



Appendix

**This appendix was part of the submitted manuscript and has been peer reviewed.
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Appendix to: Ali H, McManus H, O'Connor CC, et al. Human papillomavirus vaccination and genital warts in young Indigenous Australians: national sentinel surveillance data. *Med J Aust* 2017; 206: 204-209. doi: 10.5694/mja16.00597.

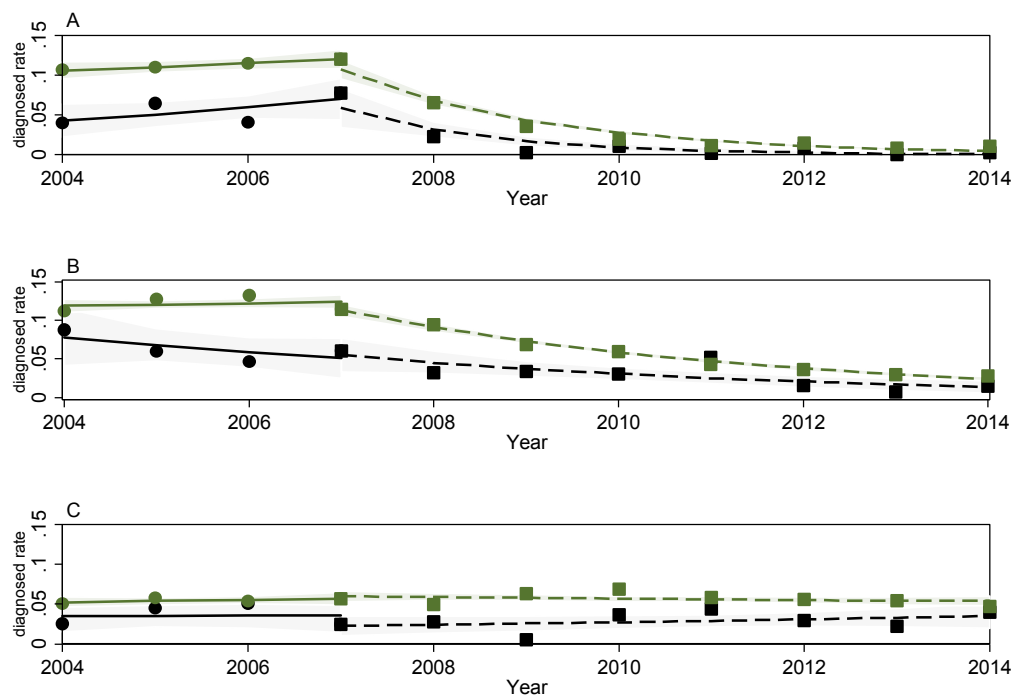


Figure 1. Female observed and fit rates of genital warts by age group. A=age 12-20, B=age 21-29, C=30+. Green=non-Indigenous, Black=Indigenous, Circles and solid line represent observed proportion prior to vaccination period, squares and dashed line represent observed proportion from the last year pre-vaccination period and across the vaccination period

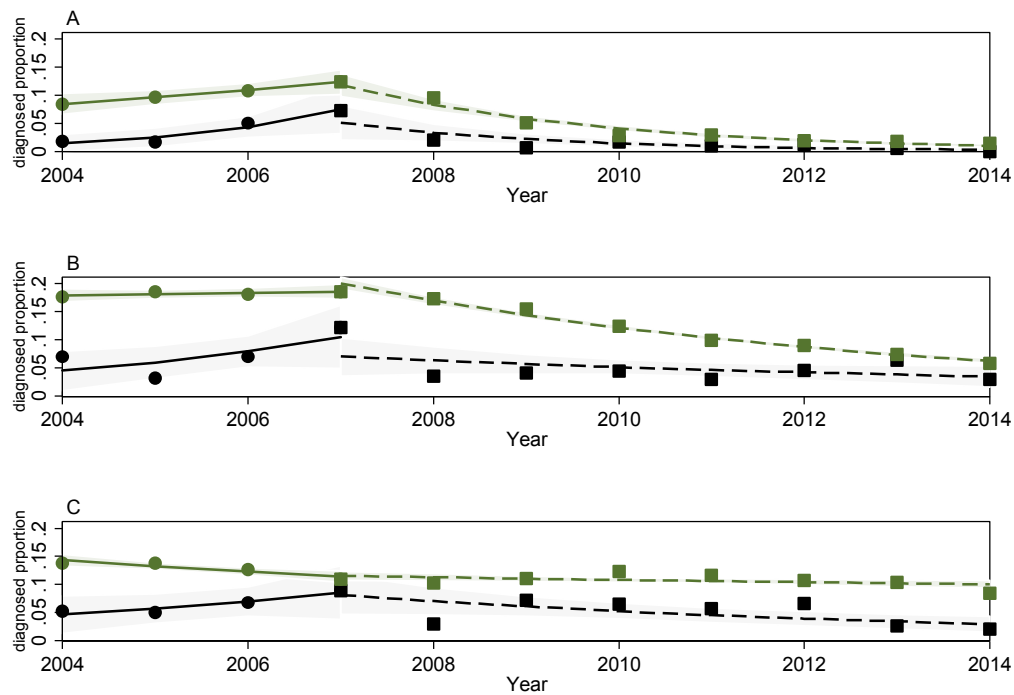


Figure 2. Male observed and fit rates of genital warts by age group. A=age 12-20, B=age 21-29, C=30+. Green=non-Indigenous, Black=Indigenous, Circles and solid line represent observed proportion prior to vaccination period, squares and dashed line represent observed proportion from the last year pre-vaccination period and across the vaccination period

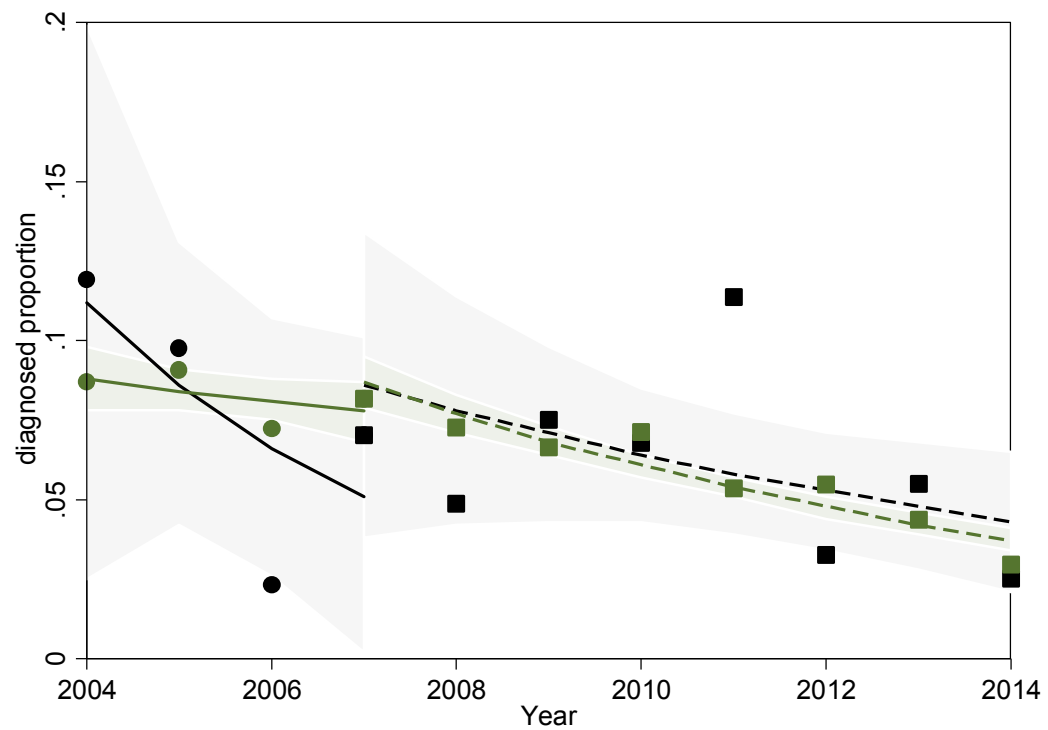


Figure 3. Men who have sex with men observed and fit rates of genital warts by age group. Green=non-Indigenous, Black=Indigenous, Circles and solid line represent observed proportion prior to vaccination period, squares and dashed line represent observed proportion from the last year pre-vaccination period and across the vaccination period

Table 1: Numbers of Aboriginal and non-Aboriginal women seen, numbers and proportions diagnosed with genital warts at first visit at sexual health clinics, by age group, 2004-2014

	Aboriginal women aged <21 years			Australian born non-Aboriginal women aged <21 years			Aboriginal women aged 21-30 years			Australian born non-Aboriginal women aged 21-30 years			Aboriginal women aged >30 years			Australian born non-Aboriginal women aged >30 years		
	Seen	GW*	%	Seen	GW	%	Seen	GW	%	Seen	GW	%	Seen	GW	%	Seen	GW	%
2004	227	9	4.0	2241	239	10.7	159	14	8.8	4112	459	11.2	196	5	2.6	3261	164	5.0
2005	248	16	6.5	2167	237	10.9	151	9	6.0	3767	478	12.7	180	8	4.4	2881	165	5.7
2006	268	11	4.1	2132	244	11.4	173	8	4.6	3472	461	13.3	139	7	5.0	2456	132	5.4
2007	294	23	7.8	1994	240	12.0	198	12	6.1	3334	381	11.4	166	4	2.4	2373	134	5.6
2008	346	8	2.3	1986	130	6.5	220	7	3.2	2980	282	9.5	213	6	2.8	2242	111	5.0
2009	363	1	0.3	2020	73	3.6	205	7	3.4	2947	201	6.8	194	1	0.5	2152	137	6.4
2010	365	4	1.1	1994	39	2.0	263	8	3.0	2999	179	6.0	191	7	3.7	2067	142	6.9
2011	427	1	0.2	2170	26	1.2	252	13	5.2	2949	127	4.3	204	9	4.4	2086	122	5.8
2012	472	4	0.8	2001	30	1.5	259	4	1.5	2941	106	3.6	203	6	3.0	1997	111	5.6
2013	410	0	0.0	1988	16	0.8	287	2	0.7	2869	85	3.0	269	6	2.2	2031	110	5.4
2014	326	1	0.3	1801	20	1.1	268	4	1.5	2826	79	2.8	250	10	4.0	2067	97	4.7

* GW = Genital warts

Table 2: Numbers of Aboriginal and non-Aboriginal heterosexual men seen, numbers and proportions diagnosed with genital warts at first visit at sexual health clinics, by age group, 2004-2014

	Aboriginal heterosexual men aged <21 years			Australian born non-Aboriginal heterosexual men aged <21 years			Aboriginal heterosexual men aged 21-30 years			Australian born non-Aboriginal heterosexual men aged 21-30 years			Aboriginal heterosexual men aged >30 years			Australian born non-Aboriginal heterosexual men aged >30 years		
	Seen	GW*	%	Seen	GW	%	Seen	GW	%	Seen	GW	%	Seen	GW	%	Seen	GW	%
2004	114	2	1.8	570	48	8.4	86	6	7.0	2807	495	17.6	98	5	5.1	2996	415	13.9
2005	118	2	1.7	638	62	9.7	96	3	3.1	2872	534	18.6	98	5	5.1	2804	387	13.8
2006	142	7	4.9	630	68	10.8	101	7	6.9	2675	485	18.1	107	7	6.5	2600	328	12.6
2007	122	9	7.4	630	78	12.4	100	12	12.0	2466	458	18.6	100	9	9.0	2501	273	10.9
2008	153	3	2.0	720	69	9.6	114	4	3.5	2731	474	17.4	101	3	3.0	2549	259	10.2
2009	148	1	0.7	896	45	5.0	123	5	4.1	3007	467	15.5	111	8	7.2	2572	284	11.0
2010	176	3	1.7	1017	28	2.8	160	7	4.4	3213	398	12.4	109	7	6.4	2656	327	12.3
2011	203	2	1.0	1117	33	3.0	135	4	3.0	3417	339	9.9	121	7	5.8	2720	317	11.7
2012	257	3	1.2	916	17	1.9	132	6	4.5	3283	293	8.9	107	7	6.5	2686	286	10.6
2013	187	1	0.5	895	16	1.8	156	10	6.4	3128	230	7.4	189	5	2.6	2595	270	10.4
2014	191	0	0.0	859	12	1.4	173	5	2.9	3201	185	5.8	204	4	2.0	2427	203	8.4

* GW = Genital warts

Table 3: Numbers of Aboriginal and non-Aboriginal men who have sex with men seen, numbers and proportions diagnosed with genital warts at first visit at sexual health clinics, 2004-2014

	Aboriginal MSM			Australian born non-Aboriginal MSM		
	Seen	GW*	%	Seen	GW	%
2004	42	5	11.9	2211	192	8.7
2005	41	4	9.8	2071	188	9.1
2006	44	1	2.3	2119	153	7.2
2007	56	4	7.1	2054	168	8.2
2008	41	2	4.9	2094	152	7.3
2009	40	3	7.5	2336	155	6.6
2010	59	4	6.8	2582	184	7.1
2011	88	10	11.4	2760	148	5.4
2012	92	3	3.3	2955	162	5.5
2013	109	6	5.5	3501	153	4.4
2014	119	3	2.5	3771	112	3.0

* GW = Genital warts

Table 4: Average annual trends in diagnosis of genital warts at sexual health clinics with summary rate ratios, 2004-2006 and 2008-2014

Sex	Age	Aboriginal	Pre-vaccination period*		Vaccination period*		Vaccination period vs Pre-vaccination vs		Ratio of SRR (non-Indigenous/Indigenous)	p value
			Average annual trend (95% CI)	p value	Average annual trend (95% CI)	p value	Summary rate ratio (SRR) (95% CI)	p value		
Female	12-20	Aboriginal	1.00 (0.70-1.43)	0.984	0.69 (0.52-0.92)	0.01	0.14 (0.08-0.25)	<0.001	1.50 (0.85-2.64)	0.158
		non-Aboriginal	1.04 (0.95-1.13)	0.424	0.69 (0.64-0.74)	<0.001	0.22 (0.19-0.25)	<0.001		
	21-30	Aboriginal	0.72 (0.47-1.10)	0.130	0.84 (0.73-0.96)	0.01	0.40 (0.26-0.62)	<0.001	1.05 (0.67-1.65)	0.839
		non-Aboriginal	1.09 (1.03-1.16)	0.004	0.80 (0.78-0.83)	<0.001	0.42 (0.39-0.45)	<0.001		
	30+	Aboriginal	1.39 (0.83-2.32)	0.215	1.07 (0.94-1.20)	0.327	0.76 (0.45-1.27)	0.297	1.39 (0.82-2.36)	0.220
		non-Aboriginal	1.04 (0.93-1.16)	0.503	0.98 (0.95-1.01)	0.142	1.06 (0.95-1.18)	0.323		
Male	12-20	Aboriginal	1.86 (0.78-4.44)	0.162	0.78 (0.61-1.01)	0.057	0.34 (0.15-0.74)	0.007	1.06 (0.47-2.39)	0.898
		non-Aboriginal	1.13 (0.95-1.35)	0.162	0.71 (0.66-0.77)	<0.001	0.35 (0.29-0.43)	<0.001		
	21-30	Aboriginal	1.02 (0.53-1.95)	0.952	1.02 (0.88-1.18)	0.798	0.73 (0.42-1.29)	0.277	0.82 (0.46-1.44)	0.487
		non-Aboriginal	1.01 (0.96-1.07)	0.610	0.83 (0.82-0.85)	<0.001	0.60 (0.56-0.64)	<0.001		
	30+	Aboriginal	1.14 (0.64-2.05)	0.657	0.88 (0.78-0.99)	0.040	0.77 (0.44-1.33)	0.348	1.04 (0.59-1.80)	0.903
		non-Aboriginal	0.96 (0.90-1.02)	0.198	0.97 (0.95-0.99)	0.008	0.80 (0.74-0.85)	<0.001		
MSM	All	Aboriginal	0.52 (0.26-1.08)	0.079	0.88 (0.75-1.02)	0.089	0.71 (0.36-1.42)	0.334	0.90 (0.45-1.80)	0.760
		non-Aboriginal	0.92 (0.83-1.01)	0.080	0.88 (0.85-0.90)	<0.001	0.64 (0.58-0.71)	<0.001		

*Pre-vaccination period: 2004-2006; Vaccination period: 2008-2014

1. Average annual change in notification rate based on univariate Poisson models with notifications as dependent variable and calendar year as independent variable.
2. Vaccination period vs Pre-vaccination period SRR based on univariate Poisson models with notifications as dependent variable and vaccination period as independent variable.
3. Ratio of SRR based on poisson models with notifications as dependent variable and with Aboriginal status and vaccination period and associated interaction term as independent variables. Results may differ when calculated directly from table SRRs because of rounding

Table 5: Pearson chi-squared tests of observed versus fit values for trend models in Table 4

Sex	Age	Aboriginal	Pre-vaccination period	Vaccination period
Female	12-20	Aboriginal ¹	0.894	1.000
		non-Aboriginal ¹	1.000	1.000
	21-30	Aboriginal	0.861	0.881
		non-Aboriginal	1.000	1.000
	30+	Aboriginal	0.721	0.791
		non-Aboriginal	1.000	1.000
Male	12-20	Aboriginal	0.685	0.476
		non-Aboriginal	1.000	0.523
	21-30	Aboriginal	0.778	0.838
		non-Aboriginal	1.000	1.000
	30+	Aboriginal	0.794	0.898
		non-Aboriginal	1.000	1.000
MSM	All	Aboriginal	0.704	0.854
		non-Aboriginal	1.000	1.000

1. Based on deviance goodness of fit test for vaccination period because of non-convergence of constant term estimate. Model fit assessed in conjunction with graphical output.