

Chapter 7

Evaluation

In reaching its evaluation, the Working Group distinguished evidence of two types. The strongest evidence derives from historical or prospective data on efficacy, currently available only for cervix cancer from observational studies or time trends in populations. However, evidence based upon surrogate markers of reduction in cancer incidence was utilized when derived from a comparison with comparable data following screening with a test shown to reduce cancer incidence by the first type of evidence. In the evaluations that follow, an evaluation based on the first type of evidence is expressed by the words "*has reduced* cervical cancer incidence and mortality rates", and those based on the second type of evidence by the words "*can reduce* cervical cancer incidence and mortality rates".

There is *sufficient evidence* that screening by conventional cytology has reduced cervical cancer incidence and mortality rates.

There is *sufficient evidence* that screening by liquid-based cytology can reduce cervical cancer incidence and mortality rates.

There is *sufficient evidence* that screening by automated cytology can reduce cervical cancer incidence and mortality rates.

There is *sufficient evidence* that testing for human papillomavirus infection as the primary screening modality can reduce cervical cancer incidence and mortality rates.

There is *limited evidence* that screening by visual inspection with application of acetic acid can reduce cervical cancer incidence and mortality rates.

There is *limited evidence* that screening by visual inspection with application of Lugol's iodine can reduce cervical cancer incidence and mortality rates.

Overall evaluation

There is *sufficient evidence* that screening for cervical cancer precursors every 3–5 years between the ages of 35 and 64 years by conventional cytology in a high-quality programme reduces the incidence of invasive cervical cancer by 80% or more among the women screened. In women aged 25–34 years, screening at intervals of three years or less may have smaller impact. There is no evidence that screening annually in either age group results in much greater efficacy. Other forms of cytology screening using a validated system at the same ages and frequency can be expected to be as effective as conventional cytology.

Efficacy of conventional cytology has been demonstrated only for squamous-cell carcinoma.

Screening in well organized programmes is more cost-effective, with less harm due to overscreening and overtreatment, than opportunistic screening.

Data for analysing cost-effectiveness must be gathered locally and any conclusions drawn must be appropriate to the context. Investing in obtaining high rates of population coverage is critically important in achieving a cost-effective intervention.

There is *sufficient evidence*, based on surrogate markers, that the efficacy of HPV testing, using a validated system, as the primary screening modality can be expected to be at least as good as that of conventional cytology.

For visual inspection with application of acetic acid (VIA) or with Lugol's iodine (VILI), there is *limited evidence* of efficacy. Cross-sectional studies in low-resource settings have shown VIA and VILI to be similar to conventional cytology in detecting CIN 2–3. In view of the current uncertainties in the definition of test results, reproducibility and quality assurance, long-term results from randomized trials that are in progress are essential for further evaluation of visual inspection.