Strategic Planning and Situation Assessment for Cervical Cancer Prevention

PRACTICAL EXPERIENCE FROM PATH | 2011
PATH is an international nonprofit organization that creates sustainable, culturally relevant solutions, enabling communities worldwide to break longstanding cycles of poor health. By collaborating with diverse public- and private-sector partners, PATH helps provide appropriate health technologies and vital strategies that change the way people think and act. PATH’S work improves global health and well-being.

Headquartered in Seattle, Washington, PATH has offices in 31 cities in 22 countries.

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All photos in this document were taken at sites of demonstration projects implemented by the governments of India, Peru, Uganda, and Vietnam with technical support from PATH.

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INTRODUCTION TO THE CERVICAL CANCER PREVENTION: PRACTICAL EXPERIENCE SERIES

About the PATH HPV vaccination demonstration projects

From 2006 to 2011, PATH conducted HPV vaccination demonstration projects in four low- to middle-income countries—India, Peru, Uganda, and Vietnam—to provide evidence for decision-making about public-sector introduction of human papillomavirus (HPV) vaccines. The Cervical Cancer Prevention: Practical Experience Series of four units summarizes lessons learned that can help guide future cervical cancer prevention program planning, especially in low-resource settings around the globe.

In conducting the vaccination demonstration projects, PATH worked closely with ministries of health, civil society organizations, and other key stakeholders to carry out formative and operations research in each country. The studies looked at a variety of vaccine introduction questions, including how sociocultural barriers may impede acceptance of the vaccine; how the vaccine can be most effectively delivered to adolescent girls; how HPV vaccination can be integrated into (and strengthen) existing health programs; and what the cost of implementing HPV vaccinations might imply for health programs.

Each Practical Experience unit focuses on an important aspect of an HPV vaccination program:

1. **Strategic Planning and Situation Assessment for Cervical Cancer Prevention.** The first unit (this document) helps decision-makers and program planners focus on key “big picture” questions about cervical cancer prioritization and on opportunities and challenges for improved cancer prevention in their countries.

2. **Conducting Formative Research for HPV Vaccination.** The second unit demonstrates that preliminary formative research is a necessary component of overall planning, discusses formative research issues specific to cervical cancer, and explains how research results may be used for strategic planning in the cervical cancer context. [To be published in late 2011.]

3. **Implementing HPV Vaccination Programs.** The third unit offers resources on general immunization topics such as how to set up an immunization site or to give a safe injection. However, the main focus is on practical issues relevant to HPV vaccination such as working in school settings and developing effective messaging about the vaccine.

4. **Evaluating HPV Vaccination Programs.** This unit focuses on how program monitoring and evaluation can be accomplished within existing health infrastructures in an efficient manner. [To be published in 2012.]

Check the RHO Cervical Cancer Practical Experience Series page (www.rho.org/HPV-practical-experience.htm) regularly for completed units.

For more information about PATH’s cervical cancer vaccine project, visit: www.path.org/projects/cervical_cancer_vaccine.php or contact info@path.org.
PATH resources for information on cervical cancer and HPV vaccination

The resources below are available at www.rho.org.

The following three items provide an overview of the scientific literature on cervical cancer, current evidence on methods of prevention, and information for program planning:

- The RHO Cervical Cancer Library is a comprehensive online source for detailed information about cervical cancer and how it can be prevented.
- PATH’s Cervical Cancer Prevention Action Planner provides a wealth of information and interactive exercises to assist with program planning.

The following documents summarize the formative research done in preparation for implementing vaccinations in each country:

- *Shaping a Strategy to Introduce HPV Vaccines in India*
- *Shaping a Strategy to Introduce HPV Vaccines in Peru*
- *Shaping a Strategy to Introduce HPV Vaccines in Uganda*
- *Shaping a Strategy to Introduce HPV Vaccines in Vietnam*
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**ACRONYMS**

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<th>Description</th>
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<tbody>
<tr>
<td>AIDS</td>
<td>Acquired immune deficiency syndrome</td>
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<tr>
<td>CDC</td>
<td>US Centers for Disease Control and Prevention</td>
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<tr>
<td>HIV</td>
<td>Human immunodeficiency virus</td>
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<td>HPV</td>
<td>Human papillomavirus</td>
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<td>MDG</td>
<td>Millennium Development Goal</td>
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<tr>
<td>NGO</td>
<td>Nongovernmental organization</td>
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<td>United Nations Children’s Fund</td>
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<tr>
<td>VIA</td>
<td>Visual inspection with acetic acid</td>
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<td>WHO</td>
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Introduction

The objective of this unit is to offer practical guidance to countries considering how best to improve cervical cancer prevention in their specific situations. It promotes a comprehensive approach to the disease, using both human papillomavirus (HPV) immunization of young adolescent girls and cervical screening and treatment of adult women as crucial prevention tools. At the same time, it acknowledges that countries may wish to prioritize one intervention now, while planning to focus on the other intervention in the future.

The unit can help you:

1. Learn more about cervical cancer to prepare for your planning exercise.
2. Determine whether cervical cancer prevention is a priority for your country.
3. Evaluate current opportunities and challenges for improving cervical cancer prevention.
4. Develop appropriate policies and prepare to plan your interventions.

The unit links to a wealth of free resources relevant to the early planning process, including background documents summarizing scientific knowledge about cervical cancer, guidelines and manuals, training materials, videos, and other information. These resources are found throughout the text. All resources are available online at www.rho.org/HPV-strategic-planning.htm.

This unit also has been designed as an interactive web-based tool—PATH’s Cervical Cancer Prevention Action Planner (www.rho.org/actionplanner).

Girls with education materials about HPV vaccination in Thanh Hoa province, Vietnam.
Step 1: Learn about cervical cancer

A first step in planning for improved cervical cancer prevention is to develop a strong, up-to-date knowledge base about the disease. A recent issue of PATH’s Outlook, titled *Progress in preventing cervical cancer: Updated evidence on vaccination and screening*, 2010, provides a comprehensive picture of cervical cancer and current prevention options, geared toward audiences in Africa, Asia, and Latin America.

If you would prefer to watch video mini-lectures on cervical cancer (two to six minutes each), visit the [Cervical Cancer Prevention Action Planner Multimedia page](#).

Many additional resources, from the World Health Organization (WHO), United Nations Population Fund (UNFPA), the US Centers for Disease Control and Prevention (CDC), PATH, Union for International Cancer Control, Cervical Cancer Action, Alliance for Cervical Cancer Prevention, American Cancer Society, and others are available from the [RHO Cervical Cancer Library](#).

Technical assistance for cervical cancer program planning may also be available from local offices of WHO or UNFPA in your country, or from PATH and other nongovernmental organizations (NGOs) whose resources are mentioned in this unit.

**Keep up to date with new evidence**

Subscribe: New information about cervical cancer is being published all the time. To stay up to date, consider subscribing to one of these free news services:

- **HPVflash e-bulletin subscription page**
- **HPV Today newsletter**
- **Cervical Cancer Action e-newsletter**
- **Google alerts web page**

Search: You also may wish to search the online [PubMed journal database](#) using terms like “cervical cancer,” “HPV,” or “cervical screening.”
More key background documents and websites

- **Global Guidance for Cervical Cancer Prevention and Control**
  International Federation of Gynecology and Obstetrics 2009

- **Cervical Cancer, Human Papillomavirus (HPV), and HPV Vaccines: Key Points For Policy-Makers And Health Professionals**
  WHO, UNFPA, PATH 2007

- **Human papillomavirus vaccines: WHO position paper**
  WHO 2009

- **Evidence-Based, Alternative Cervical Cancer Screening Approaches in Low-Resource Settings**
  International Perspectives on Sexual and Reproductive Health 2009

- **Comprehensive Cervical Cancer Control: A Guide to Essential Practice**
  WHO 2006

- **HPV Vaccine Adoption in Developing Countries: Cost and Financing Issues**
  International AIDS Vaccine Initiative and PATH 2007

- **Benefits, cost requirements and cost-effectiveness of the HPV 16, 18 vaccine for cervical cancer prevention in developing countries: policy implications**
  Reproductive Health Matters 2008
  (requires registration)

- **Information Centre on HPV and Cervical Cancer**
  WHO/Institut Catala d'Oncologia

- **International Cancer Information Center**
  US National Cancer Institute website

- **Cervical Cancer information**
  CDC website

- **HPV and Cervical Cancer Curriculum**
  Union for International Cancer Control 2010
Step 2: Determine whether cervical cancer control is a priority for your country

Every day, program planners make difficult decisions about health priorities—which issues to address now, which to plan for in the near future, and which must be postponed in order to direct resources to more pressing problems. It is crucial to base such decisions on reliable scientific evidence—factors such as burden of disease and intervention effectiveness—but other realities also are important, like feasibility of implementation, the potential for sustainable financing, and whether there is sufficient support for the intervention among politicians, civil society, and the general public.

The assessments below do not need to be done in the order listed, and you may not feel that all have to be investigated in your situation. It is best to focus on those issues that are most important to you.

Sometimes there is not as much reliable scientific information as we would like (disease burden, for example) and so it is necessary to use estimates instead, or data from similar countries. But public health plans often are made without full data, so do not allow your planning process to be hindered or delayed only because you lack some details.

Assess cervical cancer disease burden in the country

By understanding the burden of disease, it is possible to estimate the need for and potential impact of cervical cancer prevention interventions, including both HPV vaccination and cervical screening.

Determining disease burden

If there is a fully functioning cancer registry with national data in your country, it may be the best source of disease burden figures. Alternately, academic researchers, a local cancer society, or other local experts may have some locality-specific figures to share.

If you have no reliable national data, the WHO/Institut Catala d’Oncologia Information Centre on HPV and Cervical Cancer includes reports on HPV and cervical cancer for every country. Some of these figures are estimates, but may represent the best data available.

The GLOBOCAN2008 website from WHO also provides statistics for each country, for regions, and for the world.

Assessing the impact of interventions

In attempting to estimate the potential impact of improved cervical cancer prevention, you will want to consider several possible programmatic scenarios.

The first consideration is whether you would like to focus initially on a single intervention—either screening/treatment or HPV vaccination—or move forward in both areas simultaneously.

As part of the Cervical Cancer Prevention Action Planner, PATH has created interactive impact models based on computer modeling done at Harvard University.
to illustrate the effect of choosing different options for screening and vaccination, as seen below.

According to the Harvard models (as illustrated in these examples), offering women in India a single visual inspection with acetic acid (VIA) exam at age 40 would reduce lifetime risk of cervical cancer by 13 percent. But offering her HPV vaccination as a girl, then providing three VIA exams during her lifetime, would decrease the risk by 61 percent.\(^1\) While it is unrealistic to expect to develop such models for every country and every situation, review of existing models like these can provide a sense of the kinds of impact one might expect. You can generate similar scenarios by visiting the Action Planner at the link above.

For each intervention, ask additional questions

- Will the intervention be introduced nationally (for all women or girls in the country), or will you initially introduce it sub-nationally, and then expand the program later?
- Should strategies be different for urban, rural, and remote areas? It may make sense to plan for different approaches in different situations. For example, in the capital, there may already be a well-functioning cytology-based (Pap smear) screening program that can be expanded to reach more women, but that same Pap approach may not make sense in rural and remote areas. In those cases, a VIA-based approach might be a better choice.
- For HPV vaccination in cities, it may be more efficient to offer vaccine through community clinics (if they are convenient and well attended), but outside urban areas, it may work better to reach girls at school and make special arrangements for out-of-school girls. Or the opposite may be true in your country.
- Would the program be more successful if you revised job roles? For example, in many countries, nurses have been trained to conduct VIA and to treat lesions with cryotherapy, even though that was not previously part of their job. This has resulted in many more screening and treatment service providers than when only physicians were able to provide these services.
- Can you identify potential allies and partners?


PATH’s 2011 *Implementing HPV Vaccination Programs* brings together practical information on how to set up HPV vaccination programs in Africa, Asia, and Latin America.

Lessons learned about the HPV vaccination projects in *Latin America* (2010) and *Africa* (2011), are also available. Information covers topics such as developing a vaccination strategy, community outreach, and health worker training.
Estimating impact

In an ideal world, all countries would have the resources to conduct rigorous modeling of any health intervention they were considering. However, such modeling is technically complex, expensive, and generally out of reach for many governments, and seldom is done for any intervention. In such cases, the best choice may be to review modeling done for other, similar countries. The Harvard models mentioned previously are one place to start (the references for the published papers with model details are included in the Cervical Cancer Prevention Action Planner impact model references link). You will find more papers on modeling by searching the web or PubMed.

Estimate the impact of additional health services for adolescents and adult women

In some countries, governments bundle cervical cancer prevention services with other health interventions needed by the same individuals. For example, in Uganda, HPV vaccination of girls in primary school grade 5 was added to an existing program delivering tetanus toxoid vaccination, bed nets, and other age-appropriate services. Since health teams already were traveling to schools and other venues to deliver these “Child Days Plus” services, staff time and transport costs of delivering HPV vaccine were shared with the other programs. Similarly, adult women coming for cervical screening might also benefit from additional services.

Some programs view bundling as having the potential to strengthen weaker programs. The addition of popular services like HPV vaccination and cervical cancer screening could bring more women to the clinic, who then could be offered less well-known or popular, but important, health services.

Services that can be bundled with cervical cancer interventions

Adolescent health services:
- Immunization against tetanus, rubella, hepatitis B, measles, and eventually, HIV
- Deworming
- Distribution of bed nets for malaria prevention
- Treatment for schistosomiasis, onchocerciasis, filariasis, and trachoma
- Iron and/or iodine supplementation
- Nutritional supplementation and education
- Education about handwashing, tobacco, and drugs; body-awareness education; and life choice decision-making and sexual health education

Adult female health services:
- Screening for breast cancer, oral cancer, diabetes, depression, hypertension, and/or domestic violence
- Contraception (especially longer-term or permanent methods appropriate for older women)
- Counseling on smoking, weight and nutrition, and salt reduction
There is some risk inherent in bundling services, especially if funding for the entire program is dependent on combining funds linked to each intervention. In that case, if funding for any element of the program were lost, or there were other problems with the intervention (such as unfavorable media attention), the entire bundled program might be put in jeopardy.

**Questions to be considered before deciding to bundle services**

- Does a system already exist with bundled services for the target clients (young adolescent girls for vaccination and adult women for screening)? Could cervical cancer services be added to the mix? Could the system cope with more services, or would that overburden staff?
- Are other programs for adolescents or older women having trouble meeting their goals when offering their services alone? Would bundling address financial or logistical challenges?
- Do the services integrate well? For example, it seems logical that a health center team visiting a school would be able to offer HPV education, vaccination, and sexual health education. But would the team really have time to do all that? Would talks about sexual health be held in the same place as talks about HPV vaccination (or would groups need more privacy for the sexual health talks)? Would the team be able to manage logistics and materials for all the interventions?
- Does integration result in a strengthened health system that can support other services? Do the benefits of integration outweigh the costs?

Some planners have considered strategies for integrating cervical cancer prevention services for adult women (screening and treatment) and for young adolescent girls (HPV vaccination) at health centers. This works best in terms of cervical cancer education, as it is good for both younger and older women to understand all prevention methods. However, as service delivery needs—and timing—are very different for cervical screening/treatment and HPV vaccination, it can be challenging to integrate them in the clinic. Vaccination in the arm can be done in a semi-public area by any trained health worker and takes only a few minutes (plus a rest and observation period for the girl). Pelvic screening exams require privacy, more equipment, more highly trained staff, and more time, so the daughter could be kept waiting much longer than necessary. Perhaps other adolescent health interventions could be provided during that time.

**Additional resource**

Link to the RHO Cervical Cancer website to watch a short video on the Added Value of Cervical Cancer Programs.

**Explore partnerships to increase impact**

A good strategy is to seek to align your activities with the national cancer control strategy and with other groups. Collaborating with partners toward a common goal can multiply impact because coordinated action reduces conflicting messages from different agencies, exposes potential new synergies among programs, and can help to leverage sufficient resources to achieve major initiatives. The best way to find partners is to reach out to local groups, such as a ministry of health team focusing on cancer or a national cancer society.
Analyze the decision-making process

If you are not sure about how health program decisions are made in your country, and therefore, with whom to link and which partnerships to pursue, consider analyzing the process by discussing it with key informants in your country.

Questions you may wish to explore include:

- How are government health resources allocated?
- Who is central to moving the cervical cancer agenda forward?
- Will decentralization affect decision-making or service provision?

Assess existing policies for adolescent vaccination and adult screening

A meeting with local experts may help to determine if current policies are outdated or inappropriate (and therefore need to be changed). It may also uncover existing policies that can be used to support new activities in this area.

Assess and mobilize political support

Without political support, new cervical cancer prevention programs cannot flourish. Fortunately, there are many groups potentially interested in the issue, including organizations and individuals concerned about cancer, reproductive health, adolescent health, adult women’s health, gender equity, and immunization.

Actions that can help gather support for interventions

- Identify key decision-makers and discuss benefits and challenges of improving cervical cancer prevention with them.
- Seek out sociocultural or knowledge, attitudes, and practices studies about cancer from your country or region. Such data can help with the design of educational messages and strategies for reaching out to the community.
- Conduct focus group discussions with NGOs and others. The PATH Immunization and Child Health Materials Development Guide (2001) teaches audience research methods and provides practical advice.
- Anticipate whether there is potential for professional or cultural resistance from obstetricians/gynecologists or religious groups. Think about how you would deal with these challenges should they arise. This manual may help: Advocacy for Immunization (2001).
• Some leaders may be interested in how cervical cancer prevention improves equity and contributes to achievement of the Millennium Development Goals (MDGs). A recent publication addresses equity, and a WHO publication from 2008, Cervical Cancer Prevention and the Millennium Development Goals, discusses the MDGs.

Step 3: Evaluate current opportunities and challenges

Assess your national immunization program

The best way to learn about the strengths and challenges of your national immunization program is to interview local immunization teams and access recent immunization program reviews and/or joint reporting forms. In regard to HPV vaccinations, it is especially important to assess your country’s program for immunizing adolescents.

Resources related to vaccination in general can be found online at the Vaccine Resource Library.

Assess current cervical cancer screening and treatment programs

As with vaccination, to assess screening, it is a good idea to interview local cancer teams, reproductive health service teams, and cancer and reproductive health NGOs. In addition to researching the screening and treatment programs in your area, it is a good idea to find out about programs to manage advanced cervical cancer.

The Western Pacific Regional Office of WHO has published a report, Expert Consultation on the Comprehensive Prevention and Control of Cervical Cancer, that provides a checklist for assessing country capacity and preparedness for introducing or scaling up comprehensive cervical cancer prevention and control programs. Items on the checklist include determining whether a national cancer prevention policy is in place, what screening and treatment services are provided, whether HPV vaccination is available, what type of training is provided for health workers, and what kind of monitoring system is present.

Research the quality, efficacy, and availability of new technologies

Recent advances in the field of cervical cancer prevention include the HPV vaccines, HPV DNA tests, visual inspection methods for screening, and cryotherapy for treatment of precancerous lesions. Look


into whether any of these technologies are available in your region or in neighboring countries that might act as sources of information and advice.

In addition to studying the resources listed below, compare notes with local experts about these technologies.

- Link to the RHO Cervical Cancer website to watch a short video on Screening and Treatment of Precancerous Lesions
- Link to the RHO Cervical Cancer website to watch a short video on HPV Vaccination

- Planning and Implementing Cervical Cancer Prevention and Control Programs: A Manual for Managers
  Alliance for Cervical Cancer Prevention 2004

- Comprehensive Cervical Cancer Control: A Guide to Essential Practice
  WHO 2006

- Evidence-Based, Alternative Cervical Cancer Screening Approaches in Low-Resource Settings
  International Perspectives on Sexual and Reproductive Health 2009

- Outlook: Progress in preventing cervical cancer: Updated evidence on vaccination and screening
  PATH, UNFPA, GAVI Alliance 2010

- Human papillomavirus vaccines: WHO position paper
  WHO 2009

- Cervical Cancer, Human Papillomavirus (HPV), and HPV Vaccines: Key Points For Policy-Makers And Health Professionals
  WHO, UNFPA, PATH 2007

- Global Guidance for Cervical Cancer Prevention and Control
  International Federation of Gynecology and Obstetrics 2009

- Cervical Cancer Prevention Action Planner
  PATH website

- Comprehensive Cervical Cancer Prevention and Control: Programme Guidance for Countries
  UNFPA 2011
Assess costs, affordability, and financial sustainability

Talk with local budget authorities, potential donors, and staff of WHO, the United Nations Children's Fund (UNICEF), and UNFPA about financing for cervical cancer prevention. Sustainability over the short and long term must be considered.

These resources may help:

- Link to the RHO Cervical Cancer website to watch a short video on Cost-effectiveness, Affordability, and Financing of Cervical Cancer Prevention
- HPV Vaccine Adoption in Developing Countries: Cost and Financing Issues
  International AIDS Vaccine Initiative and PATH 2007
- WHO website
- Immunization Financing
  WHO website
- WHO Guide for Standardization of Economic Evaluations of Immunization Programmes
  WHO 2008
- WHO-UNICEF Guidelines For Developing a Comprehensive Multi-Year Plan
  WHO and UNICEF 2006
- Guidelines for Estimating Costs of Introducing New Vaccines into the National Immunization System
  WHO 2002
- UNFPA website
- GAVI Alliance website

Financial Sustainability Diagnostic Tool for a national immunization programme
  WHO and GAVI Alliance 2003
Consider cost-effectiveness of cervical cancer prevention initiatives

Benefits, cost requirements and cost-effectiveness of the HPV 16, 18 vaccine for cervical cancer prevention in developing countries: Policy implications
Reproductive Health Matters 2008 (requires registration)
Choosing Interventions that are Cost Effective
WHO-CHOICE website

Assess overall programmatic feasibility
Convene a multi-disciplinary team to take into account all of the preceding issues and organize discussions with all relevant agencies.

Step 4: Develop policies and plan interventions

Develop key policies
For HPV vaccination programs, policies must be established on which vaccine to use and how best to reach the target population in different regions. Decisions will include the age range for vaccinations and whether any catch-up campaigns will be part of the strategy. Details will involve topics such as bundling vaccinations with other services and training health workers on specifics of HPV vaccinations (i.e., how they differ from routine childhood immunizations).

For screening and treatment programs, issues to consider include the screening methods to use, age range of target participants, and frequency of screening. Other considerations are regions best suited for initiating the programs and referral systems for women who need further assessment or advanced treatment.

The resources listed in previous sections will be helpful in this process.
Discuss how to balance resources for screening and vaccination

Based on the information you have already gathered, you may wish to consider convening a high-level meeting of key decision-makers (top managers, program managers, and advisors) to brainstorm on overall planning, including how to prioritize and allocate resources to these two important interventions and how best to phase them in. You may also wish to consider how to coordinate efforts between vaccination and screening (especially awareness-raising/community mobilization and monitoring/reporting).

In addition to meeting with high-level decision-makers, it is important to confer with stakeholders at the regional and local levels, to inform and educate them about comprehensive cervical cancer prevention so they will become engaged and ensure the success of the program. These groups may include women's/mothers’ groups, youth groups, and child health organizations.

Recruit planning teams and managers

Because cervical cancer prevention stands at the intersection of cancer prevention, immunization, and reproductive health, recruiting representatives from all of these sectors is important for good planning and effective implementation of your programs. Your team should ideally include members from the Expanded Programme on Immunization, cancer control, and reproductive health—as well as adolescent health, and school health where relevant.

Design appropriate vaccination and screening programs

The resources listed throughout this document will provide crucial help for researching your options, gathering support, and designing the best overall strategy for cervical cancer prevention programs in your region.

For guidance on designing HPV vaccination programs, consult “Implementing HPV Vaccination Programs,” another unit in this series.

For guidance on developing precancer screening and treatment programs, consult “Planning and Implementing Cervical Cancer Prevention and Control Programs” and the Screening and Treatment section of the RHO Cervical Cancer Library.

Conclusion

Researchers have made immense progress in the development of technologies for preventing cervical cancer in recent years, with the advent of vaccines for young adolescent girls and the availability of efficient, low-cost screening methods for adult women. Now the challenge is to implement prevention programs in areas that need them most—low-resource regions with a high burden of disease. This requires not only appropriate technologies, but also
development of policies, health systems, and community support that enable delivery of services. Comprehensive prevention strategies—those that include both vaccination (when affordable) and screening (either starting or expanding screening and treatment programs)—will save the most lives.