

# Annual Epidemiological Report

February 2020

## DTaP-IPV & MMR vaccine uptake in Junior Infants & children aged 4-5 years, in Ireland 2017/2018

### Key Facts

In the academic year of 2017/2018 DTaP-IPV\* and MMR<sup>†</sup> vaccines in junior infant schoolchildren/children aged 4-5 years 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 2016/2017 and 2017/2018, overall uptake in HSE-vaccine administered LHOs decreased minimally from 91.6% to 91.2%
- Between 2016/2017 and 2017/2018 uptake increased from 92.1% to 92.8% in GP-vaccine administered LHOs (Donegal; Sligo/Leitrim): Donegal reported an uptake increase of +0.3%, and Sligo/Leitrim reported a larger an increase of +1.1%

#### MMR uptake:

- Overall uptake between 2016/2017 and 2017/2018 in HSE-vaccine administered LHOs decreased slightly from 91.4% to 90.8%
- In GP-vaccine administered LHOs uptake increased from 91.8% to 92.5% between 2016/2017 and 2017/2018: Donegal reported an uptake increase of +0.5%, whilst Sligo/Leitrim also reported a slight increase of +0.8%

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).

## 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<sup>†</sup> vaccine booster doses are now primarily administered by the HSE school immunisation teams to children in junior infant classes. However there are also two LHOs in the North West (Donegal and Sligo/Leitrim) providing these vaccines via GP local services only to children aged 4 to 5 years. Since the 2011/2012 academic school year, data on the uptake of DTaP-IPV and MMR vaccines have been collated nationally and were first published in January 2013. Since then, annual (academic year) reports, based on data submissions from each LHO, are published on the HPSC website at <http://www.hpsc.ie/a-z/vaccinepreventable/vaccination/immunisationuptakestatistics/immunisationuptakestatisticsforjuniorinfants/>.

Since 2015 all LHOs are asked to input the data relating to the school based junior infant DTaP-IPV and MMR vaccine programme on to the National Immunisation Office's (NIO) web-based HSE School Immunisation System (SIS). Apart from the two north western LHOs where the vaccination programme is GP-led, all other LHOs are now using SIS for recording these data, even though a few continue to also maintain their own local information systems. In this report data for the 2017/2018 academic year DTaP-IPV and MMR vaccination programme are provided and uptake compared with previously reported data.

## Results

Uptake of the DTaP-IPV and MMR vaccines in junior infant schoolchildren/4-5 year olds was monitored across all LHOs during the 2017/2018 academic year. Data from all HSE-vaccine administered LHOs is based on what was recorded on SIS by 19<sup>th</sup> November 2019.

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 2016/2017 season

### *HSE-school team versus GP-vaccine administered LHOs*

In 2017/2018, vaccines were delivered in 30 LHOs by HSE school teams only and in two LHOs based in the North West by GPs only. Among the former group of LHOs, GPs may also vaccinate a small number of children, but it was not possible to identify from SIS which LHOs and what percentage of children was vaccinated by GPs.

### *Target populations*

For the 2017/2018 academic year, the target population in HSE-vaccine administered LHOs was all children in junior infants on the school register on the 30<sup>th</sup> September 2017. For GP-vaccine administered LHOs, the target population was all children born between the 1<sup>st</sup> September 2011 and 31<sup>st</sup> August 2012.

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.

One change between 2016/2017 and 2017/2018 is that the proportion of uptake attributable to home schooled children in HSE administered LHOs can now be captured on SIS and in 2017/2018 it accounted for just over 0.04% of the birth cohort for each vaccine.

#### *Uptake of DTaP-IPV vaccine*

Between 2016/2017 and 2017/2018, the overall uptake of the DTaP-IPV vaccine in HSE-vaccine administered LHOs decreased slightly from 91.6% to 91.2%. In 2017/2018, the average uptake among these LHOs was 91.0% with a range from 84.7% in Dublin South to 95.9% in Tipperary North/East Limerick. Of the 30 HSE-vaccine administered LHOs, 18 reported an average uptake decline of -2.4% and 12 reported an average increase of +1.5%. The largest reduction in uptake was reported by West Cork (-6.1%) and the highest increase was reported by Limerick (+2.8%).

During the same period of time, overall DTaP-IPV vaccine uptake in exclusively GP-vaccine administered LHOs (Donegal; Sligo/Leitrim) increased from 92.1% to 92.8%: Donegal reported a slight uptake increase of +0.3%, whilst Sligo/Leitrim reported a larger increase of +1.1%.

#### *Uptake of MMR vaccine*

The overall uptake of the MMR vaccine between 2016/2017 and 2017/2018 in HSE-vaccine administered LHOs decreased slightly from 91.4% to 90.8%. In 2017/2018, the average uptake among these LHOs was 90.7% with a range from 83.4% in Dublin South to 95.2% in Tipperary North/East Limerick. Of the 30 HSE-vaccine administered LHOs, 19 reported an average uptake reduction of -2.3% and 11 reported an average increase of +1.5%. The largest reduction in uptake was reported by West Cork (-6.8%) and the highest increase was reported by Dublin West (+2.4%).

Overall MMR vaccine uptake in exclusively GP-vaccine administered LHOs increased from 91.8% to 92.5% during the same time period: Donegal reported an uptake increase of +0.5%, whilst Sligo/Leitrim reported a slightly greater increase of +0.8%.

Figures 1 to 3 present trends in the percentage uptake of the DTaP-IPV and MMR vaccines between 2011/2012 and 2017/2018 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 2017/2018 are presented in Table 1 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. Even though all HSE-administered LHOs are expected to enter the vaccination records on to SIS since 2017/2018, some still maintain their own local IT childhood vaccination databases. Some of these LHOs have also reported directly to HPSC higher percentage uptake values than what is captured on SIS. One way to address these discrepancies in future would be to ensure that all vaccination records are added to SIS in the correct.

### *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 (including 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/>

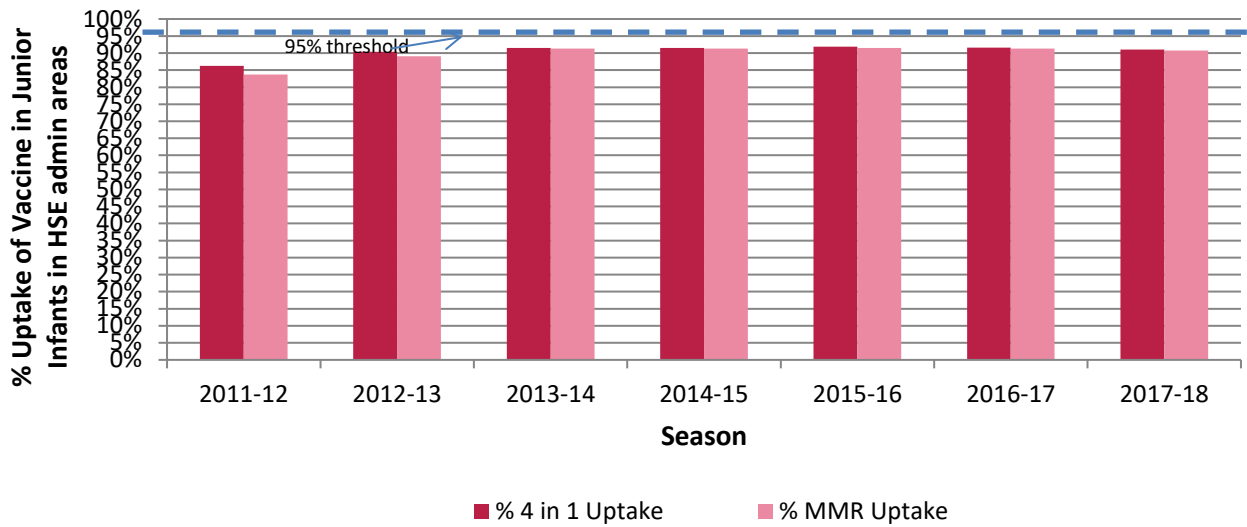
## Acknowledgements

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.

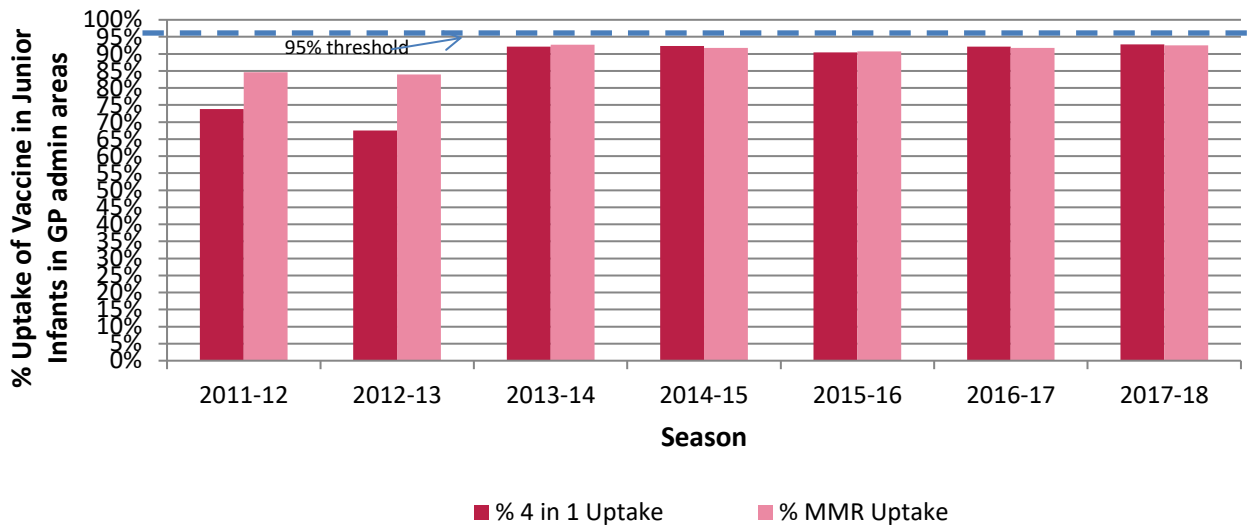
## Report prepared by:

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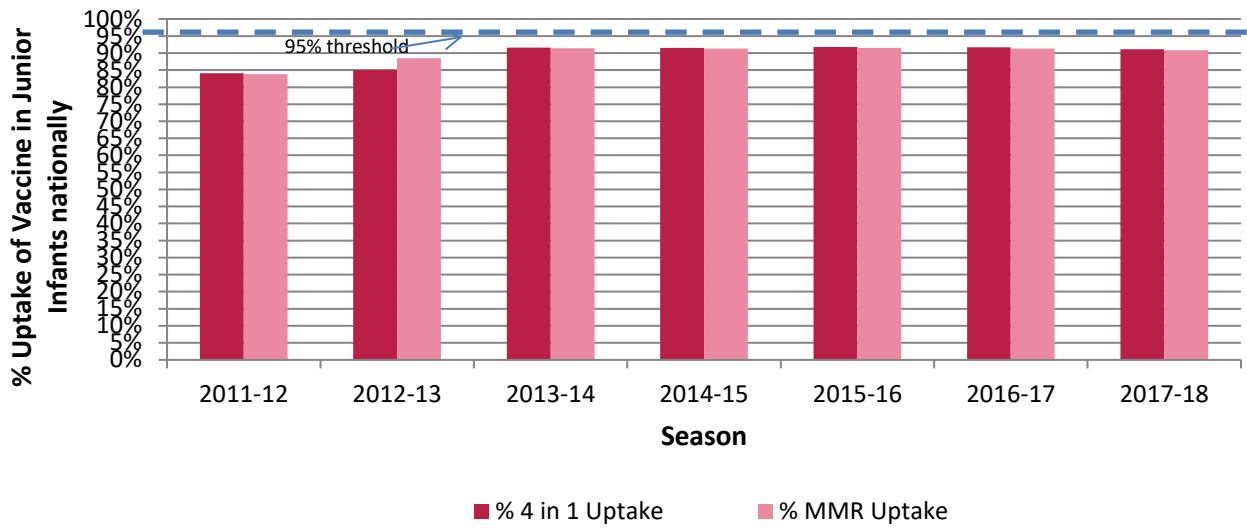
**Figure 1.** Percentage uptake of the DTaP-IPV and MMR vaccines in HSE administered areas in Ireland, between 2011/2012 and 2017/2018



**Figure 2.** Percentage uptake of the DTaP-IPV and MMR vaccines in GP administered areas in Ireland, between 2011/2012 and 2017/2018



**Figure 3.** Estimated percentage uptake of the DTaP-IPV and MMR vaccines nationally in Ireland, between 2011/2012 and 2017/2018



**Table 1. Overall uptake of the DTaP-IPV and MMR vaccines in junior infants in Ireland during the 2017/2018 academic year**

2017-2018	Data as of 19/11/2019			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	2168	1959	90.4	2168	1957	90.3
	NW	CHO1	DL	Donegal	2313	2106	91.1	2313	2096	90.6
	NW	CHO1	SO/LM	Sligo/Leitrim	1478	1413	95.6	1478	1410	95.4
	W	CHO2	G	Galway	3747	3418	91.2	3747	3400	90.7
	W	CHO2	MO	Mayo	1728	1597	92.4	1728	1594	92.2
	W	CHO2	RN	Roscommon	937	873	93.2	937	878	93.7
	MW	CHO3	CE	Clare	1624	1496	92.1	1624	1482	91.3
	MW	CHO3	L	Limerick	2057	1869	90.9	2026	1829	90.3
	MW	CHO3	TN	Tipperary North/East Limerick	1824	1750	95.9	1824	1736	95.2
	S	CHO4	KY	Kerry	1952	1717	88.0	1952	1686	86.4
	S	CHO4	NC	North Cork	1488	1355	91.1	1488	1351	90.8
	S	CHO4	NSL	North Lee - Cork	2772	2509	90.5	2772	2521	90.9
	S	CHO4	NSL	South Lee - Cork	2776	2619	94.3	2776	2602	93.7
	S	CHO4	WC	West Cork	772	655	84.8	772	647	83.8
	SE	CHO5	CW/KK	Carlow/Kilkenny	2031	1929	95.0	2031	1923	94.7
	SE	CHO5	TS	Tipperary South	1227	1144	93.2	1227	1135	92.5
	SE	CHO5	WD	Waterford	1901	1746	91.8	1901	1732	91.1
	SE	CHO5	WX	Wexford	2135	1963	91.9	2135	1963	91.9
	E	CHO6	CCA1	Dublin South	1849	1566	84.7	1852	1545	83.4
	E	CHO6	CCA2	Dublin South East	1666	1499	90.0	1666	1467	88.1
	E	CHO6	CCA10	Wicklow	1959	1827	93.3	1949	1827	93.7
	E	CHO7	CCA3	Dublin South City	1521	1418	93.2	1521	1413	92.9
	E	CHO7	CCA4	Dublin South West	1982	1802	90.9	1982	1802	90.9
	E	CHO7	CCA5	Dublin West	2690	2408	89.5	2690	2401	89.3
	E	CHO7	CCA9	Kildare/West Wicklow	3922	3653	93.1	3922	3665	93.4
	M	CHO8	LS/OY	Laois/Offaly	2575	2334	90.6	2575	2325	90.3
	M	CHO8	LD/WH	Longford/Westmeath	2102	1966	93.5	2102	1960	93.2
	NE	CHO8	LH	Louth	2037	1818	89.2	2037	1812	89.0
	NE	CHO8	MH	Meath	3251	2956	90.9	3252	2925	89.9
	E	CHO9	CCA8	Dublin North	4265	3837	90.0	4265	3816	89.5
	E	CHO9	CCA7	Dublin North Central	1447	1244	86.0	1423	1256	88.3
	E	CHO9	CCA6	Dublin North West	3353	2966	88.5	3353	2956	88.2
				Homeschooled	29	27	93.1	29	27	93.1
				NSL	5548	5128	92.4	5548	5123	92.3
				HSE area Only	65758	59893	91.1	65697	59606	90.7
				GP area Only	3791	3519	92.8	3791	3506	92.5
				Total including homeschooled	69578	63439	91.2	69517	63139	90.8
				CHO1	5959	5478	91.9	5959	5463	91.7
				CHO2	6412	5888	91.8	6412	5872	91.6
				CHO3	5505	5115	92.9	5474	5047	92.2
				CHO4	9760	8855	90.7	9760	8807	90.2
				CHO5	7294	6782	93.0	7294	6753	92.6
				CHO6	5474	4892	89.4	5467	4839	88.5
				CHO7	10115	9281	91.8	10115	9281	91.8
				CHO8	9965	9074	91.1	9966	9022	90.5
				CHO9	9065	8047	88.8	9041	8028	88.8

**Notes:**

GP=Vaccine administered by GPs in these areas;

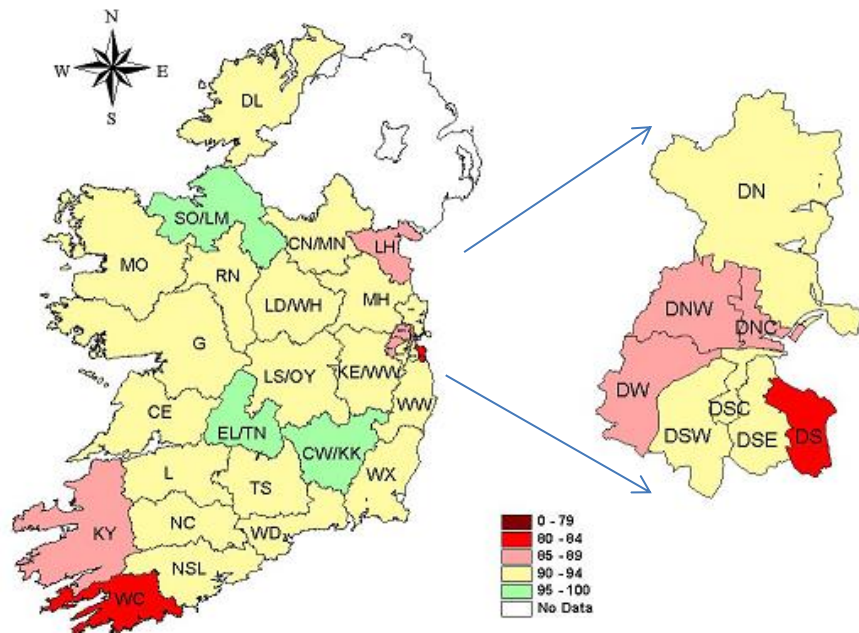
HSE=Vaccine administered by HSE public health personnel in these areas;

Target Population in LHO: All children in Junior Infants on the school register in LHO on 30th September 2017 for the 2017/2018 academic year;

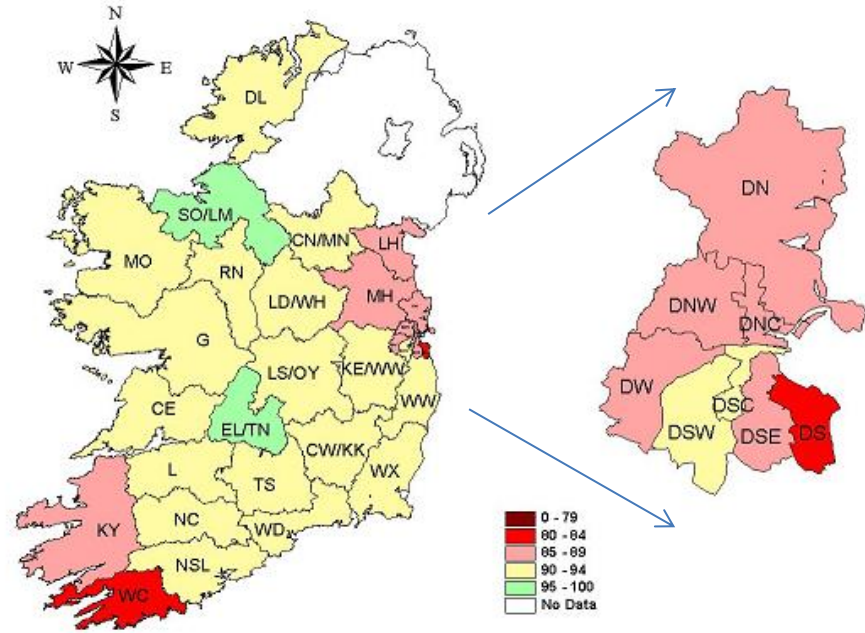
Target Population in LHO: All children born between 01/09/2011 and 31/08/2012



**Figure 4.** LHO Maps of DTaP-IPV & MMR percentage vaccine uptake at in 4 to 5 year olds in GP administered LHOs (Donegal /Sligo/ Leitrim) and among junior infants in schools in HSE administered LHOs in Ireland during the 2017/2018 academic year



HSE and GP-DTaP-IPV Vaccine Uptake



HSE & GP -MMR Vaccine Uptake