

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 2-2014 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 01/04/2013 and 30/06/2014) and 24 (born between 01/04/2012 and 30/06/2012) months of age in Quarter 2-2014.

The Quarter 2-2014 cohort of children at 24 months are the sixteenth 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 2-2014

National

- Immunisation uptake rates in children 12 months of age in Q2-2014 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 Q2-2014; these areas cover approximately 90% of the national birth cohort. Where data were available, national uptake was 87% for the BCG vaccination.
- Figure 1 presents the national uptake rates at 12 months for each vaccine from Q3-2000 to Q2-2014. Compared to Q1-2014, national uptake rates in Q2-2014 for D₃, P₃, T₃, Hib₃, Polio₃, HepB₃, PCV₂ and MenC₂ were unchanged. BCG uptake increased by 1% compared to Q1-2014.

HSE Area

- Among the HSE Areas, the uptake rates for D₃, P₃, T₃, Hib₃, Polio₃ and HepB₃ ranged from 90-95% and MenC₂ and PCV₂ ranged from 88% to 95%. 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 11 LHOs for BCG, 6 LHOs for D₃, P₃, T₃, Hib₃, Polio₃, MenC₂ and PCV₂ and in 7 for HepB₃.

Table 2. Immunisation uptake (%) at 12 months in cohort born 01/04/2013–30/06/2013

HSE Area	No. in cohort*	BCG	D ₃ T ₃	P ₃	Hib ₃	Polio ₃	HepB ₃	MenC ₂	PCV ₂
Eastern	6384	93	92	92	92	92	92	92	92
Midland	1034	95	95	95	95	95	95	95	95
Mid Western	1317	96	93	93	93	93	93	93	93
North Eastern	1765	na	93	93	93	93	93	94	94
North Western	844	95	94	94	94	94	93	93	94
South Eastern	1776	96	92	92	92	92	92	92	92
Southern	2368	93	90	90	90	90	90	88	88
Western	1441	16	94	94	94	94	94	94	94
Ireland	16929	87	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 15,154

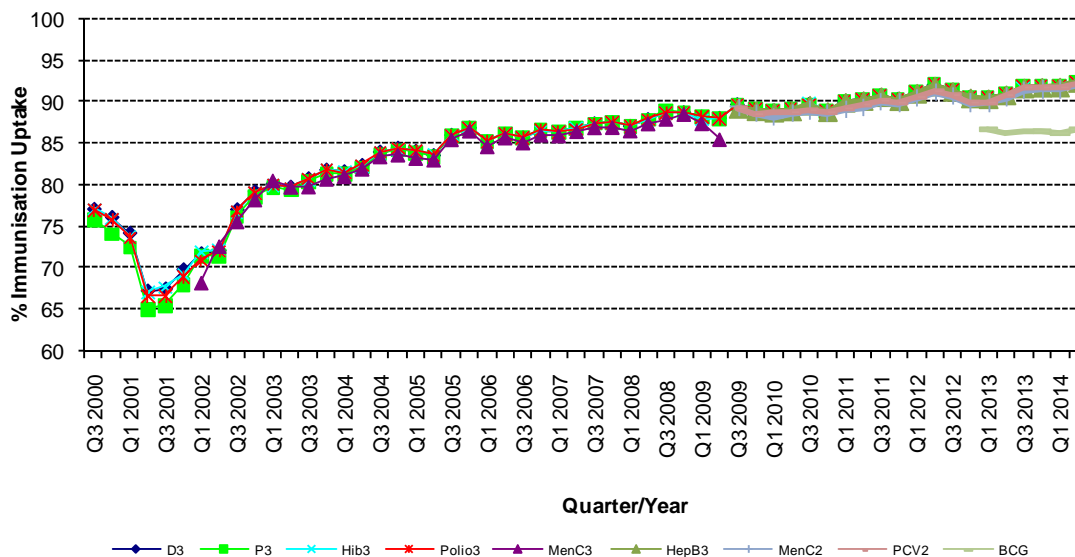


Figure 1. National quarterly immunisation uptake rates at 12 months

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.

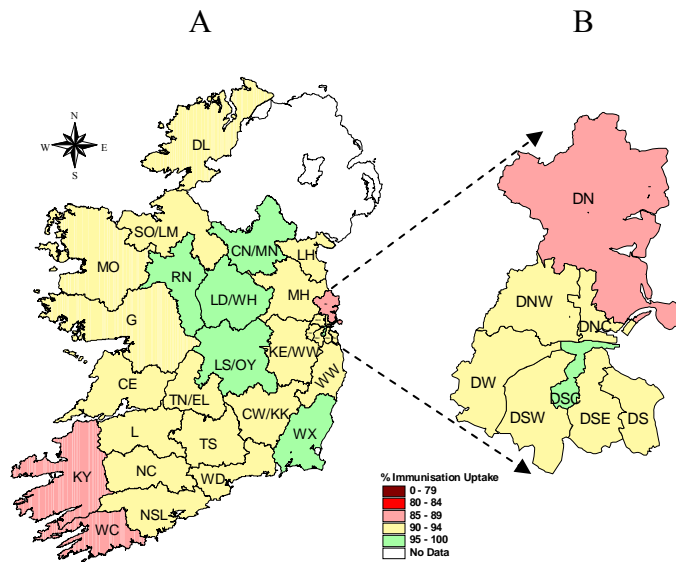


Figure 2. D₃ immunisation uptake rates (%) by LHO, in those 12 months of age in Quarter 2-2014, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

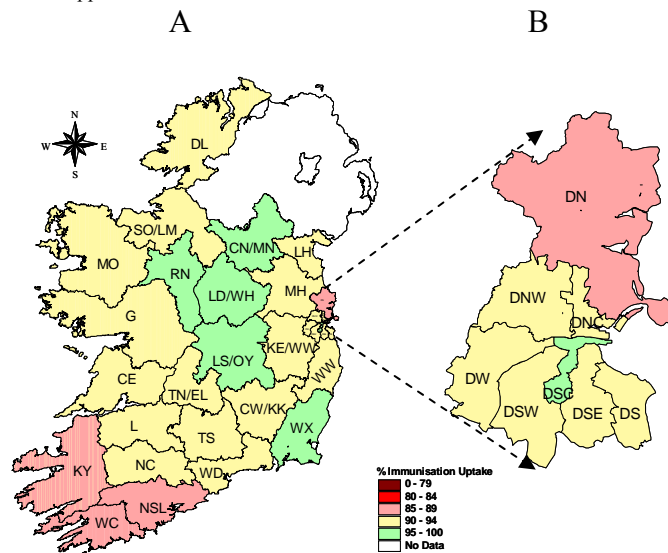


Figure 3. MenC₂ immunisation uptake rates (%) by LHO, in those 12 months of age in Quarter 2-2014, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

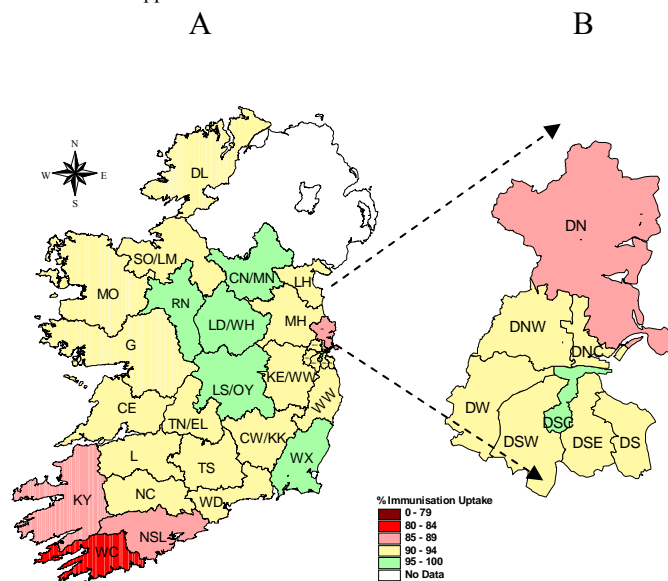


Figure 4. PCV₂ immunisation uptake rates (%) by LHO, in those 12 months of age in Quarter 2-2014, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

Immunisation uptake among children 24 months of age in Quarter 2-2014

National

- National uptake rates were 95% for D₃, P₃, T₃, Hib₃, Polio₃ and HepB₃, 93% for MMR₁, 91% for Hib_b, 91% for PCV₃ and 87% for MenC₃.
- Figure 5 presents the national uptake rates at 24 months for each vaccine from Q1-1999 to Q2-2014. Compared to the previous quarter, national uptake rates in Q2-2014 decreased by 1% for Hib_b and MenC₃ 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 seven of the eight HSE Areas, for Hib_b, PCV₃ and MMR₁ in two HSE Areas 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 Q2-2014. These Areas cover approximately 80%-81% of the national birth cohort. Where data were available, national uptake was 90% for MenC_b and 93% for PCV_b. The target uptake of $\geq 95\%$ was reached for PCV_b in two HSE Areas and in one for MenC_b.

Local Health Office (LHO)

- Immunisation uptake rates in children 24 months of age in Q2-2014 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 and Polio₃, 22 for HepB₃, 7 for MMR₁, 6 for PCV_b, 5 for Hib_b, 4 for PCV₃, 3 for MenC_b, and in one for MenC₃.

Table 3. Immunisation uptake (%) at 24 months in cohort born 01/04/2012–30/06/2012

HSE Area	No. in Cohort*	D ₃ /T ₃ /P ₃ / Polio ₃	Hib _b	Hib ₃ / HepB ₃	MenC ₃	MenC _b	PCV ₃	PCV _b	MMR ₁
Eastern	6635	94	88	94	85	88	89	91	91
Midland	1185	98	98	98	92	95	95	97	97
Mid Western	1376	95	90	95	86	90	91	93	91
North Eastern	1853	96	91	96	88	na	91	na	92
North Western	903	97	92	96	86	92	90	95	95
South Eastern	1853	96	94	96	88	92	93	94	94
Southern	2477	96	92	96	89	91	92	94	94
Western	1625	96	95	96	92	na	95	na	94
Ireland	17907	95	91	95	87	90	91	93	93

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

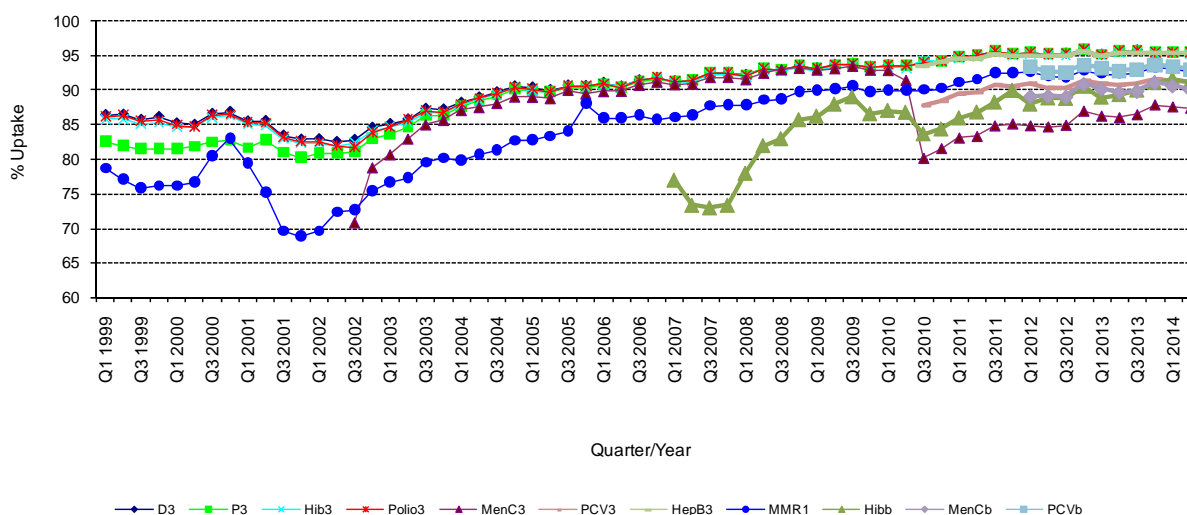


Figure 5. National quarterly immunisation uptake rates at 24 months

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 2-2014, 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 to a lesser extent 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.

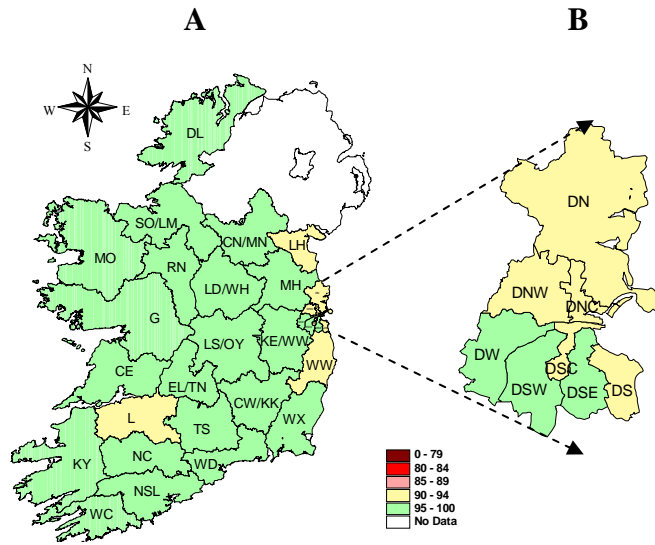


Figure 6. D₃ immunisation uptake rates (%) by LHO, in those 24 months of age in Quarter 2-2014, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

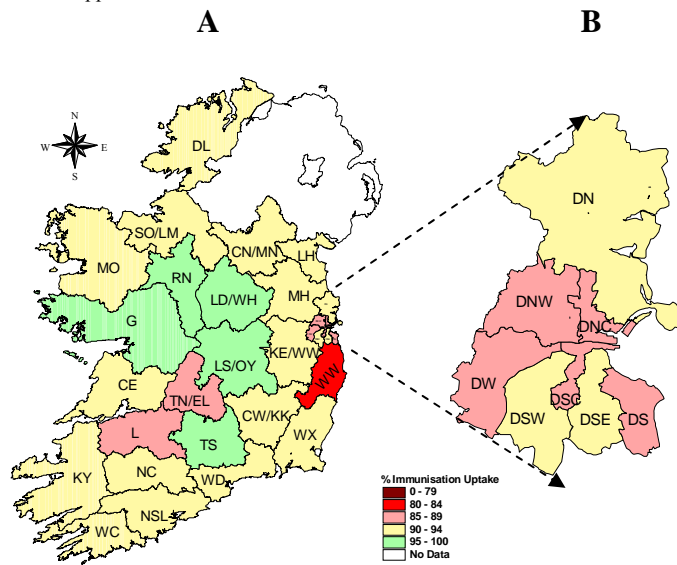


Figure 7. Hib₆ immunisation uptake rates (%) by LHO, in those 24 months of age in Quarter 2-2014, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

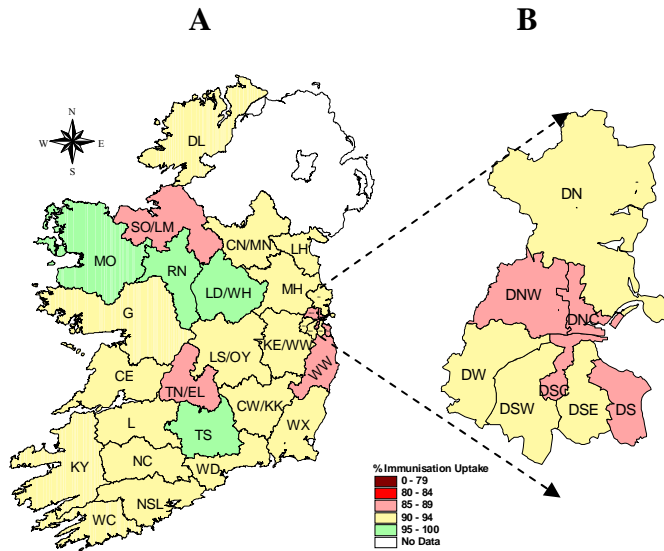


Figure 10. PCV₃ immunisation uptake rates (%) by LHO, in those 24 months of age in Quarter 2-2014, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

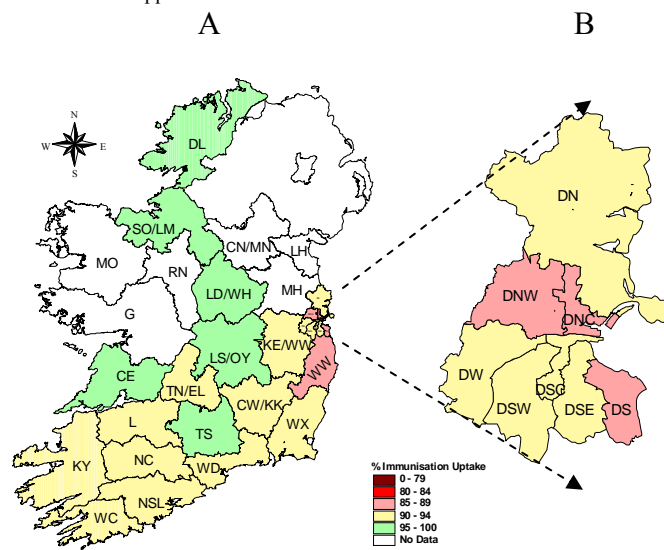


Figure 11. PCV₆ immunisation uptake rates (%) by LHO, in those 24 months of age in Quarter 2-2014, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

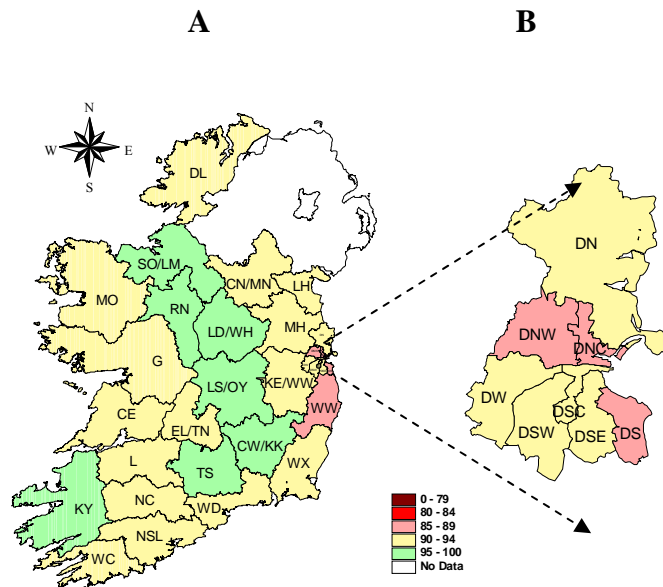


Figure 12. MMR₁ immunisation uptake rates (%) by LHO, in those 24 months of age in Quarter 2-2014, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

Appendix 1

Immunisation Uptake at 12 Months in Cohort Born 01/04/2013-30/06/2013											
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	415	415	92	92	92	92	92	92	91	92
	Dublin South East	407	407	90	92	92	92	92	92	92	92
	Dublin South City	464	464	92	95	95	95	95	95	95	95
	Dublin South West	592	592	96	94	94	94	94	94	94	94
	Dublin West	711	711	94	94	94	94	94	93	94	94
	Dublin North West	964	964	93	91	91	91	91	91	91	91
	Dublin North Central	473	473	89	91	91	91	91	91	90	91
	Dublin North	1043	1043	95	89	89	89	89	89	89	89
	Kildare/West Wicklow	910	910	95	91	91	91	91	91	91	91
	Wicklow	405	405	92	93	93	93	93	93	93	94
HSE-E Total	6384	6384	93	92	92	92	92	92	92	92	92
Midland	Laois/Offaly	578	578	95	95	95	95	95	95	95	95
	Longford/Westmeath	456	456	94	96	96	96	96	96	96	96
	HSE-M Total	1034	1034	95	95	95	95	95	95	95	95
Mid Western	Clare	400	403	95	93	93	93	93	93	92	92
	Limerick	431	456	98	94	94	94	94	94	94	94
	Tipperary NR/East Limerick	456	458	96	94	94	94	94	94	94	94
	HSE-MW Total	1287	1317	96	93	93	93	93	93	93	93
North Eastern	Cavan/Monaghan	na	468	na	95	95	95	95	95	98	97
	Louth	na	477	na	92	92	92	92	92	93	94
	Meath	na	820	na	92	92	92	92	92	92	93
	HSE-NE Total	na	1765	na	93	93	93	93	93	94	94
North Western	Donegal	495	495	94	94	94	94	94	93	93	94
	Sligo/Leitrim	349	349	96	94	94	94	94	94	94	94
	HSE-NW Total	844	844	95	94	94	94	94	93	93	94
South Eastern	Carlow/Kilkenny	482	482	96	90	90	90	90	90	90	90
	South Tipperary	340	340	98	94	94	94	94	95	94	94
	Waterford	479	479	94	90	90	90	90	89	90	90
	Wexford	475	475	96	96	96	96	96	96	96	96
	HSE-SE Total	1776	1776	96	92	92	92	92	92	92	92
Southern	North Cork	328	325	94	93	93	92	93	93	90	90
	North South Lee	1413	1401	94	90	90	90	90	90	89	88
	West Cork	189	189	90	89	89	88	89	89	85	84
	Kerry	458	453	91	89	89	89	89	89	86	85
	HSE-S Total	2388	2368	93	90	90	90	90	90	90	88
Western	Galway	na	854	na	94	94	94	94	94	94	94
	Mayo	na	361	na	91	91	91	91	91	91	92
	Roscommon	na	226	na	97	97	97	97	97	97	97
	HSE-W Total	1441	1441	16	94	94	94	94	94	94	94
Ireland	15154	16929	87	92	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 01/04/2012-30/06/2012													
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 ₆	PCV ₃	PCV ₆	MMR ₁
Eastern	Dublin South	441	93	93	93	87	93	93	83	86	88	89	89
	Dublin South East	409	95	95	95	92	95	95	91	93	92	93	92
	Dublin South City	434	94	94	94	87	94	94	83	86	88	91	91
	Dublin South West	670	96	96	96	94	96	96	89	93	92	94	94
	Dublin West	702	96	96	96	87	96	96	83	87	90	93	93
	Dublin North West	1002	91	91	91	86	91	91	82	85	86	88	87
	Dublin North Central	440	93	93	93	86	93	93	83	86	86	88	88
	Dublin North	1062	93	93	93	90	93	93	86	89	90	92	92
	Kildare/West Wicklow	971	96	96	96	92	96	96	89	92	92	94	93
	Wicklow	504	93	93	93	82	93	93	79	81	86	88	88
HSE-E Total	6635	94	94	94	88	94	94	85	88	89	91	91	
Midland	Laois/Offaly	661	98	98	98	98	98	98	92	95	94	97	97
	Longford/Westmeath	524	98	98	98	98	98	98	93	96	95	97	97
	HSE-M Total	1185	98	98	98	98	98	98	92	95	95	97	97
Mid Western	Clare	442	97	97	97	94	97	97	91	94	93	95	93
	Limerick	493	94	94	94	88	94	86	88	90	92	91	91
	Tipperary NR/East Limerick	441	95	95	95	88	95	95	83	87	89	92	91
	HSE-MW Total	1376	95	95	95	90	95	95	86	90	91	93	91
North Eastern	Cavan/Monaghan	503	96	96	96	90	96	96	86	na	91	na	92
	Louth	497	94	94	94	90	94	87	na	90	na	92	
	Meath	853	96	96	96	91	96	96	89	na	92	na	93
	HSE-NE Total	1853	96	96	96	91	96	96	88	na	91	na	92
North Western	Donegal	545	97	97	96	93	97	96	87	93	91	95	94
	Sligo/Leitrim	358	97	97	96	90	97	97	84	90	89	95	96
	HSE-NW Total	903	97	97	96	92	97	96	86	92	90	95	95
South Eastern	Carlow/Kilkenny	503	96	96	96	93	96	96	88	92	94	94	95
	South Tipperary	296	98	98	98	99	98	98	90	96	95	96	96
	Waterford	497	95	95	95	91	95	95	84	90	91	94	92
	Wexford	557	95	95	95	93	95	94	89	92	92	94	93
	HSE-SE Total	1853	96	96	96	94	96	96	88	92	93	94	94
Southern	North Cork	366	95	95	95	90	95	95	87	89	92	92	93
	North South Lee	1385	96	96	96	93	96	96	90	92	92	94	94
	West Cork	210	96	96	95	91	96	95	90	89	92	94	94
	Kerry	516	98	98	98	91	98	98	88	91	93	94	95
	HSE-S Total	2477	96	96	96	92	96	96	89	91	92	94	94
Western	Galway	955	96	96	96	96	96	96	91	na	94	na	93
	Mayo	456	96	96	96	91	96	96	92	na	97	na	94
	Roscommon	214	99	99	99	97	99	99	97	na	98	na	97
	HSE-W Total	1625	96	96	96	95	96	96	92	na	95	na	94
Ireland	17907	95	95	95	91	95	95	87	90	91	93	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