

International Breast Cancer Screening Network (IBSN)

Biennial Meeting

Crowne Plaza Ottawa ♦ May 10–11, 2006

ABSTRACTS

- TITLE:** Cost-Effectiveness of Cervical Cancer Screening Strategies in Different World Regions
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- BACKGROUND:** Cytology-based screening using the Pap smear has been the main screening method used for the secondary prevention of cervical cancer worldwide. Countries able to implement broad screening coverage at frequent intervals have had success in reducing cervical cancer mortality. In many low-income countries, however, traditional cytology screening has proved difficult to sustain because of its reliance on highly trained cytotechnologists, quality laboratories, and infrastructure to support up to three visits for screening, evaluation of cytologic abnormalities with colposcopy, and treatment. Alternative screening approaches involving visual inspection with acetic acid (VIA) or HPV DNA testing can eliminate colposcopy, allowing screening and treatment to be performed during the same visit. In middle- and high-income countries, the most relevant policy issues center around the improvement of the quality of existing cytology-based programs and the optimal use of HPV DNA testing within the context of current screening programs.
- METHODS:** Using a series of computer-based mathematical models of the natural history of HPV infection and cervical carcinogenesis, we evaluated alternative cervical cancer screening strategies involving VIA, HPV DNA testing, and cytology in different world regions. Country-specific data, where available, were used to parameterize each model in order to adequately reflect regional variations in natural history of cervical cancer, as well as the budget, infrastructure, and other factors.
- CONCLUSIONS:** Our analyses suggest that cervical cancer screening once, twice, or three times in a lifetime can have a significant impact on the lifetime risk of cervical cancer compared with no screening. For countries with limited resources, screening efforts should target women age 35 or older, and strategies should focus on screening all women at least once in their lifetime before increasing the frequency of screening.
- In middle- to high-income countries, the cost-effectiveness of screening in the general population becomes increasingly less favorable as programs are intensified by shortening the screening interval; this trend is even more apparent when strategies employ screening tests with higher sensitivity. Although other analyses have found that extending the age range to the very young and/or very old can be less cost-effective, for certain women in high-risk groups, including older uninsured women who have never been screened, screening for cervical cancer at older ages can be cost-effective.

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CONCLUSIONS, continued

All screening tests may not be equally available in all settings; therefore, in addition to evidence of cost-effectiveness, the selection of a particular screening strategy may also depend on cultural preferences or programmatic reasons. Implementing cervical cancer screening programs based on VIA, HPV DNA testing, or cytology requires different types of resources, and the relative availability of these in different settings will affect the choice of strategy.