

Background

Since September 1st 2008, the childhood immunisation schedule outlined in table 1 has been implemented for children born on or after July 1st 2008.

Compared to the previous schedule (table 1), the changes to the primary schedule for children born on or after July 1st 2008 include;

- Introduction of a hepatitis B vaccine (as part of a 6 in 1 vaccine) given at 2, 4 and 6 months of age
- Introduction of pneumococcal conjugate vaccine given at 2, 6 and 12 months of age
- Change in timing of meningococcal serogroup C conjugate vaccination, now given at 4, 6 and 13 months of age
- Change in timing of the *Haemophilus influenzae* type b booster vaccination, now given at 13 months of age.

Please see www.immunisation.ie for complete information on the Irish childhood immunisation schedule.

For children at 12 months of age, immunisation uptake rates of three doses of vaccines against diphtheria (D₃), pertussis (P₃), tetanus (T₃), *Haemophilus influenzae* type b (Hib₃), polio (Polio₃), hepatitis B (HepB₃), two doses of meningococcal serogroup C conjugate vaccine (MenC₂), two doses of pneumococcal conjugate vaccine (PCV₂) and one dose of BCG vaccine are reported.

For children at 24 months of age, immunisation uptake rates of three doses of vaccines against diphtheria (D₃), pertussis (P₃), tetanus (T₃), *Haemophilus influenzae* type b (Hib₃), polio (Polio₃), hepatitis B (HepB₃), meningococcal group C (MenC₃) and pneumococcal conjugate vaccine (PCV₃) and one dose of vaccine against measles, mumps and rubella (MMR₁) are reported. As one dose of vaccine against *Haemophilus influenzae* type b, one dose of meningococcal group C vaccine and one dose of pneumococcal conjugate vaccine given on or after 12 months of age provide protection against these diseases, regardless of the number of previous doses, the uptake rates of one dose of each of these vaccines, on or after 12 months of is also reported (Hib_b, MenC_b and PCV_b respectively).

The national immunisation uptake statistics, based on available data, for Quarter 1-2014 are presented in this document. The uptake statistics are also presented by HSE Area and Local Health Office (LHO). While there are 32 LHOs the immunisation uptake data for North Lee and South Lee are reported as a combined figure.

The immunisation uptake statistics presented in this report relate to children 12 (born between 01/01/2013 and 31/03/2013) and 24 (born between 01/01/2012 and 31/03/2012) months of age in Quarter 1-2014.

The Quarter 1-2014 cohort of children at 24 months are the fifteenth cohort recommended the new immunisation schedule. Children that were 24 months of age in Quarter 3-2010 were children born between July 1st and September 30th 2008 and were therefore the first cohort recommended the new immunisation schedule.

The uptake rates presented here were rounded to zero decimal place.

Table 1. Change in Primary Childhood Immunisation Schedule (introduced on September 1st 2008)

Age	Children born before 01/07/2008	Children born on or after 01/07/2008
Birth	BCG	BCG
2 months	DTaP/Hib/IPV + MenC	DTaP/Hib/IPV/HepB + PCV
4 months	DTaP/Hib/IPV + MenC	DTaP/Hib/IPV/HepB + MenC
6 months	DTaP/Hib/IPV + MenC	DTaP/Hib/IPV/HepB + PCV + MenC
12 months	MMR + Hib	MMR + PCV
13 months	-	MenC + Hib

Please see www.immunisation.ie for complete information on the Irish childhood immunisation schedule and the immunisation guidelines for Ireland.

BCG	Bacille Calmette Guerin vaccine
DTaP	Diphtheria, Tetanus and acellular Pertussis vaccine
Hib	<i>Haemophilus influenzae</i> type b vaccine
HepB	Hepatitis B vaccine
IPV	Inactivate Polio Virus vaccine
MMR	Measles, Mumps and Rubella vaccine
MenC	Meningococcal group C vaccine
PCV	Pneumococcal Conjugate Vaccine

Immunisation uptake among children 12 months of age in Quarter 1-2014

National

- Immunisation uptake rates in children 12 months of age in Q1-2014 are presented by HSE Area in table 2.
National immunisation uptake rates were 92% for D₃, P₃, T₃, Hib₃, Polio₃, HepB₃, PCV₂ and MenC₂. BCG uptake data were available for seven of the eight HSE Areas in Q1-2014; these areas cover approximately 89% of the national birth cohort. Where data were available, national uptake was 86% for the BCG vaccination.
- Figure 1 presents the national uptake rates at 12 months for each vaccine from Q3-2000 to Q1-2014. Compared to Q4-2013, national uptake rates in Q1-2014 for D₃, P₃, T₃, Hib₃, Polio₃, HepB₃, PCV₂ and MenC₂ were unchanged. BCG uptake decreased by 1% compared to Q4-2013.

HSE Area

- Among the HSE Areas, the uptake rates for D₃, P₃, T₃, Hib₃, Polio₃ and HepB₃ ranged from 90-96% and MenC₂ and PCV₂ ranged from 87% to 96%. The HSE Midland Area reached the target of ≥95% for all vaccines.

Local Health Office (LHO)

- The immunisation uptake rates by LHO are shown in appendix 1.
- D₃, MenC₂ and PCV₂ immunisation uptake rates are mapped by LHO in figures 2-4.
- The target uptake rate of ≥95% was reached in 12 LHOs for BCG, 4 LHOs for D₃, P₃, T₃, Hib₃, Polio₃ and MenC₂ and in 5 for PCV₂.

Table 2. Immunisation uptake (%) at 12 months in cohort born 01/01/2013–31/03/2013

HSE Area	No. in cohort*	BCG	D ₃ T ₃	P ₃	Hib ₃	Polio ₃	HepB ₃	MenC ₂	PCV ₂
Eastern	6185	93	91	91	91	91	91	91	91
Midland	1046	95	96	96	96	96	96	96	96
Mid Western	1326	98	93	93	92	93	92	93	93
North Eastern	1752	na	91	91	91	91	91	92	92
North Western	821	95	93	93	93	93	92	92	93
South Eastern	1706	96	93	93	93	93	93	93	93
Southern	2430	94	90	90	90	90	90	87	87
Western	1529	14	93	93	93	93	93	93	93
Ireland	16795 [†]	86	92	92	92	92	92	92	92

na = not available at this time

*As the denominator/number in cohort varied slightly according to vaccine, most commonly used number is presented here.

[†]Number in cohort for BCG is 15,027

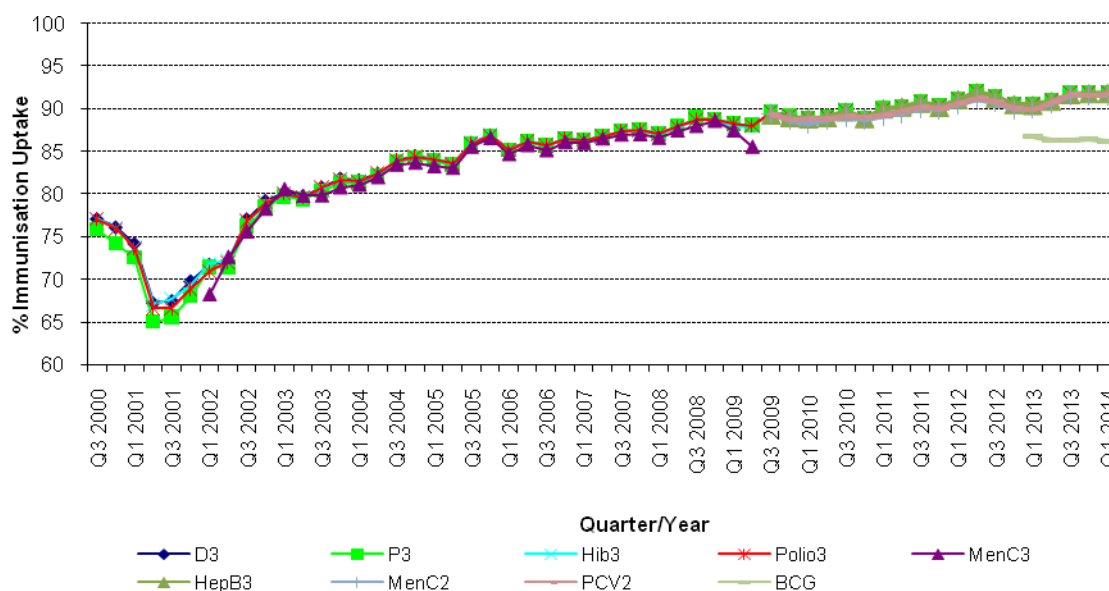


Figure 1. National quarterly immunisation uptake rates at 12 months

Since T₃ uptake identical to D₃ uptake only D₃ uptake figures presented. The Q3-2008 MenC₃ uptake figure is based on data from six of the eight HSE Areas. The Q1-2009 HSE-Eastern Area D₃, P₃, T₃, Polio₃ and MMR₁ uptake figures exclude those born on the 31/03/2007. The Q3-2009 figures are incomplete as two HSE Areas were unable to provide data, two additional areas were unable to provide MenC₂ data and one additional area was unable to provide PCV₂ data. The Q4-2009 figures are incomplete as three HSE Areas were unable to provide data. The Q1-2010 figures are incomplete as two HSE Areas were unable to provide data and three were unable to provide MenC₂ data. The Q2-2010 figures are incomplete as two HSE Areas were unable to provide data. The Q4-2010 figures are incomplete as one HSE Area was unable to provide data. BCG uptake data are only displayed in this graph from Q1 2013 as BCG uptake data were available for only five of the eight HSE-Areas (this includes data from the HSE-Southern Area which relates to Kerry data only) from Q3 2003 to Q2 2009 (except Q3 2004 when HSE-Southern Area data were not available), for three HSE-Areas in Q3 2009, for two HSE-Areas in Q4 2009, for three HSE-Areas in Q1 2010 and Q2 2010, for five HSE-Areas in Q4 2010, Q1 2011 and Q2 2011, for six HSE-Areas in Q3 2011 to Q4 2012 and for seven HSE Areas since Q1 2013.

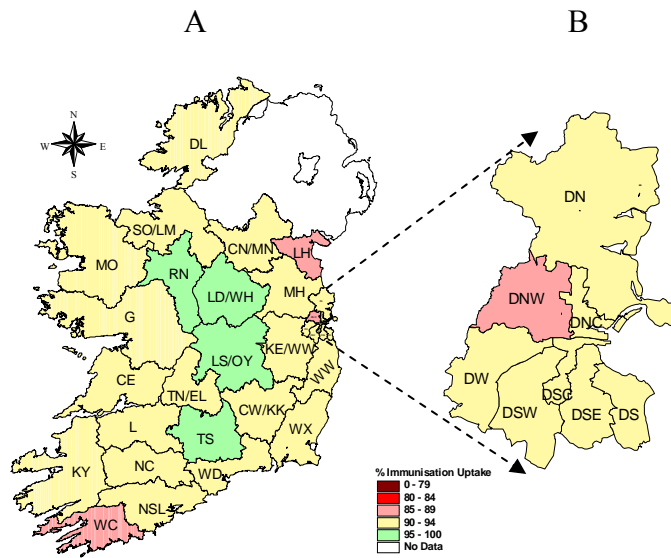


Figure 2. D₃ immunisation uptake rates (%) by LHO, in those 12 months of age in Quarter 1-2014, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

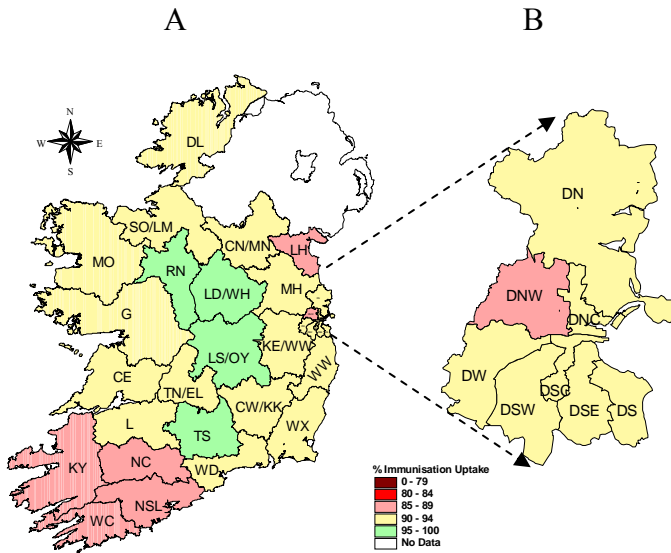


Figure 3. MenC₂ immunisation uptake rates (%) by LHO, in those 12 months of age in Quarter 1-2014, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

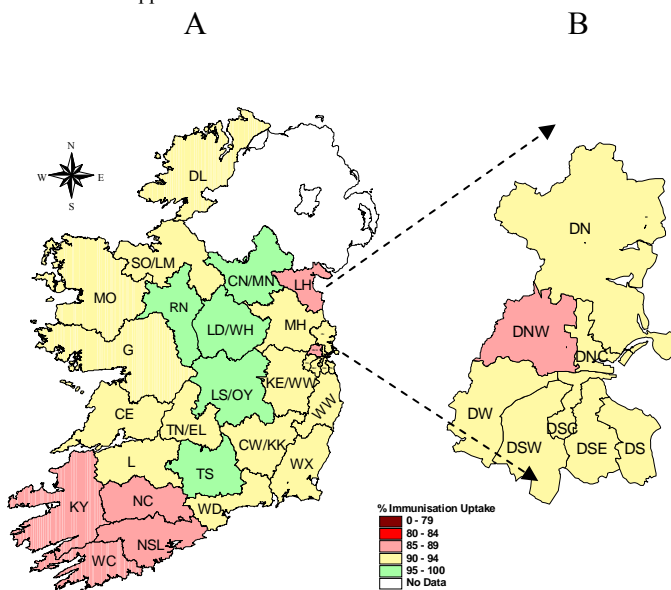


Figure 4. PCV₂ immunisation uptake rates (%) by LHO, in those 12 months of age in Quarter 1-2014, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

Immunisation uptake among children 24 months of age in Quarter 1-2014

National

- National uptake rates were 95% for D₃, P₃, T₃, Hib₃, Polio₃ and HepB₃, 93% for MMR₁, 92% for Hib_b, 91% for PCV₃ and 88% for MenC₃.
- Figure 5 presents the national uptake rates at 24 months for each vaccine from Q1-1999 to Q1-2014. Compared to the previous quarter, national uptake rates in Q1-2014 increased by 1% for Hib_b, decreased by 1% for PCV₃ and were unchanged for the remainder.

HSE Area

- The target uptake of $\geq 95\%$ was reached for D₃, P₃, T₃, Hib₃, Polio₃ and HepB₃ in all eight of the HSE Areas, for Hib_b in three HSE Areas, for MMR₁ in two HSE Areas, in one for PCV₃ and in none for MenC₃.
- Six of the eight HSE Areas were able to provide uptake data on MenC_b (one dose of MenC at ≥ 12 months of age) and PCV_b (one dose of PCV at ≥ 12 months of age) in Q1-2014. These Areas cover approximately 81% of the national birth cohort. Where data were available, national uptake was 91% for MenC_b and 94% for PCV_b. The target uptake of $\geq 95\%$ was reached for PCV_b in three HSE Areas and in one for MenC_b.

Local Health Office (LHO)

- Immunisation uptake rates in children 24 months of age in Q1-2014 are presented by LHO in Appendix 2.
- D₃, Hib_b, MenC₃, MenC_b, PCV₃, PCV_b and MMR₁ immunisation uptake rates are mapped by LHO in figures 6-12.
- The target uptake of $\geq 95\%$ was reached in 23 LHOs for D₃, P₃, T₃, Hib₃, Polio₃ and HepB₃, 12 for PCV_b, 10 for Hib_b, 8 for MMR₁, 5 for MenC_b, 4 for PCV₃ and in one for MenC₃.

Table 3. Immunisation uptake (%) at 24 months in cohort born 01/01/2012–31/03/2012

HSE Area	No. in Cohort*	D ₃ /T ₃ /P ₃ /Hib ₃ / Polio ₃	Hib _b	HepB ₃	MenC ₃	MenC _b	PCV ₃	PCV _b	MMR ₁
Eastern	6697	95	90	95	87	90	91	93	93
Midland	1123	98	98	98	93	96	95	97	97
Mid Western	1402	96	91	96	89	92	92	94	93
North Eastern	1785	95	89	95	86	na	90	na	92
North Western	894	96	93	95	87	92	91	95	94
South Eastern	1837	96	96	96	90	94	94	95	96
Southern	2518	95	89	95	85	87	90	91	91
Western	1535	97	96	96	90	na	94	na	93
Ireland	17791	95	92	95	88	91	91	94	93

* As the denominator/number in cohort varied slightly according to vaccine, most commonly used number is presented here.

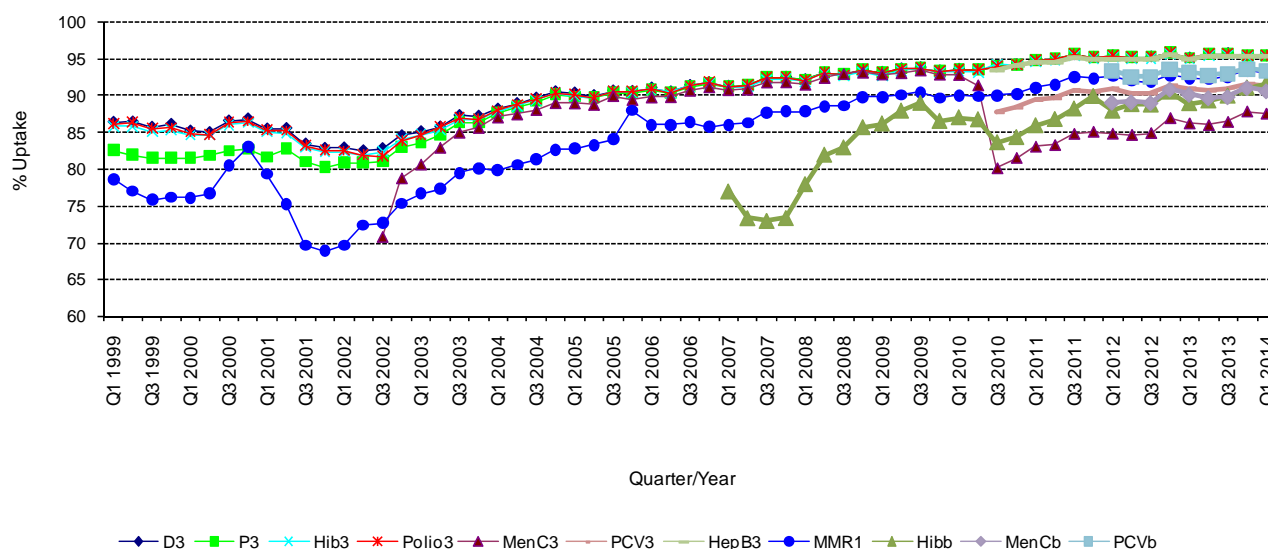


Figure 5. National quarterly immunisation uptake rates at 24 months

Notes: The Q4-2005 MMR₁ figure is based on data from seven of the eight HSE-Areas. The Q1-2006 MMR₁ figure includes the HSE-Eastern Area figure that is an estimate only. The Q1-2007, Q3-2007, Q2-2008 and Q3-2008 Hib_b figures are based on data from seven of the eight HSE Areas. In Q1-2008 the HSE-SE changed their Hib_b data extraction method compared to previous quarters; in Q1-2008 the uptake of Hib_b in the HSE-SE was 83% compared to 53% in Q4-2007. The Q3-2008 MenC₃ figure is based on data from six of the eight HSE Areas. The Q1-2009 HSE-Eastern Area D₃, P₃, T₃, Polio₃ and MMR₁ uptake figures exclude those born on the 31/03/2007. The Q2-2009 HSE-Eastern Area Hib_b uptake figures exclude uptake figures from Dublin North. The Q4-2009 figures are based on data from seven of the eight HSE Areas. The Q4-2009 Hib_b figures also exclude uptake figures from Dublin North. The Q1-2010 figures are based on data from six of the eight HSE Areas. The Q1-2010 Hib_b figures also exclude uptake figures from Dublin North. The Q2-2010 and Q4-2010 figures are based on data from seven of the eight HSE Areas. The MenC_b and PCV_b figures are based on data from six of the eight HSE Areas.

Conclusions

In Quarter 1-2014, national uptake rates at 24 months for D₃, P₃, T₃, Hib₃, Polio₃ and HepB₃ reached the target of $\geq 95\%$. Since the introduction of the new childhood schedule in September 2008 MenC₃ and Hib₆ uptake are lower than the uptake of the other recommended vaccines both of which should be given at 13 months of age suggesting that parents are less likely to get the necessary vaccines for their children at this age.

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.

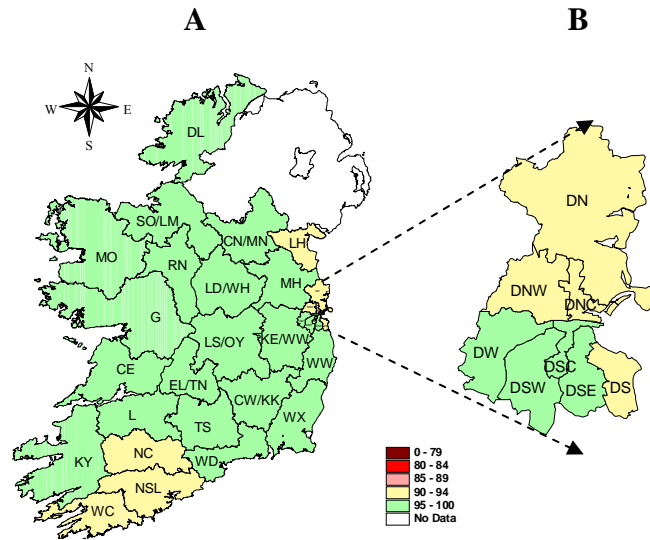


Figure 6. D₃ immunisation uptake rates (%) by LHO, in those 24 months of age in Quarter 1-2014, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

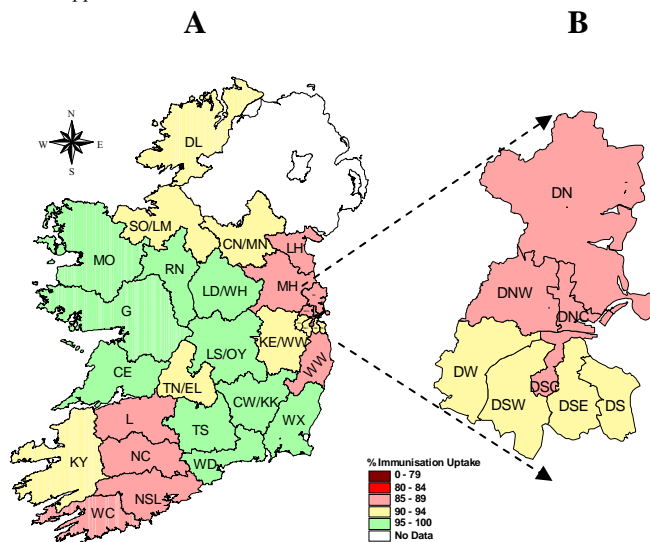


Figure 7. Hib₆ immunisation uptake rates (%) by LHO, in those 24 months of age in Quarter 1-2014, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

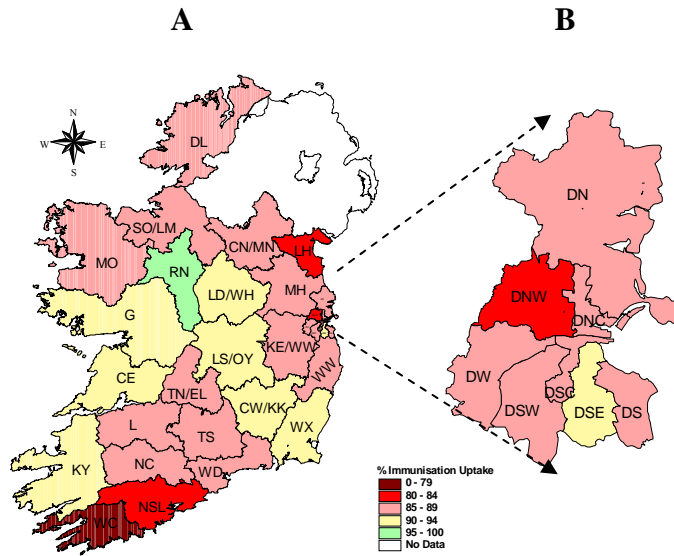


Figure 8. MenC₃ immunisation uptake rates (%) by LHO, in those 24 months of age in Quarter 1-2014, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

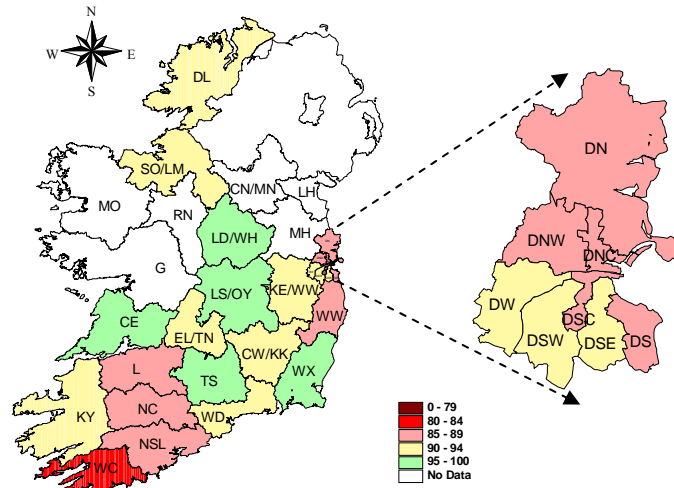


Figure 9. MenC_b immunisation uptake rates (%) by LHO, in those 24 months of age in Quarter 1-2014, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

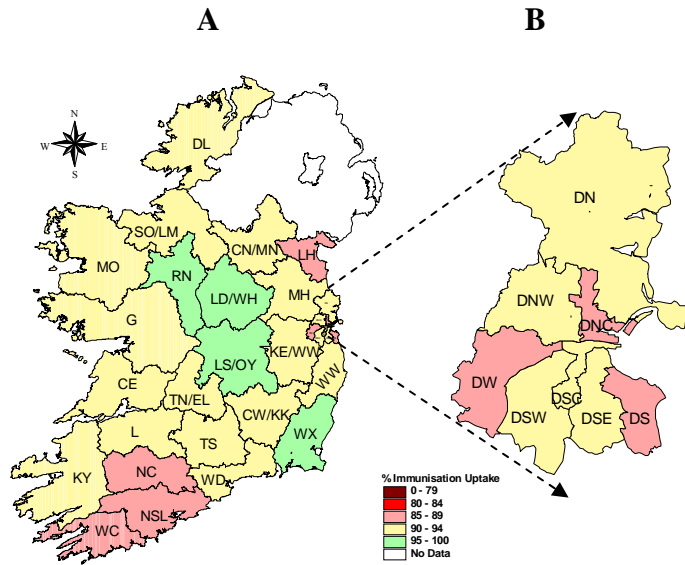


Figure 10. PCV₃ immunisation uptake rates (%) by LHO, in those 24 months of age in Quarter 1-2014, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

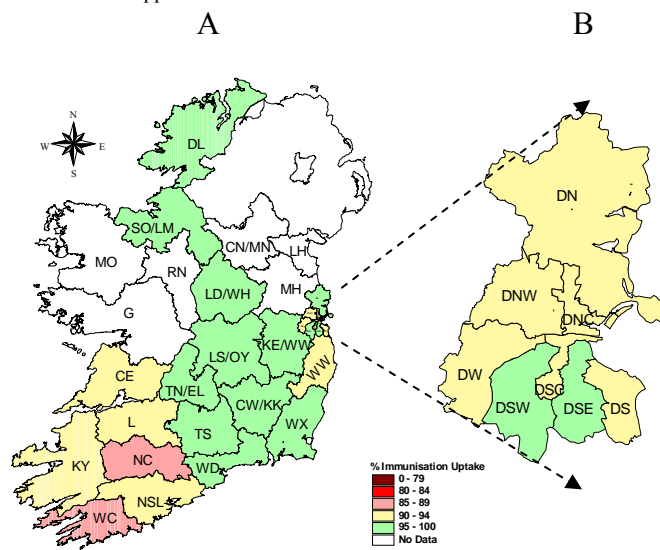


Figure 11. PCV₆ immunisation uptake rates (%) by LHO, in those 24 months of age in Quarter 1-2014, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

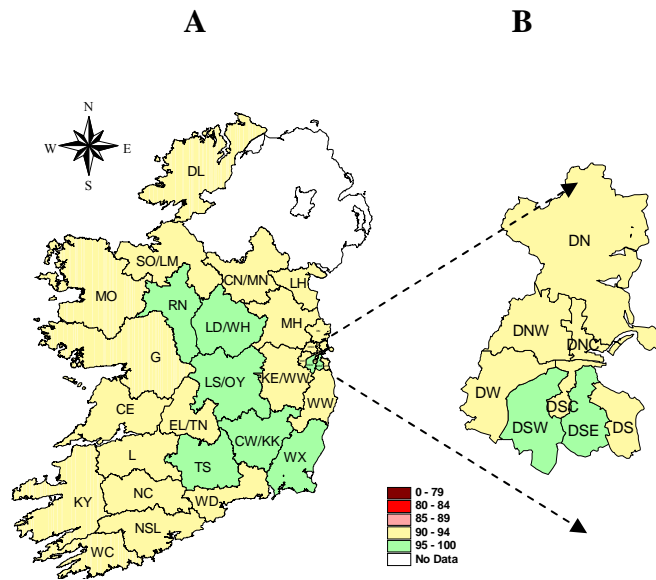


Figure 12. MMR₁ immunisation uptake rates (%) by LHO, in those 24 months of age in Quarter 1-2014, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

Appendix 1

Immunisation Uptake at 12 Months in Cohort Born 01/01/2013-31/03/2013											
HSE Area	LHO/HSE Area	No. in cohort for BCG	No. in cohort for other vaccines*	Immunisation Uptake (%)							
				BCG	D ₃ T ₃	P ₃	Hib ₃	Polio ₃	HepB ₃	MenC ₂	PCV ₂
Eastern	Dublin South	409	409	91	91	91	91	91	91	91	92
	Dublin South East	444	444	89	91	91	91	91	91	91	91
	Dublin South City	420	420	92	90	90	90	90	90	90	90
	Dublin South West	600	600	95	93	93	93	93	93	94	94
	Dublin West	611	611	92	91	91	91	91	91	91	91
	Dublin North West	891	891	93	89	89	89	89	89	88	88
	Dublin North Central	470	470	93	90	90	90	90	90	90	90
	Dublin North	952	952	95	91	91	91	91	91	92	91
	Kildare/West Wicklow	957	957	95	93	93	93	93	93	93	93
	Wicklow	431	431	93	91	91	91	91	91	91	91
HSE-E Total	6185	6185	93	91	91	91	91	91	91	91	91
Midland	Laois/Offaly	576	576	96	97	97	97	97	97	97	97
	Longford/Westmeath	470	470	93	95	95	95	95	95	95	95
	HSE-M Total	1046	1046	95	96	96	96	96	96	96	96
Mid Western	Clare	402	409	98	94	94	92	94	92	93	93
	Limerick	428	444	99	93	93	93	93	93	93	93
	Tipperary NR/East Limerick	448	473	96	92	92	92	92	92	92	93
	HSE-MW Total	1278	1326	98	93	93	92	93	92	93	93
North Eastern	Cavan/Monaghan	na	471	na	92	92	92	92	92	94	95
	Louth	na	466	na	89	89	89	89	89	89	89
	Meath	na	815	na	92	92	92	92	92	93	93
	HSE-NE Total	na	1752	na	91	91	91	91	91	92	92
North Western	Donegal	490	490	94	94	94	93	94	92	93	94
	Sligo/Leitrim	331	331	96	92	92	92	92	91	90	92
	HSE-NW Total	821	821	95	93	93	93	93	92	92	93
South Eastern	Carlow/Kilkenny	459	459	98	92	92	92	92	92	92	92
	South Tipperary	295	295	98	95	95	95	95	95	95	95
	Waterford	433	433	93	92	92	92	92	92	92	92
	Wexford	519	519	97	94	94	94	94	93	94	94
	HSE-SE Total	1706	1706	96	93	93	93	93	93	93	93
Southern	North Cork	372	369	95	91	91	91	91	92	88	88
	North South Lee	1456	1433	94	90	90	90	90	90	87	87
	West Cork	193	192	90	88	88	88	88	88	86	85
	Kerry	441	436	93	92	92	92	92	92	89	88
	HSE-S Total	2462	2430	94	90	90	90	90	90	87	87
Western	Galway	na	892	na	92	92	92	92	92	93	93
	Mayo	na	421	na	92	92	92	92	92	93	93
	Roscommon	na	216	na	98	98	98	98	98	98	98
	HSE-W Total	1529	1529	14	93	93	93	93	93	93	93
Ireland	15027	16795	86	92	92	92	92	92	92	92	

na=not available

* As the denominator/number in cohort varied slightly according to vaccine, most commonly used number is presented here.

Please note while North Lee and South Lee are two separate LHOs their combined immunisation uptake data are reported here.

Appendix 2

Immunisation uptake (%) at 24 months of age in cohort born 01/01/2012-31/03/2012													
HSE Area	LHO/HSE Area	No. in cohort*	Immunisation Uptake (%)										
			D ₃ T ₃	P ₃	Hib ₃	Hib _b	Polio ₃	HepB ₃	MenC ₃	MenC _b	PCV ₃	PCV _b	MMR ₁
Eastern	Dublin South	437	94	94	94	90	94	94	87	89	89	91	90
	Dublin South East	398	96	96	96	94	96	96	92	93	94	96	95
	Dublin South City	429	95	95	95	89	95	95	86	89	90	92	92
	Dublin South West	680	98	98	98	94	98	98	88	94	92	96	96
	Dublin West	721	96	96	96	91	96	95	87	91	88	93	94
	Dublin North West	940	93	93	93	87	93	93	84	87	90	92	92
	Dublin North Central	467	93	93	93	89	93	93	85	89	89	92	92
	Dublin North	1125	92	92	92	88	92	92	85	88	90	92	92
	Kildare/West Wicklow	986	96	96	96	92	96	96	89	92	93	95	94
	Wicklow	514	96	96	96	89	96	96	85	88	91	93	93
	HSE-E Total	6697	95	95	95	90	95	95	87	90	91	93	93
Midland	Laois/Offaly	630	98	98	98	98	98	98	93	96	95	97	97
	Longford/Westmeath	493	98	98	98	98	98	98	94	96	95	98	98
	HSE-M Total	1123	98	98	98	98	98	98	93	96	95	97	97
Mid Western	Clare	440	97	97	97	95	97	97	93	95	92	94	94
	Limerick	498	96	96	96	88	96	96	86	88	92	93	92
	Tipperary NR/East Limeric	464	96	96	96	92	96	96	87	92	92	95	92
	HSE-MW Total	1402	96	96	96	91	96	96	89	92	92	94	93
North Eastern	Cavan/Monaghan	472	97	97	97	92	97	97	89	na	93	na	94
	Louth	504	93	93	93	88	93	93	84	na	89	na	91
	Meath	809	95	95	95	88	95	95	86	na	90	na	91
	HSE-NE Total	1785	95	95	95	89	95	95	86	na	90	na	92
North Western	Donegal	538	96	96	96	93	96	95	89	93	91	95	94
	Sligo/L Leitrim	356	96	96	96	92	96	96	85	91	90	95	94
	HSE-NW Total	894	96	96	96	93	96	95	87	92	91	95	94
South Eastern	Carlow/Kilkenny	509	97	97	97	95	97	97	90	93	94	95	96
	South Tipperary	335	96	96	96	97	96	96	89	95	94	95	95
	Waterford	473	95	95	95	95	95	95	89	93	93	95	94
	Wexford	520	97	97	97	97	97	97	93	96	95	96	97
	HSE-SE Total	1837	96	96	96	96	96	96	90	94	94	95	96
Southern	North Cork	396	93	93	93	89	93	93	86	88	89	89	90
	North South Lee	1454	94	94	94	87	94	94	83	86	89	91	90
	West Cork	193	93	93	92	85	93	93	79	81	88	89	90
	Kerry	475	98	98	98	94	98	98	91	92	93	94	94
	HSE-S Total	2518	95	95	95	89	95	95	85	87	90	91	91
Western	Galway	932	97	97	97	97	97	97	90	na	94	na	94
	Mayo	395	95	95	95	95	95	95	86	na	91	na	90
	Roscommon	208	99	99	99	97	99	99	97	na	99	na	97
	HSE-W Total	1535	97	97	97	96	97	96	90	na	94	na	93
Ireland	17791	95	95	95	92	95	95	88	91	91	94	93	

na=not available

*As the denominator/number in cohort varied slightly according to vaccine. The most commonly used number is reported here.
Please note while North Lee and South Lee are two separate LHOs their combined immunisation uptake data are reported here.

Appendix 3

Local Health Office (LHO) Abbreviations (used in maps in this report)	Local Health Office (LHO)
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

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