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 <u>www.immunisation.ie</u> 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 (D_3) , pertussis (P_3) , tetanus (T_3) , Haemophilus influenzae type b (Hib_3) , polio $(Polio_3)$, hepatitis B $(HepB_3)$, two doses of meningococcal serogroup C conjugate vaccine $(MenC_2)$, two doses of pneumococcal conjugate vaccine (PCV_2) 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 (D_3) , pertussis (P_3) , tetanus (T_3) , *Haemophilus influenzae* type b (Hib_3) , polio $(Polio_3)$, hepatitis B $(HepB_3)$, meningococcal group C $(MenC_3)$ and pneumococcal conjugate vaccine (PCV_3) and one dose of vaccine against measles, mumps and rubella (MMR_1) 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 $(Hib_b, MenC_b \text{ and } PCV_b \text{ respectively})$.

The national immunisation uptake statistics, based on available data, for Quarter 3-2014 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 01/07/2013 and 30/09/2013) and 24 (born between 01/07/2012 and 30/09/2012) months of age in Quarter 3-2014.

The Quarter 3-2014 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)

Meningococcal group C vaccine

Pneumococcal Conjugate Vaccine

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	Diptheria, Tetanus and acellular Pertussis vaccine								
Hib	Haemophilus influenzae type b vaccine								
HepB	Hepatitis B vaccine								
IPV	Inactivate Polio Virus vaccine								
MMR	Measles, Mumps and Rubella vaccine								

Tel: +353 1 876 5300

Fax: +353 1 856 1299

MenC PCV

Immunisation uptake among children 12 months of age in Quarter 3-2014

National

- Immunisation uptake rates in children 12 months of age in Q3-2014 are presented by HSE Area in table
 - National immunisation uptake rates were 92% for D_3 , P_3 , T_3 , Hib_3 , $Polio_3$, $HepB_3$ and PCV_2 and 91% for $MenC_2$.
 - BCG uptake data were available for seven of the eight HSE Areas in Q3-2014; these areas cover approximately 90% 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 Q3-2014.
 Compared to Q2-2014, national uptake rates in Q3-2014 for D₃, P₃, T₃, Hib₃, Polio₃, HepB₃ and PCV₂ were unchanged while MenC₂ and BCG declined by 1%.

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 88% to 96%.
 The HSE Midland Area, with uptake rates of 96% for all vaccines, 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 15 LHOs for BCG, 4 LHOs for D₃, P₃, T₃, Hib₃, Polio₃, MenC₂ and in 5 PCV₂.

Table 2. Immunisation uptake (%) at 12 months in cohort born 01/07/2013-30/09/2013

HSE Area	No. in cohort*	BCG	D_3T_3	P ₃	Hib ₃	Polio ₃	HepB ₃	MenC ₂	PCV ₂
Eastern	6779	94	91	91	91	91	91	91	91
Midland	1156	96	96	96	96	96	96	96	96
Mid Western	1367	97	92	92	92	92	92	92	92
North Eastern	1990	na	91	91	91	91	91	91	91
North Western	938	96	94	94	94	94	93	93	95
South Eastern	1902	95	93	93	93	93	93	92	93
Southern	2495	93	90	90	90	90	90	88	88
Western	1735	15	94	94	94	94	94	94	94
Ireland	18362	86	92	92	92	92	92	91	92

na = not available at this time

[†]Number in cohort for BCG is 16,336

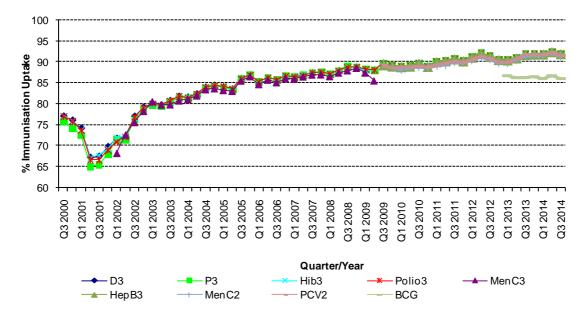


Figure 1. National quarterly immunisation uptake rates at 12 months

Since T_3 uptake is identical to D_3 uptake figures presented. The Q3-2008 Men C_3 uptake figure is based on data from six of the eight HSE Areas. The Q1-2009 HSE-Eastern Area D_3 , P_3 , P_3 , P_3 Polio $_3$ and MMR $_1$ 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 Men C_2 data and one additional area was unable to provide PCV_2 data. The PCV_2 data. The PCV_2 data are incomplete as three HSE Areas were unable to provide data. The PCV_2 data. The PCV_2 data are incomplete as two HSE Areas were unable to provide data. The PCV_2 data are incomplete as two HSE Areas were unable to provide data. The PCV_2 data are incomplete as one HSE Area was unable to provide data are only displayed in this graph from PCV_2 data and PCV_2 data only) from PCV_2 data only) from

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

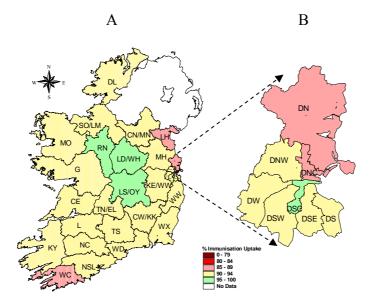


Figure 2. D₃ immunisation uptake rates (%) by LHO, in those 12 months of age in Quarter 3-2014, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

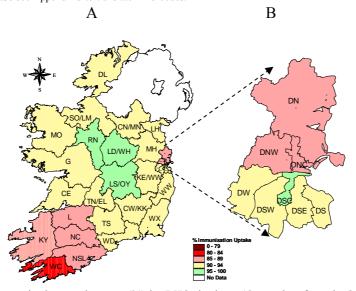


Figure 3. $MenC_2$ immunisation uptake rates (%) by LHO, in those 12 months of age in Quarter 3-2014, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

A

B

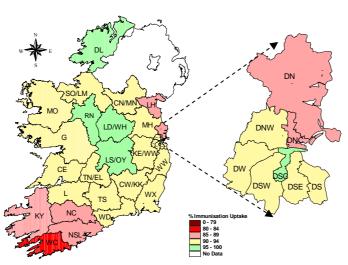


Figure 4. PCV₂ immunisation uptake rates (%) by LHO, in those 12 months of age in Quarter 3-2014, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

Immunisation uptake among children 24 months of age in Quarter 3-2014

National

National uptake rates were 96% for D₃, P₃, T₃, Hib₃, Polio₃ and HepB₃, 93% for MMR₁, 92% for Hib_b and PCV₃ and 88% for MenC₃. Compared to the previous quarter, national uptake rates in Q3-2014 increased by 1% for these vaccines except MMR₁ which was unchanged.

Figure 5 presents the national uptake rates at 24 months for each vaccine from Q1-1999 to Q3-2014.

HSE Area

- The target uptake of ≥95% was reached for D₃, P₃, T₃, Hib₃, Polio₃ and HepB₃ in seven of the eight HSE Areas, for Hib, 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 \geq 12 months of age) and PCV_b (one dose of PCV at ≥12 months of age) in Q3-2014. These Areas cover approximately 81% of the national birth cohort. Where data were available, national uptake was 91% for MenC_b and 93% for PCV_b. The target uptake of ≥95% was reached for PCV_b and MenC_b in one HSE Area.

Local Health Office (LHO)

- Immunisation uptake rates in children 24 months of age in Q3-2014 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
- The target uptake of ≥95% was reached in 25 LHOs for D₃, P₃, T₃, Hib₃, Polio₃ and HepB₃, 11 for MMR₁, 7 for PCV_b, 6 for Hib_b and PCV₃, 2 for MenC_b, and in one for MenC₃.

Table 3. *Immunisation uptake (%) at 24 months in cohort born 01/07/2012–30/09/2012*

HSE Area	No. in Cohort*	D ₃ /T ₃ / P ₃ / Polio ₃	Hib ₃	HepB ₃	Hib _b	MenC ₃	MenC _b	PCV ₃	PCV _b	MMR ₁
Eastern	6899	95	95	95	90	88	90	91	93	92
Midland	1156	98	98	98	98	93	96	95	97	97
Mid Western	1379	95	95	95	89	87	89	91	92	91
North Eastern	1926	94	94	94	89	86	na	90	na	91
North Western	967	97	97	96	91	86	91	90	94	93
South Eastern	1873	96	96	96	94	89	93	93	94	94
Southern	2618	96	95	95	91	88	90	92	93	93
Western	1622	98	98	98	98	93	na	97	na	95
Ireland	18480	96	96	96	92	88	91	92	93	93

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

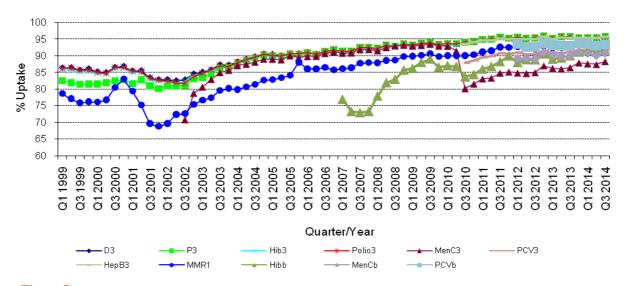


Figure 5. National quarterly immunisation uptake rates at 24 months

Notes: The Q4-2005 MMR, figure is based on data from seven of the eight HSE-Areas. The Q1-2006 MMR, figure includes the HSE-Eastern Area figure that is an estimate only. The Q1-2007, Q3-2007, Q2-2008 and Q3-2008 Hib, figures are based on data from seven of the eight HSE Areas. In Q1-2008 the uptake of Hib, 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, T₃, Polio, and MMR, uptake figures exclude those born on the 31/03/2007. The Q2-2009 HSE-Eastern Area Hib, uptake figures exclude uptake figures from Dublin North. The Q4-2009 High figures also exclude where figures from Dublin North. The Q1-2010 figures are based on data from six of the eight HSE Areas. The Q4-2009 Hib, figures also exclude uptake figures from Dublin North. The Q1-2010 figures are based on data from six of the eight HSE Areas. The MenC_b and PCV_b figures are based on data from six 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 3-2014, national uptake rates at 24 months for D_3 , P_3 , T_3 , Hib_3 , $Polio_3$ and $HepB_3$ reached the target of $\geq 95\%$. Since the introduction of the new childhood schedule in September 2008 $MenC_3$ and to a lesser extent Hib_b 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.

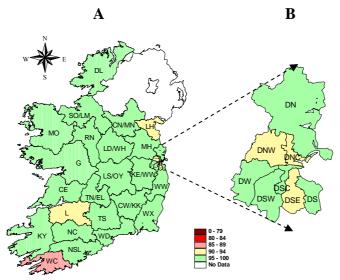


Figure 6. D_3 immunisation uptake rates (%) by LHO, in those 24 months of age in Quarter 3-2014, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

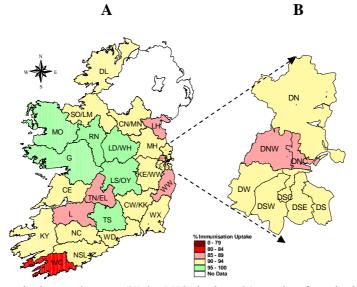


Figure 7. Hib_b immunisation uptake rates (%) by LHO, in those 24 months of age in Quarter 3-2014, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

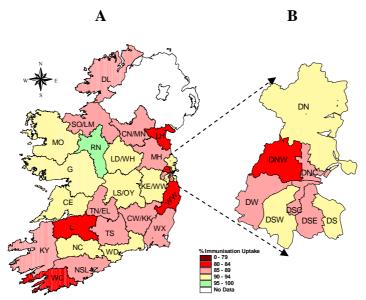


Figure 8. MenC₃ immunisation uptake rates (%) by LHO, in those 24 months of age in Quarter 3-2014, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

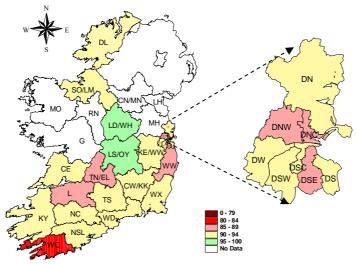


Figure 9. MenC_b immunisation uptake rates (%) by LHO, in those 24 months of age in Quarter 3-2014, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

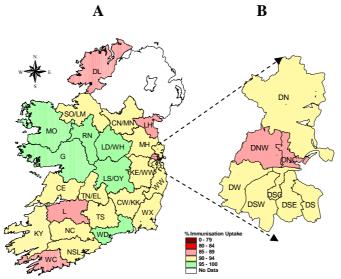


Figure 10. PCV_3 immunisation uptake rates (%) by LHO, in those 24 months of age in Quarter 3-2014, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

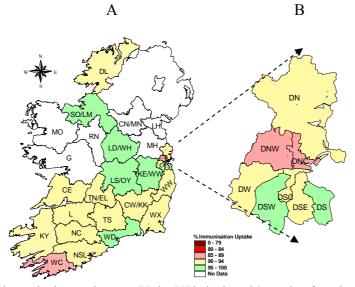


Figure 11. PCV_b immunisation uptake rates (%) by LHO, in those 24 months of age in Quarter 3-2014, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

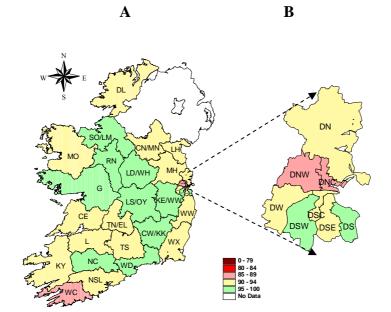


Figure 12. MMR₁ immunisation uptake rates (%) by LHO, in those 24 months of age in Quarter 3-2014, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

Appendix 1

- 11	Immunis	ation Up	take at 12 M	onths in	Cohort	Born 01/	07/2013-	30/09/201	3		
				Immunisation Uptake (%)							
HSE		No. in cohort	No. in cohort for other								
Area	LHO/HSE Area	for BCG	vaccines	BCG	D_3T_3	P ₃	Hib ₃	Polio ₃	HepB ₃	MenC ₂	PCV ₂
	Dublin South	447	447	90	91	91	91	91	91	91	91
	Dublin South East	424	424	90	93	93	93	93	93	93	93
	Dublin South City	434	434	94	96	96	96	96	96	96	96
	Dublin South West	627	627	97	94	94	94	94	94	94	94
	Dublin West	743	743	93	90	90	90	90	90	90	90
Eastern	Dublin North West	961	961	94	90	90	90	90	90	89	90
	Dublin North Central	521	521	91	89	89	89	89	89	88	88
	Dublin North	1119	1119	95	88	88	88	88	88	88	88
	Kildare/West Wicklow	1032	1032	96	92	92	92	92	92	93	93
	Wicklow	471	471	94	91	91	91	91	91	91	91
	HSE-E Total	6779	6779	94	91	91	91	91	91	91	91
	Laois/Offaly	676	676	95	96	96	96	96	96	96	96
Midland	Longford/Westmeath	480	480	97	96	96	96	96	96	96	96
	HSE-M Total	1156	1156	96	96	96	96	96	96	96	96
	Clare	382	386	96	92	92	92	92	92	92	92
Mid	Limerick	448	494	97	90	90	90	90	90	89	90
Western	Tipperary NR/East Limerick	475	487	99	93	93	93	93	93	93	93
	HSE-MW Total	1305	1367	97	92	92	92	92	92	92	92
	Cavan/Monaghan	na	551	na	93	93	93	93	93	93	93
North	Louth	na	518	na	89	89	89	89	89	90	89
Eastern	Meath	na	921	na	91	91	91	91	91	91	91
	HSE-NE Total	na	1990	na	91	91	91	91	91	91	91
					•	•		•	•		
N. 41	Donegal	578	578	96	94	94	94	94	93	93	95
North	Sligo/Leitrim	360	360	96	94	94	94	94	93	92	94
Western	HSE-NW Total	938	938	96	94	94	94	94	93	93	95
	Carlow/Kilkenny	505	505	97	92	92	92	92	92	90	91
	South Tipperary	368	368	96	93	93	93	93	93	93	93
South	Waterford	481	481	94	93	93	93	93	93	94	94
Eastern	Wexford	548	548	96	93	93	93	93	93	93	93
	HSE-SE Total	1902	1902	95	93	93	93	93	93	92	93
	North Cork	370	365	95	91	91	91	91	91	88	89
	North South Lee	1512	1497	93	90	90	90	90	90	89	88
Southern	West Cork	179	178	95	89	89	89	89	89	82	84
	Kerry	460	455	94	91	91	91	91	91	86	86
	HSE-S Total	2521	2495	93	90	90	90	90	90	88	88
	* ***	-									
	Galway	na	1022	na	93	93	93	93	93	93	94
	Mayo	na	470	na	94	94	94	94	94	93	94
Western	Roscommon	na	243	na	96	96	96	96	96	96	96
	HSE-W Total	1735	1735	15	94	94	94	94	94	94	94
			1100		J	,	,	,	U-,	,	V -1
	Ireland	16336	18362	86	92	92	92	92	92	91	92
	nelaliu	10330	10302	00	92	92	92	92	92	91	92

na=not available

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

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

Appendix 2

Appendix 2													
Immunisation uptake (%) at 24 months of age in cohort born 01/07/2012-30/09/2012													
				Immunisation Uptake (%)									
		No. in											
HSE Area	LHO/HSE Area	cohort*	D_3T_3	P ₃	Hib ₃	Hibb	Polio ₃	HepB ₃	MenC ₃	MenC _b	PCV ₃	PCV _b	MMR₁
HOL AICA	Dublin South	489	97	97	97	94	97	97	91	94	94	95	95
	Dublin South East	430	94	94	94	90	94	94	86	88	90	93	93
	Dublin South City	426	96	96	96	90	96	96	87	90	90	92	92
	Dublin South West	642	96	96	96	94	96	96	90	93	93	95	95
	Dublin West	809	95	95	95	91	95	95	88	91	91	93	93
Eastern	Dublin North West	1028	93	93	93	85	93	93	83	85	88	89	88
	Dublin North Central	459	94	94	94	88	94	94	85	88	86	88	89
	Dublin North	1109	95	95	95	91	95	95	90	92	93	93	93
	Kildare/West Wicklow	1009	97	97	97	94	97	97	91	94	93	95	95
	Wicklow	498	95	95	95	85	95	95	84	86	90	91	91
	HSE-E Total	6899	95	95	95	90	95	95	88	90	91	93	92
	Laois/Offaly	625	98	98	98	98	98	98	93	96	95	96	96
Midland	Longford/Westmeath	531	98	98	98	98	98	98	92	95	95	97	98
	HSE-M Total	1156	98	98	98	98	98	98	93	96	95	97	97
			1										
	Clare	430	96	96	96	92	96	96	90	92	93	94	92
Mid	Limerick	473	94	94	94	86	94	94	84	86	89	91	90
Western	Tipperary NR/East Limeric	476	96	96	96	89	96	96	86	89	91	92	91
	HSE-MW Total	1379	95	95	95	89	95	95	87	89	91	92	91
	I	504	0.0										
	Cavan/Monaghan	531	96	96	96	90	96	96	85	na	91	na	92
North	Louth	516	92	92	92	85	92	92	82	na	88	na	90 92
Eastern	Meath	879	95 94	95	95 94	90	95	95	89	na	92 90	na	92
	HSE-NE Total	1926	94	94	94	89	94	94	86	na	90	na	91
	Donegal	587	96	96	96	90	96	95	86	90	89	93	92
North	Sligo/Leitrim	380	97	97	97	92	97	97	87	93	91	96	95
Western	HSE-NW Total	967	97	97	97	91	97	96	86	91	90	94	93
	HOLINY TOTAL	301		, J,	J.,	, ,,	3,	30	- 00	J.	30		
	Carlow/Kilkenny	515	96	96	96	94	96	96	87	92	92	94	95
	South Tipperary	308	96	96	96	95	96	96	89	94	92	94	93
South	Waterford	494	96	96	96	93	96	96	91	93	95	95	95
Eastern	Wexford	556	96	96	96	94	96	96	89	93	93	94	94
	HSE-SE Total	1873	96	96	96	94	96	96	89	93	93	94	94
	North Cork	387	96	96	96	93	96	96	91	92	94	94	95
	North South Lee	1570	96	96	96	91	96	96	88	90	92	94	94
Southern	West Cork	182	88	88	88	84	88	88	80	82	85	86	85
	Kerry	479	96	96	96	92	96	96	89	91	92	93	92
	HSE-S Total	2618	96	96	95	91	96	95	88	90	92	93	93
	Galway	983	98	98	98	98	98	98	93	na	97	na	96
Western	Mayo	441	97	97	97	97	97	97	92	na	97	na	94
** COLCIII	Roscommon	238	99	99	99	97	99	99	96	na	98	na	97
	HSE-W Total	1662	98	98	98	98	98	98	93	na	97	na	95
	Ireland	18480	96	96	96	92	96	96	88	91	92	93	93

na=not available

'As the denominator/number in cohort varied slighly 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