Title **Human Papillomavirus (HPV) Testing in Alberta**

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Reference May 2009 (English).
www.ihe.ca/documents/HPV%20Final%20Report%20Web%20Ready.pdf

Aim

To assess research evidence on:

- the performance and safety of the HPV deoxyribonucleic acid (DNA) test in comparison to conventional cytology (Pap smear) or liquid-based cytology (LBC) as a primary screen for detecting precancerous cervical lesions in asymptomatic women, or as a triage in women with atypical squamous cells of undetermined significance (ASCUS);
- the cost effectiveness of HPV DNA testing relative to current cervical cancer (CC) screening protocols in Alberta. A social and system demographic analysis was also conducted.

Conclusions and results

Performance and safety:

All studies used the hybridization-based assay HPV test. The evidence indicated that the HPV test had a consistently higher sensitivity than cytology tests (Pap smear and LBC) for detecting preclinical cervical intraepithelial neoplasia (CIN2+) lesions, although the high number of women incorrectly labeled as having preclinical disease was an issue. The positive predictive value of the Pap smear was superior to the HPV test, with a consistently higher specificity and lower number of false positives.

The available literature did not evaluate safety. A false positive result may lead to unnecessary invasive treatment, but this is also true for conventional cervical cytology. A false negative result from any test can have serious implications if a woman with preclinical disease is not referred for appropriate and timely treatment.

Economic outcomes:

The economic literature suggested that for primary screening, strategies using conventional cytology or LBC were more cost effective than those employing HPV testing. For triage, the cost effectiveness of HPV testing varied and depended on the options considered. Regarding compliance rates, none of the studies considered the effects of HPV testing on: 1) the costs of establishing and maintaining widespread HPV testing or LBC screening; 2) waiting times for screening, diagnosis, or treatment; and 3) the psychology of patients being tested for a sexually transmitted disease.

The economic analysis indicated that a strategy of triennially screening women, aged 18 to 69 years, with a Pap test and providing an HPV triage test for women, 30 years of age or older, with ASCUS (PAP+HPV+PAP-age) provided the best value for money.

Recommendations

Current evidence supports the use of the Pap smear or LBC test as a primary screen in women of any age and the HPV DNA test as a triage tool for women in any age group with ASCUS. Economic evidence supports replacing the current Alberta CC screening/testing algorithm (annual Pap test for women aged 18 to 69 years) with triennial PAP+HPV+PAP-age, provided that clear guidelines are developed and continuing education is provided for clinicians. Any decision to replace the current screening program should consider the resource implications for testing and physician and inpatient/outpatient services, and the increase in unnecessary referrals to colposcopy/biopsy.

Methods

Please refer to the full report for details of the methods.

Further research/reviews required

The recent introduction of HPV vaccination as a primary prevention strategy will require the reassessment of CC screening tests to optimize cancer prevention strategies for Canadian women.

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