



**Pan American  
Health  
Organization**

Regional Office of the  
World Health Organization

**REGIONAL  
STRATEGY  
AND PLAN  
OF ACTION FOR  
CERVICAL  
CANCER  
PREVENTION  
AND CONTROL  
IN LATIN  
AMERICA  
AND THE  
CARIBBEAN**



**CERVICAL CANCER  
PREVENTION IN LATIN AMERICA  
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**REGIONAL STRATEGY AND PLAN OF ACTION  
FOR CERVICAL CANCER PREVENTION AND CONTROL  
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**CERVICAL CANCER  
PREVENTION IN LATIN AMERICA  
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In response to the high incidence and mortality rates of cervical cancer in Latin American and the Caribbean, the Pan American Health Organization developed the Regional Strategy and Plan of Action for Cervical Cancer Prevention and Control. The Regional Strategy aims to fortify cervical cancer programs, promoting a comprehensive strategy to approach the natural history of the disease, from primary prevention and early detection to diagnosis, treatment and palliative care; stimulating the introduction of new technologies and approaches to improve the effectiveness of existing programs.

This paper illustrates the technical report reviewed and endorsed by the Directing Council of the Pan American Health Organization at their 2008 meeting, as well as the Resolution passed by the Directing Council. The Directing Council examined the technical report comprised of epidemiological information, scientific evidence on the most appropriate technologies for cervical cancer prevention and control, as well as a 7 point action plan. Consequently, the Directing Council issued a Resolution urging Member States and the Director to actively support the implementation of this Regional Strategy (Annex 1).

In this way, the Regional Strategy and Plan of Action for Cervical Cancer Prevention and Control provides a political framework to stimulate and promote the implementation of evidence-based, comprehensive, sustainable and efficient cervical cancer programs.



## 1. Background

### 1.1. Epidemiology

There are an estimated 35,322 deaths in the Americas from cervical cancer, representing an economic loss of approximately US\$ 3.3 billion per year. It is a disease of inequities which disproportionately affects poor women. Cervical cancer mortality rates are seven times greater in Latin America and the Caribbean (LAC) than in North America (Table 1). As illustrated in Figure 1, Bolivia, Haiti, and Paraguay are among the countries with the highest cervical cancer rates.

Cervical cancer is caused by persistent infection with high risk types of human papillomaviruses (HPV), a sexually transmitted infection. HPV types 16 and 18 are the most common types of HPV found in cervical cancer and together account for about 70% of the cervical cancer cases in the Americas. Co-factors contributing to the development of cervical cancer include: young age at sexual initiation, increasing number of sexual partners, coinfection with sexually transmitted infections (Chlamydia or Herpes simplex virus), low socioeconomic status, immune suppression, tobacco use, high parity, and long term use of oral contraceptives. Women from vulnerable and disadvantaged groups are at higher risk of cervical cancer, including indigenous women, women residing in rural areas, and sex workers.

HPV is a common infection and most people acquire the infection at some time in their lives. Peak incidence of HPV infection is usually in the adolescent period, soon after the onset of sexual activity, and the majority of HPV infections clear spontaneously within two years. In the Americas, the estimated prevalence of HPV is 15.6% among women in the general population. Only a small portion of women infected with high risk HPV types develop precancerous cervical lesions that can progress to cancer. The natural history of the disease yields opportunities for prevention throughout the lifecycle. In adolescents, health information and education about healthy sexual behaviours including delayed sexual

**Table 1** Key statistics in the American Regions

	Caribbean	Central America	South America	Northern America
<b>Population</b>				
Women at risk for cervical cancer (Female population aged ≥15 yrs) in thousands	14,831	49,968	135,207	136,424
<b>Burden of cervical cancer</b>				
Annual number of new cervical cancer cases	6,369	17,165	48,328	14670
Annual number of cervical cancer deaths	3,113	8,124	21,402	5,796
Projected number of new cervical cancer cases in 2025*	9,117	34,136	82,863	18,892
Projected number of cervical cancer deaths in 2025*	4,689	17,148	39,184	8,968
<b>Burden of cervical HPV infection</b>				
HPV prevalence (%) in the general population (women with normal	35.4	20.6	13.2	12.5
Prevalence (%) of HPV 16 and/or 18 among women with:				
Normal cytology	3.3	4.1	5.2	9.2
Low-grade cervical lesions (LSIL/CIN-1)	8.7	16.7	34.3	25.6
High-grade lesions (HSIL/CIN-2/CIN-3)	33.6	44.3	55.3	55.2
LISL: Low-grade intraepithelial lesions; HSIL: High-grade intraepithelial lesions; CIN-2/3: cervical intraepithelial neoplasia grade 2 or 3; CIS: Carcinoma in situ. *Projected burden in 2025 is estimated by applying current population forecasts for the country and assuming that current incidence/mortality rates of cervical cancer are constant over time.				

Source: WHO/ICO HVP Information Center. Human Papillomavirus and related cancers. Americas. Summary Report Update. October 9, 2009.



initiation, reduced number of sexual partners and condom use, as well as cervical cancer prevention is critical. In adult women, screening for pre-cancerous cervical lesions, followed by treatment of the lesions has been the most effective way to halt the progression to invasive cancer.

## 1.2. Screening programs in LAC

### *Cytology Screening (Pap Test)*

In the Americas, cytology screening (Pap test) has been in place for over 30 years, either through opportunistic screening or through organized screening programs. Yet countries in LAC have not experienced the same declines in mortality rates as those observed in North America (Figure 2). Few countries in the Region, such as Chile, Costa Rica, and Mexico have observed reductions in cervical cancer rates, which have been attributed to improvements in the coverage, organization and quality of their screening programs. It has proven to be difficult to mount and sustain high quality screening programs in low resource settings.

The failures of screening programs in LAC can be characterized not only by factors related to the screening technology, but also health service access, and community perspectives. Gender considerations are particularly important, as women's sociocultural, economic, religious, educational status and ethnicity influence their access to information, demand, and utilization of cervical cancer prevention services. Other key factors include:

- Low awareness among women and men of the importance of screening;
- Limited access to diagnostic services and treatment for pre-cancer;
- Inadequate capacity for surgical and radiotherapy treatment for women detected with invasive cancer.

### *Alternative Screening Technologies*

Several cervical cancer screening technologies have been developed,



partly as a response to the challenges of cytology screening. These screening technologies include visual inspection with acetic acid (VIA) and HPV DNA test which have demonstrated test performance equal to or better than the Pap test<sup>1</sup>. The immediate results of VIA testing enables a single visit approach linking screening with pre-cancer treatment and this approach has shown to significantly reduce mortality rates. Several countries in the Region, such as Bolivia, Colombia, Costa Rica, Guatemala, Mexico, and Peru are currently using alternative screening approaches. It is, therefore possible that an expansion of different screening approaches can be adopted in countries, depending on health system access, availability of laboratory services, and human and financial resources.

### 1.3. HPV vaccines

The currently available HPV vaccines include a quadrivalent vaccine containing genotypes 6,11,16 and 18; and a bivalent vaccine containing genotypes 16 and 18. In clinical trials, both vaccines have demonstrated safety, high immunogenicity and over 90% effectiveness in preventing infection and precancerous lesions from HPV types 16 and 18, when given to adolescent females prior to sexual debut. The vaccines have been licensed for use in females aged 9-26 years, based on data from efficacy and immunogenicity trials. The vaccines have shown a duration of protection of at least 6 years (this being the longest published follow up period) and maybe much longer. Further follow up studies of at least 14 years are planned to evaluate the duration of protection. Additionally, clinical data is still being gathered on the HPV vaccine efficacy in boys.

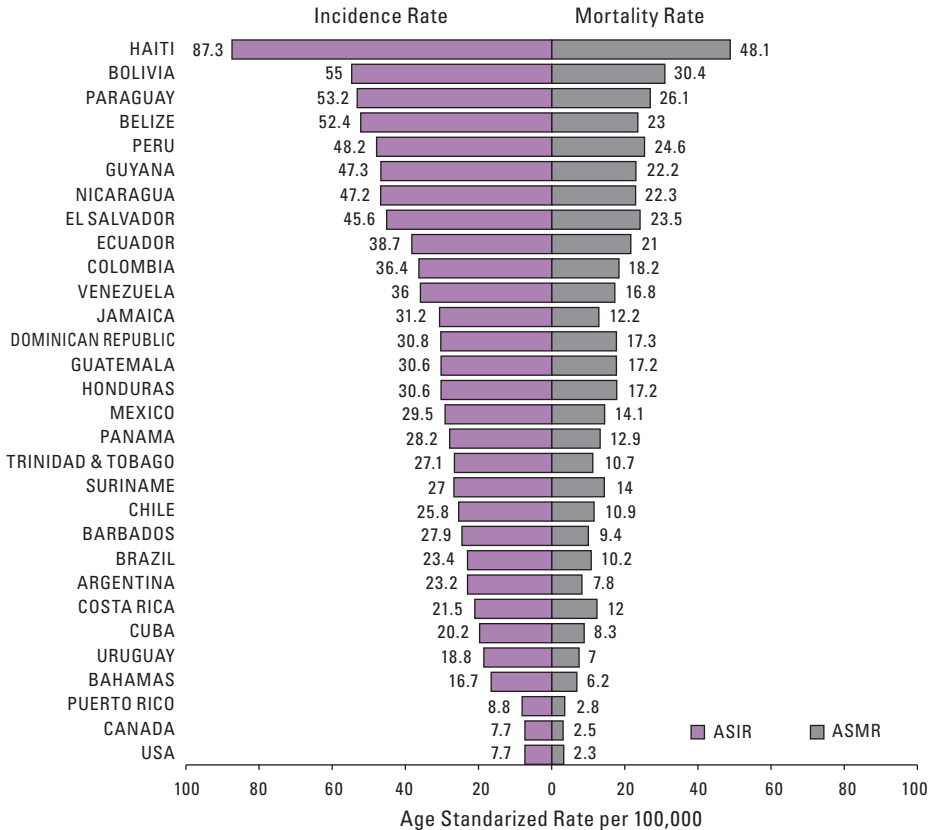
HPV vaccines are not a substitute for health education and screening. A comprehensive cervical cancer program will need to include all components of: health education, screening, diagnosis, treatment and palliative

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1 Technical note: The test sensitivity of HPV DNA test (Hybrid Capture II) is 66%-99%; VIA test sensitivity is 67%-79%; and the Pap test sensitivity is 47%-62%. The specificity of the Pap test is superior to the other screening tests.



**Figure 1** Cervical Cancer Age Standardized Incidence and Mortality Rates: The Americas Incidence Rate Mortality Rate

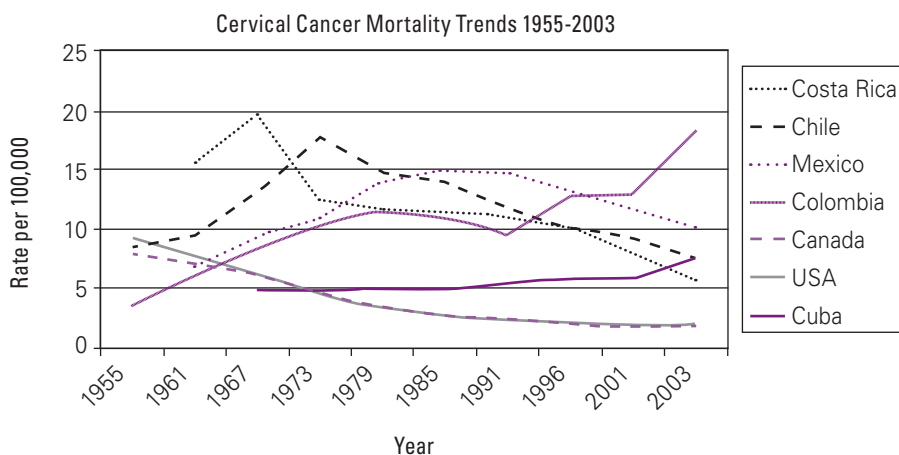


Source: Ferlay et al, Globocan 2002, International Agency for Research on Cancer.

care, even after HPV vaccines can be introduced based on affordability, sustainability and all necessary preparations for new vaccine introduction (eg. training providers, reinforce cold chain, strengthen laboratories, etc). It is particularly important that programs continue to include information for adolescents about preventing HPV and other sexually transmitted in-



**Figure 2** Cervical Cancer Mortality Trends Age Standardized Rates: Selected Countries, 1955-2003



Source: PAHO Mortality database, 2007.

fections and healthy sexual behavior; and screening women, to detect precancerous lesions caused by HPV types not included in the vaccines; and to protect those who have not been vaccinated.

In recognition of the availability of HPV vaccines, the PAHO 47th Directing Council Resolution on a **Regional Strategy for Sustaining National Immunization Programs in the Americas** (CD47.R10) urges Member States to expand the legal and fiscal space and identify new revenue sources to sustainably finance the introduction of new vaccines, including HPV vaccines.

Twenty eight countries in the Americas have licensed the HPV vaccine and Canada and the USA are currently implementing the vaccine in immunization programs; and Costa Rica, Mexico, and Peru are testing the HPV vaccine in demonstration projects for research trials. The affordabil-

ity of the HPV vaccines for public health programs remains a challenge, in addition to the preparatory requirements to introduce the vaccine as part of a comprehensive cervical cancer program. The HPV vaccines have received WHO prequalification for new vaccines, which enables purchases in developing countries via United Nations agencies and PAHO's Revolving Fund. In the meantime, PAHO has developed a framework for country based policy decisions on new vaccine introduction, through its ProVac Initiative.

#### 1.4. International Mandates

Previous mandates on this topic include: the World Health Assembly Resolution on **Cancer Prevention and Control** (WHA58.22), which urges Member States to give priority to cervical cancer and emphasizes that the control of cervical cancer will contribute to the attainment of international development goals and targets related to sexual and reproductive health; the PAHO 47th Directing Council Resolution on the **Regional Strategy and Plan of Action on an Integrated Approach to the Prevention and Control of Chronic Diseases, including Diet, Physical Activity, and Health** (CD47.R9) which provides a framework for cancer control; the World Health Assembly Resolutions on a Global Strategy for Reproductive Health (WHA 57.12) and on the Prevention and Control of Sexually Transmitted Infections (WHA 59.19) which recognize the burden of human papillomaviruses (HPV) and provide frameworks to address HPV, cervical cancer and other gynecological morbidities.

#### 1.5. PAHO's partnerships and projects

PAHO has been working in partnership with the Alliance for Cervical Cancer Prevention (ACCP) since 1999, and with a global coalition Cervical Cancer Action since 2007 to advocate for and strengthen cervical cancer prevention in low resource settings. Demonstration projects were established using alternative screening approaches in El Salvador, Peru, and Suriname, which provided evidence on the effectiveness of these



alternative approaches. Technical assistance was also provided to over 10 countries in the Region to strengthen their existing cytology screening programs, and a sub-regional program was established through CAREC which helped to improve the quality and access to screening programs. With respect to cancer treatment, PAHO has a longstanding history of working in the Americas to improve radiotherapy services and strengthen cancer treatment capacity.

## **2. Purpose of the Regional Strategy**

This Regional Strategy and Plan of Action for Cervical Cancer Prevention and Control aims to address the high burden of disease and the limited impact of current screening programs in low resource settings. This paper illustrates the cost-effective approaches available for comprehensive cervical cancer prevention and control, including a complete package of services: health education, screening, diagnosis and treatment; and depending on affordability, sustainability and country preparedness, HPV vaccination. An integrated approach for cervical cancer prevention is required across existing programs on adolescent health, sexual and reproductive health, immunization and cervical cancer control. The priority is to fortify programs and evaluate whether and how new technologies and methods, such as new screening techniques, behavioral, educational and preventive programs and HPV vaccines can be used to improve the effectiveness of current programs.

## **3. Components of the Regional Strategy**

This proposal calls upon the Pan American Sanitary Bureau (PASB) and its Member States to collaborate, and in partnership with other organizations including women's groups, develop and/or strengthen cervical cancer prevention and control programs according to the needs and situation of the country. The strategy calls for integrating cervical cancer into existing primary health care programs, including sexual and reproductive health and adolescent health programs.

The components of this Regional Strategy are as follows: health information and education; screening of asymptomatic women and pre-cancer treatment; invasive cervical cancer treatment and palliative care; and evidence-based decision making on whether and how to introduce the HPV vaccines.

#### 4. Strategic plan of action

The following seven point plan of action is proposed for this Regional Strategy, with the immediate priority to strengthen current programs and consider the introduction of new technologies and approaches to improve their effectiveness.

**1. Conduct a situation assessment:** in the absence of current strategic information, collect information on sexual health; assess the current investments and coverage, follow up and quality of the screening program; assess the HPV, cervical precancer and cancer burden in the country; and examine the adolescent and community perspectives, beliefs and needs related to cervical cancer prevention and control. This information would help inform decisions on whether and how to modify cervical cancer policies and practices; and also serve as a baseline for monitoring program impact.

**2. Intensify information, education and counseling:** increase awareness about cervical cancer and HPV infection prevention and promote healthy sexual behavior among adolescent populations, women and men and health professionals; and engage communities in prevention services, focusing on women from disadvantaged and vulnerable groups including women residing in rural areas, indigenous women, and sex workers. This involves empowering women and informing people of cervical cancer, its causes and prevention methods; promoting screening, increasing awareness of signs and symptoms, reducing fear, embarrassment and stigma. Health education is most effective if provided in community settings, with the support and involvement of families, community leaders, youth groups, women's advocacy and support groups, the non-governmental sector, and media.



**3. Fortify screening and pre-cancer treatment programs:** in settings with sufficient resources to sustain quality Pap test screening and guarantee timely and appropriate follow up for women screened positive, strengthen screening programs by: (1) improving the quality of screening tests, and consider introducing HPV DNA testing; (2) increase the screening coverage of women in the at risk age group (>30 years); and (3) increase the proportion of timely and appropriate follow up care for women with abnormal screening test results.

In settings where resources are not sufficient to sustain quality Pap test screening, and where there are high rates of women who do not have access to timely and appropriate follow up care, consider incorporating a single visit screen and treatment approach. This involves screening women, for example with visual inspection with acetic acid (VIA) followed by immediate treatment of precancerous lesions using cryotherapy. This can be easily administered in primary health care services or through outreach campaigns.

**4. Establish or strengthen information systems and cancer registries:** establishment of an information and surveillance system is essential for on-going monitoring of cervical cancer program performance, including coverage, screening test results and follow up diagnosis and treatment; as well as to assess pre-vaccine burden of HPV, pre-cancer and cervical cancer and to monitor the impact, safety and effectiveness of HPV vaccines.

**5. Improve access and quality of cancer treatment and of palliative care:** surgery and radiation therapy are the recommended treatment modalities for invasive cervical cancer, resulting in cure rates of 85% to 90% in early stages (12-15). Investments are needed to ensure that radiation therapy and surgery are available and accessible, and linked to screening programs so that women detected with cancer can be treated appropriately and cured. Palliative care services are an integral component of cancer control programs. This involves providing symptom control and pain relief, access to opioids, palliative radiation therapy, spiritual and psychosocial support to patients and families.



## **6. Generate evidence to facilitate decision making regarding HPV vaccine introduction:**

as countries decide whether and how to introduce the vaccine into public health programs, evidence to inform their decisions will need to be gathered and several issues will need to be taken into account. PAHO, through the ProVac Initiative will work with countries to enhance the national capacity to make evidence-based vaccine introduction decisions through a five-year program of scaled up work. Issues to consider in making these policy decisions include the following:

- The burden of HPV related disease and prevalence of specific HPV genotypes in the country, population groups most affected, and the competing health priorities;
- Affordability, sustainability, cost effectiveness and community acceptability;
- Target population and age group for vaccination, for example whether to vaccinate females alone or both girls and boys;
- strategy for equitable vaccine delivery, for example whether to use a school based approach, a family-community approach, etc;
- The capacity to sustain vaccine delivery, achieve high vaccination coverage and monitor vaccine impact; and
- Access and quality of cervical cancer screening and treatment services.

## **7. Advocate for equitable access and affordable comprehensive cervical cancer prevention:**

widespread access to the HPV vaccine will depend on having an affordable vaccine price and ensuring the necessary preparations for introducing a vaccine as part of a comprehensive cervical cancer program. Advocacy is needed to educate about HPV and cervical cancer as well as to encourage affordable HPV vaccines. Partnerships and collaboration across multi-disciplinary health professional groups are needed to strengthen the primary care services, sexual and reproductive health and immunization programs, in preparation for HPV vaccine introduction and to ensure a comprehensive approach to cervical cancer.



## 5. Implementation

To implement this Regional Strategy and Plan of Action, partnerships with community, national, and international organizations will be developed or strengthened, including across the UN system with agencies such as UNFPA and UNAIDS. The initial focus will be on working in those sub-regions and countries with the highest mortality rates from cervical cancer. Within countries, more intensified efforts will be in those areas/districts with the highest mortality rates and in populations with disadvantaged and vulnerable groups. The Pan American Health Organization will mobilize resources and undertake efforts in an inter-programmatic manner to ensure the successful and sustained implementation of this Strategy.



## ANNEX 1

### **RESOLUTION OF THE 48th Directing Council of the Pan American Health Organization on the Regional Strategy and Plan of Action for Cervical Cancer Prevention and Control** (Resolution CD48.R10).

#### RESOLUTION

THE 48th DIRECTING COUNCIL,

Having considered the report of the Director, Regional Strategy and Plan of Action for Cervical Cancer Prevention and Control (Document CD48/6);

Noting the World Health Assembly resolution on cancer prevention and control (WHA58.22, 2005), which urges governments to develop comprehensive cancer control programs and recommends the prioritization of cervical cancer prevention and control programs;

Recalling Resolution CD47.R9 (2006) of the 47th Directing Council on the Regional Strategy and Plan of Action on an Integrated Approach to the Prevention and Control of Chronic Diseases, which includes cancer as one of the priority chronic diseases;

Cognizant that there are an estimated 27,500 deaths in the Americas from cervical cancer, caused mainly by persistent infection with some genotypes of the human papilloma virus (HPV), and recognizing that although cervical cancer can be prevented and controlled through a comprehensive program of health education, screening, diagnosis, treatment, and palliative care, it continues to cause premature mortality and disproportionately affects women in the lower economic strata, revealing the existing health inequities in the Region;

Recognizing that current efforts and investments are not resulting in significant declines in the cervical cancer burden in most countries of Latin America and the Caribbean;

Recognizing that cost-effective HPV vaccines can become a component of a comprehensive cervical cancer prevention and control program;

Recognizing that the Pan American Health Organization, together with the Global Alliance for Cervical Cancer Prevention, has been assessing innovative approaches for cervical cancer screening and treatment of precancer lesions, and has generated new evidence and new knowledge on cost-effective strategies that can greatly improve cervical cancer prevention programs, particularly in low resource settings, and that PAHO has been supporting evidence-based decision-making by countries regarding HPV vaccine introduction;

Aware that the prevention and control of cervical cancer could contribute to the attainment of international development goals; and

Aware that more effort needs to be made to make the HPV vaccine more accessible to the poorest populations,

#### RESOLVES:

1. To urge Member States to:
  - (a) Approve the framework of the Regional Strategy and Plan of Action for Cervical Cancer Prevention and Control, designed to improve capacity for sustained implementation of comprehensive cervical cancer prevention and control programs, with the goal of reducing incidence and mortality;
  - (b) Actively support the implementation of the strategy and plan of action, linking them to the national public health agendas for cervical cancer pre-



vention and control, and consider allocating sufficient resources for their implementation;

- (c) Revitalize and upgrade cervical cancer prevention and control programs to effectively utilize new evidence-based technologies and approaches, particularly in settings where access is challenging and resources are constrained;
- (d) Undertake age-appropriate social communications strategies to heighten awareness about risk factors for cervical cancer and its preventability among adolescents and women, and engage communities in cervical cancer prevention efforts, with a special focus on empowering women from disadvantaged and vulnerable groups, including indigenous women;
- (e) Develop and implement the actions recommended in this Regional Strategy and Plan of Action which are appropriate to the circumstances in their respective country and that address primary prevention, screening and pre-cancer treatment, diagnosis and treatment of invasive cervical cancer, and palliative care;
- (f) Strengthen health systems based on primary health care so that effective cervical cancer prevention and control programs may be delivered in close proximity to communities and with an integrated approach to primary and secondary prevention;
- (g) Consider the future results of studies on factors that, according to the current state of knowledge, would limit the effectiveness of HPV vaccines, and studies on the distribution of the predominant types of HPV in the countries, through local and sub-regional research, for making evidence-based decisions for the introduction of these vaccines, taking into account the need for sustainability;
- (h) Whenever possible utilize the PAHO Revolving Fund for Vaccine Procurement, since it plays an instrumental role in the introduction of new vaccines in the Americas;
- (i) Establish and foster strategic partnerships with institutions in all appropriate sectors in order to mobilize financial, technical and other resources that will improve the effectiveness of cervical cancer prevention and control programs.

2. To request the Director to:

- (a) Provide technical assistance to Member States in an interprogrammatic manner in the revitalization of comprehensive cervical cancer prevention and control programs, incorporating new cost-effective technologies and approaches and to monitor the advancements and report periodically on achievements;
- (b) Raise awareness among policymakers and health professionals in order to increase political, financial and technical commitments to cervical cancer prevention and control programs;
- (c) Support access and equity in the use of new technologies (HPV screening tests, HPV vaccines) in the Americas;
- (d) Provide support for regional and sub-regional studies on the distribution of the predominant strains of HPV in the Region and promote broad dissemination of studies on factors related to the effectiveness of HPV vaccines;
- (e) Develop new partnerships or strengthen existing ones within the international community for resource mobilization, advocacy, and collaboration to improve cervical cancer prevention and control efforts in the Region.



