

Better Screening, Treatment, and Affordable Vaccines Can Prevent Doubling of Cervical Cancer Deaths

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Researchers Report that Better Screening, Treatment, and Affordable Vaccines Can Prevent Doubling of Cervical Cancer Deaths in Latin America, Caribbean

With Cervical Cancer Killing 33,000 Annually in the Region, Experts in Mexico City Consider Promise, Costs of Detection, Treatment and Introduction of New Vaccines against Deadly Virus

Mexico City, May 12, 2008—Thirty-three thousand women in Latin America and the Caribbean die each year of preventable cervical cancer, caused by a virus that infects 20 percent of men and women in the region and as many as 30 percent of the youngest women, according to a new study. Dramatic new opportunities offered by better screening, treatment and the securing of an affordable vaccine for girls and young women could reduce the current death toll and prevent it from rising to 70,000 over the next two decades, say researchers who analyzed the regional impact of the human papillomavirus (HPV).

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(Photo by Sonia M. Mey-PAHO/WHO)

The findings are being presented in Mexico City at a conference to discuss cervical cancer control in Latin America and the Caribbean, convened by the World Health Organization (WHO), Pan American Health Organization (PAHO), the Albert B. Sabin Vaccine Institute, and the U.S. Centers for Disease Control and Prevention (CDC).

"This new analysis of 15 years of research on HPV in Latin America and the Caribbean provides the first comprehensive assessment of HPV in the region, suggesting the virus is far more common than expected and that in the absence of intensive intervention we will see a substantial increase in deaths from cervical cancer," said Ciro de Quadros, Executive Vice President of the Albert B. Sabin Vaccine Institute, which commissioned the study in collaboration with PAHO, the CDC, the Harvard School of Public Health, and Barcelona's Institut Català d'Oncologia. "Ultimately, this analysis should convince national health authorities in the region that the time has come to make the fight against cervical cancer a national priority."

The two-day meeting, which includes international global health experts as well as regional health officials, focuses on the urgent need for new approaches to screening and treatment, in addition to preventive vaccines, to avoid what could be a substantial increase in cervical cancer deaths in the coming decades. According to experts at the meeting, if precancerous lesions caused by HPV are left undetected and untreated, an estimated 70,000 of today's young girls in Latin America and the Caribbean will die in the prime of their adulthood by 2030, deeply affecting their families and communities.

A centerpiece of the two-day event in Mexico City, the sweeping review provides the best evidence to date of the prevalence and alarming impact of HPV in Latin America and the Caribbean. The study also explores the economics of adopting an HPV vaccine that is currently the most expensive childhood immunization in the world. It concludes that over a ten-year period the vaccine has the potential to prevent more than half a million deaths in the region, but it may have significant financial implications for the health care systems of the countries studied.

The analysis indicates that the prevalence of HPV among Latin American and Caribbean women 15-24 years old is 20 to 30 percent, and 20 percent among men in the region.

"Our work is based on a review of 15 years of studies from Argentina, Barbados, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Surinam and Venezuela," said co-author Maria Teresa Valenzuela, professor of epidemiology at the University of the Andes in Chile. "This study

provides us with concrete information, based on data from 33,000 apparently healthy women, but we believe that it under-reports the problem of HPV and its impact. This is a significant public health problem, as there is no case of cervical cancer that's not caused by HPV."

The study also highlights the inequities in access to the health services that can prevent HPV from progressing to cervical cancer, Valenzuela noted.

For example, it estimates that of the 86,000 women in the Americas who are diagnosed each year with HPV-related cervical cancer, some 72,000 live in Latin America and the Caribbean, which also accounts for almost all of the annual cervical cancer deaths in the Americas. In a 2003 study, for example, Mexican researchers found that in Mexico, between 1990 and 2000, on average one woman died every two hours from cervical cancer.

"Cervical cancer is a disease of poverty. We know that 80% of the women dying from cervical cancer come from poorer countries, where access to the kind of quality screening and treatment that largely prevents pre-cancerous lesions caused by HPV from progressing and killing women is simply not available. This is the case for most countries of Latin America and the Caribbean," said Jon Andrus, Lead Technical Advisor, Immunization Unit, PAHO. "The tragedy is that cervical cancer can be prevented if we focus simultaneously on improving access to screening, treatment, and on introducing HPV vaccines when they become affordable. If we collectively act now, something can be done."

The two HPV vaccines currently available are virtually 100 percent effective at preventing infections from the two strains of HPV responsible for the majority of cervical cancers. Though, they are not "therapeutic vaccines" in that they cannot be used to treat pre-existing infections, and thus are not a substitute for strengthening screening and treatment.

The analysis of HPV and cervical cancer presented in Mexico City includes new data on the potential impact of HPV vaccination in six countries-Argentina, Peru, Chile, Mexico, Brazil and Colombia. It found that HPV immunizations eventually would prevent half a million of vaccinated girls from dying of cervical cancer in adulthood, if the vaccine were given to 70 percent of each group or "birth cohort" of 12-year-old girls over 10 consecutive calendar years.

When vaccines become affordable, the study acknowledges that widespread adoption of HPV vaccines will also reinforce efforts by countries to improve screening programs for cervical cancer. Disease experts believe the vaccine is so effective at preventing the majority of cervical cancers that screening would only need to be done two or three times in the lifetime of a woman - far less than the screening by cervical cytology (Pap smear) every two or three years generally recommended for women who have not received the vaccine.

"The need for fewer screening tests would provide a window of opportunity for governments to shift their attention to improving screening quality and to focus more on follow-up and treatment," said PAHO's Silvana Luciani, Project Manager in the Unit of Non-communicable Diseases.

However, cost is a key factor in bringing HPV immunizations to countries in Latin America and the Caribbean (and elsewhere in the developing world) given financial constraints on national health care spending.

For example, the study found that the price of the HPV vaccine now used in the U.S.-which sells for \$360 for the required three-dose regimen-would need to come down considerably to become affordable in the region. At its current price of \$360, the cost of HPV vaccination over just five years (for five separate birth cohorts of 12-year-olds) would be \$4.7 billion for the six countries studied. If the price came down to \$50, it would be \$621 million for the five-year period and at \$25 it would be \$290 million.

"We found scenarios where from an economic perspective, widespread adoption of an HPV vaccine makes sense, but we also wanted to be clear that even at a reduced price, the vaccine would have significant financial implications for national health care systems," said Cuauhtémoc Ruiz Matus, Chief, Immunization Unit, PAHO.

Dr. Ruiz went on to say that vaccine prices urgently need to be addressed. But he said the goal for the near-term is to carefully document the burden of disease in the region and make a strong scientific case for launching a new, multi-faceted effort to fight cervical cancer. The effort would involve not just vaccines, but enhanced screening programs that

provide high coverage for women at risk for contracting cervical cancer and health services that ensure treatment for all. For example, researchers in this Mexico City meeting are discussing the effectiveness of a relatively simple and inexpensive alternative to Pap smear tests for detecting early, pre-cancerous lesions in addition to the potential uses of a relatively new and highly accurate DNA test for HPV.

"As we have seen with recent successes involving introduction of rotavirus and Hib (*Haemophilus influenzae* type b) vaccines, and even going back to the rubella campaign, when leaders in this region understand the nature of the threat and the effectiveness of various interventions at hand, they summon the political will to act with amazing vision and precision, with the potential to save thousands of lives," said Andrus of PAHO.

Links of Interest:

- Executive Summary of the study
- Vaccination Week in the Americas 2008
- Vaccination Week in the Americas (General)
- PAHO Immunization web page
- Press Release in Portuguese (PDF)

The Pan American Health Organization, founded in 1902, works with all the countries of the Americas to improve the health and quality of life of their peoples. It serves as the Regional Office of the World Health Organization (WHO).

The Albert B. Sabin Vaccine Institute is a non-profit public organization dedicated to saving lives by stimulating the development and distribution of vaccines throughout the world. The Institute is committed to continuing the work of Dr. Albert Sabin, developer of the oral live virus polio vaccine, who envisioned the enormous potential of vaccines to prevent deadly diseases.

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