

a. Reggio Emilia Province	Birth cohort 1996			Birth cohort 1997		
	All	Vaccinated (3 doses)		All	Vaccinated (3 doses)	
	N°	N°	%	N°	N°	%
<b>All</b>	2260	992	43.9%	2307	1729	74.9%
<b>Residence</b>						
Correggio	222	72	32.4%	253	181	71.5%
Montecchio	269	128	47.6%	274	221	80.7%
Reggio Emilia	999	500	50.1%	989	780	78.9%
Scandiano	352	90	25.6%	356	192	53.9%
Castelnuovo Monti	127	68	53.5%	119	101	84.9%
Guastalla	291	134	46.1%	316	254	80.4%
<b>Citizenship</b>						
Italian	1953	935	47.9%	1975	1495	75.7%
Foreign	307	57	18.6%	332	234	70.5%
b. Reggio Emilia Municipality	Birth cohort 1996			Birth cohort 1997		
	All	Vaccinated (3 doses)		All	Vaccinated (3 doses)	
	N°	N°	%	N°	N°	%
<b>All</b>	792	369	46.6%	803	628	78.2%
Mother identified	715	340	47.6%	730	573	78.5%
Mother not identified	77	29	37.7%	73	55	75.3%
<b>Mother's age at birth</b>						
<20	18	6	33.3%	22	17	77.3%
20-34	605	292	48.3%	584	460	78.8%
>34	92	42	45.7%	124	96	77.4%
<b>Years of education</b>						
>12, graduate	65	22	33.8%	78	65	83.3%
>12, non-graduate	261	141	54.0%	280	219	78.2%
8-11	321	157	48.9%	318	257	80.8%
≤7	65	20	30.8%	52	31	59.6%
Missing	3	0	0.0%	2	1	50.0%
<b>Citizenship</b>						
Italian	609	315	51.7%	608	480	78.9%
Foreign	106	25	23.6%	122	93	76.2%
<b>Single parent</b>						
Yes	87	41	47.1%	88	68	77.3%
No	628	299	47.6%	642	505	78.7%
<b>Sibling</b>						
No	161	83	51.6%	162	127	78.4%
Yes	554	257	46.4%	568	446	78.5%
<b>Screening history</b>						
Non-participant	89	29	32.6%	90	59	65.6%
Irregular participant	335	151	45.1%	341	271	79.5%
Regular participant	285	158	55.4%	295	240	81.4%
Missing	6	2	33.3%	4	3	75.0%

**Supplementary material 2, table 1:** Distribution of girls vaccinated with 3 doses of HPV vaccine for girls, services and mothers' variables included in the study, in the two birth cohorts (not invited, 1996; actively invited, 1997). In part a., all girls resident in Reggio Emilia were included while in part b. only girls resident in the Municipality of Reggio Emilia were included.

a. Reggio Emilia Province	Birth cohort 1996 (N=2260)		Birth cohort 1997 (N=2307)	
	Vaccinated (3 doses)		Vaccinated (3 doses)	
	RR	95% CI	RR	95% CI
<b>Residence</b> (test for interaction p=0.3058)				
Correggio	1	-	1	-
Montecchio	1.38	(1.11-1.73)	1.14	(1.03-1.25)
Reggio Emilia	1.51	(1.24-1.83)	1.11	(1.02-1.20)
Scandiano	0.75	(0.58-0.97)	0.75	(0.66-0.85)
Castelnuovo Monti	1.59	(1.25-2.03)	1.22	(1.10-1.36)
Guastalla	1.40	(1.12-1.75)	1.13	(1.03-1.25)
<b>Citizenship</b> (test for interaction p<0.00005)				
Italian	1	-	1	-
Foreign	0.38	(0.30-0.49)	0.89	(0.83-0.95)
b. Reggio Emilia Municipality	Birth cohort 1996 (N=706)		Birth cohort 1997 (N=724)	
	Vaccinated (3 doses)		Vaccinated (3 doses)	
	RR	95% CI	RR	95% CI
<b>Mother's age at birth</b> (test for interaction p=0.7970)				
<20	1	-	1	-
20-34	1.18	(0.63-2.21)	1.00	(0.77-1.29)
>34	1.18	(0.61-2.27)	0.99	(0.75-1.30)
<b>Years of education</b> (test for interaction p=0.0788)				
>12, graduate	1	-	1	-
>12, non-graduate	1.55	(1.09-2.22)	0.94	(0.84-1.05)
8-11	1.63	(1.14-2.33)	0.98	(0.87-1.10)
≤7	1.04	(0.64-1.70)	0.75	(0.59-0.96)
<b>Single parent</b> (test for interaction p=0.9626)				
No	1	-	1	-
Yes	1.04	(0.83-1.30)	1.02	(0.90-1.15)
<b>Sibling</b> (test for interaction p=0.5518)				
No	1	-	1	-
Yes	0.97	(0.81-1.15)	1.02	(0.93-1.12)
<b>Screening history</b> (test for interaction p=0.4309)				
Non-participant	1	-	1	-
Irregular participant	1.39	(1.01-1.90)	1.20	(1.02-1.41)
Regular participant	1.68	(1.23-2.30)	1.22	(1.04-1.44)

**Supplementary material 2, table 2:** Relative risk of being vaccinated with 3 doses for girls in the two birth cohorts (not invited, 1996; actively invited, 1997). Multivariate log-binomial regression models stratified by birth cohort and adjusted by citizenship, educational level, demographics (mother's age at birth, number of pregnancies, marital status) and adherence to screening were performed. In part a., all girls resident in Reggio Emilia were included while in part b. only girls resident in the Municipality of Reggio Emilia were included.

Mothers overdue for Pap test on January, 1 2008	Pap test Participation		
	(%)	RR	95% CI
<b>Mother's age at birth</b>			
<20 (n=4 )	50.0	1	-
20-34 (n=736 )	70.7	1.26	(0.47-3.36)
>34 (n=213 )	64.8	0.75	(0.42-3.02)
<b>Years of education</b>			
>12, graduate (n=101 )	81.2	1	-
>12, non-graduate (n=345 )	75.4	0.91	(0.81-1.02)
≤12 (n=505 )	62.6	0.76	(0.67-0.85)
<b>Citizenship</b>			
Italian (n= 815)	69.7	1	-
Foreign (n=138)	66.7	0.99	(0.87-1.13)
<b>Cohort</b>			
1996 (N=472)	68.0	1	-
1997 (N=481)	70.5	1.04	(0.96-1.13)
<b>Daughter's vaccination status (3 doses)</b>			
Mothers who did not vaccinate (N=341)	61.3%	1	-
Mothers who vaccinated (N=612)	73.7%	1.19	(1.09-1.31)
<b>Stratified analyses</b>			
<b>by Mother's educational level (test for interaction p=0.0402)</b>			
<b>Low (N=505)</b>			
<b>1996</b>	62.1	1	-
<b>1997</b>	63.1	1.01	(0.88-1.16)
<b>Medium (N=345)</b>			
<b>1996</b>	75.9	1	-
<b>1997</b>	74.3	0.98	(0.86-1.11)
<b>High (N=95)</b>			
<b>1996</b>	69.8	1	-
<b>1997</b>	89.7	1.27	(1.04-1.56)

**Supplementary material 2, table 3:** Relative risk of receiving a Pap test after the vaccination campaign in mothers overdue for Pap test on January 1, 2008. Two log-binomial regression models adjusted by mother's age at birth, education level and citizenship was performed: the first to test the effect of active vaccination campaign (1997 cohort) vs. no invitation (1996 cohort) and the second to test the association between daughter's vaccination with 3 doses. Secondly, the RR of receiving a Pap test after the vaccination campaign among mother's education strata was assessed performing a stratified log-binomial regression model adjusted by mother's age at birth and citizenship. Only women resident in the Reggio Emilia municipality were included. [*Low* ≤11 years of education; *Medium* >12, non-graduate; *High* > 12, graduate]