

# **Effectiveness of 1, 2, and 3 Doses of Human Papillomavirus Vaccine Against High-Grade Cervical Lesions Positive for Human Papillomaviruses 16 and 18**

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**Web Table 1.** Vaccination History of CIN2+ Cases With and Without HPV-16/18, Unadjusted and Adjusted Odds Ratios, and Vaccine Effectiveness (VE), Human Papillomavirus Vaccine Impact Monitoring Project (HPV-IMPACT), United States, 2008–2014

Cohort, Length of Buffer <sup>c</sup> , and No. of Doses	HPV-16/18– Positive, CIN2+		HPV-16/18– Negative <sup>a</sup> , CIN2+		OR	95% CI	aOR <sup>b</sup>	95% CI	VE, %
	No.	%	No.	%					
All women in main analysis ( <i>n</i> = 3,300)									
24 months									
0	1406	90.1	1325	76.2	1.00	Referent	1.00	Referent	
1	47	3.0	89	5.1	0.50	0.35, 0.71	0.53	0.37, 0.76	47
2	35	2.2	73	4.2	0.45	0.30, 0.68	0.45	0.30, 0.69	55
3	73	4.7	252	14.5	0.27	0.21, 0.36	0.26	0.20, 0.35	74
Cohort born in 1987–1994 ( <i>n</i> = 1,149)									
24 months									
0	418	86.9	417	62.4	1.00	Referent	1.00	Referent	
1	20	4.2	51	7.6	0.39	0.23, 0.67	0.41	0.24, 0.70	59
2	16	3.3	44	6.6	0.36	0.20, 0.65	0.36	0.20, 0.66	64
3	27	5.6	156	23.4	0.17	0.11, 0.27	0.17	0.11, 0.27	83
Cohort born in 1979–1986 ( <i>n</i> = 2,151)									
24 months									
0	988	91.5	908	84.8	1.00	Referent	1.00	Referent	
1	27	2.5	38	3.5	0.65	0.40, 1.08	0.69	0.41, 1.15	31
2	19	1.8	29	2.7	0.60	0.34, 1.08	0.56	0.31, 1.02	44
3	46	4.3	96	9.0	0.44	0.31, 0.63	0.41	0.28, 0.59	59
All women in main analysis ( <i>n</i> = 3,300)									
1 month									
0	1223	78.3	1145	65.8	1.00	Referent	1.00	Referent	
1	82	5.3	113	6.5	0.68	0.51, 0.91	0.70	0.51, 0.94	30
2	73	4.7	110	6.3	0.62	0.46, 0.84	0.61	0.45, 0.83	39
3	183	11.7	371	21.3	0.46	0.38, 0.56	0.44	0.36, 0.54	56
All women in main analysis ( <i>n</i> = 3,300)									
12 months									
0	1317	84.4	1221	70.2	1.00	Referent	1.00	Referent	
1	62	4.0	116	6.7	0.50	0.36, 0.68	0.50	0.36, 0.69	50
2	66	4.2	89	5.1	0.69	0.50, 0.95	0.69	0.50, 0.97	31
3	116	7.4	313	18.0	0.34	0.27, 0.43	0.33	0.26, 0.41	67

All women in main analysis ( <i>n</i> = 3,300)										
36 months										
0	1461	93.6	1416	81.4	1.00	Referent	1.00	Referent		
1	29	1.9	78	4.5	0.36	0.23, 0.56	0.36	0.23, 0.56	64	
2	31	2.0	51	2.9	0.59	0.38, 0.93	0.62	0.39, 0.99	38	
3	40	2.6	194	11.2	0.20	0.14, 0.28	0.19	0.13, 0.27	81	
Women with interval doses excluded ( <i>n</i> = 2,841)										
24 months										
0	1223	91.4	1145	76.2	1.00	Referent	1.00	Referent		
1	24	1.8	66	4.4	0.34	0.21, 0.55	0.35	0.22, 0.57	65	
2	18	1.3	40	2.7	0.42	0.24, 0.74	0.43	0.24, 0.75	57	
3	73	5.5	252	16.8	0.27	0.21, 0.36	0.25	0.19, 0.34	75	
Women with unknown vaccination assumed to be unvaccinated ( <i>n</i> = 6,956)										
24 months										
0	3295	95.5	3092	88.2	1.00	Referent	1.00	Referent		
1	47	1.4	89	2.5	0.50	0.35, 0.71	0.52	0.36, 0.75	48	
2	35	1.0	73	2.1	0.45	0.30, 0.68	0.47	0.31, 0.70	53	
3	73	2.1	252	7.2	0.27	0.21, 0.35	0.27	0.21, 0.36	73	
Women with multiple HPV types detected excluded ( <i>n</i> = 2,585)										
24 months										
0	1052	89.8	1081	76.5	1.00	Referent	1.00	Referent		
1	35	3.0	64	4.5	0.56	0.37, 0.86	0.59	0.39, 0.91	41	
2	30	2.6	57	4.0	0.54	0.35, 0.85	0.55	0.35, 0.86	45	
3	55	4.7	211	14.9	0.27	0.20, 0.37	0.25	0.18, 0.34	75	

Abbreviations: aOR, adjusted odds ratio; CI, confidence interval; CIN2+, cervical intraepithelial neoplasia grades 2, 2/3, or 3 and adenocarcinoma in situ; HPV, human papillomavirus; OR, odds ratio; VE, vaccine effectiveness.

<sup>a</sup> HPV-16/18–negative includes lesions with other HPV types or no types detected.

<sup>b</sup> Adjusted for site, race/ethnicity, and insurance status.

<sup>c</sup> Buffer was defined as the time between the date of the first vaccine dose and the date of the screening test that led to CIN2+ diagnosis.