

## Executive summary

### Background

Screening for cervical cancer with cytology from the cervix uteri started in Sweden 1966 and became nation-wide 1975. The two most common types of cervical cancer are squamous cell cancer and adenocarcinoma. Today squamous cell cancer comprise about 75 per cent and adenocarcinomas 20 per cent of all cases in Sweden. The remaining 5 per cent are miscellaneous tumour types. It is estimated that the screening program has reduced the number of cancers to one-third to one-fifth of what it would have been without screening. This has largely been accomplished by finding and treating cervical intraepithelial neoplasia type 2 and higher (CIN2+) which are considered to be precursors to invasive cervical cancer. Cervical cancer and its precursors are linked to persistent infection with human papilloma virus (HPV), particularly types 16 and 18. Transient infections with HPV are very common, especially in sexually active women below 30 years of age.

The National Board of Health and Welfare in Sweden has requested that SBU evaluate the effects of changing the screening test from cytology to HPV-test. This is part of the process of revising the guidelines for cervical screening in Sweden.

### Objective

To evaluate the effects of changing from cytology to HPV-testing for cervical cancer screening in Sweden.

### Method

Systematic literature review. The Cochrane Library, PubMed, Embase and Psychinfo were searched for primary articles on effect and harms. Systematic reviews were searched for in the DARE, Prospero and POP databases. A citation search was done in the Scopus database.

### Conclusions

- ▶ HPV-testing followed by cytological testing (triage) in women with positive HPV-test:
  - has a higher sensitivity than cytology for finding CIN2+.
  - has a lower specificity than cytology for finding CIN2+.
- ▶ For women in screening ages, HPV-testing followed by cytological testing for those found to be HPV-positive reduces the risk of developing an invasive cervical cancer within 6.5 years by 40 per cent. For women who are HPV-negative at the first time they are HPV-tested, the risk-reduction is larger. The risk reduction appears to be larger for adenocarcinomas than for squamous cell carcinomas.
- ▶ There is no evidence that HPV-testing is more effective in finding cervical cancer or its precursors than cytology in women under 30 years of age.
- ▶ Having an HPV-infection may cause more anxiety and worry to the women than having an abnormal cytology. The anxiety and worry seems to decrease with time. The understanding of what a HPV-infection is and means is low in women in general.

### Knowledge gaps

- There is little evidence on how women who are HPV-positive but with a normal cytology should be followed up.

- It is unclear how vaccination for HPV will affect the screening program in the future.
- It is difficult to estimate how an introduction of HPV-test will affect the number of cervical biopsies and resections. The latter is associated with an increased risk of preterm delivery. With modern resection techniques this risk is much lower today than before. However, the additional risk of treatment of CIN for preterm delivery in Sweden today is not known.

### **Ethical and social aspects**

Screening for cervical cancer by testing for HPV-infection requires providing balanced information to women about the nature of the infection. The lower specificity of the HPV-test will result in more women being informed of having an abnormal test than if cytology is used as primary test.

Potential psycho-social effects must be followed up, as well as the adherence rate to the screening program.

### **Project group**

#### **Experts**

Charlotte Deogan (PhD)  
Joakim Dillner (MD Professor)  
Agneta Ellström Andersson (MD, Associate Professor)  
Sven Ove Hansson (PhD, Professor)  
Pär Sparén (MD, Professor)  
Björn Strander (MD, Associate Professor)

#### **SBU**

Jan Adolfsson (Project Manager)  
Agneta Brolund (Information Specialist)  
Sara Fundell (Project Administrator)

#### **Scientific reviewers**

Bengt Andrae (MD, Associate Professor)  
Björn Cedermark (MD, Associate Professor)  
Sven Törnberg (MD, Associate Professor)

---

Report no 231

[www.sbu.se/231](http://www.sbu.se/231) • [registrator@sbu.se](mailto:registrator@sbu.se)

Graphic Design: Anna Edling, SBU