

Sexual Health

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Human Papillomavirus Special Issue		
Advancements in the control of genital human papillomavirus infections and related diseases: highlighting Australia's role <i>S. M. Garland, J. M. L. Brotherton, C. K. Fairley, D. M. Gertig and M. Saville</i>	227–229	Australia has been influential in many of the scientific plus screening advances in combating cervical cancer and other HPV-related diseases. This is highlighted in the editorial, which introduces the reader to this special issue in Sexual Health focusing on HPV.
Cervical cancer vaccine development <i>I. H. Frazer</i>	230–234	Cervical cancer prevention strategies have been enhanced by the introduction of vaccines designed to protect against infection with the HPV genotypes that most commonly initiate cancer. This article reviews data on the efficacy safety and duration of protection of these vaccines.
For debate: that Australia should continue using the quadrivalent vaccine <i>G. Wain</i>	235–237	Australia was the first country in the world to introduce a government-funded, population-based mass vaccination program against HPV, using the quadrivalent vaccine. The program has been very successful in terms of high coverage and participation, community awareness and acceptance. The health outcomes and cost-effectiveness associated with the quadrivalent vaccine make a strong case for maintaining the quadrivalent vaccine as the vaccine of choice for this program.
For debate: that Australia should consider changing to the bivalent vaccine <i>P. L. Stern</i>	238–241	This article discusses the issues that could influence the choice of currently available HPV prophylactic vaccines.
Commentary on opinion pieces re Australian human papillomavirus vaccine policy <i>P. McIntyre</i>	242–243	Two vaccines targeting HPV infection are available in Australia – the quadrivalent vaccine Gardasil® (types 6, 11, 16 and 18) and the bivalent vaccine Cervarix® (16, 18 only). Although it seems obvious that four types are better than two, if prevention of cancer is the primary aim of the Australian immunisation program, duration of immune protection could potentially counterbalance this advantage. Pending the availability of higher valency HPV vaccines from both manufacturers, it is possible that mixed schedules may prove optimal, but have not yet been evaluated.
Cancers attributable to human papillomavirus infection <i>A. E. Grulich, F. Jin, E. L. Conway, A. N. Stein and J. Hocking</i>	244–252	This review summarises data on HPV-associated cancers in Australia. HPV is a necessary cause of cervical cancer, and causes about 40% and 70% of vulval and vaginal cancers respectively. In men, it causes about 50% of penile cancer. In both sexes, it is responsible for about 85% of anal cancer, 35% of oropharyngeal cancer, and 25% of other oral cavity cancers. Almost one-quarter of the potentially vaccine-preventable cancer cases are in males.
Estimating the prevalence of and treatment patterns for juvenile onset recurrent respiratory papillomatosis in Australia pre-vaccination: a pilot study <i>D. Novakovic, A. T. L. Cheng, D. H. Cope and J. M. L. Brotherton</i>	253–261	This paper explores information about the baseline prevalence and treatment patterns of juvenile onset recurrent respiratory papillomatosis (RRP) in Australia. This study describes a retrospective review of cases treated in a paediatric tertiary hospital in New South Wales; national hospital separations discharged with codes identified as specific for RRP in the record review; and a survey of paediatric head and neck surgeons who treat RRP.

Human papillomavirus vaccine introduction in Vietnam: formative research findings N. Quy Nghi, D. S. LaMontagne, A. Bingham, M. Rafiq, L. Thi Phuong Mai, N. Thi Phuong Lien, N. Cong Khanh, D. Thi Hong, D. Thi Thanh Huyen, N. Thi Thi Tho and N. Tran Hien	262–270	This study investigates the socio-cultural, health system and policy environment in Vietnam at the individual, interpersonal, community and policy levels to determine effective communication, delivery and advocacy strategies for future HPV vaccine introduction.
‘It’s a logistical nightmare!’ Recommendations for optimising human papillomavirus school-based vaccination experience S. C. Cooper Robbins, D. Bernard, K. McCaffery and S. R. Skinner	271–278	Focus groups and interviews explored participants’ experiences in New South Wales’ school-based HPV vaccination program. Themes related to participants’ experience of the organisational, logistical and procedural aspects of the program and their perceptions of an optimal process were organised into two categories: (1) preparation for the vaccination program and (2) vaccination day strategies. Several findings are identified for use in development of school-based vaccination guidelines.
Scaling up human papillomavirus vaccination: a conceptual framework of vaccine adherence I. T. Katz, N. C. Ware, G. Gray, J. E. Haberer, C. A. Mellins and D. R. Bangsberg	279–286	This review article provides a conceptual framework for HPV vaccine acceptance and adherence, with a focus on improving understanding of the socio-cultural factors impacting vaccine adherence behaviour. We suggest that this conceptual framework will improve our understanding of HPV vaccine uptake and adherence, and potentially guide future socio-behavioural research geared towards improving HPV vaccine adherence.
Low rates of free human papillomavirus vaccine uptake among young women G. R. Moore, R. A. Crosby, A. Young and R. Charnigo	287–290	Despite offering the HPV vaccine at no cost to more than 200 university women, uptake was surprisingly low. Perceived maternal disapproval and lack of time to return to the clinic were significant multivariate predictors of low uptake.
National survey of general practitioners’ experience of delivering the National Human Papillomavirus Vaccination Program J. M. L. Brotherton, J. Leask, C. Jackson, K. McCaffery and L. J. Trevena	291–298	This paper describes the results of a mailed survey investigating the experience of Australian general practitioners in implementing a quadrivalent HPV vaccination program for women aged 18 to 26.
Knowledge of human papillomavirus (HPV) and the HPV vaccine in a national sample of Australian men and women M. K. Pitts, W. Heywood, R. Ryall, A. M. Smith, J. M. Shelley, J. Richters and J. M. Simpson	299–303	HPV knowledge was investigated among a national sample of Australian men and women, after the introduction of a vaccination program. Overall, 62.8% of women and 38.3% of men had heard of HPV, one of the highest levels of knowledge reported to date. Knowledge about the association between HPV and cervical cancer was high, compared to knowledge of associations with genital warts, possibly due to promotion of the vaccine linking HPV with cervical cancer.
Human papillomavirus vaccine acceptability among a national sample of adult women in the USA N. W. Stupiansky, S. L. Rosenthal, S. E. Wiehe and G. D. Zimet	304–309	This study examined the association of sociodemographic and health-related factors to HPV vaccine acceptability among adult women in the USA. A nationally representative sample of women ($n = 1323$) aged 27–55 completed Internet-based measures assessing HPV vaccine acceptability across multiple cost and location-of-availability conditions. Vaccine acceptability was generally high, and was most strongly associated with cost. Several additional variables were associated with acceptability, including religiosity, political views, and sexual health history.
Monitoring the control of human papillomavirus (HPV) infection and related diseases in Australia: towards a national HPV surveillance strategy J. M. L. Brotherton, J. M. Kaldor and S. M. Garland	310–319	This article outlines Australia’s existing infrastructure for HPV-related surveillance following the implementation of its national HPV vaccination program, as well as identifying current information and system gaps and potential ways to address these.
Human papillomavirus vaccine safety in Australia: experience to date and issues for surveillance M. S. Gold, J. Buttery and P. McIntyre	320–324	Australia was one of the first countries to licence a quadrivalent HPV vaccine. As of August 2009, more than 5.8 million doses of Gardasil® (quadrivalent HPV vaccine) have been distributed in Australia and a total of 1394 suspected adverse events following immunisation have been reported to the passive surveillance system. Post-licensure surveillance data is reviewed as well as case reports of anaphylaxis, conversion disorders and lipoatrophy, multiple sclerosis and pancreatitis.

What can surveillance of genital warts tell us? <i>C. K. Fairley and B. Donovan</i>	325–327	The authors review the epidemiology of genital warts in Australia and postulate about what the future epidemiology may hold as a result of the introduction of the quadrivalent HPV vaccine. Two scenarios are possible, one where genital warts will stabilise at a new lower prevalence or alternatively one where Australia may see the virtual elimination of genital warts other than in heterosexuals other than overseas travellers.
Cytology and cervical cancer surveillance in an era of human papillomavirus vaccination <i>A. C. Budd and C. J. Sturrock</i>	328–334	This article outlines how cytological and cancer surveillance after the introduction of the HPV vaccine in Australia is proposed to occur through the established national monitoring mechanisms of the National Cervical Screening Program, through data provided by state and territory cervical cytology registers, and data sourced from the Australian Cancer Database.
Quality assessment for human papillomavirus testing <i>S. N. Tabrizi</i>	335–337	Laboratories performing HPV assays would need to assess accuracy and reproducibility of their results by incorporating ongoing internal control as well as participating in appropriate external quality-assurance schemes as part of their quality assurance program. Failure to do so can possibly alter patient management and increase the cost of treatment.
US physicians' intentions regarding impact of human papillomavirus vaccine on cervical cancer screening <i>C. Wong, Z. Berkowitz, M. Saraiya, L. Wideroff and V. B. Benard</i>	338–345	We evaluated physician intentions regarding HPV vaccine's impact on future cervical cancer screening in the USA through a nationally representative survey of 1114 primary care physicians. Overall, 40.7% and 38.2% of physicians agreed that HPV vaccine will affect screening initiation and frequency, respectively. This study provides important baseline data on physician intentions prior to widespread vaccine diffusion and may help explain current and future trends in practice patterns.
Audit of paired anal cytology and histopathology outcomes in patients referred to a public sexual health clinic <i>V. M. Williams, C. Metcalf, M. A. French and J. C. McCloskey</i>	346–351	A gold standard for the diagnosis of anal intraepithelial neoplasia is still to be confirmed. Here we examine the level of agreement between paired anal cytology and histopathology samples collected at anoscopy from high risk patients referred within the sexual health clinic.
A brief history of economic evaluation for human papillomavirus vaccination policy <i>P. Beutels and M. Jit</i>	352–358	We discuss key issues for health economic evaluations applied to HPV vaccination, and summarise which options for HPV vaccination are likely (or unlikely) to be cost-effective. We note some important policy questions could not be reliably addressed at the time they were faced, and speculate on the past and future policy making role of economic evaluations on this subject.
Models of cervical screening in the era of human papillomavirus vaccination <i>K. Canfell</i>	359–367	Simulation modelling is an important tool in evaluating the future interaction between HPV vaccination and cervical screening. Several categories of screening program evaluation are of interest, including: (1) changes to screening considered over the short term; (2) the medium-term effect of vaccination on screening; and (3) changes to screening in context of vaccination. This review considers some of the policy questions in each category and discusses the modelling implications.
Unresolved questions concerning human papillomavirus infection and transmission: a modelling perspective <i>D. G. Regan, D. J. Philip and E. K. Waters</i>	368–375	Mathematical models are being used extensively to estimate the potential impact and cost-effectiveness of HPV vaccination. We discuss the gaps in our current understanding of HPV infection and transmission from a modelling perspective and how this impacts on our ability to develop accurate models.
Promising strategies for cervical cancer screening in the post-human papillomavirus vaccination era <i>J. Tota, S. M. Mahmud, A. Ferenczy, F. Coutlée and E. L. Franco</i>	376–382	HPV vaccination will be efficacious against cervical cancer but will also affect the performance of screening for the disease because of the inevitable reduction in positive predictive value consequent to the decreased lesion prevalence post-vaccination. HPV DNA testing has several advantages over Pap cytology, particularly in the HPV vaccination era. An HPV-followed by-Pap triage screening strategy is proposed as a paradigm change for future practice guidelines.

Global reduction of cervical cancer with human papillomavirus vaccines: insights from the hepatitis B virus vaccine experience M. E. Heffernan, S. M. Garland and M. A. Kane	383–390	This article compares and contrasts hepatitis B virus vaccine experiences to challenges for successful global HPV vaccination strategies, and makes recommendations accordingly. The lessons from hepatitis B immunisation for successful outcomes with HPV immunisation highlight what factors need to be met including planning and delivery strategies; cooperation and support needs; socio-economic and cultural issues. The key to success will be affordable, readily deliverable HPV vaccines to young girls as universal campaigns.
Role of the nurse immuniser in implementing and maintaining the National Human Papillomavirus ‘Cervical Cancer’ Vaccine rollout through a school-based program in Victoria H. Kent, M. E. Heffernan, J. Silvers, E. Moore and S. M. Garland	391–393	An audit of nurse immunisers (NI) was conducted that showed NIs perceived knowledge, safety and side effects were among the most important issues raised by parents, schoolgirls, and teachers in the school setting. The most common concern identified by NIs was the physical layout of the vaccination setting (41%), followed by safety, then knowledge of the vaccine. There is a need for ongoing assessment of factors that improve or impede the delivery of HPV vaccines.
Human papillomavirus (HPV) vaccine acceptance and perceived effectiveness, and HPV infection concern among young New Zealand university students C. Chelimo, T. A. Wouldes and L. D. Cameron	394–396	This letter examines the acceptability of a free HPV vaccination and describes factors related to perceived HPV vaccine effectiveness and concern of future personal risk of HPV infection. The major findings suggest the perceived effectiveness of the HPV vaccine was significantly greater among participants who had previous knowledge of the vaccine and who knew that HPV is sexually transmitted. These findings support more education especially around the sexual transmission of HPV.
Closing editorial: processes, opportunities and challenges after introduction of human papillomavirus vaccine J. M. L. Brotherton, C. K. Fairley, S. M. Garland, D. Gertig and M. Saville	397–398	We review some of the outstanding research, evaluation and policy development needs related to HPV vaccination identified by the papers in this special issue.