during a campaign.
 - Bring adequate supplies.
 - Develop guidelines for acceptable, alternative solutions to campaign service delivery problems.

“VIA should be considered a service; therefore, everybody should do it.”

“Include VIA testing in the scope of work of the *tecnicos* (auxiliary nurses).”

“The single visit method should be part of an integrated health package.”

– DISA (Tarapoto)

“Screening should be expanded to all 258 health units. Cryotherapy should expand from being offered in one tertiary level hospital to being offered in the four area hospitals and then in all 258 facilities. They all should do it.” – Cusco, Hospital Director

QUALITY ASSURANCE

- Develop slide sets/videos to share with providers.
- Have supervisory teams visit sites and co-assess patients.
- Monitor test-positive rates by provider and by site over time.

PERSONNEL

- Train providers as teams from each site.
- Consider a preservice training strategy and training other provider groups to deliver services.
- Develop a strategy (e.g., followup visits from trainers) and materials in continuing education for trained providers.

EQUIPMENT/SUPPLIES

- Design a manual for care of cryotherapy equipment.
- Coordinate the budget of supplies with FP coordinators (or whoever is responsible for these supplies).
- Purchase additional cryotherapy units.

FOLLOWUP

- Review followup protocol and recommend a schedule of visits according to scientific evidence and local cultural customs.
- Involve nurses and auxiliary nurses as part of the cervical cancer prevention team.
- Extend services in a phased approach (as resources allow) to lower levels in the healthcare system.
- Review and strengthen the information system associated with cervical cancer prevention to allow for accurate and timely measurement of important indicators.

“Why does it have to be a specialist providing the services? Why could it not be a RNM?” – Peruvian MOH/central-level authority

“Preservice training is the only approach that will work to expand the pool of trained providers. Since the health centers and posts have GPs, the training would have to very early in their academic formation, before they specialized.” – Peruvian MOH central-level authority

TRAINING

- Create a critical mass of VIA and cryotherapy trainers to become trainers of trainers (to be done by the Peruvian MOH in the short run).
- Reduce training course length by sending didactic material (modules) to trainers in advance.
- Develop regional training centers where competent, trained providers can provide second generation training.
- Provide on-site infection prevention training to other members of the team.
- Develop three national training centers to train ob/gyns in other regions.
- Use regional training centers as preservice training sites (for all levels of providers).

“Hospitals should be training centers. They have the caseload and should establish a plan to evaluate competency and quality prior to providing services. They need a certification system in place.” – Peruvian MOH central-level authority

- Revise training/ education materials to include updated scientific information so they can be used for all trainings (preservice, inservice, ob/ gyns, general practitioners, and RNMs).
- Send trained providers to other regions (cross training) to increase acceptance.
- Have central trainers serve as itinerant trainers.

RECORD KEEPING

- Emphasize to providers the importance of recording and reporting data.
- Revise reporting systems so VIA can be recorded if used as a first screening test.
- Reinforce where to store forms in the field and when copies should be given to patients.