Towards Comprehensive Cervical Cancer Control and Prevention

IN THE AMERICAS

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Meeting Report

Public Health officials from throughout the Americas gathered with immunization and disease experts May 12-13, 2008 in Mexico City to discuss new approaches to fighting cervical cancer in the region.

"Toward Comprehensive Cervical Cancer Prevention and Control in the Region of the Americas" was hosted by the World Health Organization (WHO), the Pan American Health Organization (PAHO), the Albert B. Sabin Vaccine Institute, and the US Centers for Disease Control and Prevention (CDC).

The meeting came as the emergence of cervical cancer vaccines has sparked intense interest in the potential of immunizations combined with improved screening to significantly reduce the considerable burden of the disease in Latin America and elsewhere in the developing world.

While cervical cancer incidence and deaths have dropped dramatically in the US and Canada, elsewhere in the Americas cervical cancer remains a major killer. According to presentations at the conference, each year there are 39,000 deaths from the disease in the Americas, and 33,000 of those occur in Latin America and the Caribbean (LAC). The cervical cancer mortality rate for the LAC is seven times greater than in North America. In some countries, more than 25 out of every 100,000 women die each year from cervical cancer, compared to 2.5 in the United States and Canada.

One expert showed research predicting that absent intensive prevention and control efforts, cervical cancer rates will increase by 75% in Central America, 45% in South America and 36% in the Caribbean.

A central purpose of the conference was to explore the challenges and opportunities for controlling the disease through two key interventions:

- Immunizing pre-adolescent girls with one of the two vaccines currently available that prevent infection from high-risk types of the human papillomavirus (HPV), the sexually transmitted disease that is the cause of all cervical cancers; and
- Screening women for early signs of cervical cancer, which, when done properly and consistently, can be highly effective at halting disease progression and saving lives.

There was general agreement that neither intervention in isolation would be sufficient to subdue the disease. Rather, the focus was on the need to engage both simultaneously.
Prevalence of HPV in LAC

Assessing the potential of vaccines to control cervical cancer requires insights into the prevalence of HPV in the region. Researchers at the conference estimated that of the 336 million women in the Americas, about 52 million are infected with HPV and 5 million have pre-cancerous lesions.

A new study presented at the conference examined 15 years of data on HPV and cervical cancer in the LAC. It found that the prevalence of HPV in 15-24 years old is “high” at around 20 to 30 percent. The study also indicated that HPV infections generally decrease through age 50, bottoming out at around 11% in women 45 to 54 years old before rising again and reaching about 20% in women over 65.

The study confirmed that HPV types 16 and 18, which are targeted by the two vaccines currently on the market, cause most of the cervical cancers in the region. That means that either of the vaccines now available—one is manufactured by Merck Vaccines, the other GlaxoSmithKline Biologicals—could prevent 60% to 70% of cervical cancers in the LAC. However, several participants noted that the vaccine is only effective at preventing HPV infections, not treating them, which is why HPV immunization is seen as most effective if administered to girls before they become sexually active.

In addition, there was discussion of the role of HPV in other cancers, including cancers in men. There was data presented showing that in the LAC, HPV is responsible for 36% of cancers of the oral pharynx, 45% of penis cancers, and 90% of anal cancers. Overall, it appears HPV causes 11,400 non-cervical cancers annually in the LAC. In particular, the role of HPV in cancers that affect men—coupled with the fact that it is men who infect women with HPV—prompted consideration of whether HPV immunization would be appropriate for boys as well as girls.

Economic and Financial Considerations

The relatively high cost of the HPV vaccines was viewed as a significant barrier to regional adoption of HPV immunizations. A new analysis of the economic and financial implications of adopting HPV immunizations was presented at the conference. It compared the cost of introducing HPV vaccines at various price points in six countries—Brazil, Colombia, Mexico, Peru, Argentina, and Chile—to costs associated with screening and treatment.

The study found that from an economist’s point of view, the vaccines would be a “cost-effective” intervention in all the countries studied at up to $75 per vaccinated girl, but not at the current retail cost, which is about $360. The authors of the study acknowledged that cost-effectiveness does not address whether or not a vaccine is affordable within a country’s given budgetary constraints. Their data showed that at $25 per vaccinated girl, the combined costs for the 6 countries studied to vaccinate five consecutive groups or “birth cohorts” of 12-year olds would be US $290 million. At $360 per vaccinated girl, it would cost US $4.7 billion.

However, the study found the vaccines would be highly effective at saving lives. The researchers reported that vaccinating 70% of 12-year-old girls against HPV 16 and 18 in the countries studied would reduce the risk of contracting cervical cancer by anywhere from 39% (Chile) to 54% (Argentina). Overall, the researchers predicted that if for 10 consecutive years the targeted countries Continued...
Economic and Financial Considerations (continued)

successfully immunized their 12-year old girls, they would prevent half a million deaths from cervical cancer.

Officials from the Pan American Health Organization (PAHO) noted that PAHO’s Revolving Fund for Vaccine Procurement will be instrumental as a vehicle for negotiating an affordable price for HPV vaccines. They also stressed the need to avoid a “zero sum game” in which countries believe the only way they can adopt an HPV vaccine is by cutting funds for other health programs. In particular, PAHO officials said it will be important to incorporate HPV vaccines in a way that allows countries to preserve existing public health gains achieved via immunizations and, furthermore, maintain their ability to adopt additional new vaccines in the future.

HPV vaccinations are not currently in widespread use in the Americas outside of the US and Canada. However, there were discussions of a pilot project to test the use of HPV immunizations in Peru and another effort that may soon be undertaken to immunize low-income girls in Mexico.

Opportunities to Improve Cervical Cancer Screening

Several presenters considered how countries in the region could improve efforts to screen women for early signs of cervical cancer, when treatment can be highly effective. They noted that one reason tens of thousands of women in the LAC die each year from cervical cancer is that screening programs are either not reaching or not properly testing women most at risk. In particular, there were many comments regarding the insufficiency of the most common screening tool for cervical cancer, the Pap smear.

Several participants pointed out that test involves a level of technology, expertise and health services unavailable in many areas of the LAC and, furthermore, that it is prone to producing false negatives.

Presenters explored two alternatives to the Pap smear for conducting cervical cancer screening.

One, known as visual inspection, involves swabbing the cervix with vinegar, which contains an acid that can, on contact, reveal suspicious cervical lesions. Data presented from a study conducted in Peru found that, in addition to being cheaper and easier, visual inspection was more sensitive than the Pap smear at detecting pre-cancerous lesions. Also, since the test results are available almost immediately, presenters noted that visual inspection could allow health professionals to screen and treat women in one visit.

The other test discussed at the conference involves screening for presence of the HPV virus in DNA. Simply known as the HPV test, early versions of the method were viewed as too complex and expensive for developing countries. However, a representative from the PATH philanthropy discussed a new project that has developed a simple, “rapid HPV test.” He said trials with the new test have been promising. In addition to the fact that it is highly effective at detecting HPV, the test can be quickly performed in even remote clinics, he said, and could soon be on the market at a cost of about US $5 per test.

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Other discussions at the conference included consideration of:

- Clinical data indicating a high degree of effectiveness of both Merck and GSK’s HPV vaccines against HPV Types 16 and 18;
- Lessons learned in the largely successful efforts in the US and Canada to introduce HPV vaccines;
- The need for more advocacy to ensure cervical cancer prevention and control becomes a higher political priority; and
- The importance of looking for new financing strategies to facilitate adoption of HPV immunizations.

There was agreement that while countries in the LAC are not ready for the immediate introduction of the HPV vaccine, the conference essentially launched the discussion of how to make HPV immunizations a reality in the Americas as part of a broad and aggressive cervical cancer prevention and control initiative.

The meeting concluded with a declaration signed by officials from the participating countries. It stated, among other things, the need for an integrated approach to fighting cervical cancer; that the introduction of HPV vaccines provides an opportunity to strengthen cervical cancer diagnostic and treatment programs; and that the “primary limitation” for the use of HPV immunizations “is the high cost.”