

**Online Supplementary Material** for paper, “Unequal interactions: Examining the role of patient-provider interactions in the inequitable diffusion of a medical innovation, the human papillomavirus (HPV) vaccine”

The following tables show the full model results from the binomial logistic regression models (Tables A1 & A2). These include the two model sets that estimate a parent’s adjusted log-odds of receiving a provider HPV recommendation in Wave 3 (Model Set 1) and an adolescent’s adjusted vaccination log-odds in Wave 3 (Model Set 2).

We also include full model results for Model Sets 1 and 2 that use alternate operationalizations of parent educational attainment (Tables A3 & A4).

**Table A1.** Adjusted log-odds of a parent receiving a provider recommendation for the HPV vaccine in Wave 3 (N=1,384)

	M1	M2	M3
Parent's Race (White = 0)			
Black	-0.727*** [0.144]	-0.581** [0.173]	-0.858*** [0.163]
Hispanic	-0.247 [0.158]	0.116 [0.212]	-0.135 [0.200]
Asian/Other	-0.175 [0.323]	0.130 [0.332]	-0.105 [0.354]
Parent's education (Less than HS = 0)			
HS or Higher	0.520** [0.171]	0.413* [0.199]	0.398* [0.199]
Child's Age (10-12 = 0)			
13-15		0.0479 [0.148]	0.0502 [0.150]
Child's sexual experience (None = 0)			
Kissing, sexual touching, oral or vaginal sex		-0.142 [0.162]	-0.152 [0.163]
Parent's age (Less than 45 = 0)			
45 and older		-0.314* [0.149]	-0.336* [0.149]
Parent's marital status (Married or cohabiting = 0)			
Divorced, widowed or separated		0.0493 [0.118]	0.0231 [0.120]
Parent's employment status (Not employed = 0)			
Employed outside the home		0.243 [0.145]	0.243 [0.149]
Parent's foreign status (Born in US = 0)			
		0.134 [0.206]	0.190 [0.217]
Place of residence (Birmingham = 0)			
Houston		-0.522*** [0.152]	-0.529*** [0.152]

Los Angeles	-0.198 [0.184]	-0.138 [0.184]
Times parent has talked to child about what sex is (Never = 0)		
At least once	0.129 [0.140]	0.122 [0.142]
Times parent has told child to wait until marriage to have sex (Never = 0)		
At least once	0.0945 [0.146]	0.118 [0.146]
How close child feels to mother (Not at all, very little, somewhat = 0)		
Very much/Quite a bit	-0.0067 [0.234]	0.00445 [0.234]
Provider spoken to child about contraceptives (No = 0)	0.0827 [0.132]	0.0914 [0.133]
Child has health insurance? (No = 0)	0.404 [0.213]	0.400 [0.217]
Child's place of care (Doctor's office / Hospital outpatient = 0)		
Clinic or other non-routine place of care	-0.254 [0.135]	-0.212 [0.139]
Child's last routine health care visit (Not in the last year = 0)		
Less than one year	0.643*** [0.148]	0.566*** [0.152]
Parent's sense of child's general health (Fair/Poor = 0)		
Good/Excellent	-0.0426 [0.279]	-0.0377 [0.277]
Child has personal doctor (No = 0)	0.548** [0.188]	0.456* [0.195]
Parent's intent to vaccinate (Not likely / Somewhat not likely = 0)		
Somewhat/Very likely	0.321* [0.133]	0.319* [0.129]
PCC		-0.655 [0.333]
Black x PCC		0.757* [0.296]
Hispanic x PCC		0.772*

	[0.311]
Asian/Other x PCC	1.325**
	[0.439]
HS or Higher x PCC	0.194
	[0.190]

---

Standard errors in brackets

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

**Table A2.** Adjusted log-odds of an adolescent's HPV vaccine initiation in Wave 3 (N=1,778)

	M6	M7	M8	M9
Parent's Race (White = 0)				
Black	-0.474*** [0.127]	-0.421* [0.161]	-0.554** [0.172]	-0.284 [0.219]
Hispanic	-0.146 [0.147]	0.254 [0.182]	0.162 [0.188]	0.365 [0.263]
Asian/Other	-0.441* [0.221]	-0.200 [0.251]	-0.325 [0.252]	-0.349 [0.293]
Parent's education (Less than HS = 0)				
HS or Higher	0.297* [0.134]	0.295* [0.144]	0.297 [0.150]	0.0488 [0.176]
Child's Age (10-12 = 0)				
13-15		0.116 [0.135]	0.119 [0.136]	0.187 [0.157]
Child's sexual experience (None = 0)				
Kissing, sexual touching, oral or vaginal sex		0.0674 [0.128]	0.0635 [0.128]	0.215 [0.152]
Parent's age (Less than 45 = 0)				
45 and older		-0.322* [0.127]	-0.329** [0.125]	-0.261 [0.151]
Parent's marital status (Married or cohabiting = 0)				
Divorced, widowed or separated		0.172 [0.123]	0.172 [0.122]	0.204 [0.171]
Parent's employment status (Not employed = 0)				
Employed outside the home		0.0172 [0.138]	0.0185 [0.140]	-0.122 [0.183]
Parent's foreign status (Born in US = 0)		0.128 [0.187]	0.156 [0.186]	0.0844 [0.216]
Place of residence (Birmingham = 0)				
Houston		-0.599*** [0.162]	-0.607*** [0.161]	-0.671*** [0.195]
Los Angeles		-0.322 [0.172]	-0.306 [0.169]	-0.457* [0.219]
Times parent has talked to child about what sex is (Never = 0)				
At least once		0.100 [0.153]	0.0998 [0.153]	0.0733 [0.195]
Times parent has told child to wait until marriage to have sex (Never = 0)				
At least once		0.0598 [0.148]	0.0659 [0.150]	-0.131 [0.203]
How close child feels to mother (Not at all, very little, somewhat = 0)				
Very much/Quite a bit		-0.151 [0.192]	-0.149 [0.192]	-0.170 [0.225]

Child has health insurance? (No = 0)	0.422*	0.425*	0.258
	[0.182]	[0.183]	[0.251]
Child's place of care (Doctor's office / Hospital outpatient = 0)			
Clinic or other non-routine place of care	-0.171	-0.145	-0.136
	[0.129]	[0.132]	[0.183]
Child's last routine health care visit (Not in the last year = 0)			
Less than one year	0.605***	0.572***	0.360*
	[0.121]	[0.125]	[0.148]
Parent's sense of child's general health (Fair/Poor = 0)			
Good/Excellent	-0.231	-0.227	-0.272
	[0.229]	[0.233]	[0.274]
Child has personal doctor (No = 0) (W3)	0.401**	0.362*	-0.0724
	[0.132]	[0.142]	[0.165]
Parent's intent to vaccinate (Not likely / Somewhat not likely = 0)			
Somewhat/Very likely	0.759***	0.759***	0.851***
	[0.110]	[0.109]	[0.121]
PCC		-0.212	-0.274
		[0.260]	[0.245]
Black x PCC		0.392	0.364
		[0.240]	[0.267]
Hispanic x PCC		0.242	0.176
		[0.247]	[0.248]
Asian/Other x PCC		0.458	0.0307
		[0.334]	[0.324]
HS or Higher x PCC		0.0619	0.124
		[0.151]	[0.168]
Provider recommendation (No = 0) (W3)			3.532***
			[0.183]

---

Standard errors in brackets

\* p<0.05, \*\* p<0.01, \*\*\* p<0.001

**Table A3.** Adjusted log-odds of a parent receiving a provider HPV vaccine recommendation (N=1,384) and adolescent's HPV vaccine initiation as of Wave 3 (N=1,778) with alternate measurement of parent education as 4-levels

	Provider vaccine recommendation	Vaccination initiation
Parent's race/ethnicity		
Black	-0.718*** [0.171]	-0.446 [0.238]
Hispanic	0.0831 [0.218]	0.169 [0.296]
Asian/Other	-0.0677 [0.353]	-0.333 [0.295]
Parent's education (Less than HS = 0)		
HS/GED	0.248 [0.221]	0.210 [0.211]
Associates/Some college	0.460* [0.219]	0.0669 [0.226]
4-year college or higher	0.794** [0.256]	-0.337 [0.277]
Child's Age (10-12 = 0)		
13-15	0.0679 [0.151]	0.208 [0.158]
Child's sexual experience (None = 0)		
Kissing, sexual touching, oral or vaginal sex	-0.144 [0.163]	0.176 [0.158]
Parent's age (Less than 45 = 0)		
45 and older	-0.372* [0.153]	-0.229 [0.151]
Parent's marital status (Married or cohabiting = 0)		
Divorced, widowed or separated	0.0934 [0.123]	0.202 [0.167]
Parent's employment status (Not employed = 0)		
Employed outside the home	0.197 [0.154]	-0.0352 [0.181]
Parent's foreign status (Born in US = 0)		
	0.155 [0.213]	0.0645 [0.225]
Place of residence (Birmingham = 0)		
Houston	-0.546*** [0.155]	-0.650** [0.194]
Los Angeles	-0.140 [0.191]	-0.468* [0.224]
Times parent has talked to child about what sex is (Never = 0)		
At least once	0.126 [0.142]	0.0507 [0.196]

Times parent has told child to wait until marriage to have sex (Never = 0)		
At least once	0.0728 [0.150]	-0.130 [0.205]
How close child feels to mother (Not at all, very little, somewhat = 0)		
Very much/Quite a bit	0.0130 [0.240]	-0.169 [0.231]
Provider spoken to child about contraceptives (No = 0)	0.103 [0.129]	
Child has health insurance? (No = 0)	0.375 [0.215]	0.285 [0.263]
Child's place of care (Doctor's office / Hospital outpatient = 0)		
Clinic or other non-routine place of care	-0.156 [0.142]	-0.177 [0.189]
Child's last routine health care visit (Not in the last year = 0)		
Less than one year	0.587*** [0.155]	0.336* [0.147]
Parent's sense of child's general health (Fair/Poor = 0)		
Good/Excellent	0.0139 [0.275]	-0.301 [0.285]
Child has personal doctor (No = 0) (W3)	0.475* [0.199]	-0.0491 [0.171]
Parent's intent to vaccinate (Not likely / Somewhat not likely = 0)		
Somewhat/Very likely	0.321* [0.132]	0.850*** [0.120]
PCC	-0.642 [0.358]	-0.192 [0.273]
Black x PCC	0.759* [0.324]	0.304 [0.298]
Hispanic x PCC	0.767* [0.342]	0.0654 [0.296]
Asian/Other x PCC	1.341** [0.444]	-0.00863 [0.328]
HS/GED x PCC	0.101 [0.218]	0.233 [0.223]
Associates/Some college x PCC	0.0814 [0.109]	0.0345 [0.104]
4-year college or higher x PCC	0.0560 [0.0985]	0.0173 [0.0864]

Provider recommendation (No = 0) (W3)

3.604\*\*\*  
[0.184]

---

Standard errors in brackets

\*p<0.05, \*\*p<0.01, \*\*\*p<0.001



Figure A4. Adjusted log-odds of a parent receiving a provider HPV vaccine recommendation (N=1,384) and adolescent's HPV vaccine initiation as of Wave 3 (N=1,778) with alternate measurement of parent education as high school/GED degree or less vs. some college/Associate degree or higher

	Provider vaccine recommendation	Vaccination initiation
Parent's Race (White = 0)		
Black	-0.791*** [0.169]	-0.320 [0.223]
Hispanic	-0.0452 [0.212]	0.296 [0.273]
Asian/Other	-0.0662 [0.349]	-0.292 [0.288]
Parent's education (Less than HS = 0)		
At least some college	0.407* [0.173]	-0.212 [0.200]
Child's Age (10-12 = 0)		
13-15	0.0546 [0.151]	0.197 [0.160]
Child's sexual experience (None = 0)		
Kissing, sexual touching, oral or vaginal sex	-0.152 [0.162]	0.190 [0.156]
Parent's age (Less than 45 = 0)		
45 and older	-0.343* [0.157]	-0.234 [0.150]
Parent's marital status (Married or cohabiting = 0)		
Divorced, widowed or separated	0.0918 [0.121]	0.227 [0.169]
Parent's employment status (Not employed = 0)		
Employed outside the home	0.229 [0.150]	-0.0427 [0.177]
Parent's foreign status (Born in US = 0)		
	0.129 [0.197]	0.00131 [0.211]
Place of residence (Birmingham = 0)		
Houston	-0.524*** [0.154]	-0.678*** [0.194]
Los Angeles	-0.137 [0.191]	-0.471* [0.222]
Times parent has talked to child about what sex is (Never = 0)		
At least once	0.133 [0.144]	0.0672 [0.197]

Times parent has told child to wait until marriage to have sex (Never = 0)		
At least once	0.0722	-0.149
	[0.149]	[0.210]
How close child feels to mother (Not at all, very little, somewhat = 0)		
Very much/Quite a bit	0.00444	-0.170
	[0.235]	[0.226]
Provider spoken to child about contraceptives (No = 0)	0.0930	
	[0.129]	
Child has health insurance? (No = 0)	0.398	0.273
	[0.215]	[0.270]
Child's place of care (Doctor's office / Hospital outpatient = 0)		
Clinic or other non-routine place of care	-0.172	-0.200
	[0.142]	[0.192]
Child's last routine health care visit (Not in the last year = 0)		
Less than one year	0.581***	0.355*
	[0.156]	[0.147]
Parent's sense of child's general health (Fair/Poor = 0)		
Good/Excellent	-0.0122	-0.296
	[0.274]	[0.279]
Child has personal doctor (No = 0)	0.479*	-0.0694
	[0.198]	[0.171]
Parent's intent to vaccinate (Not likely / Somewhat not likely = 0)		
Somewhat/Very likely	0.306*	0.845***
	[0.132]	[0.119]
PCC	-0.578	-0.0680
	[0.327]	[0.276]
Black x PCC	0.771*	0.334
	[0.308]	[0.284]
Hispanic x PCC	0.734*	0.0184
	[0.323]	[0.294]
Asian/Other x PCC	1.330**	0.0164
	[0.439]	[0.327]
Some college or higher x PCC	0.110	-0.0973
	[0.186]	[0.191]
Provider recommendation (No = 0) (W3)		3.576***
		[0.180]

---

Standard errors in brackets

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$