



# Immunisation uptake at 12 and 24 months of age

### **Summary**

Among children at 12 months of age in 2014 uptake of: D<sub>3</sub>, T<sub>3</sub>, P<sub>3</sub>, Hib<sub>3</sub>, Polio<sub>3</sub>, HepB<sub>3</sub>, MenC<sub>2</sub> and PCV<sub>2</sub> was 92%

Among children at 24 months of age in 2014 uptake of:  $D_3$ ,  $T_3$ ,  $P_3$ ,  $Hib_3$ ,  $Polio_3$  and  $HepB_3$  reached or exceeded the target of 95%  $D_3$ ,  $T_3$ ,  $P_3$ ,  $Hib_3$  and  $Polio_3$  was 96%  $HepB_3$  was 95%  $MMR_1$  was 93%  $PCV_3$  and  $Hib_b$  was 92%  $MenC_3$  was 88%

## Introduction

In 2014, the HSE Areas provided HPSC with quarterly immunisation uptake data for their Area and for each of the Local Health Offices (LHOs) in their Area. HPSC collated these data and quarterly reports were produced which are available on the HPSC website. The annual immunisation uptake rates presented here represent the collation of the 2014 quarterly data. The proportion of children who completed the recommended primary childhood immunisation schedule by 12 months (born between 01/01/2013 and 31/12/2013) and 24 months (born between 01/01/2012 and 31/12/2012) of age in 2014 are reported.

Children who were 12 and 24 months of age in 2014 were recommended one dose of vaccine against tuberculosis (BCG vaccine) at birth or by one month of age; three doses of vaccines against diphtheria (D<sub>3</sub>), tetanus (T<sub>3</sub>), pertussis (P<sub>3</sub>), *Haemophilus influenzae* type b (Hib<sub>3</sub>), polio (Polio<sub>3</sub>) and Hepatitis B (HepB<sub>3</sub>) with one dose of each recommended at two, four and six months of age; three doses of pneumococcal conjugate vaccine (PCV<sub>3</sub>) recommended at two, six and 12 months of age and three doses of meningococcal group C (MenC<sub>3</sub>) vaccine recommended at four, six and 13 months of age (table 1). Also at 12 months of age a dose of MMR (MMR<sub>1</sub>) was recommended and at 13 months a dose of Hib (Hib<sub>b</sub>) was recommended (table 1). A new primary childhood immunisation schedule was introduced in 2015 for babies born on or after July 1<sup>st</sup> 2015. Further vaccinations are recommended for older children and adults. Please see the HSE-National Immunisation Office website at <a href="http://www.hse.ie/eng/health/immunisation/">http://www.hse.ie/eng/health/immunisation/</a> for current and detailed information on the Irish primary childhood immunisation schedule and also recommended vaccinations for older children and adults

In children at 12 months of age in 2014 (born between 01/01/2013 and 31/12/2013) uptake of BCG,  $D_3$ ,  $T_3$ ,  $P_3$ ,  $Hib_3$ ,  $Polio_3$ ,  $HepB_3$  and two doses of PCV (PCV<sub>2</sub>) and MenC (MenC<sub>2</sub>) were measured. In children at 24 months of age in 2014 (born between 01/01/2012 and 31/12/2012) uptake of  $D_3$ ,  $D_3$ ,

The immunisation uptake rates are reported here by HSE Area and LHO. The uptake rates presented here were rounded to zero decimal place. While there are 32 LHOs the immunisation uptake rates for the LHOs of North Lee and South Lee are reported as a combined figure.

Table 1. Primary childhood immunisation schedule for children born between 01/07/2008 and 30/06/2015

Age Vaccines
Birth BCG

2 months

DTaP/Hib/IPV/HepB (6 in 1) + PCV

4 months

DTaP/Hib/IPV/HepB (6 in 1) + MenC

6 months

DTaP/Hib/IPV/HepB (6 in 1) + PCV + MenC

12 months MMR + PCV 13 months MenC + Hib

Please note the primary immunisation schedule changed in 2015 for children born on or after 01/07/2015. Please see the HSE-National Immunisation Office website at <a href="http://www.hse.ie/eng/health/immunisation/">http://www.hse.ie/eng/health/immunisation/</a> for current and detailed information on the Irish primary childhood immunisation schedule and also recommended vaccinations for older children and adults

BCG Bacille Calmette Guerin vaccine

DTaP Diphtheria, Tetanus and acellular Pertussis vaccine

HepB Hepatitis B vaccine

Hib Haemophilus influenzae type b vaccine
IPV Inactivated Polio Virus vaccine
MenC Meningococcal group C vaccine
MMR Measles, Mumps and Rubella vaccine
PCV Pneumococcal Conjugate Vaccine

#### Caveats to data

BCG uptake data at 12 months of age has been incomplete since reporting to HPSC began in Quarter 3 2003. This has occurred due to differences in implementation of a neonatal BCG programme across the HSE Areas as well as difficulties in providing these data to the HPSC where the programme was implemented. Prior to the establishment of the HSE each former health board determined their own BCG vaccination policy and some health boards (Western and parts of the Southern Health Boards) stopped routine neonatal BCG vaccination but provided BCG vaccination for adolescents or high risk groups. The neonatal programme has now been routinely implemented for all neonates in most, but not all, HSE Areas. Additionally more complete data on neonatal BCG vaccination is now available. However, in the HSE NE, where a neonatal programme is implemented, data is not currently available for reporting. In the HSE W the neonatal programme is not routinely or comprehensively implemented in all LHOs. Therefore, data provided for the HSE W reflects BCG vaccination data for just a small proportion of all babies born in this Area. Galway and Roscommon BCG LHO data became available for reporting for the first time in Quarter 4 2014. Mayo LHO BCG data was not available for reporting purposes prior to 2015. The numbers vaccinated with BCG in Mayo were not included in the HSE W BCG figures prior to 2015. National data for 2014 are presented in this report and compared to 2013 data. The available national BCG cohort data may be around 89% of the national birth cohort in 2014 and 90% in 2013 (these figures are estimates only).

As uptake of  $MenC_3$  was low since Q3 2010 and as those over 12 months of age need only one dose of MenC and those aged 12-23 months need only one dose of PCV, data on  $MenC_b$  (one dose of MenC on or after first birthday and before second birthday) and PCV<sub>b</sub> (one dose of PCV on or after first birthday and before second birthday) were requested in 2012 for the first time. Six HSE Areas (HSE E, M, MW, NW, SE and S) were able to provide data representing approximately 81% of the national birth cohort in 2014 and 80% in 2013 (these figures are estimates only).

### Immunisation uptake rates at 12 months

Ninety-two per cent of children, at 12 months of age in 2014, received D<sub>3</sub>, T<sub>3</sub>, P<sub>3</sub>, Hib<sub>3</sub>, Polio<sub>3</sub>, HepB<sub>3</sub>, MenC<sub>2</sub> and PCV<sub>2</sub> (table 2). Compared with 2013, the uptake rates for these vaccines increased by one per cent.

The available 2014 BCG cohort data may be around 89% (estimate only) of the national birth cohort; based on these data BCG uptake was 87% (table 2). In 2013, BCG cohort data may be around 90% (estimate only) of the national birth cohort; based on these data BCG uptake in 2013 was 86%.

Among the HSE Areas, uptake rates for  $D_3$ ,  $T_3$ ,  $P_3$ , Hib<sub>3</sub> and Polio<sub>3</sub> ranged from 90% to 96%, HepB<sub>3</sub> ranged from 91% to 96% and MenC<sub>2</sub> and PCV<sub>2</sub> ranged from 88% to 96% (table 2). The target uptake of  $\geq$ 95% was reached in the HSE Midland Area for all vaccines (table 2). The target uptake of  $\geq$ 95% was reached in four HSE Areas for BCG (table 2).

Among the LHOs, uptake rates for  $D_3$ ,  $T_3$ ,  $P_3$ , Hib<sub>3</sub>, Polio<sub>3</sub> and HepB<sub>3</sub> ranged from 88% to 97% and MenC<sub>2</sub> and PCV<sub>2</sub> ranged from 84% to 97% (table 2). The target uptake of  $\geq$ 95% was reached in Laois/Offaly, Longford/Westmeath and Roscommon for  $D_3$ ,  $T_3$ ,  $P_3$ , Hib<sub>3</sub>, Polio<sub>3</sub>, HepB<sub>3</sub>, MenC<sub>2</sub> and PCV<sub>2</sub> and in Cavan/Monaghan for MenC<sub>2</sub> and PCV<sub>2</sub> with the highest uptake (97%) of these vaccines in Roscommon (table 2). The target uptake of  $\geq$ 95% was reached for BCG in 12 LHOs reporting data (table 2).

Table 2. Immunisation uptake (%) at 12 months of age in 2014 (i.e. cohort born 01/01/2013-31/12/2013) by LHO and HSE Area

		Number in	Number in		oorn 01/01/2013-31/12/2013) by LHO and HSE Area Immunisation Uptake (%)				
	Local Health Office/	cohort for	cohort for D <sub>3</sub> ,		minumsation optake (70)				
HSE Area	HSE Area	BCG *	T <sub>3</sub> & P <sub>3</sub> †	BCG	D <sub>3</sub>	Hib₃	HepB <sub>3</sub>	MenC <sub>2</sub>	PCV <sub>2</sub>
HSE E	Dublin South	1710	1710	89	92	92	92	91	92
	Dublin South East	1701	1701	88	93	93	93	92	92
	Dublin South City	1813	1813	93	93	93	93	93	93
	Dublin South West	2462	2462	97	93	93	93	93	93
	Dublin West	2767	2767	91	92	92	92	92	92
	Dublin North West	3773	3773	93	90	90	90	90	90
	<b>Dublin North Central</b>	1953	1953	91	89	89	89	89	89
	Dublin North	4181	4181	94	89	89	89	89	89
	Kildare/West Wicklow	3812	3812	96	92	92	92	92	92
	Wicklow	1775	1775	93	92	92	92	92	92
	HSE E Total	25947	25947	93	91	91	91	91	91
	Laois/Offaly	2471	2471	96	95	95	95	95	95
HSE M	Longford/Westmeath	1916	1916	95	96	96	96	96	96
	HSE M Total	4387	4387	95	96	96	96	96	96
HSE MW	Clare	1535	1552	96	93	92	92	92	92
	Limerick	1730	1850	97	92	92	92	92	92
	Tipperary NR/East Limerick	1815	1838	97	93	93	93	93	93
	HSE MW Total	5080	5240	96	92	92	92	92	93
HSE NE	Cavan/Monaghan	na	2015	na	93	93	93	95	95
	Louth	na	1939	na	90	90	90	91	91
	Meath	na	3378	na	92	92	92	93	93
	HSE NE Total	na	7332	na	92	92	92	93	93
HSE NW	Donegal	2092	2092	95	94	94	93	93	94
	Sligo/Leitrim	1368	1368	96	94	94	94	93	94
	HSE NW Total	3460	3460	95	94	94	93	93	94
HSE SE	Carlow/Kilkenny	1945	1945	96	91	91	91	91	91
	South Tipperary	1335	1335	97	94	94	94	94	94
	Waterford	1897	1897	94	92	92	92	92	92
	Wexford	2056	2056	96	94	94	94	94	94
	HSE SE Total	7233	7233	96	93	93	93	92	93
HSE S	North Cork	1451	1438	94	91	91	92	89	89
	North South Lee	5840	5778	94	91	91	91	89	88
	West Cork	740	735	91	88	88	88	84	84
	Kerry	1827	1807	92	91	91	91	87	86
	HSE S Total	9858	9758	93	90	90	91	88	88
HSE W	Galway	na	3703	na	94	94	94	94	94
	Mayo	na	1670	na	93	93	93	93	93
	Roscommon	na	908	na	97	97	97	97	97
	HSE W Total	5863*	6281	16*	94	94	94	94	94
Ireland		61828	69638	87	92	92	92	92	92

na=not available

<sup>\*</sup> Galway and Roscommon BCG LHO data became available for reporting for the first time in Quarter 4 2014 and were 12% and 62%, respectively. Prior to this BCG data was available for the HSE W but was unavailable for the individual LHOs in the HSE W. Mayo LHO BCG data was not available for reporting purposes prior to 2015. The numbers vaccinated with BCG in Mayo were not included in the HSE W BCG figures prior to 2015.

<sup>†</sup>As the denominator/number in cohort varied slightly according to vaccine the D<sub>3</sub>, T<sub>3</sub> and P<sub>3</sub> cohorts are shown here.

Since  $T_3$ ,  $P_3$  and  $Polio_3$  uptake identical to  $D_3$  uptake only  $D_3$  uptake figures are presented

Please note while North Lee and South Lee are two separate Local Health Offices their combined immunisation uptake data are reported here

## Immunisation uptake rates at 24 months

National annual immunisation uptake rates, in children at 24 months of age in 2014, were 96% for  $D_3$ ,  $T_3$ ,  $P_3$ ,  $Hib_3$  and  $Polio_3$ , 95% for  $HepB_3$ , 93% for  $MMR_1$ , 92% for  $Hib_b$  and  $PCV_3$  and 88% for  $MenC_3$  (table 3). This is the fourth year national annual uptake rates reached the target of  $\geq$ 95% for  $D_3$ ,  $T_3$ ,  $P_3$ ,  $Hib_3$ ,  $Polio_3$  and  $HepB_3$ . Compared with 2013, the uptake rates for  $Hib_b$  increased by two percent,  $Hib_3$ ,  $MenC_3$  and  $PCV_3$  increased by one percent while  $D_3$ ,  $T_3$ ,  $P_3$ ,  $Polio_3$ ,  $HepB_3$  and  $MMR_1$ were unchanged (figure 1).

Six of the eight HSE Areas were able to provide uptake data on  $MenC_b$  (one dose of MenC on or after first birthday and before second birthday) and  $PCV_b$  (one dose of PCV on or after first birthday and before second birthday) in 2014. The available data may be around 81% (estimate only) of the national birth cohort. Where data were available, national uptake was 91% for  $MenC_b$  and 93% for  $PCV_b$  at 24 months of age (table 3).

Among the HSE Areas uptake rates for  $D_3$ ,  $T_3$ ,  $P_3$ ,  $Hib_3$ ,  $Polio_3$  and  $HepB_3$  ranged from 95% to 98%,  $MMR_1$  ranged from 92% to 97%,  $PCV_3$  ranged from 91% to 96%,  $Hib_b$  ranged from 89 to 98% and  $MenC_3$  ranged from 87% to 93% and (table 3). Among the six Areas in a position to provide data  $PCV_b$  uptake ranged from 92% to 97% and  $MenC_b$  uptake ranged from 89% to 95% (table 3).

The target uptake of  $\geq$ 95% was reached in all eight HSE Areas during 2014 for D<sub>3</sub>, T<sub>3</sub>, P<sub>3</sub>, Hib<sub>3</sub>, Polio<sub>3</sub> and HepB<sub>3</sub>, in three HSE Areas for Hib<sub>b</sub> and PCV<sub>b</sub>, in two for PCV<sub>3</sub> and MMR<sub>1</sub>, in one for MenC<sub>b</sub> and in none for MenC<sub>3</sub> (table 3).

 $D_3$ ,  $Hib_b$ ,  $MenC_3$  and  $MMR_1$  uptake rates are mapped by LHO in figure 2. Among the LHOs the uptake rates ranged from 93% to 98% for  $D_3$ ,  $D_3$ ,

The target uptake of  $\geq$ 95% was reached in 25 LHOs for D<sub>3</sub>, T<sub>3</sub>, P<sub>3</sub>, Polio<sub>3</sub> and HepB<sub>3</sub>, in 24 LHOs for Hib<sub>3</sub>, in seven LHOs for MMR<sub>1</sub>, in six LHOs for Hib<sub>b</sub> and PCV<sub>b</sub>, in four LHOs for PCV<sub>3</sub>, in three LHOs for MenC<sub>b</sub> and in one LHO for MenC<sub>3</sub> (table 3). Roscommon was the only LHO to reach the target of  $\geq$ 95% for D<sub>3</sub>, T<sub>3</sub>, P<sub>3</sub>, Hib<sub>3</sub>, Polio<sub>3</sub>, HepB<sub>3</sub>, Hib<sub>b</sub>, MenC<sub>3</sub>, PCV<sub>3</sub> and MMR<sub>1</sub> for children at 24 months (table 3).

Table 3. Immunisation uptake (%) at 24 months of age in 2014 (i.e. cohort born 01/01/2012-31/12/2012) by LHO and HSE Area

rable 3. III	Timanisación aptake (70) at	24 months of	f age in 2014 (i.e. cohort born 01/01/2012-31/12/2012) by LHO and HSE Area  Immunisation Uptake (%)								
		Number in						,			
		cohort for									
	Local Health	D <sub>3</sub> , T <sub>3</sub> & P <sub>3</sub>									
<b>HSE Area</b>	Office/HSE Area	*	D <sub>3</sub>	Hib <sub>3</sub>	Hibb	HepB₃	MenC <sub>3</sub>	MenC <sub>b</sub>	PCV <sub>3</sub>	PCV <sub>b</sub>	MMR <sub>1</sub>
HSE E	Dublin South	1782	95	95	91	95	89	91	91	92	92
	Dublin South East	1633	95	95	92	95	90	92	92	94	94
	<b>Dublin South City</b>	1740	95	95	89	95	86	89	90	92	92
	Dublin South West	2631	96	96	93	96	89	93	92	95	94
	Dublin West	2926	96	96	90	96	86	89	90	93	93
	Dublin North West	3924	93	93	87	93	84	87	89	90	90
	<b>Dublin North Central</b>	1853	93	93	88	93	85	88	88	90	90
	Dublin North	4380	94	94	90	94	88	90	91	93	93
	Kildare/West Wicklow	3949	96	96	92	96	89	91	92	94	93
	Wicklow	1985	95	95	86	95	84	86	90	91	91
	HSE E Total	26803	95	95	90	95	87	90	91	93	92
	Laois/Offaly	2552	98	98	98	98	92	95	94	96	96
HSE M	Longford/Westmeath	2063	98	98	98	98	93	95	95	97	97
	HSE M Total	4615	98	98	98	98	93	95	95	97	97
	Clare	1743	96	96	93	96	90	93	92	94	93
	Limerick	1931	94	94	88	94	85	88	90	92	90
HSE MW	Tipperary NR/East		95	95	89	95	86	89	91	93	92
	Limerick	1855								33	
	HSE MW Total	5529	95	95	90	95	87	90	91	93	92
	Cavan/Monaghan	2025	97	97	91	97	88	na	92	na	93
HSE NE	Louth	1996	93	93	87	93	84	na	89	na	91
HISE INC	Meath	3377	95	95	90	95	87	na	91	na	92
	HSE NE Total	7398	95	95	89	95	87	na	91	na	92
	Donegal	2190	96	96	93	95	88	93	91	94	94
<b>HSE NW</b>	Sligo/Leitrim	1426	97	96	92	96	86	92	90	95	95
	HSE NW Total	3616	97	96	93	96	87	92	91	95	94
	Carlow/Kilkenny	1989	96	96	94	96	88	93	93	94	95
	South Tipperary	1297	97	97	97	96	89	95	94	95	95
HSE SE	Waterford	1911	96	96	93	96	88	92	93	94	94
	Wexford	2185	96	96	95	96	89	93	93	95	94
	HSE SE Total	7382	96	96	95	96	89	93	93	95	94
HSE S	North Cork	1555	95	94	90	95	88	89	92	91	93
	North South Lee	5795	96	95	90	96	87	89	91	93	93
	West Cork	779	93	93	88	93	85	85	89	90	91
	Kerry	1974	97	97	92	97	90	91	93	94	94
	HSE S Total	10103	96	95	91	96	87	89	91	92	93
	Galway	3805	97	97	96	97	92	na	95	na	95
HSE W	Мауо	1708	97	97	94	97	91	na	96	na	93
	Roscommon	889	98	98	97	98	96	na	98	na	97
	HSE W Total	6402	97	97	96	97	92	na	96	na	95
Ireland	I .	71848	96	96	<b>92</b>	95	88	91	92	93	93

 $<sup>^{*} \</sup>text{ As the denominator/number in cohort varied slightly according to vaccine the } D_{3}, T_{3} \text{ and } P_{3} \text{ cohorts are shown here} \\$ 

Since  $T_3$ ,  $P_3$  and  $Polio_3$  uptake identical to  $D_3$  uptake only  $D_3$  uptake figures are presented

Please note while North Lee and South Lee are two separate Local Health Offices their combined immunisation uptake data are reported here

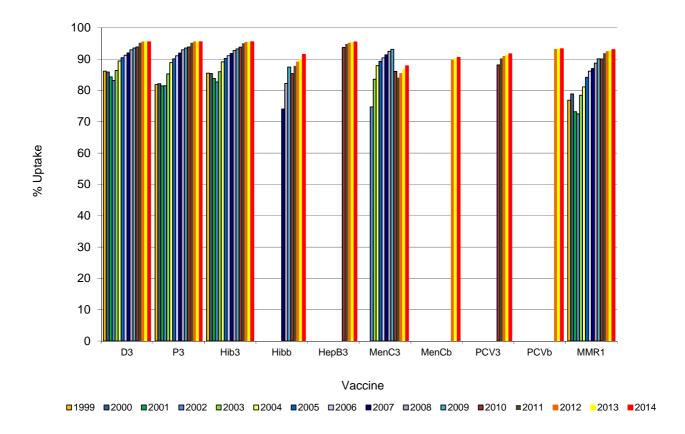


Figure 1. National annual immunisation uptake rates (based on available data) at 24 months, 1999-2014

Since  $T_3$  and Polio $_3$  uptake identical to  $D_3$  uptake only  $D_3$  uptake figures presented.  $P_3$  uptake could not be calculated accurately during 1999-2001 as DTaP/DT uptake was reported as a combined value for the HSE NE during 1999, Quarters 3 and 4 2000 and Quarter 1 2001 and the HSE NW in 2000 and 2001. The 2002 MenC $_3$  figure is based on uptake rates for Quarter 3 and Quarter 4 2002 only. The 2005 MMR $_1$  uptake figure is incomplete as the HSE was unable to provide MMR data for Quarter 4 2005, due to technical problems. The 2006 MMR $_1$  figure includes the Quarter-1 2006 HSE E figure, which is an estimate only due to technical problems. The 2007 national Hib $_0$  figure also includes the HSE SE data which are an underestimate due to data extraction methods. The 2008 Hib $_0$  figure is incomplete as the HSE SE data which are an underestimate due to data extraction methods. The 2008 Hib $_0$  figure is incomplete as the HSE SE data for Q2 2008 and the HSE NW data for Quarter 3 2008 were not available. The 2008 national MenC $_3$  figure is incomplete as the HSE B and HSE MW MenC $_3$  data for Quarter 3 2008 were not available. The 2009 data are incomplete as the following were unavailable: the Quarter 1 2009 HSE E  $D_0$ ,  $D_0$ ,  $D_0$ ,  $D_0$ ,  $D_0$ ,  $D_0$ , and  $D_0$ ,  $D_0$ ,

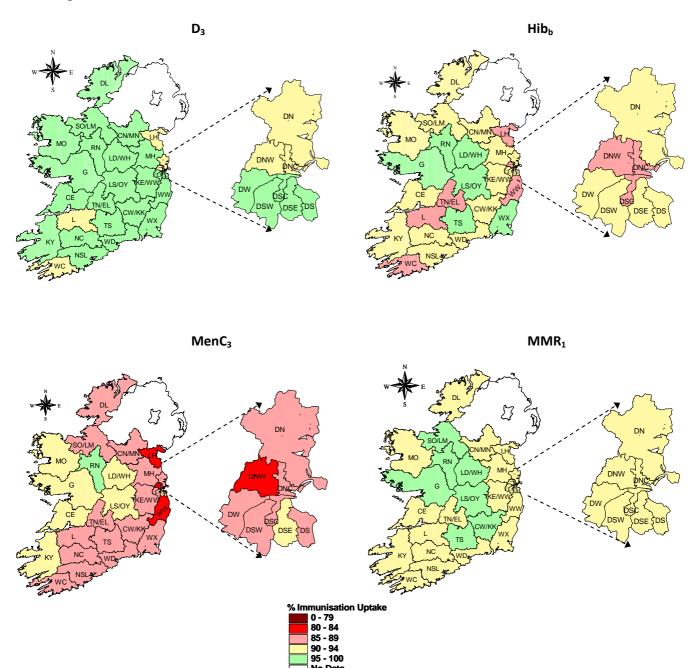


Figure 2.  $D_3$ ,  $Hib_b$ ,  $MenC_3$  and  $MMR_1$  immunisation uptake rates (%) in those 24 months of age in 2014 by Local Health Office (LHO)

LHOs in Dublin are highlighted separately for ease of viewing

North Lee and South Lee are separate LHOs, however, their combined (labelled NSL on the map) immunisation uptake rate is reported here Please see table 4 to translate LHO abbreviations

### **Conclusion**

National immunisation uptake rates, in children at 12 months of age in 2014, were 92% for  $D_3$ ,  $T_3$ ,  $P_3$ ,  $Hib_3$ ,  $Polio_3$ ,  $HepB_3$ ,  $MenC_2$  and  $PCV_2$ . Based on available data uptake of BCG was 87%. The HSE Midland Area was the only Area to reach the target uptake rate of  $\geq$ 95% for all vaccines among children at 12 months of age. Among the LHOs, Roscommon had the highest uptake (97%) of  $D_3$ ,  $T_3$ ,  $P_3$ ,  $Hib_3$ ,  $Polio_3$ ,  $HepB_3$ ,  $MenC_2$  and  $PCV_2$  at 12 months of age.

In 2014, national uptake rates at 24 months for MenC<sub>3</sub> (88%), Hib<sub>b</sub> (92%), PCV<sub>3</sub> (92%) and MMR<sub>1</sub> (93%) were lower than the target uptake of  $\geq$ 95%. In 2014, national uptake rates at 24 months of age for D<sub>3</sub>, T<sub>3</sub>, P<sub>3</sub>, Hib<sub>3</sub>, Polio<sub>3</sub> and HepB<sub>3</sub> reached the target rate of  $\geq$ 95%. This is the fourth year national annual uptake rates reached the target of  $\geq$ 95% for these vaccines. All eight HSE Areas reached the target uptake of  $\geq$ 95% for D<sub>3</sub>, T<sub>3</sub>, P<sub>3</sub>, Hib<sub>3</sub>, Polio<sub>3</sub> and HepB<sub>3</sub> at 24 months during 2014. The target uptake of  $\geq$ 95% was reached in three HSE Areas for Hib<sub>b</sub> and PCV<sub>b</sub>, in two HSE Areas for PCV<sub>3</sub> and MMR<sub>1</sub> and in one for MenC<sub>b</sub>. Roscommon was the only LHO to reach the target of  $\geq$ 95% for D<sub>3</sub>, T<sub>3</sub>, P<sub>3</sub>, Hib<sub>3</sub>, Polio<sub>3</sub>, HepB<sub>3</sub>, MenC<sub>3</sub>, PCV<sub>3</sub>, Hib<sub>b</sub> and MMR<sub>1</sub> uptake at 24 months of age.

## **Quarterly Reports**

The immunisation reports for Quarters 1 to 4 2014 are available on the HPSC website in *Topics A-Z* under the heading *vaccination*.

## Acknowledgements

HPSC would like to thank the HSE Areas for providing data and special thanks to the Immunisation Co-ordinators, Specialists in Public Health Medicine, Surveillance Scientists and Systems Analysts for their assistance.

Table 4. Local Health Office (LHO) abbreviations used in this chapter

Local Health Office Abbreviations	Local Health Office
CE	Clare
CN/MN	Cavan/Monaghan
CW/KK	Carlow/Kilkenny
DL	Donegal
DN	Dublin North
DNC	Dublin North Central
DNW	Dublin North West
DS	Dublin South
DSC	Dublin South City
DSE	Dublin South East
DSW	Dublin South West
DW	Dublin West
G	Galway
KE/WW	Kildare/West Wicklow
КУ	Kerry
L	Limerick
LD/WD	Longford/Westmeath
LH	Louth
LS/OY	Laois/Offaly
MH	Meath
MO	Mayo
NC	North Cork
NSL*	North South Lee*
RN	Roscommon
SO/LM	Sligo/Leitrim
TN/EL	Tipperary North /East Limerick
TS	South Tipperary
WC	West Cork
WD	Waterford
WX	Wexford
ww	Wicklow

<sup>\*</sup>Please note while North Lee and South Lee are two separate LHOs their combined immunisation uptake data are reported