

## Cervical cancer prevention: the saga goes on, but so much has changed!

Gerard V Wain

*Major changes to the screening environment dictate a review of this successful program*

Internationally, cervical cancer prevention programs based on cytological surveillance have been among the most successful public health achievements in modern history. Almost all developed health jurisdictions have tackled the world's second commonest cancer among women, and implemented successful screening programs. The achievements within each country have been variable, and Australia now has the lowest mortality and second lowest incidence in the developed world<sup>1,2</sup> (see Box).

However, Australia's achievements did not come without considerable effort across the community. In the 1980s, many observers noted that ad-hoc screening in Australia was not achieving its potential in cancer prevention. This concern led the Australian Health Ministers' Advisory Council (AHMAC) to establish a consultative committee, which in turn issued a critical, insightful and comprehensive review of cervical screening and made substantial recommendations to improve the program.<sup>1</sup> The report was accepted by AHMAC, and a long process of substantial change began.

The AHMAC recommendations involved the historic adoption of a national screening policy in 1991, active recruitment of women for screening, the development and implementation of quality measures across the screening pathway, the establishment of cervical cytology registers in all states and territories, and the endorsement of clinical practice guidelines for the management of screen-detected abnormalities. The success of these changes relied on broad consensus, collaboration and cooperation across the public and private sectors and state, territory and national jurisdictions, and also on the commitment of a broad range of stakeholders. In this issue of the *Journal* (page 482), Canfell and colleagues show that these achievements have been mirrored in the United Kingdom, where similar proportional reductions in incidence and mortality have been noted.<sup>3</sup> Nevertheless, absolute incidence and mortality rates in the UK remain substantially higher than those in Australia (Box).<sup>1</sup>

Since the progressive implementation of the Organised Approach to Preventing Cancer of the Cervix (as the program was titled) began in 1992, both the incidence and mortality of cervical cancer in Australia have been halved.<sup>4</sup> Although calculations show that this translates to 1200 women each year whose squamous cancers are being prevented,<sup>5</sup> success has come at a cost. Each year, two million women are screened, about 100 000 receive a report of an abnormal smear, and about 15 000 (mostly young) women undergo treatment for a high-grade lesion.

Since the 1980s, much about cervical cancer prevention has changed. The appreciation that human papillomavirus (HPV) is the necessary cause of cervical cancer, and increased understanding of the epidemiology of genital HPV infection, the role of acute HPV infection as the cause of most low-grade cervical abnormalities, and the natural history of cervical cancer precursors have all demanded a change in our approach to this disease. Most significantly, a vaccine that successfully prevents the most significant HPV infections, most

cervical abnormalities and most cervical cancers is now available through private prescription. An application for public funding of this vaccine is currently before the Australian Government.

Despite the dramatic achievements described above, the recent history of introducing change has not been one of consensus and collaboration. An attempt to incorporate HPV natural history into clinical management algorithms through review of the National Health and Medical Research Council (NHMRC) guidelines<sup>6</sup> led to widespread controversy in the clinical community.<sup>7</sup>

A universal mass vaccination program with the HPV vaccine is a cost-effective primary prevention strategy. Markov modelling shows that this will further reduce cervical cancer incidence and mortality, with accompanying substantial reductions in the morbidity associated with our current approach.<sup>8</sup> Failure to implement a mass vaccination program will further exacerbate the inequities of access that have been historically associated with cervical cancer prevention in most jurisdictions, such as the lower participation rate for Indigenous women in the Northern Territory that is documented by Binns and Condon in this issue of the *Journal* (page 490).<sup>9</sup>

Notwithstanding this opportunity, substantial questions remain regarding implementation of the vaccine program. For example, how will the substantial cost of this vaccine be met, even if it is cost-effective? Should the existing cervical screening program be obliged to find savings to cover its cost? Can the current intensive screening program still be justified in a population of young vaccinated women, when the rate of abnormalities will be significantly lower, and the risks of screening will almost certainly exceed the benefits? How will Australia monitor the effectiveness of its vaccination investment? How will the state-based cytology registers incorporate vaccination status into their management recommendations? There are no current plans to establish or incorporate HPV vaccination into any existing register system. Unfortunately, little capacity is evident within current health infrastructure to address any of these issues.

The current cervical screening program also has many issues to resolve. There are major questions about the capacity of the cytology workforce to continue servicing a cytology-based program.<sup>10</sup> HPV testing offers potential for an efficient reorganisation of the current approach. The registers could contribute to a more organised approach by switching to a recall system where women would be individually recalled for their test when it was due rather than their current reminder system which acts as a safety net for women who are overdue in having the test. However, these changes require substantial cross-sector consultation and consensus. The Australian Screening Advisory Committee was disbanded in May 2006 following an AHMAC review of population health advisory structures. This leaves no national structures available to consider, promote or implement any change within the screening program.

Canfell and colleagues seem to be suggesting that the national screening policy in Australia should be modified.<sup>3</sup> When the environment of screening is so altered, broader changes are needed

**International variation in incidence and mortality from cervical cancer for selected countries, 2002**

Country	Incidence per 100 000 women (ASR)	Mortality per 100 000 women (ASR)
New Zealand	10.0	3.2
United Kingdom	8.3	3.1
Sweden	8.2	3.1
United States	7.7	2.3
Canada	7.7	2.5
Australia	6.9	1.7
Finland	4.3	1.8

ASR = age-standardised rate (World Standard Population).

Source: GLOBOCAN.<sup>2</sup> ◆

**Author details**

Gerard V Wain, FRANZCOG, CGO, Director  
Department of Gynaecological Oncology, Westmead Hospital,  
Sydney, NSW.

Correspondence: gerard\_wain@wsahs.nsw.gov.au

**References**

- 1 Australian Health Ministers' Advisory Council Cervical Screening Evaluation Committee. Cervical cancer screening in Australia: options for change. Canberra: AGPS, 1991. (Australian Institute of Health Prevention Program Evaluation Series No. 2.)
- 2 Ferley J, Bray F, Pisani P, Parkin DM. GLOBOCAN 2002: cancer incidence, mortality and prevalence worldwide. International Agency for Research on Cancer. CancerBase No. 5, version 2.0. Lyon: IARC Press, 2004. <http://www-dep.iarc.fr/> (accessed Sep 2006).
- 3 Canfell K, Sitas F, Beral V. Cervical cancer in Australia and the United Kingdom: comparison of screening policy, uptake, cancer incidence and mortality. *Med J Aust* 2006; 185: 482-486.
- 4 Australian Institute of Health and Welfare. Cervical screening in Australia 2002-2003. Canberra: AIHW, 2005. (AIHW Cat. No. 26; Cancer Series No. 31.)
- 5 Mitchell HS. How much cervical cancer is being prevented [letter]? *Med J Aust* 2003; 178: 298.
- 6 National Cervical Screening Program. Screening to prevent cervical cancer: guidelines for the management of asymptomatic women with screen detected abnormalities. Canberra: National Health and Medical Research Council, 2005.
- 7 Nogrady B, McLean B. Pap guidelines are dangerous. *Aust Doctor* 2004; 6 Aug: 1.
- 8 Wain GV, Kulasingam S, Connelly L, et al. Potential health and economic impact of an HPV in Australia. Program and abstracts of the Public Health Association of Australia 10th National Immunisation Conference. Sydney; 31 Jul 2006. Canberra: PHAA, 2006.
- 9 Binns PL, Condon JR. Participation in cervical screening by Indigenous women in the Northern Territory: a longitudinal study. *Med J Aust* 2006; 185: 490-494.
- 10 Royal College of Pathologists of Australasia. Submission to Australian Senate Inquiry on Gynaecological Cancer in Australia. August 2006. [http://www.aph.gov.au/Senate/committee/clac\\_ctte/gynaecological\\_cancer/submissions/sub57.pdf](http://www.aph.gov.au/Senate/committee/clac_ctte/gynaecological_cancer/submissions/sub57.pdf) (accessed Sep 2006). □

than a simple variation to policy on screening interval. Clinicians and consumers do not appear willing to accept any potential increase in cancer rates; they will quickly mobilise to resist such a change. Cervical screening survives on a complex interaction of emotional, professional and commercial interests which are intertwined and sometimes in conflict.

Australia needs to undertake a comprehensive review of cervical screening and to carefully consider potential modifications to this outstandingly successful program. Perhaps it's time in Australia for a "Reorganised Approach to Preventing Cancer of the Cervix".

**Competing interests**

In my capacity as member of the National Cervical Screening Program Guideline Review Committee and the CSL Limited Gardasil Advisory Board, I have received travel assistance to attend meetings.

My clinical department received research funding from Merck for participating in the initial clinical trials investigating the human papillomavirus vaccine.