

Economic Evaluation of Policy Options for Prevention and Control of Cervical Cancer in Thailand

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Abstract

Background: The Thai healthcare setting has seen patients with cervical cancer experience an increasing burden of morbidity and mortality, a stagnation in the performance of cervical screening programmes and the introduction of a vaccine for the prevention of human papillomavirus (HPV) infection.

Objective: This study aims to identify the optimum mix of interventions that are cost effective, from societal and healthcare provider perspectives, for the prevention and control of cervical cancer.

Methods: A computer-based Markov model of the natural history of cervical cancer was used to simulate an age-stratified cohort of women in Thailand. The strategy comparators, including both control and prevention programmes, were (i) conventional cytology screening (Pap smears); (ii) screening by visual inspection with acetic acid (VIA); and (iii) HPV-16, -18 vaccination. Input parameters (e.g. age-specific incidence of HPV infection, progression and regression of the infection, test performance of screening methods and efficacy of vaccine) were synthesized from a systematic review and meta-analysis. Costs (year 2007 values) and outcomes were evaluated separately, and compared for each combination. The screening strategies were started from the age of 30–40 years and repeated at 5- and 10-year intervals. In addition, HPV vaccines were introduced at age 15–60 years.

Results: All of the screening strategies showed certain benefits due to a decreased number of women developing cervical cancer versus ‘no intervention’. Moreover, the most cost-effective strategy from the societal perspective was the combination of VIA and sequential Pap smear (i.e. VIA every 5 years