

Annual Epidemiological Report

October 2018

Immunisation uptake at 12 and 24 months of age in Ireland, 2017

Key Facts

- Among children at 12 months of age in 2017 uptake of:
 - D₃, T₃, P₃, Hib₃, Polio₃, HepB₃ and PCV₂ was 90% and MenC₁ was 93%
 - The Quarter 4 2017 cohort were the first cohort recommended the new immunisation schedule shown in table 1 for babies born on or after October 1st 2016. In Quarter 4 2017, compared to the previous quarter, the national uptake rate for MenC₁ declined by 6%, PCV₂ declined by 2% and D₃, T₃, P₃, Hib₃, Polio₃ and HepB₃ rates declined by 1%.
 - MenB₂ was 91% in Quarter 4
 - Rota₂ was 89% in Quarter 4
- Among children at 24 months of age in 2017 uptake of:
 - D₃, T₃, P₃, Hib₃, Polio₃ and HepB₃ reached the target of 95%
 - MMR₁ was 92%
 - PCV₃ was 91%
 - Hib_b was 90%
 - MenC₂ was 87% (combined Quarters 3 and 4 data only)
 - MenC₃ was 86% (combined Quarters 1 and 2 data only)

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Introduction

In 2017, HPSC was provided with quarterly immunisation uptake data for each of the Local Health Offices (LHOs). 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 2017 quarterly data. The proportion of children who completed the recommended primary childhood immunisation schedule by 12 months (born between 01/01/2016 and 31/12/2016) and 24 months (born between 01/01/2015 and 31/12/2015) of age in 2017 are reported.

The immunisation schedule and changes in the schedule are shown in Table 1. Children who were 12 (born in 2016) and 24 months (born in 2015) of age in 2017 were recommended one dose of vaccine against tuberculosis (BCG vaccine) at birth or by one month of age; three doses of vaccines against diphtheria (D₃), tetanus (T₃), pertussis (P₃), *Haemophilus influenzae* type b (Hib₃), polio (Polio₃) and Hepatitis B (HepB₃), three doses of pneumococcal conjugate vaccine (PCV₃), a dose of MMR (MMR₁) vaccine and a dose of Hib (Hib_b) vaccine with the recommended ages as shown in table 1. Meningococcal group C (MenC) vaccine was recommended. The immunisation schedule changed in 2015 for children born on or after July 1st 2015 after the National Immunisation Advisory Committee (NIAC) recommended changing the meningococcal C (MenC) immunisation schedule in the primary childhood programme from three doses to two doses because of evidence that a single dose of MenC vaccine provides protection for the first year of life. The immunisation schedule also changed in 2016 for children born on or after October 1st 2016 after NIAC recommended meningococcal group B (MenB) and rotavirus (Rota) vaccines. There was also a change in timing of MenC with MenC now recommended at 6 months of age; in the previous schedule MenC was recommended at 4 months. A combined Hib/MenC dose is now recommended at 13 months and the recommended timing of the third dose of PCV dose is now 13 months.

Further vaccinations are recommended for older children and adults. Please see the HSE-National Immunisation Office website at www.immunisation.ie for current and detailed information on the Irish primary childhood immunisation schedule and also recommended vaccinations for older children and adults.

Table 1. Irish primary childhood immunisation schedules for children born from 01/07/2008 to 31/12/2016

Age	Children born 01/07/2008 to 30/06/2015	Children born 01/07/2015 to 30/09/2016	Children born from 01/10/2016 to 31/12/2016
Birth	BCG	BCG	BCG
2 months	DTaP/Hib/IPV/HepB (6 in 1) + PCV	DTaP/Hib/IPV/HepB (6 in 1) + PCV	DTaP/Hib/IPV/HepB (6 in 1) + PCV+ MenB+ Rota
4 months	DTaP/Hib/IPV/HepB (6 in 1) + MenC	DTaP/Hib/IPV/HepB (6 in 1) + MenC	DTaP/Hib/IPV/HepB (6 in 1) + MenB+ Rota
6 months	DTaP/Hib/IPV/HepB (6 in 1) + PCV + MenC	DTaP/Hib/IPV/HepB (6 in 1) + PCV	DTaP/Hib/IPV/HepB (6 in 1) + PCV+ MenC
12 months	MMR + PCV	MMR + PCV	MMR + MenB
13 months	MenC + Hib	MenC + Hib	Hib/MenC+ PCV

Please see the HSE-National Immunisation Office (NIO) website at www.immunisation.ie 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	<i>Haemophilus influenzae</i> type b vaccine
IPV	Inactivated Polio Virus vaccine
MenB	Meningococcal group B vaccine
MenC	Meningococcal group C vaccine
MMR	Measles, Mumps and Rubella vaccine
PCV	Pneumococcal Conjugate Vaccine
Rota	Rotavirus oral vaccine

In children at 12 months of age in 2017, born between 01/01/2016 and 31/12/2016, uptake of BCG, D₃, T₃, P₃, Hib₃, Polio₃, HepB₃, two doses of PCV (PCV₂) and one dose of MenC (MenC₁) were measured. In children at 12 months of age in Quarter 4 2017, born between 01/10/2016 and 31/12/2016, uptake of two doses of MenB (MenB₂) and Rotavirus (Rota₂) vaccines were measured. In children at 24 months of age in 2017, born between 01/01/2015 and 31/12/2015, uptake of D₃, T₃, P₃, Hib₃, Polio₃, HepB₃, PCV₃, MMR₁, Hib_b, one dose of vaccine against meningococcal group C (MenC_b) on or after twelve months of age and one dose of vaccine against pneumococcal conjugate vaccine (PCV_b) on or after twelve months of age were measured. In children at 24 months of age in Quarters 1 and 2 2017, born between 01/01/2015 and 30/06/2015, uptake of three doses of MenC (MenC₃) was measured and in children at 24 months of age in Quarters 3 and 4 2017, born between 01/07/2015 and 31/12/2015, uptake of two doses of MenC (MenC₂) was measured.

The immunisation uptake rates are reported here by Community Healthcare Organisation (CHO) 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.

Caveats to data

Due to changes in the Irish primary childhood immunisation schedule (table 1) the 2017 MenB₂ and Rota₂ 12 months data are for Quarter 4 2017 only, the 2017 MenC₃ 24 months data are for Quarters 1 and 2 only and the 2017 MenC₂ 24 months data are for Quarters 3 and 4 only.

BCG vaccine stock in all areas expired at the end of April 2015. The HSE continues to experience ongoing delays with the supply of BCG vaccine. This is a Europe wide issue. For further information please see

<http://www.hse.ie/eng/health/Immunisation/news/BCG17.html>

As uptake of MenC₃ was low since Q3 2010 and as those over 12 months and less than 12 years 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_b (one dose of PCV on or after first birthday and before second birthday) were requested in 2012 for the first time. The MenC_b and PCV_b data were available for only eight CHOs in 2016 and Quarter 1 2017. The available national cohort data may be around 91% of the national birth cohort in 2016 (estimate only). The MenC_b and PCV_b data were available for all CHOs in Quarters 2-4 2017.

The Quarter 4 2017 Cavan/Monaghan, Louth and Meath data are not considered accurate due to a backlog of returns not entered on the database at the time of uptake calculation.

CHO3 Hib_b Quarter 1 2017 data were extracted at a different time to the remaining Quarter 1 2017 CHO3 data and CHO3 Hib_b data were unavailable in Quarter 2 2017.

Uptake rates

Immunisation uptake rates at 12 months

Ninety percent of children, at 12 months of age in 2017, received D₃, T₃, P₃, Hib₃, Polio₃, HepB₃ and PCV₂ and 93% received MenC₁ (table 2).

The Irish primary childhood immunisation schedule changed in 2016 for children born on or after October 1st 2016 after NIAC recommended MenB and Rota vaccines. In Quarter 4 2017 (children born 01/10/2016-31/12/2016) uptake of MenB₂ was 91% and uptake of Rota₂ was 89% (table 2).

Compared with 2016, the uptake rates for D₃, T₃, P₃, Hib₃, Polio₃, HepB₃ and PCV₂ declined by 1% in 2017.

The MenC immunisation schedule changed in 2015 for children born on or after July 1st 2015. Ninety-five percent of children at 12 months of age in Quarters 3 and 4 2016 (born 01/07/2015-31/12/2015) received MenC₁. In 2017, 93% of children received MenC₁.

The timing of the MenC schedule changed in 2016 for children born on or after October 1st 2016 with MenC now recommended at 6 months of age; in the previous schedule MenC was recommended at 4 months (table 1). A combined Hib/MenC dose is now recommended at 13 months, the recommended timing of the third dose of PCV is now 13 months and MenB and Rota are now recommended (table 1). Compared to the previous quarter, in Quarter 4 2017 (children born 01/10/2016-31/12/2016) uptake of MenC₁ declined by 6%, uptake of PCV₂ declined by 2% and D₃, T₃, P₃, Hib₃, Polio₃ and HepB₃ uptake rates declined by 1%. In Quarter 4 2017, MenC₁ declined in all LHOs by 1-15% except for West Cork. In West Cork, compared to the previous quarter, MenC₁ was unchanged while the remaining vaccines increased by 7-10%. Uptake rates of D₃, T₃, P₃, Hib₃, Polio₃, HepB₃ and PCV₂ declined by 1-6% in 18 LHOs in Quarter 4 compared to the previous quarter, approximately (depending on antigen/vaccine and rounding). For further information on the declines in Quarter 4 2017 please see the Quarter 4 2017 report [here](#).

Among the CHOs, uptake rates in 2017 for MenC₁ ranged from 89% to 95%, D₃, T₃, P₃, Hib₃, Polio₃ and HepB₃ ranged from 87% to 93% and PCV₂ ranged from 86% to 94% (table 2). During Quarter 4 2017 MenB₂ ranged from 87% to 94% and Rota₂ ranged from 86% to 92% (table 2).

Among the LHOs, uptake rates in 2017 for MenC₁ ranged from 88% to 98%, D₃, T₃, P₃, Hib₃, Polio₃ and HepB₃ ranged from 85% to 96% and PCV₂ ranged from 83% to 97% (table 2). In Quarter 4 2017, among the LHOs, uptake of MenB₂ ranged from 87% to 96% and Rota₂ ranged from 84% to 94%. No LHO reached the target of 95% for all vaccines. The target uptake of 95% was reached in 2017 in Roscommon for D₃, T₃, P₃, Hib₃, Polio₃,

HepB₃, MenC₁, PCV₂ and MenB₂, in Sligo/Leitrim and Longford/Westmeath for D₃, T₃, P₃, Hib₃, Polio₃, HepB₃, MenC₁ and PCV₂, in Galway, Mayo and Tipperary South for MenC₁ and in Laois/Offaly for PCV₂.

Table 2. Immunisation uptake (%) at 12 months of age in 2017, cohort born 01/01/2016-31/12/2016, by LHO and CHO in Ireland

Community Healthcare Organisation (CHO)	Local Health Office*/CHO	Number in cohort for BCG [†]	Number in cohort for D ₃ T ₃ [‡]	Immunisation Uptake (%)						
				BCG	D ₃ [§]	HepB ₃	MenC ₁	PCV ₂	MenB ₂ ^{¶¶}	Rota ₂ ^{¶¶}
CHO1	Cavan/Monaghan	na	1863	na	92	92	94	93	94	89
	Donegal	2048	2048	0	91	90	93	91	92	87
	Sligo/Leitrim	1251	1251	0	95	95	96	95	93	91
	CHO1 Total	3299	5162	0	93	92	94	93	93	89
CHO2	Galway	3507	3507	0	93	93	95	93	94	91
	Mayo	1599	1599	0	92	92	95	93	94	93
	Roscommon	802	802	0	96	96	98	97	96	94
	CHO2 Total	5908	5908	0	93	93	95	94	94	92
CHO3	Clare	1515	1515	0	91	91	94	92	94	90
	Limerick	1841	1841	0	89	89	92	89	93	90
	Tipperary NR/East Limerick	1686	1686	0	91	91	94	91	93	89
	CHO3 Total	5042	5042	0	90	90	93	91	93	90
CHO4	North Cork	1260	1259	0	90	90	94	88	92	89
	North South Lee	5243	5222	0	91	91	94	88	93	90
	West Cork	682	683	0	85	85	90	83	94	91
	Kerry	1778	1769	0	89	89	92	86	91	88
	CHO4 Total	8963	8933	0	90	90	93	87	92	89
CHO5	Carlow/Kilkenny	1759	1759	0	88	88	92	88	94	89
	South Tipperary	1220	1220	0.4	93	93	95	92	93	89
	Waterford	1668	1668	0.1	90	90	94	89	90	87
	Wexford	1903	1903	0.2	91	91	94	90	93	90
	CHO5 Total	6550	6550	0.2	90	90	94	90	93	89
CHO6	Dublin South	1597	1597	0	91	91	94	91	90	87
	Dublin South East	1692	1692	0	91	91	94	91	87	87
	Wicklow	1680	1680	0.1	90	90	92	91	87	85
	CHO6 Total	4969	4969	0	91	91	93	91	88	86
CHO7	Dublin South City	1680	1680	0.2	89	89	91	89	90	88
	Dublin South West	2400	2400	0	89	89	93	89	90	86
	Dublin West	2436	2436	0.1	87	87	91	86	88	84
	Kildare/West Wicklow	3575	3575	0	92	92	94	92	91	89
	CHO7 Total	10091	10091	0	89	89	93	90	90	87
CHO8	Laois/Offaly	2228	2228	0	94	94	94	95	93	93
	Longford/Westmeath	1868	1868	0	95	95	95	95	93	92
	Louth	na	1806	na	91	91	93	91	91	89
	Meath	na	3007	na	88	88	91	88	91	89
	CHO8 Total	4096	8909	0	92	92	93	92	92	90
CHO9	Dublin North West	3383	3383	0	87	87	90	87	88	87
	Dublin North Central	1905	1905	0	85	85	88	85	87	85
	Dublin North	3791	3791	0	87	87	88	87	87	86
	CHO9 Total	9079	9079	0	87	87	89	86	87	86
Ireland		57997	64643	0.03	90	90	93	90	91	89

na=not available

*The Quarter 4 Cavan/Monaghan, Louth and Meath data are not considered accurate due to a backlog of returns not entered on the database at the time of uptake calculation. While North Lee and South Lee are two separate LHOs their combined immunisation uptake data are reported here.

†BCG data were unavailable for Cavan/Monaghan, Louth and Meath

‡The denominator/number in cohort varied slightly according to vaccine. D₃T₃ cohort is shown here.§Since T₃, P₃, Hib₃ and Polio₃ uptake identical to D₃ uptake only D₃ uptake figures are presented¶¶Data are for Quarter 4 2017 (children born 01/10/2016-31/12/2016) only. The immunisation schedule changed in 2016 for children born on or after October 1st 2016 after the National Immunisation Advisory Committee (NIAC) recommended Meningococcal group B (MenB) and Rotavirus (Rota) vaccines. Hence uptake of two doses of MenB (MenB₂) and Rota (Rota₂) was measured during Quarter 4. Please see the HSE-National Immunisation Office (NIO) website at <http://www.immunisation.ie> for current and detailed information on the Irish primary childhood immunisation schedule and also recommended vaccinations for older children and adults.

Immunisation uptake rates at 24 months

National annual immunisation uptake rates, in children at 24 months of age in 2017, were 95% for D₃, T₃, P₃, Hib₃, Polio₃ and HepB₃, 92% for MMR₁, 91% for PCV₃ and 90% for Hib_b (table 3).

The MenC immunisation schedule changed in 2015 for children born on or after July 1st 2015 (table 1). Eighty-six percent of children, at 12 months of age in Quarters 1 and 2 2017 (born 01/01/2015-30/06/2015) received MenC₃ and 87% of children, at 12 months of age in Quarters 3 and 4 2017 (born 01/07/2015-31/12/2015), received MenC₂.

This is the seventh year national annual uptake rates reached the target of 95% for D₃, T₃, P₃, Hib₃, Polio₃ and HepB₃. Compared with 2016, the uptake rates in 2017 for D₃, T₃, P₃, Hib₃, Polio₃, HepB₃, PCV₃ and MMR₁ were unchanged while Hib_b and MenC₃ (Quarters 1 and 2 data) declined by one percent (figure 1).

Eight of the CHOs 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 2016 and Quarter 1 2017. The available data may be around 91% (estimate only) of the national birth cohort. All nine CHOs were in a position to provide data from Quarter 2 2017. Compared with 2016, the national uptake rates in 2017 for MenC_b and PCV_b declined by one percent (figure 1).

Among the CHOs uptake rates for D₃, T₃, P₃, Hib₃, Polio₃ and HepB₃ ranged from 92% to 97%, PCV_b uptake ranged from 89% to 95%, MMR₁ ranged from 89% to 94%, PCV₃ ranged from 87% to 97%, Hib_b ranged from 86% to 94%, MenC_b uptake ranged from 85% to 94%, MenC₂ (Quarters 3 and 4) ranged from 83% to 94% and MenC₃ (Quarters 1 and 2) ranged from 80% to 94% (table 3).

The target uptake of 95% was reached in seven CHOs during 2017 for D₃, T₃, P₃, Hib₃, Polio₃ and HepB₃, in one CHO for PCV₃ and PCV_b and in none for Hib_b, MenC₃ (Quarters 1 and 2), MenC₂ (Quarters 3 and 4), MenC_b and MMR₁ (table 3).

D₃, Hib_b, MenC₂ and MMR₁ uptake rates are mapped by LHO in figure 2. Among the LHOs the uptake rates ranged from 89% to 98% for D₃, T₃, P₃, Hib₃, Polio₃ and HepB₃, 87% to 96% for MMR₁ and PCV_b, 85% to 98% for PCV₃, 83% to 98% for Hib_b, 80% to 96% for MenC_b, 77% to 96% for MenC₃ (Quarters 1 and 2) and 76% to 95% for MenC₂ (Quarters 3 and 4) (table 3).

The target uptake of 95% was reached in 19 LHOs for D₃, T₃, P₃, Hib₃ and Polio₃, 18 for HepB₃, in seven for PCV_b, in six LHOs for MMR₁, in four for Hib_b, in three LHOs for MenC_b and PCV₃ and in one LHO for MenC₃ (Quarters 1 and 2) and MenC₂ (Quarters 3 and 4) (table 3). No LHO reached the target of 95% for all vaccines, however, Roscommon reached the target of 95% for all vaccines except Hib_b (table 3).

Table 2. Immunisation uptake (%) at 24 months of age in 2017, cohort born 01/01/2015-31/12/2015, by LHO and CHO in Ireland

Community Healthcare Organisation (CHO)	Local Health Office*/CHO	Number in cohort for D ₃ [†]	Immunisation Uptake (%)								
			D ₃ [‡]	HepB ₃	Hib ₆ [§]	MenC ₃	MenC ₂	MenC _b ^{††}	PCV ₃	PCV ₆ ^{††}	MMR ₁
CHO1	Cavan/Monaghan	1909	95	95	89	90	78	83	89	91	92
	Donegal	2083	95	93	90	83	85	88	88	93	91
	Sligo/Leitrim	1262	97	97	95	87	90	94	90	95	96
	CHO1 Total	5254	96	95	91	86	83	88	89	93	93
CHO2	Galway	3461	97	97	95	94	94	95	98	96	95
	Mayo	1580	96	96	93	90	91	91	97	92	91
	Roscommon	840	97	97	94	96	95	96	96	96	96
	CHO2 Total	5881	97	97	94	94	94	94	97	95	94
CHO3	Clare	1574	96	96	91	87	90	90	93	93	94
	Limerick	1910	94	94	92	88	90	90	90	89	91
	Tipperary NR/East	1818	95	95	91	84	87	88	91	92	93
	CHO3 Total	5302	95	95	91	86	89	89	91	91	92
CHO4	North Cork	1436	96	96	92	86	89	89	91	94	94
	North South Lee	5517	96	96	91	85	89	89	91	93	93
	West Cork	728	92	92	88	80	85	85	88	88	89
	Kerry	1747	96	96	91	87	87	88	91	93	92
CHO4 Total	9428	96	96	91	85	88	89	90	93	93	
CHO5	Carlow/Kilkenny	1856	96	96	91	85	86	89	92	94	94
	South Tipperary	1221	96	96	91	87	89	91	94	95	94
	Waterford	1768	94	93	89	84	87	87	91	93	93
	Wexford	2047	95	95	90	86	87	90	92	94	94
CHO5 Total	6892	95	95	90	86	87	89	92	94	94	
CHO6	Dublin South	1703	95	95	90	87	86	88	91	93	92
	Dublin South East	1567	94	94	92	87	92	91	92	94	94
	Wicklow	1769	89	89	83	77	82	81	85	87	87
	CHO6 Total	5039	93	93	88	84	87	87	89	91	91
CHO7	Dublin South City	1652	94	94	88	84	86	87	88	90	90
	Dublin South West	2354	97	97	93	88	89	92	91	95	95
	Dublin West	2518	93	93	84	82	80	82	88	90	90
	Kildare/West Wicklow	3678	96	96	93	89	92	92	93	94	94
CHO7 Total	10202	95	95	90	86	87	89	91	93	93	
CHO8	Laois/Offaly	2350	97	97	97	89	90	93	92	95	95
	Longford/Westmeath	1840	98	98	98	91	92	95	93	96	96
	Louth	1880	94	94	86	83	80	82	88	88	90
	Meath	3052	94	94	86	85	76	80	87	87	90
CHO8 Total	9122	95	95	91	87	84	86	90	91	92	
CHO9	Dublin North West	3330	94	94	87	81	85	85	88	91	90
	Dublin North Central	1784	92	92	86	78	87	84	87	89	89
	Dublin North	4028	91	91	86	81	86	85	87	89	88
	CHO9 Total	9142	92	92	86	80	86	85	87	89	89
Ireland	66262	95	95	90	86	87	88	91	92	92	

*The Quarter 4 Cavan/Monaghan, Louth and Meath data are not considered accurate due to a backlog of returns not entered on the database at the time of uptake calculation. While North Lee and South Lee are two separate Local Health Offices their combined immunisation uptake data are reported here

†As the denominator/number in cohort varied slightly according to vaccine the D₃ cohort is shown here

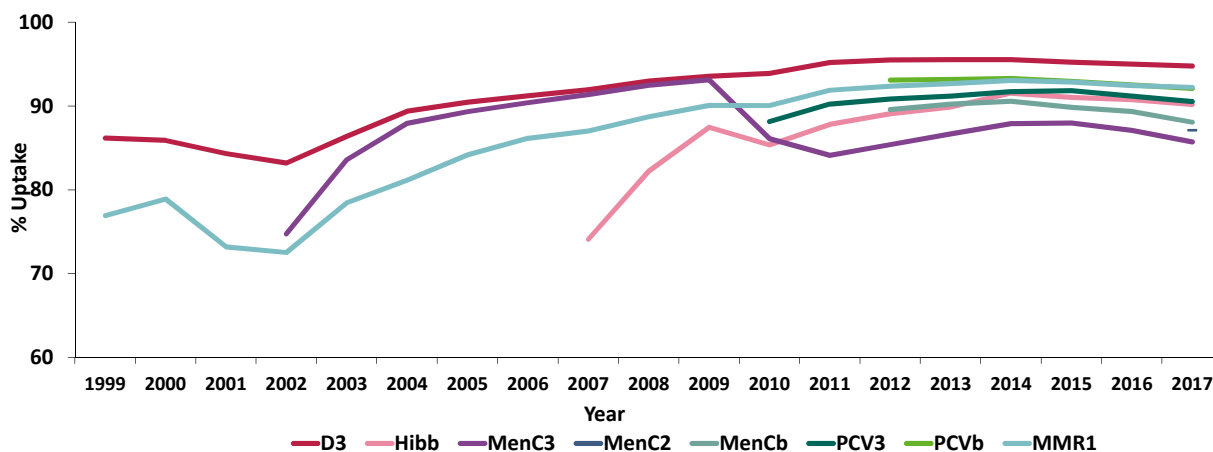
‡ Since T₃, P₃, Hib₃ and Polio₃ uptake very similar to D₃ uptake only D₃ uptake figures are presented

§CHO3 Hib₆ Quarter 1 2017 data were extracted at a different time to the remaining vaccines. CHO3 Hib₆ Quarter 2 2017 data were unavailable.

||The immunisation schedule changed in 2015 for children born on or after July 1st 2015 after the National Immunisation Advisory Committee (NIAC) recommended changing the meningococcal C (MenC) immunisation schedule in the primary childhood programme from three doses to two doses because of evidence that a single dose of MenC vaccine provides protection for the first year of life. Hence uptake of three doses of MenC (MenC₃) was measured during Quarters 1 and 2 (birth cohort 01/01/2015-30/06/2015) and uptake of two doses of MenC (MenC₂) was measured during Quarters 3 and 4 (birth cohort 01/07/2015-31/12/2015). Please note the immunisation schedule changed in 2016 for children born on or after October 1st 2016. Please see the HSE-National Immunisation Office (NIO) website at <http://www.immunisation.ie> for current and detailed information on the Irish primary childhood immunisation schedule and also recommended vaccinations for older children and adults.

††MenC_b and PCV₆ data were available for 8 CHOs in Quarter 1 2017 and for all 9 during Quarters 2-4 2017.

Figure 1. National annual immunisation uptake rates in Ireland at 24 months, based on available data, 1999-2017

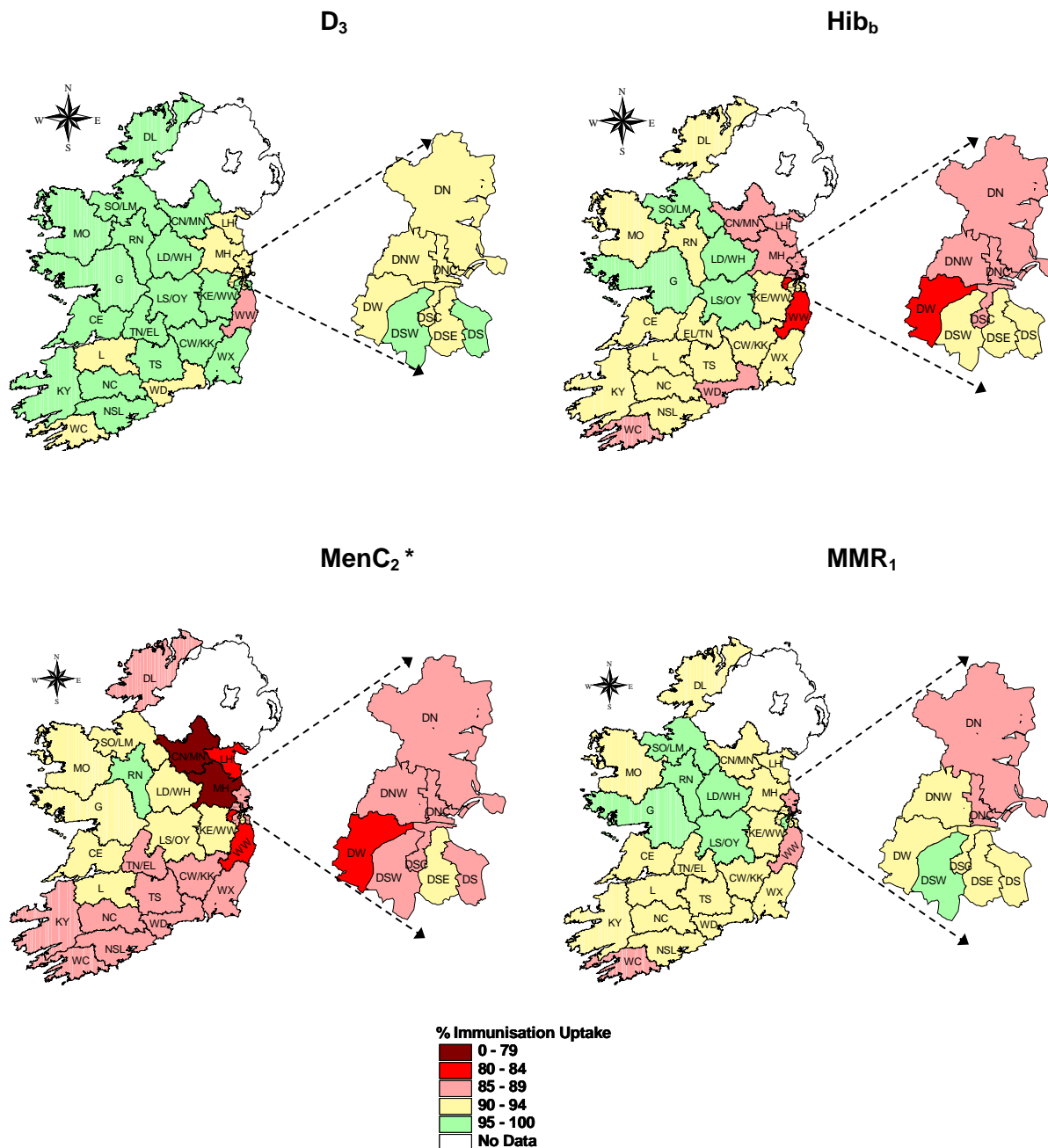


Note x-axis starts at 60%.

T₃, P₃, Hib₃ and Polio₃ uptake not shown.

The 2002 MenC₃ figure is based on uptake rates for Quarter 3 and Quarter 4 2002 only. The 2005 MMR₁ uptake figure is incomplete as the HSE E was unable to provide MMR data for Quarter 4 2005, due to technical problems. The 2006 MMR₁ figure includes the Quarter-1 2006 HSE E figure, which is an estimate only due to technical problems. The 2007 national Hib₆ figure is incomplete, as the HSE W data for Quarter 1 2007 and the HSE NW data for Quarter 3 2007 were not available. The 2007 national Hib₆ figure also includes the HSE SE data which are an underestimate due to data extraction methods. The 2008 Hib₆ figure is incomplete as the HSE SE data for Q2 2008 and the HSE MW data for Quarter 3 2008 were not available. The 2008 national MenC₃ figure is incomplete as the HSE E and HSE MW MenC₃ data for Quarter 3 2008 were not available. The 2009 data are incomplete as the following were unavailable: the Quarter 1 2009 HSE E D₃, T₃, P₃, Polio₃ and MMR₁ data for those born on the 31/03/2007; the Quarter 2 2009 HSE E Dublin North Hib₆ uptake data and; the Quarter 4 2009 HSE MW data, HSE E Dublin North Hib₆ data and HSE SE Hib₆ data for those given a Hib dose as part of the five in one or six in one vaccine after 12 months of age. The 2010 data are incomplete as the following were unavailable: the Quarter 1 2010 HSE M and HSE S data and the HSE E Dublin North Hib₆ data; the Quarter 2 2010 HSE M data and; the Quarter 4 2010 HSE NE data. As a new childhood immunisation schedule was introduced in 2008, for those born on or after July 1st 2008, the 2010 HepB₃ and PCV₃ data at 24 months are for those born between July 1st and December 31st 2008 (i.e. Quarters 3 and 4 2010 data) only. The MenC₆ and PCV₆ data were available for only six of the eight HSE Areas from Q1 2012 to Q4 2014 and for seven HSE Areas in 2015 to Q1 2017 and were available for all since Q2 2017. HSE Mid Western/CHO3 Hib₆ data were extracted at a different time to the remaining vaccines in Q1 2017 and were not available in Q2 2017.

Figure 2. D₃, Hib_b, MenC₂ and MMR₁ immunisation uptake rates (%) in those 24 months of age in 2017 by Local Health Office (LHO) in Ireland



*MenC₂ data are the combined data for Quarters 3 and 4 2017 only due to a change in the immunisation schedule

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

Discussion

National immunisation uptake rates, in children at 12 months of age in 2017, were 90% for D₃, T₃, P₃, Hib₃, Polio₃, HepB₃ and PCV₂ and 93% for MenC₁.

The Irish primary childhood immunisation schedule changed in 2016 for children born on or after October 1st 2016 after the NIAC recommended MenB and Rota vaccines. There was also a change in the timing of PCV, MenC and a combined Hib/MenC dose is now recommended at 13 months (table 1). In Quarter 4 2017 in children at 12 months of age (born 01/10/2016-31/12/2016) uptake of MenB₂ was 91% and uptake of Rota₂ was 89%. In children at 12 months of age in Quarter 4 2017, uptake of MenC₁ declined by 6% compared to the previous quarter while PCV₂ declined by 2% and the remaining vaccines declined by 1%. This is of huge concern as it leaves children vulnerable to preventable infectious diseases including meningococcal serogroup C.

In 2017, national uptake rates at 24 months for MenC₃ (86% in Quarters 1 and 2), MenC₂ (87% in Quarters 3 and 4), MenC_b (88%), Hib_b (90%), PCV₃ (91%) and MMR₁ and PCV_b (92%) were lower than the target uptake of 95%. In 2017, national uptake rates at 24 months of age for D₃, T₃, P₃, Hib₃, Polio₃ and HepB₃ reached the target rate of 95%. This is the seventh year national annual uptake rates reached the target of 95% for these vaccines. The target uptake of 95% was reached in seven CHOs during 2017 for D₃, T₃, P₃, Hib₃, Polio₃ and HepB₃, in one CHO for PCV₃ and PCV_b and in none for Hib_b, MMR₁, MenC₃, MenC₂ and MenC_b. No LHO reached the target of 95% for all vaccines at 24 months; however, Roscommon reached the target of 95% for all vaccines except Hib_b.

Further information available on HPSC website

The immunisation reports for Quarters 1 to 4 2017 are available on the HPSC website in *Topics A-Z* under the heading *immunisation uptake statistics*.

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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
KY	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

*While North Lee and South Lee are two separate LHOs their combined immunisation uptake data are reported here