

Background

The national immunisation uptake statistics, based on available data, for Quarter 1 2018 are presented in this report. These immunisation uptake statistics relate to children at 12 (born between 01/01/2017 and 31/03/2017) and 24 (born between 01/01/2016 and 31/03/2016) months of age in Quarter 1-2018. These children were recommended the vaccines outlined in table 1. The immunisation schedule changed in 2016 for children born on or after October 1st 2016 after the National Immunisation Advisory Committee (NIAC) recommended meningococcal B (MenB) and rotavirus (Rota) vaccines (table 1). There is a change in timing of MenC with MenC now recommended at 6 months of age; in previous schedule MenC was recommended at 4 months (Table 1). A combined Hib/MenC dose and a PCV dose are now recommended at 13 months (Table 1).

For children at 12 months of age in Quarter 1 2018, 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 pneumococcal conjugate vaccine (PCV₂), two doses of meningococcal serogroup B vaccine (MenB₂), two doses of rotavirus vaccine (Rota₂), one dose of meningococcal serogroup C conjugate vaccine (MenC₁) and one dose of BCG vaccine are reported.

For children at 24 months of age in Quarter 1 2018, 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) and pneumococcal conjugate vaccine (PCV₃), two doses of vaccine against meningococcal group C (MenC₂) and one dose of vaccine against measles, mumps and rubella (MMR₁) are reported. One dose of vaccine against *Haemophilus influenzae* type b (Hib₁), one dose of meningococcal group C vaccine (MenC₁) and one dose of pneumococcal conjugate vaccine (PCV₁) given on or after 12 months of age are also reported.

The uptake statistics are also presented in this report by Community Healthcare Organisation (CHO) 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 uptake rates presented here were rounded to zero decimal place. Cavan/Monaghan, Louth and Meath accurate data were not available in Q1 2018 and are not included in any of the figures/data in this report.

Table 1. Primary childhood immunisation schedule for children born since 01/07/2015

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

Please note the primary immunisation schedule changed in 2015 for children born on or after 01/07/2015 and changed in 2016 for children born on or after October 1st 2016. 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

Immunisation uptake among children at 12 months of age in Quarter 1-2018

National

- National immunisation uptake rates were 92% for MenB₂ and 89% for D₃, T₃, P₃, Hib₃, Polio₃, HepB₃, Rota₂ and MenC₁ and 88% for PCV₂ (table 2). All figures/data presented here do not include the Cavan/Monaghan, Meath and Louth data as accurate data were not available for these LHOs.
- This is the second cohort recommended the new immunisation schedule. The new immunisation schedule and changes in the schedule are shown in Table 1. MenB and Rota vaccines are now recommended. There is a change in timing of MenC with MenC now recommended at 6 months of age; in previous schedule MenC was recommended at 4 months (Table 1). A combined Hib/MenC dose and a PCV dose are now recommended at 13 months (Table 1).
- Compared to the previous quarter and based on available data, the national uptake rate in Q1-2018 for MenB₂ and MenC₁ increased by 1% and the remaining vaccine uptake rates were unchanged (figure 1).
- While MenC₁ uptake increased by 1% compared to Q4 2017 it is 5-6% lower than Quarters 1-3 2017. MenC previously declined in Q3 2010 for those at 24 months of age (and there was low uptake of Hib_b). These were the first cohort recommended hepatitis B and pneumococcal conjugate vaccines. In addition, there was a change in timing of the meningococcal serogroup C vaccines and *Haemophilus influenzae* type b booster vaccine for this cohort. The Q3 2010 report is [here](#). The reasons for this decline and actions taken are described [here](#).
- The BCG vaccine stock in all areas expired at the end of April 2015 so BCG vaccination clinics in HSE Clinics and Maternity hospitals have been postponed until new stock arrives. The licensed vaccine manufacturer has informed the HSE that BCG vaccine will not be delivered into Ireland until further notice and no alternative licensed supplier has been found. Please see <https://www.hse.ie/eng/health/immunisation/news/bcg17.html> for further information.

Community Healthcare Organisation (CHO)

- Among the CHOs, the uptake rates for MenB₂ ranged from 88% to 96%, Rota₂ ranged from 84% to 95%, D₃, T₃, P₃, Hib₃, Polio₃ and HepB₃, PCV₂ and MenC₁ ranged from 85% to 94% (table 2).

Local Health Office (LHO)

- The immunisation uptake rates by LHO are shown in appendix 1.
- D₃, MenC₁, PCV₂, MenB₂ and Rota₂ immunisation uptake rates are mapped by LHO in figures 2-6.
- The target uptake rate of 95% was reached for D₃, T₃, P₃, Hib₃, Polio₃, HepB₃, MenC₁, PCV₂, MenB₂ and Rota₂ in Roscommon, in Mayo for PCV₂, MenB₂ and Rota₂ and in Galway, Clare, North Cork, North South Lee, Tipperary South and Laois/Offaly for MenB₂ (appendix 1).
- The immunisation uptake rates by Quarter and LHO are available [here](#) (tables) and [here](#) (graphs).

Changes in uptake in Q1 2018 compared to previous quarters

- Nationally,
 - In Q1 2018 based on available data, MenC₁ uptake increased by 1%. MenC₁ uptake had declined to 88% in Q4 2017 from 94% in Q3; a decline of 6%. MenC₁ was first measured in Q3 2016 and was 94-95% in all quarters nationally since then but has declined to 88% nationally in Q4 2017 and was 89% in Q1 2018 (based on available data).
 - National uptake rates of D₃/T₃/P₃/Hib₃/Polio₃/HepB₃ were 89% and PCV₂ was 88% in Q1 2018 based on available data, compared to 90% in Q3 2017.
- Among the LHOs,
 - MenC₁ uptake in Q1 2018 compared to Q4 2017 ranged from an increase of 8% in DN to a decrease of 8% in WC. However, MenC₁ uptake in DN in Q1 2018 (83%) is still 7% lower compared to Q3 2017 (90%).
 - Uptake rates of D₃/T₃/P₃/Hib₃/Polio₃/HepB₃ in Q1 2018 compared to Q4 2017 ranged from an increase of 3% in Galway and Dublin West to a decrease of 7% in West Cork. However, uptake in Q1 2018 in West Cork is identical to Q3 2017 (83%).
 - PCV₂ uptake rate in Q1 2018 compared to Q4 2017 ranged from an increase of 3% in DW to a decline of 10% in WC. However, Q1 2018 WC uptake (79%) is similar to Q3 2017 uptake (80%).
 - MenB₂ uptake rates in Q1 2018 compared to Q4 2017 ranged from an increase of 3% in NC and TS to a decrease of 5% in West Cork and Wicklow.
 - Rota₂ uptake rates in Q1 2018 compared to Q4 2017 ranged from an increase of 4% in MO to a decrease of 8% in WC.
- Among 28 LHOs i.e. excluding the CN/MN, LH and MH LHOs for Q1 2018 and Q3-Q4 2017:
 - D₃ uptake (figure 2) was >=90% in 11 of the LHOs in Q1 2018 compared to 14 of the LHOs in Q4 2017 and 18 of the LHOs in Q3 2017.
 - MenC₁ uptake (figure 3) was >=90% in 13 of the LHOs in Q1 2018 compared to 15 of the LHOs in Q4 2017 and 27 of the LHOs in Q3 2017.
 - PCV₂ uptake (figure 4) was >=90% in 10 of the LHOs in Q1 2018, compared to 13 of the LHOs in Q4 2018 and 16 of the LHOs in Q3 2017.
 - MenB₂ uptake (figure 5) was >=90% in 18 LHOs in Q1 2018 compared to 22 in Q4 2017.
 - Rota₂ uptake (figure 6) was >=90% in 10 LHOs in Q1 2018 compared to 11 in Q4 2017.
- Changes in uptake by LHO in Q1 2018 compared to Q4 2017 (except BCG):
 - CHO1
 - CN/MN accurate data were not available in Q1 2018
 - Donegal uptake of all vaccines declined by 4-6% compared to Q4 2017. In Q1 2018 uptake of Rota₂ was 81% compared to 88% for MenB₂ and 84-85% for the rest of the vaccines.

- SO/LM Rota₂ uptake declined by 3% while remaining vaccines increased by 1-2%. In Q1 2018 uptake of Rota₂ was 88% compared to 93-95% for the rest of the vaccines.
 - CHO2
 - G uptake increased by 2-3%
 - MO uptake improved by 1-4%
 - RN MenB₂ uptake increased by 3%, Rota₂ increased by 1%, PCV₂ declined by 2% while the remaining vaccines declined by 1%. Uptake was >=95% for all vaccines.
 - CHO3
 - CE uptake increased by 1% for MenB₂ and Rota₂, declined by 2% for PCV₂ and declined by 1% for the remainder.
 - L MenB₂ uptake declined by 1% and Rota₂ declined by 2% while the remaining vaccines were unchanged.
 - EL/TN MenC₁, PCV₂ and MenB₂ uptake were unchanged, Rota₂ declined by 1% and the remaining vaccines increased by 1%. In Q1 2018 Rota₂ uptake was 88% compared to 90% for D₃/T₃/P₃/Hib₃/Polio₃/HepB₃.
 - CHO4
 - NC MenB₂ uptake increased by 3%, PCV₂ uptake was unchanged and the remaining vaccines increased by 1%.
 - NSL MenB₂ and Rota₂ uptake increased by 2%, PCV₂ was unchanged and the remaining vaccines decreased by 1%.
 - WC uptake decreased by 5-11% for all vaccines in Q1 2018 compared to Q4 2017. However, uptake in Q1 2018 is similar to Q3 2017 except MenC₁ which is 8% lower in Q1 2018 compared to Q3 2017.
 - KY PCV₂, MenB₂ and Rota₂ uptake declined by 1-2% and were unchanged for the remainder. In Q1 2018 uptake of Rota₂ was 86% compared to 89% for D₃/T₃/P₃/Hib₃/Polio₃/HepB₃.
 - CHO5
 - CW/KK uptake declined by 2-3% for all vaccines.
 - TS uptake increased by 2% for MenB₂ and Rota₂ and was unchanged for the remainder.
 - WD PCV₂, MenB₂ and Rota₂ declined by 2-3%, MenC₁ uptake increased by 1% while the remainder were unchanged. In Q1 2018 uptake of Rota₂ was 84% compared to 88% for D₃/T₃/P₃/Hib₃/Polio₃/HepB₃. In Q1 2018 uptake of D₃/T₃/P₃/Hib₃/Polio₃/HepB₃/PCV₂ were 4-5% lower compared to Q1 2017 and MenC₁ was 7% lower.
 - WX MenB₂ and Rota₂ uptake were unchanged and the remaining vaccines decreased by 2%.
 - CHO6
 - DS uptake increased by 1-2% for all vaccines.
 - DSE MenB₂ uptake increased by 2%, Rota₂ increased by 1% and the remaining declined by 1-2%.
 - WW uptake declined by 5-6% for all vaccines in Q1 2018 compared to Q4 2017 and by 12-16% in Q1 2018 compared to Q3 2017. In Q1 2018 uptake of MenB₂ was 82% and 80% for the remainder.
 - CHO7
 - DSC uptake increased by 1-2% for all vaccines except PCV₂ which was unchanged. Uptake is 5-7% lower in Q1 2018 compared to Q1 2017.
 - DSW uptake decreased by 1-3% for all vaccines except Rota₂ which increased by 2%.
 - DW uptake increased by 3% for all vaccines except MenB₂ which was unchanged. However, uptake is still 4-11% lower compared to Q2 2017.
 - KE/WW uptake decreased by 1% for all vaccines except MenB₂ increased by 1% and Rota₂ uptake was unchanged.
 - CHO8
 - LS/OY uptake increased by 1% for all vaccines except MenB₂ which increased by 3% and Rota₂ which was unchanged.
 - LD/WH uptake increased by 1% except Rota₂ which was unchanged.
 - Accurate Q1 2018 data for Louth and Meath (and CN/MN) were not available.
 - CHO9
 - DNW MenC₁ uptake increased by 3%, MenB₂ uptake increased by 1%, Rota₂ uptake declined by 2%, PCV₂ was unchanged while the remainder increased by 1%.
 - DNC MenC₁ uptake increased by 3% while the remainder were unchanged.
 - DN MenC₁ uptake increased by 8% (but is still 12% lower compared to Q1 2017), PCV₂ uptake was unchanged, MenB₂ uptake increased by 2%, Rota₂ uptake increased by 1% while the remaining vaccines declined by 1%. Uptake of D₃/T₃/P₃/Hib₃/Polio₃/HepB₃/PCV₂ is 5% lower in Q1 2018 compared to Q1 2017.

Table 2. Immunisation uptake (%) at 12 months in cohort born 01/01/2017–31/03/2017

Community Healthcare Organisation/LHO*	No. in cohort [#]	BCG [†]	D ₃ T ₃ /P ₃ / Hib ₃ /Polio ₃	HepB ₃	MenC ₁	PCV ₂	MenB ₂	Rota ₂
CHO1 (CN/MN [§] , DL, SO/LM)	741	0.0 [†]	89	88	87	89	90	84
CHO2 (G, MO, RN)	1405	0.0	94	94	94	94	96	95
CHO3 (CE, L, TN)	1172	0.0	89	89	89	89	93	89
CHO4 (NC, NSL, WC, KY)	2144	0.0	89	89	89	87	93	90
CHO5 (CW/KK, TS, WD, WX)	1611	0.4	89	89	89	88	92	88
CHO6 (DS, DSE, WW)	1230	0.0	86	86	86	86	88	85
CHO7 (DSC, DSW, DW, KE)	2333	0.0	87	87	87	87	91	88
CHO8 (LS/OY, LD/WH, LH [§] , MH [§])	1057	0.0 [†]	94	94	94	94	95	93
CHO9 (DNW, DNC, DN)	2054	0.0	85	85	85	85	89	86
Ireland	13747 [†]	0.0 [†]	89	89	89	88	92	89

na = not available at this time

*Shown in brackets are the LHOs in each CHO. Please see Appendix 3 to translate LHO codes. The geographical boundaries of the CHOs are shown at http://www.hse.ie/eng/services/publications/corporate/CHO_Chapter_1.pdf

[#] The denominator/number in cohort varied slightly according to vaccine. D₃T₃ cohorts are shown here.

[†]Number in cohort for BCG is 13,747. BCG data are unavailable for the former HSE North Eastern Area i.e. CN/MN, LH, MH; therefore CHO1 and CHO8 BCG data are incomplete. At the time of writing of this report the HSE continues to experience on-going delays with the supply of BCG vaccine. This continues to be a Europe wide issue. See point 5 on previous page regarding BCG vaccine stock in Ireland.

[§]Cavan/Monaghan, Louth and Meath accurate data for all vaccines were not available in Q1 2018 and so are not included in this report.

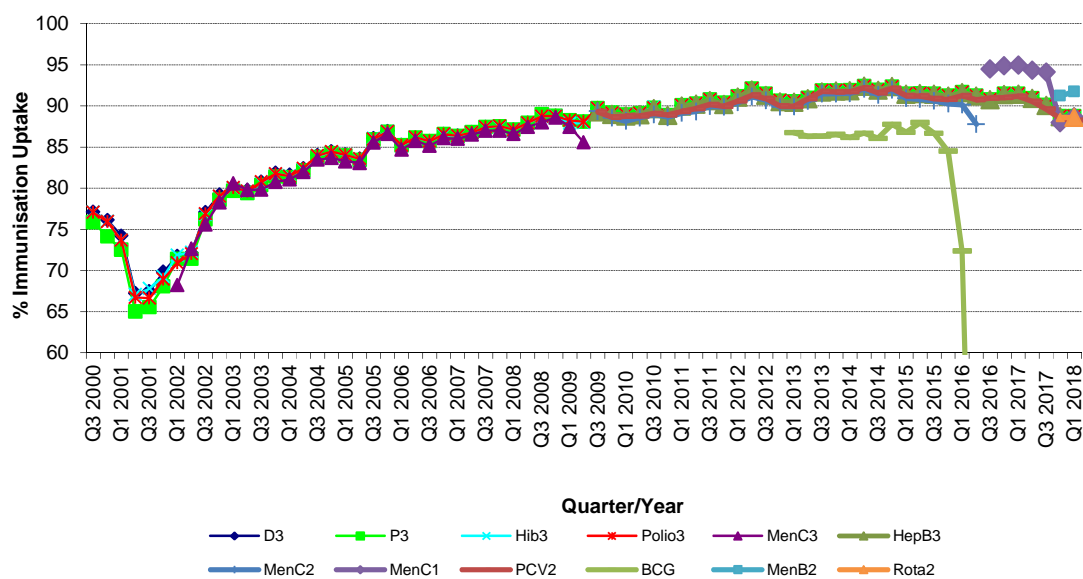


Figure 1. National quarterly immunisation uptake rates at 12 months

X-axis ranges from 60-100%.

Since T₃ uptake is 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 from Q1 2013. From Q3 2011 to Q3 2014 HSE Western Area BCG data was not available by LHO, uptake was provided for the HSE Western Area as a whole. In Q4 2014 BCG data was available for Galway and Roscommon- the BCG denominator for HSE Western Area in Q4 2014 was the sum of the Galway and Roscommon denominators. Since Q1 2015 BCG data was available for Galway, Mayo and Roscommon LHOs. See point 5 on page 2 regarding BCG vaccine stock in Ireland since April 2015. Q1 2018 CN/MN, LH and MH data were not available.

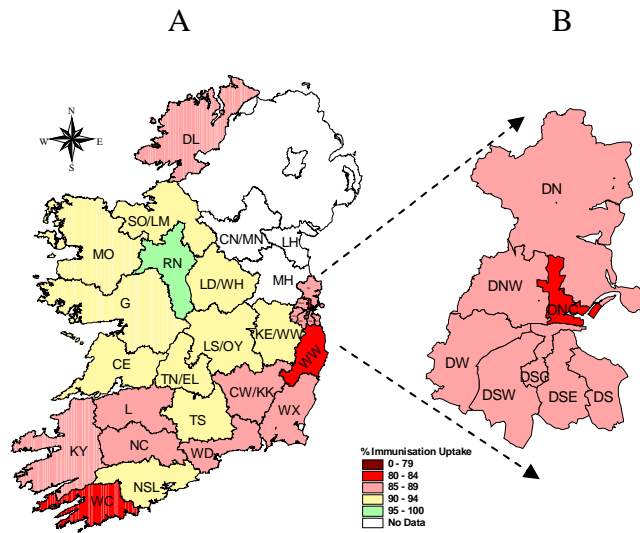


Figure 2. D₃ immunisation uptake rates (%) by LHO, in those 12 months of age in Quarter 1-2018, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

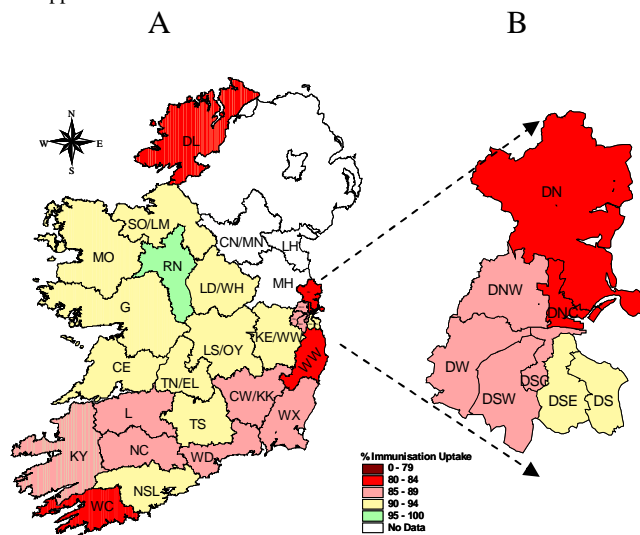


Figure 3. MenC₁ immunisation uptake rates (%) by LHO, in those 12 months of age in Quarter 1-2018, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

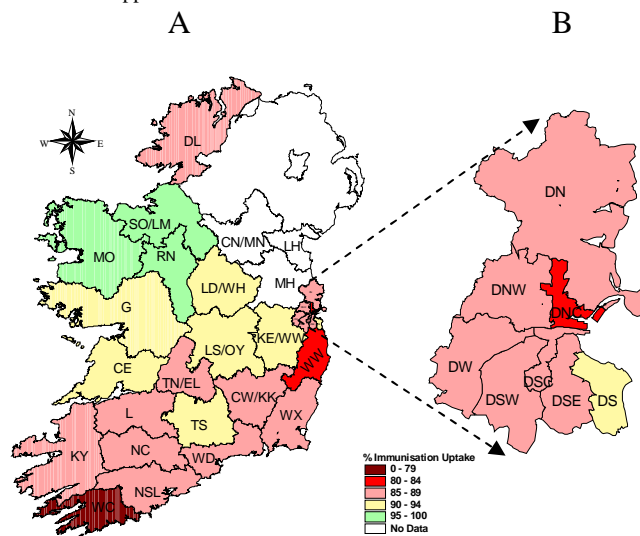


Figure 4. PCV₂ immunisation uptake rates (%) by LHO, in those 12 months of age in Quarter 1-2018, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

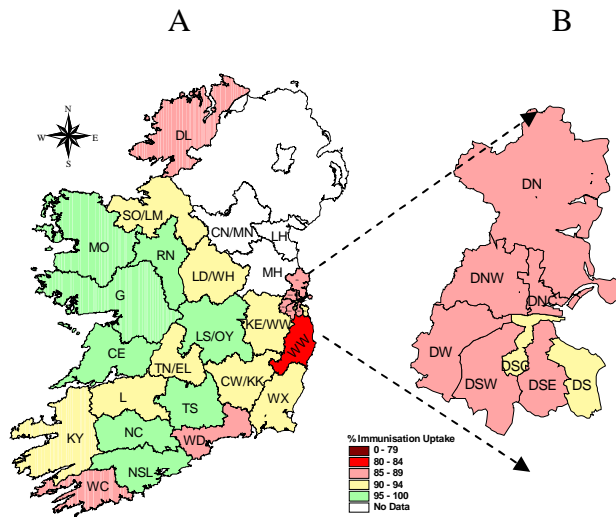


Figure 5. MenB₂ immunisation uptake rates (%) by LHO, in those 12 months of age in Quarter 1-2018, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

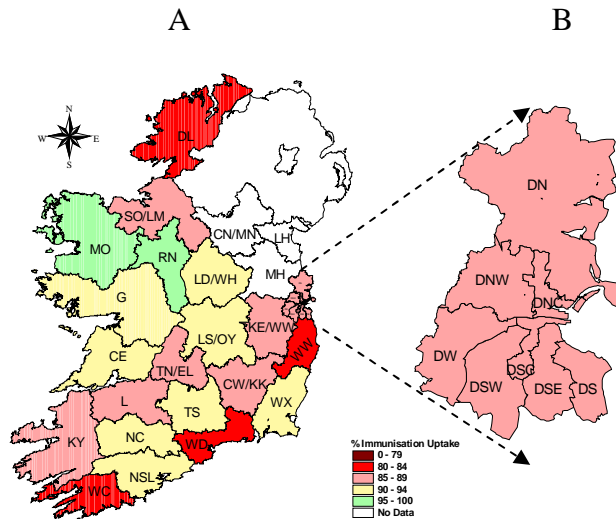


Figure 6. Rota₂ immunisation uptake rates (%) by LHO, in those 12 months of age in Quarter 1-2018, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

Immunisation uptake among children 24 months of age in Quarter 1-2018

National

- National uptake rates were 95% for D₃, T₃, P₃, Hib₃, Polio₃ and HepB₃, 92% for MMR₁ and PCV_b, 91% for PCV₃, 90% for Hib_b, 89% for MenC_b and MenC₂ (table 3).
All the figures/data described here for Q1 2018 do not include the Cavan/Monaghan, Meath and Louth data as accurate data were not available for these LHOs.
- Compared to the previous quarter national uptake rates in Q1-2018 were unchanged (figure 7). However, as accurate data were not available for CN/MN, LH and MH these comparisons may not be accurate.
Figure 7 presents the national uptake rates at 24 months for each vaccine from Q1-1999 to Q1-2018.

Community Healthcare Organisations (CHOs)

- The target uptake of 95% was reached for D₃, P₃, T₃, Hib₃, Polio₃ and HepB₃ in six CHOs, in two CHOs for PCV_b and MMR₁, in one for Hib_b and PCV₃ and in none for MenC₂ and MenC_b (table 3).

Local Health Office (LHO)

- Immunisation uptake rates in children 24 months of age in Q1-2018 are presented by LHO in Appendix 2.
- D₃, Hib_b, MenC₂, MenC_b, PCV₃, PCV_b and MMR₁ immunisation uptake rates are mapped by LHO in figures 8-14.
- The target uptake of 95% was reached in 17 LHOs for D₃, T₃, P₃, Hib₃ and Polio₃, 16 for HepB₃, 10 for MMR₁, 8 for PCV_b, 4 for Hib_b and PCV₃, 1 for MenC_b, and none for MenC₂.
- The immunisation uptake rates by Quarter and LHO are available [here](#) (tables) and [here](#) (graphs)
- Changes in uptake by LHO in Q1 2018 compared to Q4 2017:
 - CHO1
 - Accurate Q1 2018 CN/MN (and Louth and Meath) data were not available.
 - Donegal PCV_b declined by 1%, PCV₃ and MMR₁ were unchanged, Hib_b, MenC₂ and MenC_b increased by 3-4%, HepB₃ increased by 2% and remainder increased by 1%.
 - SO/LM vaccine uptakes increased by 1% for Hib_b, MenC₂ and MenC_b, were unchanged for PCV₃ and PCV_b, declined by 1% for Hib₃ and MMR₁ and declined by 2% for D₃, T₃, P₃, Polio₃ and HepB₃.
 - CHO2
 - G Hib_b, MenC₂ and MenC_b uptake declined by 2-3% while the rest of the vaccines declined by 1%. MenC_b uptake in G is 91% compared to 97% for D₃.
 - Mayo Hib_b declined by 1%, MenC₂, MenC_b, PCV₃ and MMR₁ were unchanged, PCV_b increased by 5% and the remainder increased by 1%. MenC_b uptake in MO is 87% compared to 96% for D₃.
 - RN PCV_b and MMR₁ increased by 1% and the remainder were unchanged compared to the previous quarter.
 - CHO3
 - CE MenC₂ and MenC_b declined by 1%, Hib_b and PCV_b were unchanged, D₃, T₃, P₃, Hib₃, Polio₃, HepB₃, PCV₃ and MMR₁ improved by 1%.
 - Limerick Hib_b, MenC₂ and MenC_b declined by 5-6%, PCV_b declined by 3%, PCV₃ and MMR₁ declined by 1% and the remainder increased by 2%.
In Limerick D₃/T₃/P₃/Hib₃/Polio₃/HepB₃ has improved in recent quarters to 97% in Q1 2018. In contrast, MenC₂/MenC_b/PCV_b/Hib_b has declined in recent quarters with uptake of MenC₂/MenC_b 84% in Q1 2018 and uptake of PCV_b 85% in Q1 2018.
 - TN/EL MMR₁ increased by 5% (to 97%), Hib_b and PCV₃ increased by 3% (to 95% for PCV₃), PCV_b increased by 2%, MenC₂ and MenC_b increased by 1%, while the remainder were unchanged.
 - CHO4
 - NC MenC₂ uptake increased by 5%, Hib_b and MenC_b increased by 3% (with Hib_b uptake now 97%), PCV₃ and MMR₁ increased by 2% (with MMR₁ now 95%) while the remainder were unchanged.
 - NSL PCV₃ increased by 2%, MMR₁ increased by 1% while the remainder were unchanged.
 - WC Hib_b uptake increased by 4%, MenC_b uptake increased by 2%, PCV_b uptake increased by 1%, MenC₂ uptake was unchanged, PCV₃ and MMR₁ uptake decreased by 3%, while the remainder declined by 1%.
 - KY MenC_b increased by 1%, Hib_b and MMR₁ was unchanged, MenC₂ decreased by 2% while the remainder decreased by 1%.
 - CHO5
 - CW/KK vaccine uptakes decreased by 1-4%.
 - TS vaccine uptake increased by 1-2% for all vaccines except MenC_b which declined by 1% and PCV₃ which was unchanged.
 - WD HepB₃ uptake increased by 3%, Hib_b increased by 2%, PCV_b was unchanged, MMR₁ decreased by 1% while the remainder increased by 1%.
 - WX uptake decreased by 1-4%
 - CHO6
 - DS uptake of all vaccines decreased by 2-6% (with Hib_b/MenC₂/MenC_b uptake 83% in Q1 2018).
 - DSE uptake decreased by 3-7%. However, uptake is similar to Q2 and Q3 2017 except Hib_b uptake which is lower at 88% in Q1 2018.

- WW Hib_b, MenC₂ and MenC_b decreased by 4-5% (to 76-78%), PCV₃ increased by 1%, PCV_b decreased by 1% while the remainder were unchanged.
 - CHO7
 - DSC Hib_b, MenC₂, MenC_b and PCV₃ declined by 3-4%, PCV_b and MMR₁ declined by 1% while the remainder increased by 1%.
 - DSW uptake declined by 1-3% for all vaccines.
 - DW MenC₂ uptake increased by 3%, MenC_b uptake increased by 2%, Hib_b, PCV₃ and PCV_b uptake increased by 1%, MMR₁ was unchanged while the remainder decreased by 1%.
 - KE/WW uptake declined by 3-5% for all vaccines compared to Q4 2017.
 - CHO8
 - LS/OY MenC₂, MenC_b, PCV₃, PCV_b and MMR₁ uptake increased by 1-2% while the remainder were unchanged.
 - LD/WH MenC₂ and MenC_b increased by 1%, PCV₃ and MMR₁ were unchanged while the remainder declined by 1-2%.
 - Q1 2018 accurate data for Louth and Meath (and CN/MN) were not available.
 - CHO9
 - DNW Hib_b, MenC_b and MMR₁ uptake increased by 2% (to 90-94%), MenC₂ and PCV_b increased by 1%, PCV₃ decreased by 1% while the remainder were unchanged.
 - DNC uptake increased by 1-3% for all vaccines with uptake of D₃/T₃/P₃/Hib₃/Polio₃/HepB₃ 99% and MMR₁ 96% in Q1 2018.
 - DN MenC_b declined by 8% (to 80%), MenC₂ declined by 7% (to 80%), Hib_b declined by 5%, PCV_b and MMR₁ declined by 3%, PCV₃ declined by 2% while the remainder were unchanged.

Table 3. Immunisation uptake (%) at 24 months in cohort born 01/01/2016–31/03/2016

Community Healthcare Organisation/LHO	No. in Cohort*	D ₃ /T ₃ /P ₃ /Polio ₃	Hib ₃	Hib _b	HepB ₃	MenC ₂	MenC _b	PCV ₃	PCV _b	MMR ₁
CHO1(CN/MN [§] , DL, SO/LM)	809	96	96	91	95	88	90	88	93	92
CHO2 (G, MO, RN)	1462	97	97	93	97	93	90	97	95	95
CHO3 (CE, L, TN)	1238	96	96	90	96	87	87	92	89	94
CHO4 (NC, NSL,WC, KY)	2193	96	96	92	96	88	89	91	94	93
CHO5 (CW/KK,TS,WD,WX)	1613	94	94	90	94	87	87	91	93	93
CHO6 (DS, DSE, WW)	1190	91	91	83	91	82	82	87	88	89
CHO7 (DSC, DSW, DW, KE)	2394	94	94	88	94	87	88	90	91	91
CHO8 (LS/OY, LD/WH, LH [§] ,MH [§])	996	96	96	96	96	92	92	93	95	95
CHO9 (DNW, DNC, DN)	2124	95	95	88	95	86	86	89	92	92
Ireland	14019	95	95	90	95	88	88	91	92	92

Please see Appendix 3 to translate LHO codes

na = not available

* As the denominator/number in cohort varied slightly according to vaccine D₃T₃ cohorts are shown here

§Cavan/Monaghan, Louth and Meath data are not considered accurate due to a large backlog of vaccination returns not entered yet onto the database.

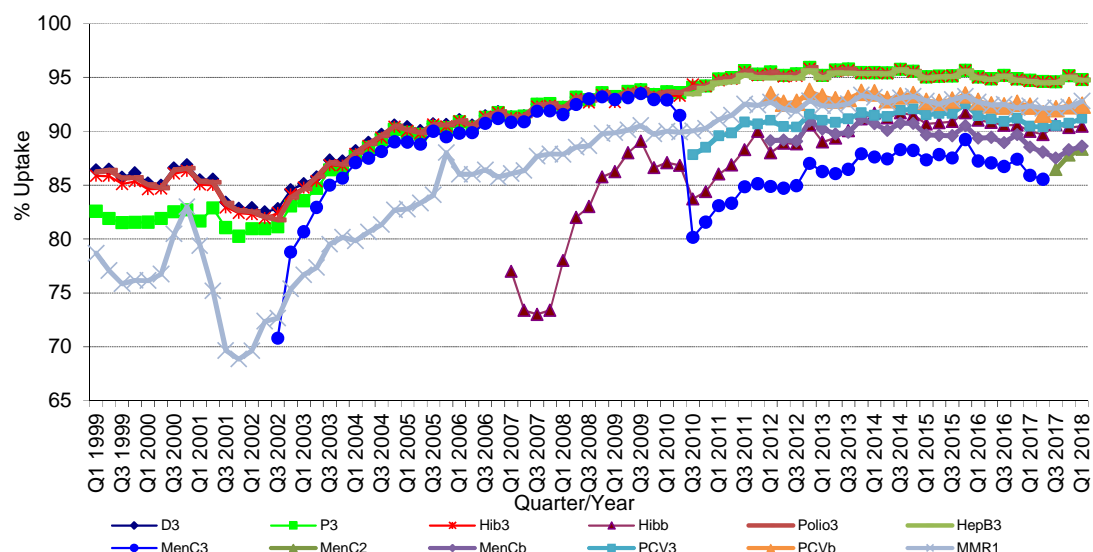


Figure 7. National quarterly immunisation uptake rates at 24 months

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. MenC₃ and PCV_b data were only available for 6 of the 8 HSE Areas from Q1 2012 to Q4 2014. MenC₃ and PCV_b data were only available for 8 CHOs from Q1 2015-Q1 2017 but are available for all since Q2 2017. Q2 2017 CHO3 Hib_b figures were unavailable. CN/MN, LH and MH Q1 2018 data were unavailable.

Conclusions

The national uptake rate in Q1-2018 for MenC₁ at 12 months was 89% compared to 88% in Q4-2017 but was 94-95% in previous quarters. This decline is of huge concern as it leaves children vulnerable to preventable meningococcal serogroup C infection. Meningococcal group B (MenB) and rotavirus (Rota) vaccine were introduced into the schedule for children born on or after 1st October 2016 and so were measured for the first time in the previous quarter, Q4 2017, among children at 12 months of age. In Q1 2018 national immunisation uptake rates were 92% for MenB₂ and 89% for Rota₂ compared to 89% for D₃, T₃, P₃, Hib₃, Polio₃, HepB₃ and MenC₁ and 88% for PCV₂.

In Quarter 1-2018, national uptake rates at 24 months for D₃, T₃, P₃, Hib₃, Polio₃ and HepB₃ reached the target of 95%. Uptake of the remaining vaccines are lower; doses of these remaining vaccines are given at 12 and 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 all those involved in childhood immunisation including the General Practitioners, Practice Nurses, HSE Areas, Public Health Nurses, Immunisation Co-ordinators, Specialists in Public Health Medicine, Surveillance Scientists and Systems Analysts for their assistance.

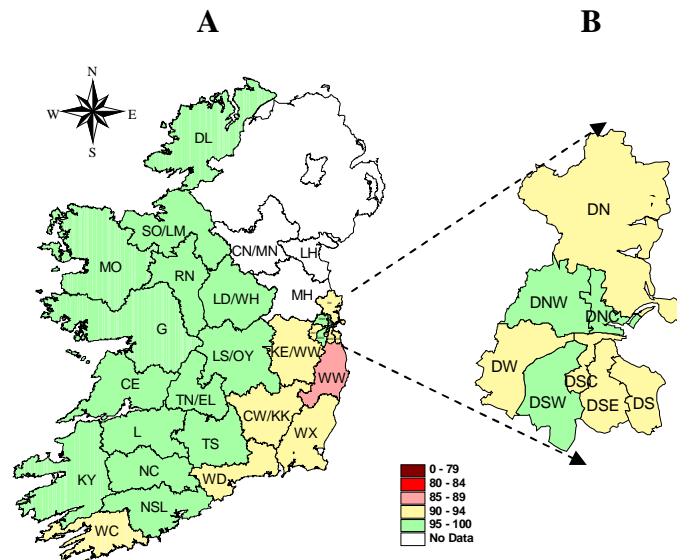


Figure 8. D₃ immunisation uptake rates (%) by LHO, in those 24 months of age in Quarter 1-2018, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

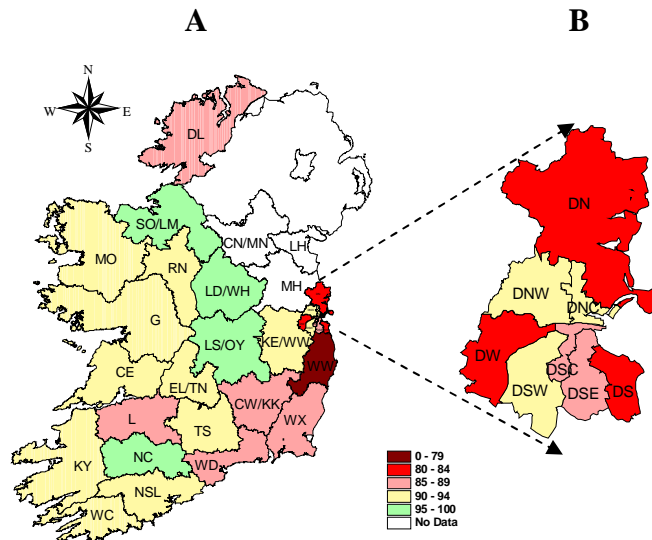


Figure 9. Hib₆ immunisation uptake rates (%) by LHO, in those 24 months of age in Quarter 1-2018, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

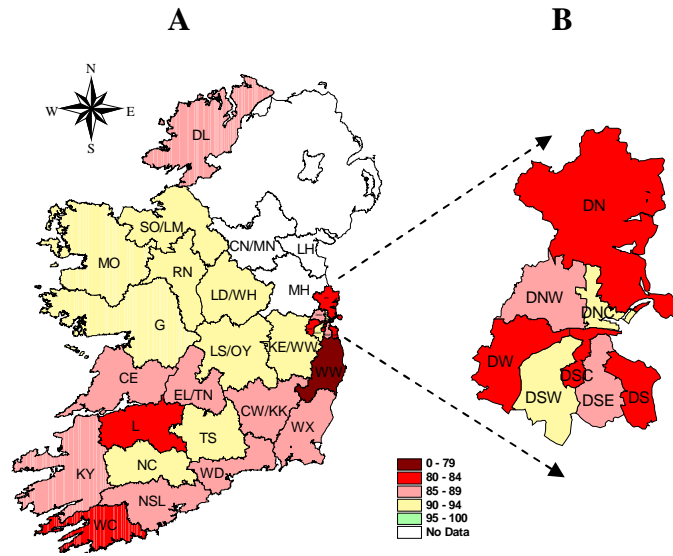


Figure 10. MenC₂ immunisation uptake rates (%) by LHO, in those 24 months of age in Quarter 1-2018, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

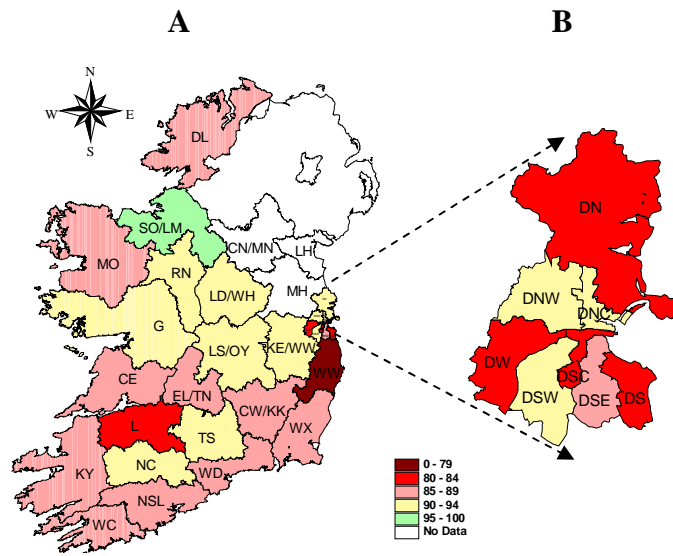


Figure 11. MenC_b immunisation uptake rates (%) by LHO, in those 24 months of age in Quarter 1-2018, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

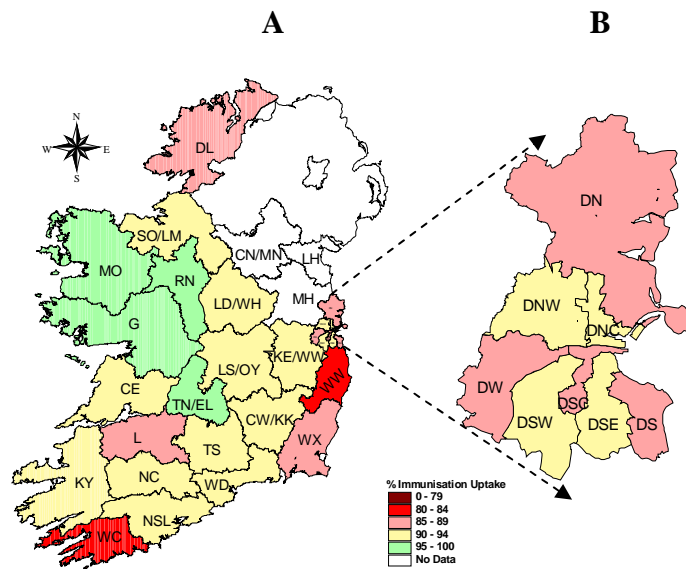


Figure 12. PCV₃ immunisation uptake rates (%) by LHO, in those 24 months of age in Quarter 1-2018, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

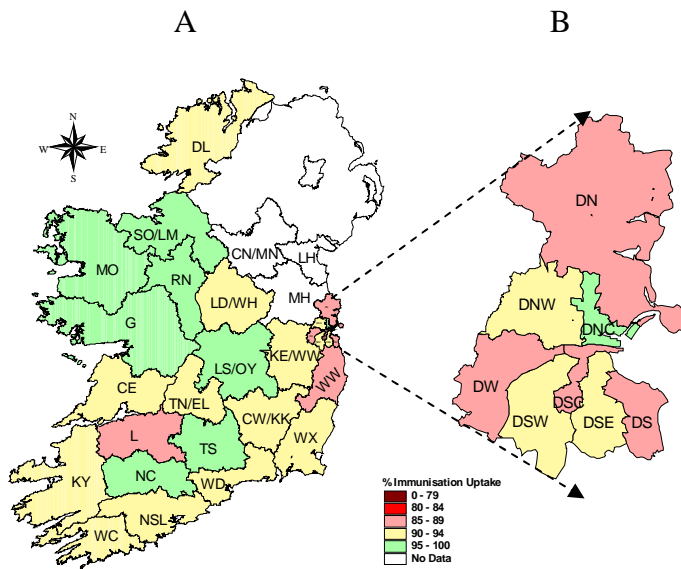


Figure 13. PCV₆ immunisation uptake rates (%) by LHO, in those 24 months of age in Quarter 1-2018, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

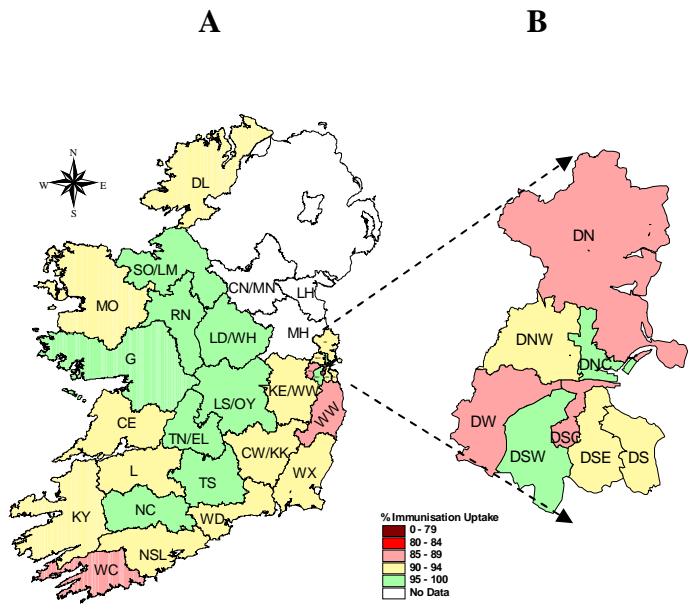


Figure 14. MMR₁ immunisation uptake rates (%) by LHO, in those 24 months of age in Quarter 1-2018, in (A) Ireland and (B) Dublin. Please see Appendix 3 to translate LHO codes.

Appendix 1

Immunisation uptake (%) at 12 months of age in cohort born 01/01/2017-31/03/2017													
Community Healthcare Organisation (CHO)	LHO/CHO	No. in cohort for BCG*	No. in cohort for D ₃ T ₃ #	Immunisation Uptake (%)									
				BCG*	D ₃ T ₃	P ₃	Hib ₃	Polio ₃	HepB ₃	MenC ₁	PCV ₂	MenB ₂	Rota ₂
CHO1	Cavan/Monaghan ⁵	na	na	na	na	na	na	na	na	na	na	na	na
	Donegal	469	469	0.0	85	85	85	85	85	84	85	88	81
	Sligo/Leitrim	272	272	0.0	94	94	94	94	94	93	95	94	88
	CHO1 Total*	741	741	0.0	89	89	89	89	89	88	87	89	90
CHO2	Galway	805	805	0.0	94	94	94	94	94	94	94	96	94
	Mayo	389	389	0.0	93	93	93	93	93	94	95	96	97
	Roscommon	211	211	0.0	96	96	96	96	96	95	96	99	95
	CHO2 Total	1405	1405	0.0	94	94	94	94	94	94	94	96	95
CHO3	Clare	361	361	0.0	91	91	91	91	91	91	91	95	91
	Limerick	426	426	0.0	88	88	88	88	88	88	88	92	88
	Tipperary NR/East Limerick	385	385	0.0	90	90	90	90	90	90	89	93	88
	CHO3 Total	1172	1172	0.0	89	89	89	89	89	89	89	93	89
CHO4	North Cork	297	297	0.0	89	89	89	89	89	89	86	95	90
	North South Lee	1220	1220	0.0	90	90	90	90	90	90	89	95	92
	West Cork	174	174	0.0	83	83	83	83	83	83	79	89	83
	Kerry	453	453	0.0	89	89	89	89	89	89	85	90	86
	CHO4 Total	2144	2144	0.0	89	89	89	89	89	89	89	87	93
CHO5	Carlow/Kilkenny	422	422	0.0	86	86	86	86	86	88	86	92	86
	South Tipperary	281	281	1.1	91	91	91	91	91	91	91	96	92
	Waterford	425	425	0.0	88	88	88	88	88	88	86	88	84
	Wexford	483	483	0.8	89	89	89	89	89	89	89	93	90
	CHO5 Total	1611	1611	0.4	89	89	89	89	89	89	89	88	92
CHO6	Dublin South	395	395	0.0	89	89	89	89	89	90	90	92	89
	Dublin South East	385	385	0.0	89	89	89	89	89	90	89	89	88
	Wicklow	450	450	0.0	80	80	80	80	80	80	80	82	80
	CHO6 Total	1230	1230	0.0	86	86	86	86	86	86	86	86	88
CHO7	Dublin South City	399	399	0.0	87	87	87	87	87	87	86	92	89
	Dublin South West	529	529	0.0	85	85	85	85	85	85	85	89	88
	Dublin West	565	565	0.0	85	85	85	85	85	85	86	88	87
	Kildare/West Wicklow	840	840	0.0	90	90	90	90	90	90	90	92	89
	CHO7 Total	2333	2333	0.0	87	87	87	87	87	87	87	87	91
CHO8	Laos/Offaly	611	611	0.0	94	94	94	94	94	94	94	96	93
	Longford/Westmeath	446	446	0.0	94	94	94	94	94	94	94	94	92
	Louth ⁵	na	na	na	na	na	na	na	na	na	na	na	na
	Meath ⁵	na	na	na	na	na	na	na	na	na	na	na	na
CHO8 Total*	1057	1057	0.0	94	94	94	94	94	94	94	94	95	93
CHO9	Dublin North West	749	749	0.0	86	86	86	86	86	87	86	89	85
	Dublin North Central	401	401	0.0	84	84	84	84	84	84	84	87	85
	Dublin North	904	904	0.0	85	85	85	85	85	83	85	89	87
	CHO9 Total	2054	2054	0.0	85	85	85	85	85	85	85	89	86
Ireland *	13747	13747	0.1	89	89	89	89	89	89	89	88	92	89

na=not available

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

• The BCG vaccine stock in all areas expired at the end of April 2015 so BCG vaccination clinics in HSE Clinics and Maternity hospitals have been postponed until new stock arrives. The licensed vaccine manufacturer has informed the HSE that BCG vaccine will not be delivered into Ireland until further notice and no alternative licensed supplier has been found. Please see https://www.hse.ie/eng/health/immunisation/new_s/bcg17.html for further information.

#The denominator/number in cohort varied slightly according to vaccine. D₃T₃ cohort show n here.

⁵Q1 2018 Cavan/Monaghan, Louth and Meath data were not available

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 01/01/2016-31/03/2016													
Community Healthcare Organisation (CHO)	LHO/CHO	No. in cohort for D ₃ T ₃ *	Immunisation Uptake (%)										
			D ₃ T ₃	P ₃	Hib ₃	Hib _b	Polio ₃	HepB ₃	MenC ₂	MenC _b	PCV ₃	PCV _b	MMR ₁
CHO1	Cavan/Monaghan [§]	na	na	na	na	na	na	na	na	na	na	na	na
	Donegal	498	95	95	95	89	95	94	85	87	86	91	90
	Sligo/Leitrim	311	97	97	97	96	97	96	92	96	90	96	96
	CHO1 Total	809	96	96	96	91	96	95	88	90	88	93	92
CHO2	Galway	853	97	97	97	94	97	97	93	91	97	95	96
	Mayo	408	96	96	96	93	96	96	91	87	98	96	92
	Roscommon	201	97	97	97	92	97	97	94	93	95	95	96
	CHO2 Total	1462	97	97	97	93	97	97	93	90	97	95	95
CHO3	Clare	401	96	96	96	92	96	96	89	88	93	91	94
	Limerick	421	97	97	97	87	97	97	84	84	89	85	91
	Tipperary NR/East Limeri	416	97	97	97	93	97	97	89	89	95	91	97
	CHO3 Total	1238	96	96	96	90	96	96	87	87	92	89	94
CHO4	North Cork	311	96	96	96	97	96	96	94	93	93	95	95
	North South Lee	1277	96	96	96	92	96	96	88	89	92	94	94
	West Cork	172	91	91	91	91	91	91	83	85	84	90	86
	Kerry	433	96	96	96	90	96	96	86	88	90	93	92
CHO4 Total	2193	96	96	96	92	96	96	88	89	91	94	93	
CHO5	Carlow/Kilkenny	398	93	93	93	89	93	93	85	86	90	91	92
	South Tipperary	315	98	98	98	93	98	98	90	90	94	97	96
	Waterford	416	94	94	94	89	94	94	86	87	91	92	92
	Wexford	484	93	93	93	89	93	93	86	87	89	92	92
CHO5 Total	1613	94	94	94	90	94	94	87	87	91	93	93	
CHO6	Dublin South	403	92	92	92	83	92	92	83	83	88	89	90
	Dublin South East	385	94	94	94	88	94	94	88	88	90	91	92
	Wicklow	402	86	86	86	78	86	86	77	76	83	85	85
	CHO6 Total	1190	91	91	91	83	91	91	82	82	87	88	89
CHO7	Dublin South City	373	93	93	93	85	93	93	83	84	86	88	88
	Dublin South West	550	96	96	96	92	96	96	90	91	92	94	95
	Dublin West	578	92	92	92	84	92	92	82	82	87	89	88
	Kildare/West Wicklow	893	94	94	94	91	94	94	90	90	91	93	93
CHO7 Total	2394	94	94	94	88	94	94	87	88	90	91	91	
CHO8	Laois/Offaly	524	96	96	96	96	96	96	92	92	93	95	95
	Longford/Westmeath	472	95	95	95	95	95	95	93	93	92	94	95
	Louth [§]	na	na	na	na	na	na	na	na	na	na	na	na
	Meath [§]	na	na	na	na	na	na	na	na	na	na	na	na
CHO8 Total	996	96	96	96	96	96	96	96	92	92	93	95	95
CHO9	Dublin North West	780	96	96	96	91	96	96	89	90	90	94	94
	Dublin North Central	392	99	99	99	94	99	99	93	93	93	95	96
	Dublin North	952	93	93	93	84	93	93	80	80	87	88	88
	CHO9 Total	2124	95	95	95	88	95	95	86	86	89	92	92
Ireland	14019	95	95	95	90	95	95	88	88	91	92	92	

na=not available

*The denominator/number in cohort varied slightly according to vaccine. D₃T₃ cohorts show n here.

§Q1 2018 CNMN (CHO1), LH (CHO8) and MH (CHO8) data were not available.

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