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# HPV-related disease in Indigenous health



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Cervical cancer is the second most common cancer in women worldwide, with the majority of cases occurring in the developing world<sup>1</sup>. With effective high-quality cervical cytology screening programs, with wide coverage of target populations, precursor lesions can be detected and treated, ultimately preventing progression to the development of cervix cancer.

In Australia, long-standing and high-quality screening programs have been implemented for several decades and, consequently, incidence and mortality rates from cervical cancer have declined significantly. They are at some of the lowest worldwide: the age-standardised incidence of cervical cancer being 7.0/100, 000 and with a mortality 2.2/100,000 women in 2004<sup>2,3</sup>.

It is noteworthy, however, that, notwithstanding the success of the National Cervical Screening Program in the general population, Indigenous women were over four times more likely to die of cervical cancer than non-Indigenous women in 2001-2004, with cervical cancer incidence also in the order of four to fivefold higher in Indigenous women<sup>3</sup>. Whilst overall for the Australian population, the estimated lifetime screening participation rate is 88% (62% for over 2 years, 73% for over 3 years), the increased rates in Indigenous women reflects poorer access to cervical cytology screening programs.



The causal role of human papillomavirus (HPV) in cervical cancer has now been firmly established<sup>1</sup>, with genotypes 16 and 18 consistently contributing worldwide to approximately 70% of squamous cell carcinomas<sup>2</sup>. In Australia, we too have shown the preponderance of 16 and 18 in cancers as well as high-grade dysplasias<sup>3</sup>. Recently, prophylactic vaccines (bivalent and quadrivalent) have shown demonstrated high vaccine safety, tolerability and immunogenicity as well as very high efficacy against cervical precancer, attributable to vaccine-related HPV strains, against which the respective vaccines cover<sup>4,5</sup>.

A proportion of other anogenital cancers are now recognised as also caused by oncogenic HPVs. Vulvar cancer, of the warty basyloid type, is caused predominantly by HPV 16. A high incidence of vulvar cancer has been reported in young Indigenous women in remote communities in the East Arnhem region of the Northern Territory<sup>6</sup>. Cases there are being seen at fiftyfold the rate of anywhere else. As we also know that the quadrivalent vaccine prevents the vulvar cancer precursor caused by 16 and 18<sup>7</sup>, as well as for cervical lesions, it is going to be paramount to ensure very high coverage of the government-funded, school-based vaccine program. To date Australia is leading the world in vaccine coverage<sup>8</sup>, as in its third year's cohort, the average cover is in the order of 75-80%. Coverage to remote communities is indeed a priority.

**Vulvar intraepithelial neoplasia [VIN]: a multi focal presentation of VIN 2/3 in a young woman. This is the precursor lesion to vulvar cancer.**

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