Cervical Cancer Prevention in Low-Resource Settings

Cervical cancer remains the second most common cancer and the leading cause of cancer deaths among women living in low- and middle-income countries. This is in stark contrast to high-income countries, where cervical cancer incidence and mortality rates have declined dramatically and pushed this once dreaded disease out of the top-10 list, largely due to effective screening programs\(^1\)\(^2\) and access to treatment.

If it is discovered in the later stages, when the tumor cells have spread out of the cervix and into the pelvis and elsewhere, cervical cancer is deadly. However, early screening and treatment are effective at reducing rates of cervical cancer, and vaccines against the human papillomavirus (HPV), the virus that causes cervical cancer, are now also available.

HIV-positive women are particularly vulnerable; they have a higher incidence, greater prevalence and longer persistence of HPV infection. Consequently, they have a higher risk of developing precancerous lesions, and may experience more rapid progression to cancer than women who are not HIV-infected.

With support from the President’s Emergency Plan for AIDS Relief (PEPFAR), Jhpiego has integrated screening into HIV-related health services to reach these women.

Although there have been remarkable developments in novel approaches for prevention, screening and treatment of this disease, there are great inequalities in access to these approaches. More than 95% of women have never had a Pap test, and many countries simply do not have the resources to buy vaccines or to support the laboratories and staff required to provide new screening tests. This inequality in access to screening can be greatly reduced through the use of simple, practical technology and cost-effective solutions.

Jhpiego’s Approach to Cervical Cancer Prevention and Treatment

The “Single Visit Approach,” championed by Jhpiego, is a recognized alternative to the cytology-based model of cervical cancer prevention services and involves visual inspection of the cervix after application of acetic acid (VIA), followed by immediate treatment with cryotherapy for eligible lesions, at the same visit. Women in low-resource settings face a number of access

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Jhpiego implements a comprehensive approach to cervical cancer programming that includes the following key components:

- **Policy and advocacy**: raising awareness and galvanizing governments; supporting champions, advocates and funders to take action; and assisting in the development of policies and guidelines to create an environment supportive of a practical, sustainable and cost-effective national strategy for comprehensive prevention of cervical cancer

- **Human resource development**: developing training resources and conducting competency-based training for health care providers and supervisors

- **Service delivery**: working with local stakeholders to build a sustainable service delivery system that addresses integration, procurement, repair and maintenance of equipment; information systems for monitoring and evaluation (M&E); and supportive supervision for sustaining consistent, high-quality services and care

- **Referral systems**: strengthening linkages within the health system to ensure that women receive the appropriate follow-up and treatment

- **Outreach and education**: developing culturally appropriate materials for community education and mobilization, and training community outreach workers to effectively promote screening and access to services

**Selected Country Profiles**

Working with Ministries of Health and other local stakeholders, Jhpiego is currently supporting programs in 12 countries (Burkina Faso, Côte d’Ivoire, Guyana, Indonesia, Kenya, Mozambique, Peru, Philippines, Rwanda, South Africa, Tanzania and Thailand), adapting programs to meet each setting’s unique needs, goals and resources. Following are selected highlights from this work:

**Guyana**: Jhpiego has partnered with the Ministry of Health and other local stakeholders to establish a national platform for screening and treatment using VIA, cryotherapy and LEEP (loop electrosurgical excision procedure) since 2009. As of June 2012, 21,597 women had been screened, with 13% (2,806) found to have an abnormal result (VIA-positive). Of VIA-positive women eligible for cryotherapy, 85% (1,938) received treatment on the same day as...
their screening, eliminating the need for an additional visit. Previously treated women were requested to return for a one-year follow-up appointment, and of those who returned, 95% were found to be VIA-negative at the follow-up visit (considered “cured”).

Mozambique: Since 2009, Jhpiego has partnered with the Ministry of Health to establish the foundation for a national comprehensive cervical cancer prevention program, integrated into women’s health service as a key service component of the Model Maternities Initiative service at the primary health care level. A national strategic plan and guidelines for prevention were developed, and national training and information, education and communication materials, which were subsequently used to train more than 69 health care providers in VIA and cryotherapy and 15 providers in LEEP (used to treat large lesions). As of the second quarter of 2012, more than 55,000 women had been screened.

Indonesia: The cervical cancer prevention initiative in Indonesia has worked at the national level to develop policies and guidelines, and has implemented a screening and treatment service delivery model that incorporates both breast and cervical cancer screening. More than 45,000 women have been screened (24.4% of the total female population in the target age group in the catchment area) since the program’s inception in 2007.

Tanzania: Jhpiego has supported the Ministry of Health and Social Welfare to develop national guidelines and training materials, and is directly supporting provision of cervical cancer screening and treatment at 15 health facilities in the Morogoro, Iringa and Njombe Regions. From April 2010 to September 2012, 7,405 women were screened, with 7% (532) of the new women screened found to be VIA-positive. Through the Single Visit Approach, 92% (414) of the VIA-positive, cryotherapy-eligible women received treatment on the same day. Women accessing screening services are also offered HIV counseling and testing, and women who are HIV-positive are offered screening for cervical cancer, ensuring linkages in the health system.

Thailand/Philippines: In partnership with Chulalongkorn University (Thailand) and the Cancer Institute Foundation (Philippines), Jhpiego has completed a study (The Mother-Daughter Initiative) to determine whether 50% of the girls aged 9–13 in the study facility catchment areas could be reached with the HPV vaccination in a year’s time, using the existing secondary cervical cancer screening and treatment platform. In less than a year, 8,005 (out of the target of 8,000) girls were vaccinated. In the Philippines and Thailand, respectively, 3,524 of 4,000 (88.1%) and 3,997 of 4,005 (99.8%) of the girls completed all three doses of the HPV vaccine. A convenience sample of 602 mothers, fathers and guardians were also interviewed to assess knowledge, attitudes and beliefs about cervical cancer, HPV and the HPV vaccine, as well as exposure to vaccine messages.
Acceptability and intention to have their daughters vaccinated were also measured in mothers who had received cervical cancer screening. Data analysis and manuscript development are in process, and articles will be submitted to peer-reviewed journals in 2013.

**Programmatic Lessons Learned/Best Practices**

- Capacity-building requires more than initial training—investments must be made in supportive supervision, coaching and quality assurance.
- Mid-level providers (nurses, midwives) can effectively provide VIA and cryotherapy services.
- Strengthening of M&E is key—health facilities must be supported to collect quality data, and more important, use the data regularly to improve service provision.
- Referral mechanisms must be strengthened to ensure appropriate follow-up of women with large lesions/suspect cancer.
- Community outreach and education are an integral part of service provision.
- It is important to identify champions who can advocate for commitment and buy-in from stakeholders and policymakers.
- Maintenance of cryotherapy equipment and other necessary supplies should be included in project planning.