

## HPV vaccine uptake in Ireland: 2013/2014

### Background

Following a recommendation from the National Immunisation Advisory Committee, that human papillomavirus (HPV) vaccine should be given to 12 year old girls, a routine Health Service Executive (HSE) school HPV vaccination programme began in May 2010 for girls in the first year of second level school and age equivalent in non second level schools (see below for cohort details). The aim of the programme is to protect girls from their future risk of developing cervical cancer.

A catch-up campaign for girls in sixth year of second level schools and their age equivalents in non-second level schools (see below for cohort details) was added in the academic year 2011/2012, this catch-up campaign continued during the academic years 2012/2013 and 2013/2014.

Quadrivalent HPV vaccine, which protects against HPV types 6, 11, 16 and 18 associated with 70% of cervical cancer, is used in the school vaccination programme. A schedule of three vaccine doses given over a six month period was recommended in the academic year 2013/2014. The HPV vaccine does not protect against all cervical cancers, so regular cervical screening is still needed.

The vaccinations are provided by vaccination teams from the Local Health Offices (LHOs) who go into schools in their areas to vaccinate or provide vaccination clinics free of charge for girls in the target cohorts. Please see the HSE-National Immunisation Office (NIO) website at <http://www.hse.ie/eng/health/immunisation/> for detailed and current information on the HPV school vaccination programme.

The target for uptake of three doses of vaccine for the routine HPV vaccination programme is  $\geq 80\%$ .

HPV vaccinations provided through the schools immunisation programme are entered into the School Immunisation System (SIS). Here we report on the uptake of HPV vaccine, provided through the school immunisation programme and recorded on SIS, in the academic year 2013/2014 in Ireland.

The data presented here are the result of collaboration between NIO, School Immunisation Teams, Immunisation Coordinators, Immunisation System Administrators, Immunisation administrative staff and HPSC.

### Cohort for vaccination in the academic year 2013/2014

The routine and catch-up cohorts for the 2013/2014 HPV vaccination programme as agreed with the Department of Education and Skills was as follows:

#### Routine HPV Vaccination programme

- All girls in **first year of second level schools**
- **and their equivalents** i.e. those who were born between 01/09/2001 and 31/08/2002
  - attending special schools or
  - registered with the National Educational Welfare Board to be home schooled.

#### Catch up HPV Vaccination Programme

- All girls in **sixth year of second level schools**
- **and their equivalents** i.e. those who were born between 01/09/1995 and 31/08/1996 and
  - attending special schools or
  - registered with the National Educational Welfare Board to be home schooled or
  - attending Youthreach and Community Training Centres funded by the Department of Education and Skills.
- A large proportion of sixth year girls in the academic year 2013/2014 were previously targeted for vaccination at the start of the HSE school programme in the academic years 2009/2010 and 2010/2011 i.e.

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girls who were in sixth year but did not do transition year were previously targeted for vaccination. Previously vaccinated girls were not vaccinated as part of the 2013/2014 school programme.

## Definitions used in this report

**‘at least stage 1’** means a girl had a stage 1 HPV vaccine recorded on the database, this girl may or may not have had a stage 2 or a stage 3 HPV vaccine recorded on the database.

**‘at least stage 2’** means a girl had a stage 2 HPV vaccine recorded on the database, she may or may not have had stage 1 or a stage 3 HPV vaccine recorded on the database.

**‘at least stage 3’** means a girl had a stage 3 HPV vaccine recorded on the database, she may or may not have had a stage 1 or a stage 2 HPV vaccine recorded on the database.

Girls with at least stage 3 are considered to have completed a course of vaccination.

**‘Home Schooled’** refers to girls registered with the National Educational Welfare Board to be educated at home. These girls were recorded on the database and reported here as “home schooled”.

**‘Out of School’** refers to vaccinated girls who were neither enrolled in a second level school, special school, Youthreach or Community Training Centre nor registered with National Educational Welfare Board as ‘home schooled’.

Local Health Office (LHO) refers to the LHO the school is located in (it does not refer to the LHO the girl is resident in).

**‘Outside cohort’** refers to those who were vaccinated but who were not in first year or sixth year of second level schools or their equivalents.

The **denominator** for girls in second level schools was defined as the number of girls on the school roll on 30<sup>th</sup> September 2013 for first year in the routine programme and for sixth year in the catch-up programme.

The **denominator** for age equivalent to first years in second level schools in the routine programme was defined as girls born between 01/09/2001 and 31/08/2002 on the school roll of special schools or registered with the National Educational Welfare Board on 30<sup>th</sup> September 2013.

The **denominator** for age equivalent to sixth years in second level schools in the catch-up programme was defined as girls born between 01/09/1995 and 31/08/1996 on the school roll of special schools or registered with the National Educational Welfare Board or attending Community Training Centres or Youthreach on 30<sup>th</sup> September 2013.

All the denominator data was entered on the immunisation database by the relevant System Administrator.

## Summary

### For 2013-2014 academic year – first year

- National uptake of at least HPV stage 3 was 84.9%

There was some regional variation with the following uptake reported by HSE region:

- Dublin Mid Leinster 85.2%
- Dublin North East 83.0%
- South 85.0%
- West 86.0%

### For 2013-2014 academic year – sixth year

- National uptake of at least HPV stage 3 was 44.6%

There was some regional variation with the following uptake reported by HSE region:

- Dublin Mid Leinster 45.2%
- Dublin North East 33.0%
- South 49.0%
- West 49.8%

## Results

### Ireland

#### Academic Year 2013/2014

The figures presented in this summary are based on data recorded on the immunisation system on the 30<sup>th</sup> June 2015. These figures are subject to change due to ongoing updating of data on the database.

#### *First year girls in second level schools*

In Ireland, 84.9% of girls in first year in second level schools were recorded as having received at least HPV stage 3 (considered to have completed a three dose course) (Table 1). This is an increase of 0.7% compared to the academic year 2012/2013 when 84.2% of girls in first year in second level schools were recorded as having received at least HPV stage 3.<sup>1</sup> Among the 32 Local Health Offices (LHOs), in the academic year 2013/2014, uptake of at least HPV stage 3 ranged from 71.3% to 89.7%; with 29 reaching the target of  $\geq 80\%$  uptake.

#### *Sixth year girls in second level schools*

In Ireland, 44.6% of girls in sixth year in second level schools were recorded as having at least HPV stage 3 (Table 2). A large proportion of sixth year girls in the academic year 2013/2014 were previously targeted for vaccination at the start of the HSE school programme in the academic years 2009/2010 and 2010/2011 i.e. girls in sixth year who did not do transition year were previously targeted for vaccination. These vaccinated girls would be included in the denominator data but not in the numbers vaccinated as they were not vaccinated as part of the 2013/2014 school programme. In the academic year 2012/2013, 67.4% of girls in sixth year in second level schools were recorded as having received at least HPV stage 3.<sup>1</sup>

#### *First and Sixth year second level equivalent cohorts in non-second level schools/Outside cohort/Out of school*

An additional 339 girls were recorded as having received at least HPV stage 3 (Table 3); of these 201 were recorded in the first year routine and sixth year catch up age equivalent cohorts in special schools, Youthreach, Community Training Centres, home schooled or out of school and 138 were recorded as being outside the cohorts recommended for vaccination.

The target cohort of girls in special schools, Community Training Centres, Youthreach, and Home Schooled were identified by birth cohort either equivalent to first years (born between 01/09/2001 and 31/08/2002) or equivalent to sixth years (born between 01/09/1995 and 31/08/1996). For operational reasons HSE vaccinating staff did not adhere strictly to these birth cohorts. Some of the vaccinations in these school settings were

actually 'outside cohort'. The identification of denominator data for the target birth cohorts in these settings was difficult and staff focused on vaccinations rather than defining cohort numbers accurately. Therefore, this report gives the number of girls vaccinated in these settings reflecting activity in these settings rather than HPV vaccine uptake.

*Total doses administered*

A total of 116,198 administered vaccine doses were recorded in the academic year 2013/2014. This compares to 132,925 and 139,646 administered vaccine doses recorded in 2012/2013 and 2011/2012, respectively.

**Academic Years 2009/2010 and 2010/2011**

Uptake for 2009/2010 and 2010/2011 cohorts of first year girls vaccinated from May 2010 was measured by manual reports and national uptake for the combined cohort was estimated at 81.9%.<sup>2</sup>

## **International comparison**

Uptake of HPV vaccine in Ireland compares very favourably with estimates in other countries that have introduced and monitored HPV vaccination.<sup>3,4,5,6</sup>

### ***United Kingdom***

#### *Girls aged 12-13 years of age*

In England, 2013/2014 HPV coverage data of the third dose for the routine cohort of school year 8 girls (12- to 13-year-olds) at the end of the academic year was 86.7%.<sup>4</sup>

In Scotland, 81.4% of girls in second year of secondary school (S2) i.e. aged around 12 to 13 years in school year 2013/14 had completed the three dose course of HPV immunisations by the end of the school year. Data for the first five years of the HPV immunisation programme in Scotland shows that a number of girls in S2 complete their immunisation course after the school year in which they were first offered the vaccine. Vaccine coverage for girls in S2 during school year 2013/14 is expected to increase as girls complete their immunisation course in school year 2014/15. For girls who were in S2 during school year 2012/13, one year later data shows coverage increased to 91.4% for all three doses, 93.4% for two doses and 94.4% for one dose by the end of school year 2013/14.<sup>4</sup>

In Wales, coverage of HPV vaccination in 2013/2014 School Year 8 routine group (reaching their 13<sup>th</sup> birthday between 01/09/2013 and 31/08/2014) was 77.2% for three doses.<sup>3</sup> Data entry and some vaccination sessions for the third dose may not have been complete when data for Wales were extracted and therefore, coverage for the third dose is also expected to increase.<sup>4</sup>

In Northern Ireland, for the 2013/2014 routine cohort HPV immunisation uptake rates for all three doses was 87.2%.<sup>4</sup>

### ***Australia***

In Australia, HPV three dose vaccination coverage for females turning 15 years of age in 2013 was 71.0%.<sup>5</sup>

### ***United States***

In the United States, vaccination coverage with  $\geq 1$  dose of any HPV vaccine increased significantly from 53.8% in 2012 to 57.3% in 2013 among adolescent girls aged 13-17 years.<sup>6</sup>

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## **Conclusions**

The uptake of HPV vaccine in Ireland is very encouraging and reflects the high acceptance among girls and parents and huge effort and support put in by all staff and schools involved in the school vaccination programme. It is particularly encouraging to see the very high retention of girls within the programme once they commence vaccination. Uptake of HPV vaccine compares very favourably with estimates in other countries that have introduced HPV vaccination and monitored uptake.

## **Acknowledgements**

Thank you to all HSE staff, school immunisation teams, immunisation co-ordinators, Department of Education and Skills staff, staff in all educational settings, parents and girls, who implemented, participated in and supported the school HPV vaccination programme.

**Table 1**

<b>Vaccine Type:</b>		HPV						
<b>Academic Year:</b>		2013 - 2014						
<b>Cohort:</b>		First Year (routine HPV programme)**						
<b>School Category:</b>		Second Level School						
<b>Date Report Run:</b>		30/06/2015						
<b>Uptake Statistics</b>								
		2013 - 2014						
		First Year (routine HPV vaccination programme)**						
HSE Region	LHO/HSE Region	Denominator	Numbers Vaccinated with:			% Vaccinated with:		
			At least Stage 1	At least Stage 2	At least Stage 3	At least Stage 1	At least Stage 2	At least Stage 3
Dublin Mid Leinster	Dublin South	969	842	834	821	86.9%	86.1%	84.7%
	Dublin South East	596	505	501	490	84.7%	84.1%	82.2%
	Dublin South City	806	703	702	681	87.2%	87.1%	84.5%
	Dublin South West	800	715	705	671	89.4%	88.1%	83.9%
	Dublin West	1041	931	926	898	89.4%	89.0%	86.3%
	Kildare/West Wicklow	1639	1507	1489	1438	91.9%	90.8%	87.7%
	Wicklow	749	643	639	623	85.8%	85.3%	83.2%
	Laois/Offaly	1103	936	931	909	84.9%	84.4%	82.4%
	Longford/Westmeath	1024	928	921	907	90.6%	89.9%	88.6%
	<b>Total Dublin Mid Leinster</b>	<b>8727</b>	<b>7710</b>	<b>7648</b>	<b>7438</b>	<b>88.3%</b>	<b>87.6%</b>	<b>85.2%</b>
Dublin North East	Dublin North	1576	1475	1432	1368	93.6%	90.9%	86.8%
	Dublin North Central	652	537	517	465	82.4%	79.3%	71.3%
	Dublin North West	1260	1262	1215	951	100.2%	96.4%	75.5%
	Cavan/Monaghan	863	758	752	734	87.8%	87.1%	85.1%
	Louth	999	880	869	837	88.1%	87.0%	83.8%
	Meath	1259	1156	1146	1128	91.8%	91.0%	89.6%
	<b>Total Dublin North East</b>	<b>6609</b>	<b>6068</b>	<b>5931</b>	<b>5483</b>	<b>91.8%</b>	<b>89.7%</b>	<b>83.0%</b>
South	North Cork	606	536	530	503	88.4%	87.5%	83.0%
	North Lee - Cork	1181	1058	1048	1012	89.6%	88.7%	85.7%
	South Lee - Cork	1192	1086	1078	1037	91.1%	90.4%	87.0%
	West Cork	377	291	291	288	77.2%	77.2%	76.4%
	Kerry	918	775	768	756	84.4%	83.7%	82.4%
	Carlow/Kilkenny	970	891	882	850	91.9%	90.9%	87.6%
	Tipperary South	517	478	468	441	92.5%	90.5%	85.3%
	Waterford	822	744	738	730	90.5%	89.8%	88.8%
	Wexford	1045	919	908	868	87.9%	86.9%	83.1%
	<b>Total South</b>	<b>7628</b>	<b>6778</b>	<b>6711</b>	<b>6485</b>	<b>88.9%</b>	<b>88.0%</b>	<b>85.0%</b>
West	Donegal	1103	983	977	968	89.1%	88.6%	87.8%
	Sligo/Leitrim	604	549	544	542	90.9%	90.1%	89.7%
	Galway	1619	1445	1442	1406	89.3%	89.1%	86.8%
	Mayo	913	774	767	737	84.8%	84.0%	80.7%
	Roscommon	338	299	299	297	88.5%	88.5%	87.9%
	Clare	772	680	680	677	88.1%	88.1%	87.7%
	Limerick	1021	894	875	847	87.6%	85.7%	83.0%
	Tipperary North/East	955	860	847	829	90.1%	88.7%	86.8%
	<b>Total West</b>	<b>7325</b>	<b>6484</b>	<b>6431</b>	<b>6303</b>	<b>88.5%</b>	<b>87.8%</b>	<b>86.0%</b>
<b>Total</b>	<b>30289</b>	<b>27040</b>	<b>26721</b>	<b>25709</b>	<b>89.3%</b>	<b>88.2%</b>	<b>84.9%</b>	

Local health office (LHO) refers to the LHO of the school.

"At least stage 1" means a person had a stage 1 recorded on the database, this person may or may not have had a stage 2 or a stage 3 recorded. Similarly, "at least stage 2" means a person had a stage 2 recorded on the database, they may or may not have had stage 1 or a stage 3 recorded. Similarly, "at least stage 3" means a person had a stage 3 recorded on the database, they may or may not have had stage 1 or a stage 2 recorded.

\*\*Please see Background section of document for details of cohorts recommended HPV vaccine during the academic year 2013/2014.

**Table 2**

<b>Vaccine Type:</b>		HPV						
<b>Academic Year:</b>		2013 - 2014						
<b>Cohort</b>		Sixth Year (catch up campaign)**						
<b>School Category:</b>		Second Level School						
<b>Date Report Run:</b>		30/06/2015						
<b>Uptake Statistics</b>								
		2013 - 2014						
		Sixth Year (catch up campaign)**						
HSE Region	LHO/HSE Region	Denominator	Numbers Vaccinated with:			% Vaccinated with:		
			At least Stage 1	At least Stage 2	At least Stage 3	At least Stage 1	At least Stage 2	At least Stage 3
Dublin Mid Leinster	Dublin South	894	560	550	537	62.6%	61.5%	60.1%
	Dublin South East	634	363	361	353	57.3%	56.9%	55.7%
	Dublin South City	751	451	439	408	60.1%	58.5%	54.3%
	Dublin South West	718	279	264	231	38.9%	36.8%	32.2%
	Dublin West	828	455	434	398	55.0%	52.4%	48.1%
	Kildare/West Wicklow	1257	525	515	465	41.8%	41.0%	37.0%
	Wicklow	592	361	354	330	61.0%	59.8%	55.7%
	Laois/Offaly	840	322	317	303	38.3%	37.7%	36.1%
	Longford/Westmeath	900	346	340	326	38.4%	37.8%	36.2%
	<b>Total Dublin Mid Leinster</b>	<b>7414</b>	<b>3662</b>	<b>3574</b>	<b>3351</b>	<b>49.4%</b>	<b>48.2%</b>	<b>45.2%</b>
Dublin North East	Dublin North	1198	409	383	344	34.1%	32.0%	28.7%
	Dublin North Central	516	299	264	244	57.9%	51.2%	47.3%
	Dublin North West	1024	325	306	295	31.7%	29.9%	28.8%
	Cavan/Monaghan	891	477	476	463	53.5%	53.4%	52.0%
	Louth	831	191	184	172	23.0%	22.1%	20.7%
	Meath	968	286	282	271	29.5%	29.1%	28.0%
<b>Total Dublin North East</b>	<b>5428</b>	<b>1987</b>	<b>1895</b>	<b>1789</b>	<b>36.6%</b>	<b>34.9%</b>	<b>33.0%</b>	
South	North Cork	565	258	255	244	45.7%	45.1%	43.2%
	North Lee - Cork	1147	703	697	677	61.3%	60.8%	59.0%
	South Lee - Cork	1025	752	747	716	73.4%	72.9%	69.9%
	West Cork	297	133	133	131	44.8%	44.8%	44.1%
	Kerry	840	248	248	248	29.5%	29.5%	29.5%
	Carlow/Kilkenny	911	486	474	455	53.3%	52.0%	49.9%
	Tipperary South	542	266	257	249	49.1%	47.4%	45.9%
	Waterford	768	448	444	432	58.3%	57.8%	56.3%
	Wexford	939	320	312	293	34.1%	33.2%	31.2%
	<b>Total South</b>	<b>7034</b>	<b>3614</b>	<b>3567</b>	<b>3445</b>	<b>51.4%</b>	<b>50.7%</b>	<b>49.0%</b>
West	Donegal	1025	456	454	447	44.5%	44.3%	43.6%
	Sligo/Leitrim	579	287	284	284	49.6%	49.1%	49.1%
	Galway	596	524	517	498	87.9%	86.7%	83.6%
	Mayo	831	473	471	456	56.9%	56.7%	54.9%
	Roscommon	316	140	138	136	44.3%	43.7%	43.0%
	Clare	569	147	148	144	25.8%	26.0%	25.3%
	Limerick	843	494	484	442	58.6%	57.4%	52.4%
	Tipperary North/East	886	425	419	402	48.0%	47.3%	45.4%
	<b>Total West</b>	<b>5645</b>	<b>2946</b>	<b>2915</b>	<b>2809</b>	<b>52.2%</b>	<b>51.6%</b>	<b>49.8%</b>
<b>Total</b>	<b>25521</b>	<b>12209</b>	<b>11951</b>	<b>11394</b>	<b>47.8%</b>	<b>46.8%</b>	<b>44.6%</b>	

Local health office (LHO) refers to the LHO of the school.

"At least stage 1" means a person had a stage 1 recorded on the database, this person may or may not have had a stage 2 or a stage 3 recorded. Similarly, "at least stage 2" means a person had a stage 2 recorded on the database, they may or may not have had stage 1 or a stage 3 recorded. Similarly, "at least stage 3" means a person had a stage 3 recorded on the database, they may or may not have had stage 1 or a stage 2 recorded.

\*\*Please see Background section of document for details of cohorts recommended HPV vaccine during the academic year 2013/2014.



**Table 3**

<b>Vaccine Type:</b>	HPV			
<b>Academic Year:</b>	2013 - 2014			
<b>Cohort and School Category:</b>	Recommended cohorts** for vaccination and those outside cohort in special schools, youthreach, community training centres, home schooled and out of school and those outside cohort in second level schools.			
<b>Date Report Run:</b>	30/06/2015			
<b>Uptake Statistics</b>				
<b>HSE Region</b>	<b>LHO/HSE Region</b>	Recommended cohorts** for vaccination and those outside cohort in special schools, youthreach, community training centres, home schooled and out of school and those outside cohort in second level schools with:		
		<b>At least Stage 1</b>	<b>At least Stage 2</b>	<b>At least Stage 3</b>
Dublin Mid Leinster	Dublin South	23	22	19
	Dublin South East	13	13	12
	Dublin South City	1	1	1
	Dublin South West	12	11	8
	Dublin West	24	19	19
	Kildare/West Wicklow	20	14	8
	Wicklow	19	19	17
	Laois/Offaly	7	6	5
	Longford/Westmeath	19	19	18
	<b>Total Dublin Mid Leinster</b>	<b>138</b>	<b>124</b>	<b>107</b>
Dublin North East	Dublin North	3	3	3
	Dublin North Central	4	1	0
	Dublin North West	3	1	1
	Cavan/Monaghan	17	16	14
	Louth	10	10	9
	Meath	19	17	14
		<b>Total Dublin North East</b>	<b>56</b>	<b>48</b>
South	North Cork	7	6	5
	North Lee - Cork	19	18	17
	South Lee - Cork	23	24	22
	West Cork	2	1	1
	Kerry	2	2	2
	Carlow/Kilkenny	16	14	11
	Tipperary South	8	7	6
	Waterford	36	32	32
	Wexford	14	13	11
		<b>Total South</b>	<b>127</b>	<b>117</b>
West	Donegal	16	16	13
	Sligo/Leitrim	5	5	5
	Galway	13	11	9
	Mayo	9	9	3
	Roscommon	3	3	3
	Clare	14	11	9
	Limerick	34	30	27
	Tipperary North/East Limerick	17	14	13
		<b>Total West</b>	<b>111</b>	<b>99</b>
<b>Home Schooled</b>		<b>2</b>	<b>1</b>	<b>1</b>
<b>Total of LHOs and Home Schooled</b>		<b>434</b>	<b>389</b>	<b>338</b>
<b>Out of School</b>		<b>1</b>	<b>1</b>	<b>1</b>
<b>Total of LHOs and Home Schooled and Out of School</b>		<b>435</b>	<b>390</b>	<b>339</b>

Local health office (LHO) refers to the LHO of the school. Therefore, in reports the LHOs of homeschooled and out of school children do not appear.

"At least stage 1" means a person had a stage 1 recorded on the database, this person may or may not have had a stage 2 or a stage 3 recorded.

Similarly, "at least stage 2" means a person had a stage 2 recorded on the database, they may or may not have had stage 1 or a stage 3 recorded.

Similarly, "at least stage 3" means a person had a stage 3 recorded on the database, they may or may not have had stage 1 or a stage 2 recorded.

"Outside cohort" refers to those who were vaccinated but who were not in first year or sixth year of second level schools or their equivalents.

\*\* Please see Background section of document for details of cohorts recommended HPV vaccine during the academic year 2013/2014.

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