

Annual Epidemiological Report

August 2018

DTaP-IPV & MMR vaccine uptake in Junior Infants, in Ireland 2016/2017

Key Facts

In the academic year of 2016/2017 DTaP-IPV* and MMR[†] vaccines in 4-5 year olds/junior infant schoolchildren were delivered in 30 Local Health Offices (LHOs) by HSE school teams and in two LHOs based in the North West by GPs only

DTaP-IPV uptake:

- Between 2015/2016 and 2016/2017, overall uptake in HSE-vaccine administered LHOs decreased slightly from 91.9% to 91.5%
- Between 2015/2016 and 2016/2017 uptake increased from 90.4% to 92.1% in GP-vaccine administered LHOs (Donegal; Sligo/Leitrim): Donegal reported an uptake increase of +2.6%, and Sligo/Leitrim reported a slight increase of +0.4%

MMR uptake:

- Overall uptake between 2015/2016 and 2016/2017 in HSE-vaccine administered LHOs decreased slightly from 91.5% to 91.3%
- In GP-vaccine administered LHOs uptake increased from 90.7% to 91.8% between 2015/2016 and 2016/2017: Donegal reported an uptake increase of +2.0%, whilst Sligo/Leitrim reported a slight decrease of -0.3%

Uptake less than 95% for these vaccines indicates vulnerability amongst the children who have not availed of the vaccines aimed at preventing serious diseases (diphtheria, tetanus, pertussis, polio, measles, mumps, and rubella).

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Background

The uptake statistics presented in this report are by nine Community Healthcare Organisations (CHO) and Local Health Offices (LHO), of which there are 32 in total.

DTaP-IPV* and MMR[†] vaccine booster doses are now primarily administered by the HSE school immunisation teams, however there are two LHOs in the north west providing these vaccines via GP local services only. Since the 2011/2012 academic school year data on the uptake of DTaP-IPV and MMR vaccines among junior infant schoolchildren have been collated nationally and were first published in January 2013. Since then, annual (academic year) reports, based on data submissions from each area, are published on the HPSC website.

Since 2015 all LHO immunisation offices are asked to input the data relating to the school based junior infant DTaP-IPV and MMR vaccine programme onto the web-based HSE School Immunisation System (SIS). Although most areas are now using SIS for recording these data, a few areas continue to also maintain local information systems. It has been agreed that all school based vaccine records will be inputted onto SIS for the 2017/2018 academic year. In this report we provide data for the 2016/2017 academic year DTaP-IPV and MMR vaccination programme and compare uptake with previously reported data.

Results

Uptake of the DTaP-IPV and MMR vaccines in 4-5 year olds/junior infant schoolchildren was monitored across all LHOs during the 2016/2017 academic year. Data from all HSE-vaccine administered LHOs is based on what was recorded on SIS and/or reported directly to HPSC by 23rd August 2018.

All uptake data, provided by immunisation coordinators and other administrative staff were entered onto a MS-Excel database and compared to those reported for the previous 2015/2016 season, where possible.

HSE-school team versus GP-vaccine administered LHOs

In 2016/2017, vaccines were delivered in 30 LHOs by HSE school teams only and in two LHOs based in the North West by GPs only (Table 1). Thirteen of the HSE-vaccine administered LHOs reported 1.9% and 2.4% of their DTaP-IPV and MMR vaccinations, respectively, being administered by GPs (Table 1).

Target populations

For the 2016/2017 academic year, the target population in HSE-vaccine administered LHOs was all children in junior infants on the school register on the 30th September 2016. For GP-vaccine administered LHOs, the target population was all children born between the 1st September 2010 and 31st August 2011.

The different ways in which the target populations have been defined in the HSE- and GP-vaccine administered LHOs has meant that a national uptake for either vaccine cannot be

accurately calculated. Donegal and Sligo/Leitrim, two GP-vaccine administered LHOs, are part of Community Health Organisation (CHO) area 1, which also includes the HSE-vaccine administered LHO Cavan/Monaghan. This means that the uptake in CHO area 1 cannot be compared to the other eight CHO areas 2 to 9. However, in order to estimate uptake at a national level, the cohorts for Cavan/Monaghan, Donegal and Sligo/Leitrim have been combined.

Uptake of DTaP-IPV vaccine

Between 2015/2016 and 2016/2017, the overall uptake of the DTaP-IPV vaccine in HSE-vaccine administered LHOs decreased slightly from 91.9% to 91.5%. In 2016/2017, the average uptake among these LHOs was 91.8% with a range from 86.9% in Dublin North West to 96.9% in Wicklow. Of the 30 HSE-vaccine administered LHOs, 18 reported an average uptake decline of -2.5% and 12 reported an average increase of +2.4%. The largest reduction in uptake was reported by Dublin North Central (-6.5%) and the highest increase was reported by Dublin North (+9.0%).

During the same period of time, overall DTaP-IPV vaccine uptake in exclusively GP-vaccine administered LHOs (Donegal; Sligo/Leitrim) increased from 90.4% to 92.1%: Donegal reported an uptake increase of +2.6%, whilst Sligo/Leitrim reported a slight increase of +0.4%.

Uptake of MMR vaccine

The overall uptake of the MMR vaccine between 2015/2016 and 2016/2017 in HSE-vaccine administered LHOs decreased slightly from 91.5% to 91.3%. In 2016/2017, the average uptake among these LHOs was 91.8% with a range from 86.7% in Dublin North West to 96.5% in Wicklow. Of the 30 HSE-vaccine administered LHOs, 18 reported an average uptake reduction of -2.5% and 12 reported an average increase of +2.4%. The largest reduction in uptake was reported by Dublin North Central (-5.9%) and the highest increase was reported by Dublin North (+8.1%).

Overall MMR vaccine uptake in exclusively GP-vaccine administered LHOs increased from 90.7% to 91.8% during the same time period: Donegal reported an uptake increase of +2.0%, whilst Sligo/Leitrim reported a slight decrease of -0.3%.

Figures 1 to 3 present trends in the percentage uptake of the DTaP-IPV and MMR vaccines between 2011/2012 and 2016/2017 in HSE administered areas, GP administered areas and as a national estimate, respectively.

Details of the overall uptake of the two vaccines in the HSE- and GP-vaccinated LHOs during 2016/2017 are presented in Table 2 and in the maps in Figure 4.

Discussion

Uptake less than 95% for these vaccines indicates vulnerability amongst the children who have not availed of the vaccines aimed at preventing serious diseases (diphtheria, tetanus, pertussis, polio, measles, mumps, and rubella). In 2013-2014 a plateau of between 90%

and 94% uptake of the DTaP-IPV and MMR vaccines at national level was reached, but since then little progress has been made in exceeding the 95% threshold. This is a concern as the uptake of these vaccines remains sub-optimal among junior infants, not just nationally, but in a majority of CHOs and LHOs.

Limitations

The data presented here represent vaccines administered for these age cohorts. It is possible that some children may have received their booster doses prior to preschool age if they came from another jurisdiction or were vaccinated earlier than the normal schedule for other reasons (travel, exposure to cases of these diseases). However, if this did occur the proportion would be very small.

Notes

*DTaP-IPV = Diphtheria, Tetanus, acellular Pertussis and Polio vaccine, also known as the 4 in 1 vaccine

†MMR = Measles, Mumps and Rubella vaccine

Further information available on HPSC website:

<http://www.hpsc.ie/a-z/vaccinepreventable/vaccination/immunisationuptakestatistics/immunisationuptakestatisticsforjuniorinfants/>

Acknowledgements

Many thanks to all HSE staff, Department of Education and Skills staff, staff in all educational settings, GPs and practice nurses, parents and children/students, who implemented, participated in and supported all these vaccination programmes.

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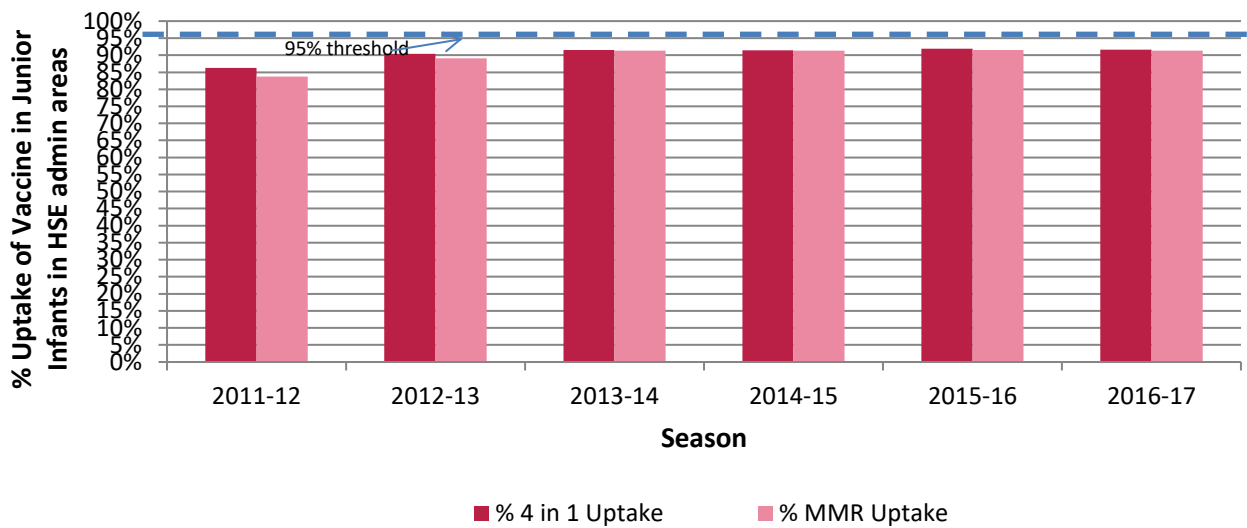


Figure 1. Percentage uptake of the DTaP-IPV and MMR vaccines in HSE administered areas in Ireland, between 2011/2012 and 2016/2017

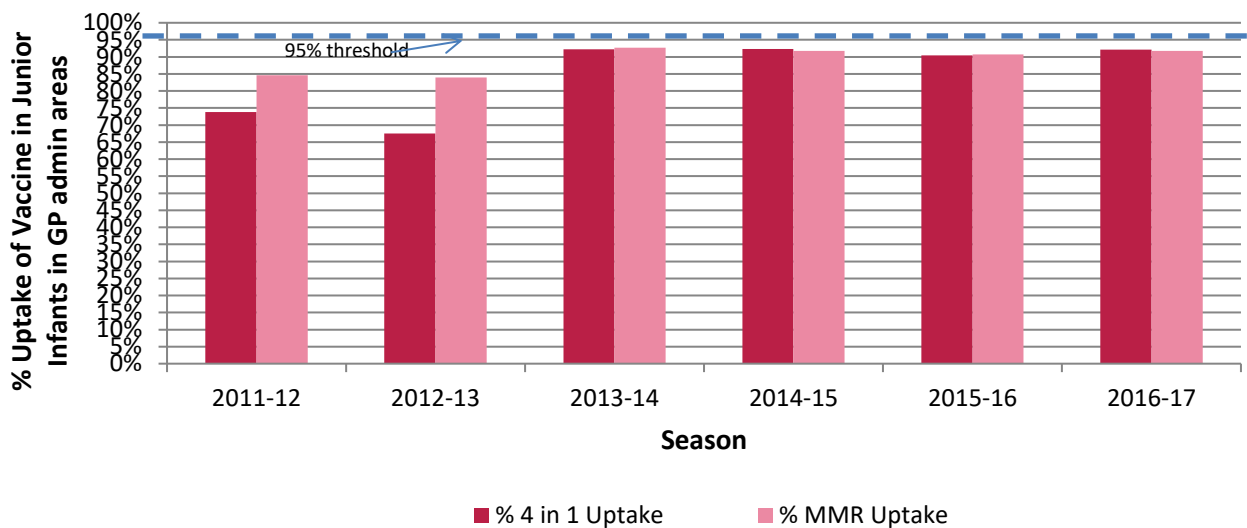


Figure 2. Percentage uptake of the DTaP-IPV and MMR vaccines in GP administered areas in Ireland, between 2011/2012 and 2016/2017

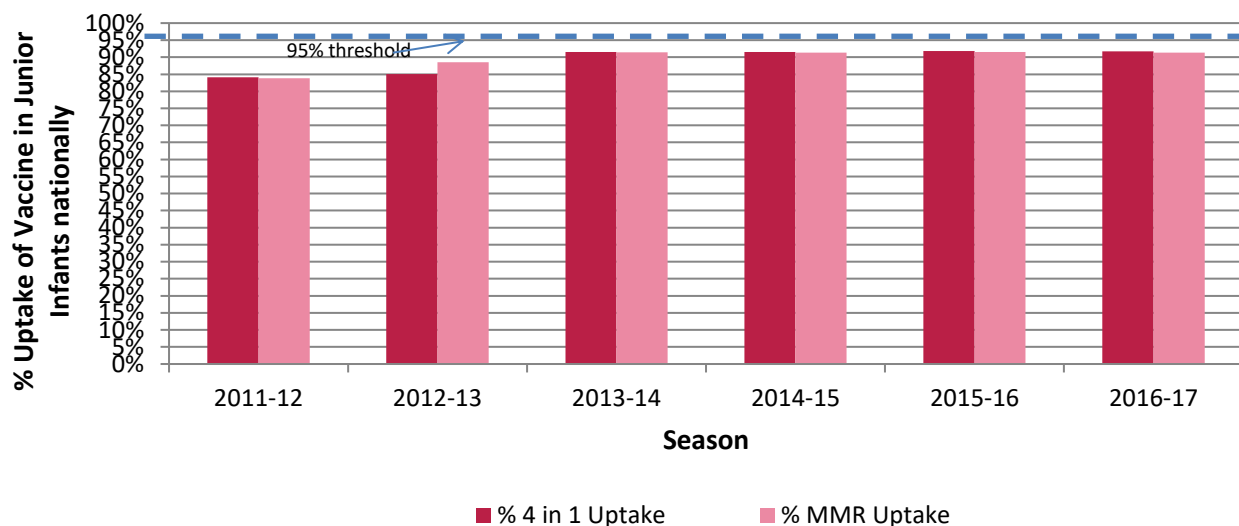


Figure 3. Estimated percentage uptake of the DTaP-IPV and MMR vaccines nationally in Ireland, between 2011/2012 and 2016/2017

Table 1. Percentage of vaccinations by vaccine type in HSE administered areas in Ireland that were administered by GPs

LHO	DTaP-IPV	MMR
Mayo	0.9	0.9
Roscommon	1.6	1.6
Tipperary North/East Limerick	0.2	0.2
Kerry	5.6	7.7
North Cork	9.7	10.1
North Lee - Cork	1.4	1.9
South Lee - Cork	3.5	3.9
West Cork	0.6	0.6
Carlow/Kilkenny	1.7	1.7
Tipperary South	0.7	0.8
Waterford	2.2	5.2
Wexford	1.2	1.2
Wicklow	3.0	3.5
Total	1.9	2.4

Table 2. Overall uptake of the DTaP-IPV and MMR vaccines in junior infants in Ireland during the 2016/2017 academic year

2016-2017				4 in 1			MMR		
HSE Area	CHO	CCA Code	LHO	Birth Cohort	Total No. vaccinated incl. extra GP records	% Uptake	Birth Cohort	Total No. vaccinated incl. extra GP records	% Uptake
NE	CHO1	CN/MN	Cavan/Monaghan	2151	1998	92.9	2151	1998	92.9
NW	CHO1	DL	Donegal	2344	2127	90.7	2344	2113	90.1
NW	CHO1	SO/LM	Sligo/Leitrim	1358	1283	94.5	1358	1284	94.6
W	CHO2	G	Galway	3741	3399	90.9	3741	3396	90.8
W	CHO2	MO	Mayo	1745	1611	92.3	1745	1597	91.5
W	CHO2	RN	Roscommon	914	865	94.6	914	858	93.9
MW	CHO3	CE	Clare	1688	1518	89.9	1688	1512	89.6
MW	CHO3	L	Limerick	2688	2367	88.1	2688	2366	88.0
MW	CHO3	TN	Tipperary North/East Limerick	1355	1276	94.2	1355	1280	94.5
S	CHO4	KY	Kerry	1911	1751	91.6	1911	1740	91.1
S	CHO4	NC	North Cork	1441	1385	96.1	1441	1382	95.9
S	CHO4	NSL	North Lee - Cork	2710	2525	93.2	2710	2517	92.9
S	CHO4	NSL	South Lee - Cork	2831	2724	96.2	2831	2714	95.9
S	CHO4	WC	West Cork	731	665	91.0	731	662	90.6
SE	CHO5	CW/KK	Carlow/Kilkenny	2018	1931	95.7	2018	1921	95.2
SE	CHO5	TS	Tipperary South	1313	1234	94.0	1313	1239	94.4
SE	CHO5	WD	Waterford	1904	1752	92.0	1904	1745	91.6
SE	CHO5	WX	Wexford	2189	2041	93.2	2189	2029	92.7
E	CHO6	CCA1	Dublin South	1889	1662	88.0	1889	1651	87.4
E	CHO6	CCA2	Dublin South East	1733	1539	88.8	1733	1533	88.5
E	CHO6	CCA10	Wicklow	2014	1952	96.9	2014	1943	96.5
E	CHO7	CCA3	Dublin South City	1478	1346	91.1	1478	1339	90.6
E	CHO7	CCA4	Dublin South West	2221	1984	89.3	2221	1979	89.1
E	CHO7	CCA5	Dublin West	2750	2392	87.0	2750	2388	86.8
E	CHO7	CCA9	Kildare/West Wicklow	4032	3698	91.7	4032	3696	91.7
M	CHO8	LS/OY	Laois/Offaly	2595	2436	93.9	2595	2433	93.8
M	CHO8	LD/WH	Longford/Westmeath	1938	1845	95.2	1938	1837	94.8
NE	CHO8	LH	Louth	2053	1891	92.1	2053	1891	92.1
NE	CHO8	MH	Meath	3372	3038	90.1	3372	3073	91.1
E	CHO9	CCA8	Dublin North	4272	3860	90.4	4272	3836	89.8
E	CHO9	CCA7	Dublin North Central	1434	1247	87.0	1434	1246	86.9
E	CHO9	CCA6	Dublin North West	3408	2960	86.9	3408	2954	86.7
			NSL	5541	5249	94.7	5541	5231	94.4
			HSE area Only	66519	60892	91.5	66519	60755	91.3
			GP area Only	3702	3410	92.1	3702	3397	91.8
			Total	70221	64302	91.6	70221	64152	91.4
			CHO1	5853	5408	92.4	5853	5395	92.2
			CHO2	6400	5875	91.8	6400	5851	91.4
			CHO3	5731	5161	90.1	5731	5158	90.0
			CHO4	9624	9050	94.0	9624	9015	93.7
			CHO5	7424	6958	93.7	7424	6934	93.4
			CHO6	5636	5153	91.4	5636	5127	91.0
			CHO7	10481	9420	89.9	10481	9402	89.7
			CHO8	9958	9210	92.5	9958	9234	92.7
			CHO9	9114	8067	88.5	9114	8036	88.2

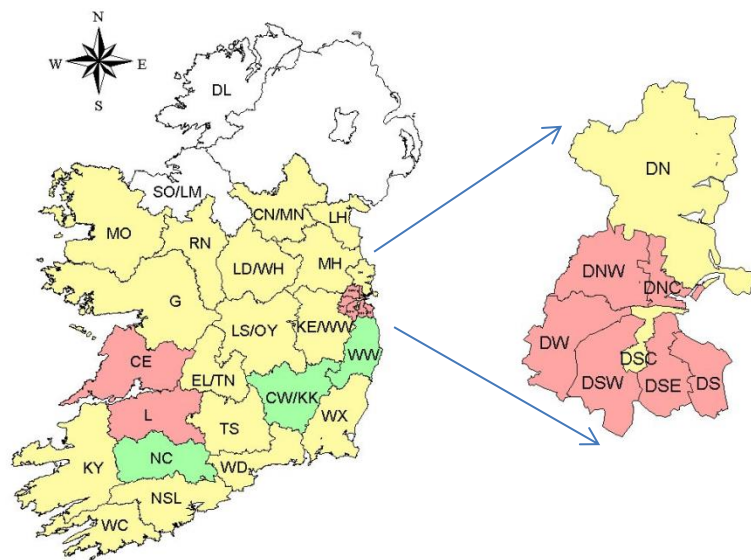
Notes:

GP=Vaccine administered by GPs in these areas;

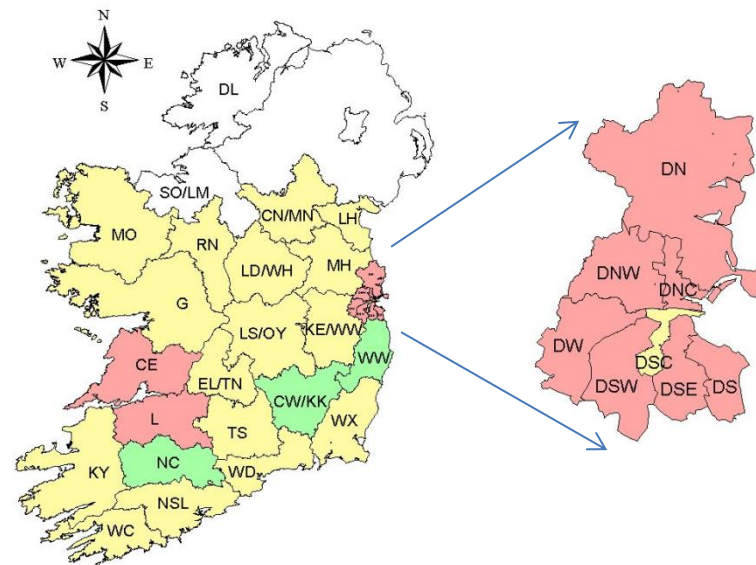
HSE=Vaccine administered by HSE public health personnel in these areas;

Target population HSE-vaccine administered areas: All children in Junior Infants on the school register on 30/09/2016 for the 2016/2017 academic year;

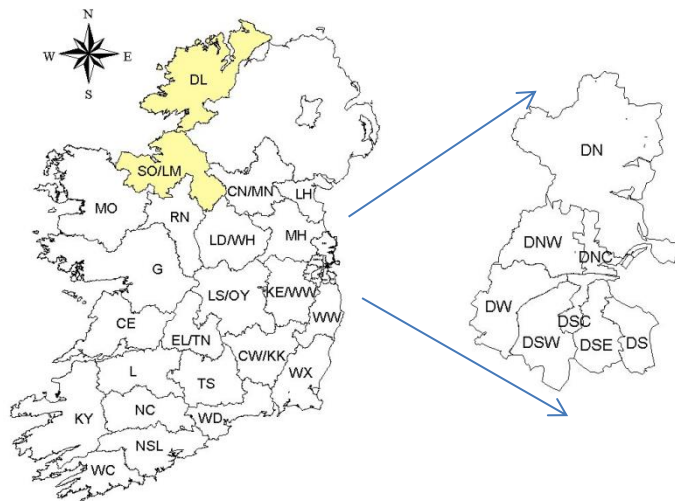
Target population in GP-vaccine administered areas: All children born between 01/09/2010 and 31/08/2011



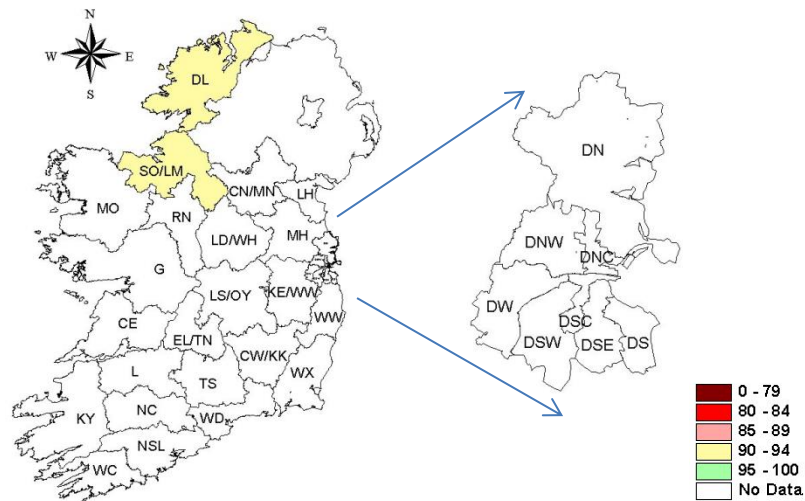
HSE-DTaP-IPV Vaccine Administered LHOs



HSE-MMR Vaccine Administered LHO



GP-DTaP-IPV Vaccine Administered LHOs



GP-MMR Vaccine Administered LHOs

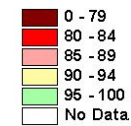


Figure 4. LHO Maps of DTaP-IPV & MMR percentage vaccine uptake at Junior Infants level in Ireland during the 2016/2017 academic year