

How to improve cervical cancer screening in Switzerland?

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Cervical cancer is the cancer that can be the most effectively prevented by screening. Western countries have implemented Pap smear screening and there is highly effective treatment for women with high-grade lesions or early stage invasive cancer, such as laser vaporisation or excision, cryotherapy or hysterectomy. This strategy has led to a decrease of incidence, morbidity and mortality from this disease.

In Switzerland, cervical cancer screening has been promoted by gynaecologists since the late 1960's and it is estimated that it has reduced its incidence by approximately 50 to 60% [1]. The country has an opportunistic screening system essentially based on the gynaecologist's invitation for an "annual control". Cervical cancer screening recommendations were edited by the Swiss Society of Gynaecology and Obstetrics (SSGO) in 2004 and suggest yearly Pap smears, starting one year after first sexual intercourse [2]. This opportunistic system is difficult to monitor and the only available data are from population-based surveys conducted by the Swiss Federal Office of Public Health and the National Institute for Cancer Epidemiology (NICER) [3]. Accordingly a relatively high coverage rate seems to be achieved with approximately 70% of eligible women having had a Pap smear in the last 3 years and a cervical cancer incidence rate which is among the lowest in Western countries (4.0/100,000) [4].

The drawback of the system is that women from lower socioeconomic groups and those living in rural areas have a higher risk of developing cervical cancer [5]. This might be related to a main shortcoming of the system, in that parts of the society are over-screened while others are under-screened. The Federal Office of Public Health estimated that 1 to 1.2 million Pap smears are taken annually to cover approximately 70% of the population, although 520,000 would be enough to cover 100% of the eligible population [6].

Unnecessary screening tests do not only waste precious health care resources but might unintentionally cause significant harm to individuals. Women undergoing unnecessary screening are more likely to get false positive results without reducing their risk to develop cervical cancer [7, 8]. Consequences are unnecessary follow-up testing, in-

creased risk of colposcopic investigation and cervical surgery causing potentially adverse birth outcomes due to increasing the risk of premature deliveries [9, 10].

Recent development of tests for human papillomavirus (HPV) has created an important change in our understanding of cervical cancer screening. Overwhelming evidence from meta-analyses, randomised trials, long prospective cohort studies and routine practice supports that HPV screening is more sensitive than cytological screening for the detection of histological cervical intraepithelial neoplasia (CIN3) or cancer, and that it also enhances the identification of women at risk for adenocarcinoma whose incidence is on the rise in Western countries [11–17]. A sizeable body of evidence supports that a woman's risk of developing CIN3 or cancer is very low in a 5-year period following a negative HPV test and establishes a high negative predictive value of the HPV test allowing a safe and cost-effective lengthening of cervical cancer screening periods [18, 19]. For women aged 30 years and older, new guidelines should include testing for HPV. For women younger than 30 years, HPV testing should be avoided, because HPV infection is common [11, 20]. In this age group a Pap smear should be performed at three year intervals.

From a public health perspective and in terms of cost effectiveness, cervical cancer prevention could be improved by the replacement of frequent cytology tests by HPV screening every 5 years. Moreover, the use of HPV testing as a primary screening test would be a useful tool for the monitoring of HPV vaccination programmes introduced in Switzerland in 2008.

A shift to a new screening technology must be accompanied by efforts to heighten the participation of unscreened women. Self-collected samples for HPV testing should be an appropriate strategy to reach these women [21, 22].

Switzerland has a low cervical cancer incidence supporting that the current screening system is efficient. However, health care systems are necessarily concerned about costs of cervical cancer prevention. Both over-screening and under-screening have negative health and financial consequences, therefore a more organised approach including HPV testing conducted at adequate interval as well as strategies to improve participation of non-covered women

will maximise the benefits and minimise the adverse effects of screening. Undoubtedly, rationalisation of the policy and the evolution to a more organised approach having quality assurance at all appropriate levels will be necessary, but the change might be difficult to introduce in a liberal health care system because each interest group has its own directives and limitations. Therefore a broad consensus on cervical cancer screening should be initiated by the concerned professional scientific society [10]. Health care providers must also ensure that their patients fully understand what is known about the benefits and harm from cervical cancer screening to allow a personal choice.

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