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# HPV vaccination catch up program

## Utilisation by young Australian women

**Background**

The quadrivalent human papilloma virus (HPV) vaccine provides protection against HPV types 6 and 11, and 16 and 18. The Australian Government's offer of free vaccination to women aged 18–26 years of age through general practitioners ends 30 June 2009.

**Objective**

To determine the percentage of women attending Family Planning New South Wales (FPNSW) clinics aged 26 years or less who were aware of the free HPV vaccination program and had received a full course of the vaccine or had at least one injection.

**Method**

A questionnaire to assess knowledge, attitudes, awareness and utilisation of the free vaccination catch up program for women aged 26 years or less through GPs was given to women attending the Ashfield, Newcastle and Penrith FPNSW clinics during May and June 2008 by the clinic receptionist for completion before seeing the clinician.

**Results**

Two hundred and ninety-four women aged 15–26 years (mean age  $21.7 \pm 2.8$ ) completed the questionnaire out of a total of 512 women in that age group who visited a FPNSW clinic; response rate 57.4%. Eighty-three percent had heard about the vaccine and 56% had presented to a GP for at least one injection. The majority of women (213, 72.4%) had visited a GP in the previous 6 months. In total, GPs had suggested having the vaccine to 110 (37.4%) women during a recent visit; 59 (53.6%) of these women had visited a GP specifically to have the HPV vaccine. Of the 179 who responded to the question about awareness of the availability of a free course of HPV vaccine, 76 (42.5%) were unaware that they could obtain free vaccination through a GP.

**Conclusion**

General practitioners should use opportunistic visits by young women to provide information about the catch up HPV vaccination program and encourage them to participate in the program. As the offer of free vaccination through GPs ends 30 June 2009 it is important that GPs encourage as many eligible women as possible to participate. The reduction in incidence of cervical cancer in Australia depends on maximal coverage of eligible women.

■ **The quadrivalent human papilloma virus (HPV) vaccine, Gardasil, provides protection against HPV types 16 and 18 which are responsible for 70% of cervical cancers<sup>1</sup> in Australia and HPV types 6 and 11 responsible for the development of genital warts.<sup>2</sup> In 2003 there were 725 cases of newly diagnosed cancer of the cervix<sup>3</sup> and 216 deaths were reported in 2005.<sup>3</sup> It is estimated that 80% of the community will be exposed to HPV during their lifetime.<sup>4</sup> Vaccination against HPV is most effective if given to women and men before possible sexual acquisition of the virus.**

The vaccine was approved for use in Australia in 2006. Starting in April 2007 the Australian Government provided HPV vaccine free to girls aged 12–17 years through the national HPV vaccination program in a school based program.<sup>5</sup> From 2008 the vaccine was added to the ongoing immunisation schedule for girls aged 12–13 years.

From July 2007 until June 2009 GPs and community immunisation clinics can provide free vaccine to young women who missed one or more injections in the school program, as well as for all women less than 27 years of age who were no longer in school when the HPV vaccine program was rolled out.<sup>4</sup> However, the women in this catch up program must have the third injection by 30 June 2009 in order to obtain the full course free of charge. As part of the HPV vaccination program, a national register is being developed by the Australian Federal Government to collect data about the program.<sup>4</sup>

Nonschool based vaccination of older adolescents and the early 20s age group has been found to be very difficult. It is important to determine how to access this challenging group, for this and future vaccination campaigns.

**Objective**

The aim of this study is to:

- determine the percentage of clients attending Family Planning New South Wales (FPNSW) Ashfield and Newcastle clinics aged 26 years or less who were aware of the free HPV vaccination program through GPs

- determine how many clients attending FPNSW clinics aged 26 years or less had received a full course of the HPV vaccine or had at least one injection
- determine from whom young women would prefer to obtain HPV vaccination.

## Method

A questionnaire was developed to assess knowledge, attitudes and awareness of the availability of free vaccination for women aged 26 years or less through GPs. The questionnaire covered:

- attendance at a GP surgery in the previous 6 months
- whether the GP had discussed or suggested HPV vaccination
- knowledge of the HPV vaccine and its availability
- the young women's immune status, and
- questions relating to sexual history.

The questionnaire was initially trialled by 10 women eligible for vaccination to ensure it was comprehensible and provided adequate responses to the research questions. Women attending FPNSW clinics aged 26 years or less during May and June 2008 were asked by the clinic receptionist to complete the questionnaire before seeing the clinician. The completed questionnaires were returned to the receptionist. No identifying data was collected. On returning the questionnaire to the receptionist all women were given a pamphlet with information about the HPV vaccine.

Data were entered and analysed on SPSS 15.0. Results assessed the proportion of women's responses to each question or part thereof and significance was tested by chi-square where appropriate.

The study was approved by the FPNSW Ethics Committee before initiation.

## Results

### Population

Two hundred and ninety-four women aged 15–26 years with a mean age of 21.7 ± 2.8 and a median age of 22 years completed the questionnaire (185 at the Ashfield clinic in May and June, 86 at Newcastle during June, and 23 at Penrith in the last 2 weeks of June). One woman, aged 45 years, who completed the questionnaire was excluded from the analysis.

All but two women lived in metropolitan areas of Sydney and Newcastle. Almost half had either trade or higher education qualifications (136, 46.3%). A third had the higher school certificate while 104 (35.9%) described themselves as students (*Table 1*). Only 7 (2.5%) identified as Aboriginal or Torres Strait Islander, with the majority (94.6%) coming from households where the main language spoken was English.

### Sexual history

Five women (1.7%) had never been sexually active. Seventeen had had sexual contact with a female partner, but only one of these had never had sexual contact with a male partner. One-third (98) only had 1–2 lifetime male sexual partners, but 18.1% (49) had more than 10 sexual

Table 1. Demographic detail of respondents

	Number of respondents#	Number	Percent
Language (English)	293	278	94.6
Aboriginal or Torres Strait Islander	279	7	2.5
Education level	294		
School/higher school certificate		154	52.4
TAFE, trade certificate		45	15.3
University primary or higher degree		91	31.0
Occupation	290		
Student		104	35.9
Part time work/casual		44	15.2
Full time work		113	37.9
Unemployed/not in paid work		29	10.0
Age in years (mean ± SD) 21.6 ± 2.8; median 22			
# Not all respondents answered all the questions			

partners (*Table 2*). More than half the women (160, 54.4%) had been in their present relationship less than 1 year. Only 10 women had more than one sexual partner simultaneously at the time they answered the questionnaire. Fifty-four women (19.4%) had been diagnosed with a sexually transmitted infection (STI) in the past, 24 (14.3%) had had genital warts, and 20 (7.3%) thought they were likely or very likely to contract a STI in the future. About a third (89, 38.5%) of respondents never used condoms, 84 (36.4%) used them sometimes, and 58 (25.1%) used them all the time. Of the 48 women who had been in their present relationship 3 months or less, 14 (29.2%) always used condoms, 21 (43.8%) used them sometimes, and 14 (29.2%) never used condoms. Among the 54 women who had previously had a STI, only six used condoms all the time and among the 16 women who felt themselves to be at risk of an STI, only three used condoms all the time.

### Knowledge and experience of HPV vaccination

Eighty-three percent of the surveyed women had heard about the HPV vaccine. The most common source of information was television, followed by school, newspaper/magazine, FPNSW, GP or other health professional. The least common source of information was the internet.

More than half (68.5%) felt that they had sufficient information about the vaccine to make a decision regarding vaccination. The majority (213, 80.4%) had visited a GP in the previous 6 months and 176 (60.9%) had a regular GP; 106 (36.1%) had visited a GP specifically to have the HPV vaccine. Of the 142 women who had visited their regular GP within the past 6 months, just over half (54.2%) had been recommended to have the vaccine. Of the remaining 65 who had visited

a GP (but not their regular GP), 38.5% had been advised to have the HPV vaccine. In total, a GP had suggested having the vaccine to 110 (46.2%) women during a recent visit. Eighty-four respondents (39.4%) said the GP had neither mentioned nor suggested having the vaccine. Of the 179 who responded to the question about awareness of the

availability of a free course of HPV vaccine, 76 (42.5%) were unaware that they could obtain free vaccination through a GP.

Table 4 lists the women's reasons for not having the HPV vaccine at all. Fifty-eight percent (166) had had at least one injection and 26.9% (79) had all three. For 67% of the 87 who had had at least one

injection, the next injection was not yet due. Of the women who had not completed the course of vaccinations, 38 (37.8%) stated they were unlikely to complete. Their reasons for not having all three injections included having a reaction to the vaccine, forgetting, and having no time. Sixty-seven (22.8%) women planned to have the vaccine in the future but 11 women had no intention of being vaccinated; 50 were unsure. The most preferred source for obtaining the vaccine was FPNSW (24.5%), followed by a GP (20.7%). A small number preferred a university clinic or sexual health clinic.

The majority of respondents agreed (20.4%) or strongly agreed (57.8%) that the vaccine was important for women, 18.6% were unsure, and only nine women felt it was not important (Table 5). However, attitudes to vaccination for males differed. In total, 53.4% of women were unsure whether the vaccine was important for men, 27.8% agreed or strongly agreed that it was important, and 11.6% felt it was not important for men to have the vaccine.

## Discussion

For the community to get maximum benefit from the quadrivalent HPV vaccination program it is necessary to ensure optimum coverage of the relevant population. The majority of young women had heard about the HPV vaccine but, despite all the publicity and media coverage, over 30% felt that they did not have sufficient information to make a decision about having the vaccine. Although three-quarters of the women surveyed had attended a general practice in the past 6 months, at a time when the catch up program had existed for at least 6–12 months, one-third were unaware that they could obtain free vaccine through a GP and indicated that they had insufficient information about the vaccine. This suggests that many GPs are not discussing the vaccine with eligible women, especially as only half of those who had visited a GP were offered the vaccine.

General practice consultations are getting more complex, with more issues being raised per

Table 2. Sexual history of respondents

	Number of respondents	Number	Percent of those answering question	Percent of total survey participants N=294
Number of male partners	270			
– none		6	2.2	2.0
– 1–2		98	36.3	33.3
– 4–6		77	28.5	26.2
– 7–10		40	14.8	13.6
– more than 10		49	18.1	16.7
Number of female partners		17		
Previous STI (Yes)	278	54	19.4	18.4
Previous genital warts (Yes)	168	24	14.3	8.2
Likely to get STI (Yes)	272	20	6.8	7.3
Use condoms	231			
– never		89	38.5	30.3
– sometimes		84	36.4	28.6
– always		58	25.1	19.7

Table 3. Knowledge and experience of HPV vaccine

	Number of respondents	Number	Percent of those answering question	Percent of total participants N=294
Heard about HPV vaccine from (Yes)	280	245	87.5	83.3
– television		112	40.0	38.1
– school		88	31.4	29.9
– GP		30	10.7	10.2
– FPA		44	15.7	15.0
– other health professional		28	10.0	9.5
– newspaper/magazine		59	21.1	20.1
– internet		11	3.9	3.7
Enough information (Yes)	260	178	68.5	60.5
Unaware of free vaccine through GP	179	76	42.5	25.9
Have regular GP (Yes)	289	176	60.9	59.9
Visited a GP in last 6 months (Yes)	265	213	80.4	72.4
GP suggested HPV vaccine (Yes)	238	110	46.2	37.4
Had at least one injection (Yes)	287	166	57.8	56.5
Unlikely to complete course (Yes)	164	38	23.2	12.9
Intend to have vaccination in future (Yes)	128	67	52.3	22.8

Table 4. Reasons for not having the vaccine

Reason	Number of women
Insufficient knowledge	18
Dislike of injections	10
Worried about side effects	9
Didn't believe in vaccination	7
Pregnant	3
Family/friends discouraged her	2
Not sexually active	1
Only one sexual partner	1
Doctor said she didn't need it	1
Bad study feedback	1

consultation as shown in BEACH study data.<sup>6</sup> General practitioners may feel they don't have time to discuss vaccination as well as other issues or may have discussed the HPV vaccine, but this was not recalled by the women because other issues were more pertinent to their visit.

A majority of respondents were unsure about the need to vaccinate young men. Modelling of the impact of vaccinating different populations and ages by Regan et al<sup>7</sup> suggests that a campaign covering only girls 12 years of age with 80% coverage will take 5–7 years to achieve half of the expected reduction of 60–100% in HPV 16 prevalence. If girls aged 13–16 years are also vaccinated this reduction will take 2 years. If 80% of boys are included it would reduce prevalence by 74–100%. As HPV 16 is associated with oropharyngeal<sup>8</sup> and anal cancer,<sup>9</sup> and 6 and 11 with 90% of benign lesions such as genital warts<sup>10</sup> and juvenile respiratory papillomatosis,<sup>11</sup> vaccination of males is important not just to reduce transmission of HPV to women but also to lessen the burden of disease in men.<sup>12</sup>

It may be that GPs believe there is little point in giving the HPV vaccine to young sexually active women who may have already been exposed to HPV. In our study, five women were not yet sexually active and 93 (36.6%) had had only 1–2 lifetime sexual partners. As these women are clients of FPNSW it is likely that their sexual histories are at least representative of educated metropolitan young women in the community, and in fact they may be a more sexually active group. In the phase 3 trials of the quadrivalent vaccine, 94% of participants at baseline had a median of two lifetime sexual

partners and 73% were naïve to all four types of HPV covered by the vaccine.<sup>12</sup> Even in women who have had more lifetime sexual partners, it is unlikely that they will have come into contact with all four HPV types and so may still derive protection against at least one or more of the HPV types in the vaccine.<sup>13</sup>

This group of women, similar to findings in other studies,<sup>14,15</sup> appear to have a low level of safe sex practices (condom use) even if they had previously contracted an STI, felt themselves to be at risk of an STI in the future, or had only recently commenced a relationship with a new partner. This makes them particularly vulnerable to infection with HPV and this should encourage GPs to offer the vaccine.

### Limitations of this study

Family Planning NSW is only authorised to provide the vaccine at the youth clinic in Penrith, although it sees women in the relevant age group at all its clinics. The majority of young women surveyed came from the Ashfield clinic as the survey was not extended to the Newcastle and Penrith clinics until later in the survey period. However, as not all the surveys provided clinic of origin information, it is difficult to assign accurate response numbers to individual clinics. Thus the data used to determine response rate is the total number of eligible young women (512) seen at these three clinics during the survey period. Information derived from this survey may not necessarily apply to young women in general, especially those living in rural and remote areas. Clients of FPNSW are self selected. This sample was a group of relatively well educated metropolitan young women who we would expect to have the highest knowledge and uptake of vaccine. It is expected that rates will be lower in the general population.

### Conclusion

Despite extensive publicity, there is a need for GPs to inform and reassure women about the safety and advantages of the HPV vaccination program. General practitioners could use opportunistic visits by young women to provide information about the catch up HPV vaccination program and encourage them to participate in the program. They could also use their computer recall systems to encourage women to participate or ensure they complete the course. As the offer of free vaccination through GPs ends 30 June 2009, it is important that GPs encourage as many eligible women as possible to participate. It is unlikely that women who miss out will be prepared to pay \$450 for the vaccine course. The reduction in incidence of cervical cancer in Australia depends on maximal coverage of eligible women.

Table 5. Importance of having HPV vaccine

	Strongly agree		Agree		Unsure		Disagree		Strongly disagree	
	No	(%)	No	(%)	No	(%)	No	(%)	No	(%)
Important for women	162	57.9	57	20.4	52	18.6	5	1.8	4	1.4
Important for men	48	18.7	22	8.6	157	61.1	14	5.4	16	6.2

Conflict of interest: Edith Weisberg and Rachel Skinner are members of the Gardasil Advisory Board.

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