

Rapid Tests for Cervical Cancer

Health need

Cervical cancer is a preventable disease that strikes an estimated 470,000 women each year and kills more than 270,000 of them. While the industrialized world has made good progress in preventing the disease, about 85 percent of cervical cancer deaths occur in developing countries where it is a leading cause of cancer mortality among women. The lack of effective cervical cancer screening and treatment programs in poorer countries, including lack of accurate, easy-to-use, and affordable screening tests that provide rapid results, is the main cause of inequity.

Technology solution

In 2003, PATH began assessing the scientific and economic feasibility of providing new screening tests for the types of human papillomavirus (HPV) that cause most cervical cancers. We entered into collaborations with private-sector partners—QIAGEN Inc. (formerly Digene Corporation) and Arbor Vita Corporation—to develop two different rapid tests that would be safe, accurate, affordable, simple, and acceptable to women in low-resource settings. If development of such tests are successful, women would then have highly sensitive alternatives to Pap smear testing and would be able to get test results more quickly. If rapid-results testing revealed that a woman is infected with a high-risk type of HPV, she could receive medical management on the same day, which would greatly reduce her risk of developing cervical cancer.

In 2008, PATH and QIAGEN jointly developed an HPV DNA molecular test, called careHPV™. Demonstration projects with this test started in Nicaragua in 2009, and in India and Uganda in 2010. A prototype of Arbor Vita's test, the AVantage™ HPV E6 was also developed, and a clinical study to determine its performance was initiated in China in 2010.

Current status and results

We completed demonstration projects with careHPV™ within public-sector facilities in India, Nicaragua, and Uganda and the results showed that the test is highly accurate and easy to use with minimal training and does not require sophisticated laboratories. The self-sampling option that careHPV™ offers was highly accepted by women and service providers. The clinical study of Arbor Vita's AVC AVantage™ HPV E6 test was also completed and showed promising results for use in low-resource settings. The results from the demonstration projects and the clinical study will help ministries of health and other key stakeholders in developing implementation designs for the tests. These results will be published by the end of 2013.

In order to facilitate the establishment of health services that are ready to incorporate the new tests, we worked closely with Jhpiego and the Peruvian Cancer Institute to establish regional centers to train service providers in triage and treatment techniques necessary for follow-up with HPV-positive women. We continue our effort to expand the success in Peru to Africa while collaborating closely with regional and global health organizations in order to mobilize support from international and developing-country-based champions of alternative screening and treatment technologies.



Lab technician working with the careHPV™ test, Shanxi, China.

Safe, simple, accurate, and affordable biochemical screening tests for cervical cancer may be the breakthrough needed to reduce suffering due to cervical cancer in low-resource settings.

Availability

For more information regarding this project contact start@path.org.

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