

# Annual Epidemiological Report

June 2022

## DTaP-IPV & MMR vaccine uptake in Junior Infants & children aged 4-5 years, in Ireland 2018/2019

### Key Facts

In the academic year of 2018/2019 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 2017/2018 and 2018/2019, overall uptake in HSE-vaccine administered LHOs increased minimally from 91.1% to 91.4%
- Between 2017/2018 and 2018/2019 uptake decreased from 92.8% to 91.6% in GP-vaccine administered LHOs (Donegal; Sligo/Leitrim): Donegal reported a decrease in uptake of -1.8%, and Sligo/Leitrim reported a slight reduction of -0.3%

#### MMR uptake:

- Overall uptake between 2017/2018 and 2018/2019 in HSE-vaccine administered LHOs increased from 90.7% to 91.2%
- In GP-vaccine administered LHOs uptake fell from 92.5% to 91.6% between 2017/2018 and 2018/2019: Donegal reported an uptake decrease of -1.4%, whilst Sligo/Leitrim also reported a slight reduction of -0.1%

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<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 2018/2019 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 2018/2019 academic year. Data from all HSE-vaccine administered LHOs is based on what was recorded on SIS by 24<sup>th</sup> September 2020.

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 2017/2018 season

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

In 2018/2019, 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 2018/2019 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 2018. For GP-vaccine administered LHOs, the target population was all children born between the 1<sup>st</sup> September 2012 and 31<sup>st</sup> August 2013.

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 2017/2018 and 2018/2019 is that the proportion of uptake attributable to home schooled children in HSE administered LHOs can now be captured on SIS and in 2018/2019 it accounted for just over 0.06% of the birth cohort for each vaccine.

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

Between 2017/2018 and 2018/2019, the overall uptake of the DTaP-IPV vaccine in HSE-vaccine administered LHOs increased slightly from 91.1% to 91.4%. In 2018/2019, the average uptake among these LHOs was 91.8% with a range from 85.1% in Dublin North to 96.8% in Tipperary North/East Limerick. Of the 30 HSE-vaccine administered LHOs, 20 reported an average uptake increase of +2.1% and 10 reported an average decrease of -1.8%. The largest reduction in uptake was reported by Dublin North (-4.9%) and the highest increase was reported by Dublin South (+6.2%).

During the same period of time, overall DTaP-IPV vaccine uptake in exclusively GP-vaccine administered LHOs (Donegal; Sligo/Leitrim) decreased from 92.8% to 91.6%: Donegal reported an uptake reduction of -1.8%, whilst Sligo/Leitrim reported a slight fall of -0.3%.

#### *Uptake of MMR vaccine*

The overall uptake of the MMR vaccine between 2017/2018 and 2018/2019 in HSE-vaccine administered LHOs increased from 90.7% to 91.2%. In 2018/2019, the average uptake among these LHOs was 91.5% with a range from 85.2% in Dublin North to 96.6% in Tipperary North/East Limerick. Of the 30 HSE-vaccine administered LHOs, nine reported an average uptake reduction of -1.9% and 21 reported an average increase of +2.1%. The largest reduction in uptake was reported by Dublin North (-4.3%) and the highest increase was reported by Dublin South (+5.3%).

Overall MMR vaccine uptake in exclusively GP-vaccine administered LHOs decreased from 92.5% to 91.6% during the same time period: Donegal reported an uptake decrease of -1.4%, whilst Sligo/Leitrim reported a very marginal decrease of -0.1%.

Figure 1 to 3 present trends in the percentage uptake of the DTaP-IPV and MMR vaccines between 2011/2012 and 2018/2019 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 2018/2019 are presented in Table 1 and in the maps in Figure 4.

## Discussion

For both the 4 in 1 and MMR vaccines, overall uptake between 2017/2018 and 2018/2019 in HSE-vaccine administered LHOs increased slightly and decreased in GP-vaccine administered LHOs, but still below the 95% threshold for herd immunity. 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 (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/>

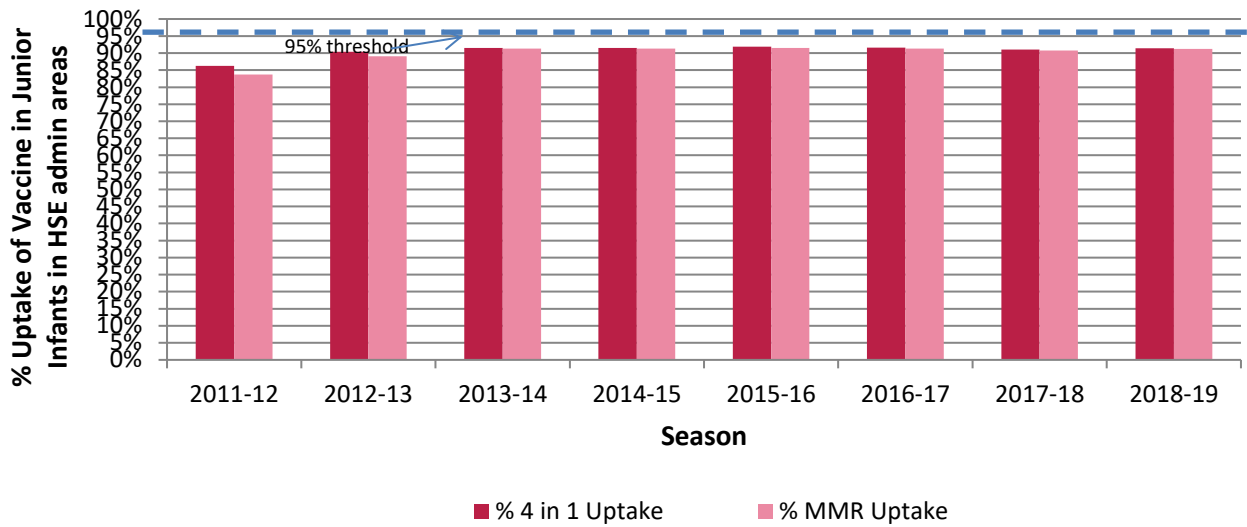
## Acknowledgements

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.

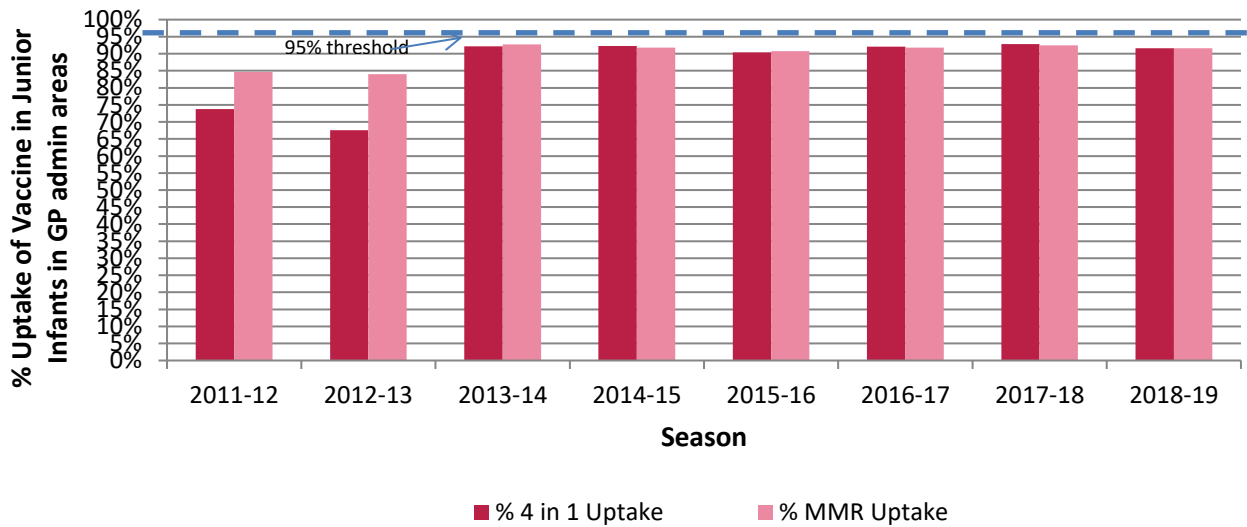
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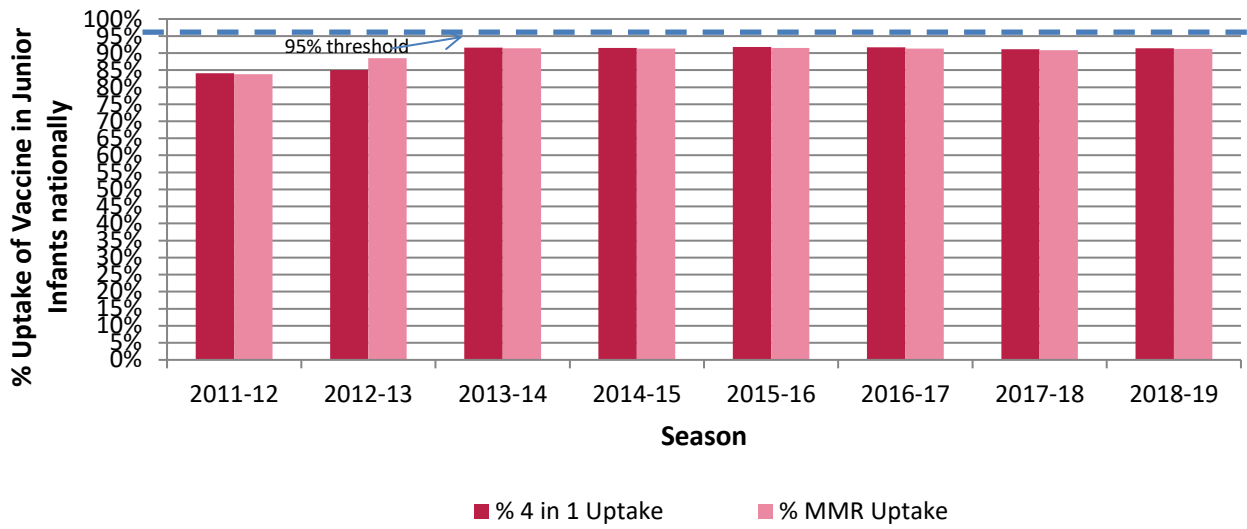
**Figure 1.** Percentage uptake of the DTaP-IPV and MMR vaccines in HSE administered areas in Ireland, between 2011/2012 and 2018/2019



**Figure 2.** Percentage uptake of the DTaP-IPV and MMR vaccines in GP administered areas in Ireland, between 2011/2012 and 2018/2019



**Figure 3.** Estimated percentage uptake of the DTaP-IPV and MMR vaccines nationally in Ireland, between 2011/2012 and 2018/2019



**Table 1. Overall uptake of the DTaP-IPV and MMR vaccines in junior infants in Ireland during the 2018/2019 academic year**

2018-2019	Data as of 24/09/2020			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	2229	2090	93.8	2229	2092	93.9
	NW	CHO1	DL	Donegal	2216	1977	89.2	2216	1977	89.2
	NW	CHO1	SO/LM	Sligo/Leitrim	1444	1376	95.3	1444	1376	95.3
	W	CHO2	G	Galway	3844	3494	90.9	3844	3503	91.1
	W	CHO2	MO	Mayo	1724	1619	93.9	1724	1614	93.6
	W	CHO2	RN	Roscommon	957	905	94.6	957	909	95.0
	MW	CHO3	CE	Clare	1553	1452	93.5	1553	1443	92.9
	MW	CHO3	L	Limerick	1985	1833	92.3	1985	1827	92.0
	MW	CHO3	TN	Tipperary North/East Limerick	1805	1747	96.8	1805	1744	96.6
	S	CHO4	KY	Kerry	1859	1678	90.3	1859	1675	90.1
	S	CHO4	NC	North Cork	1446	1356	93.8	1446	1357	93.8
	S	CHO4	NSL	North Lee - Cork	2901	2614	90.1	2901	2612	90.0
	S	CHO4	NSL	South Lee - Cork	2783	2577	92.6	2783	2586	92.9
	S	CHO4	WC	West Cork	786	687	87.4	786	692	88.0
	SE	CHO5	CW/KK	Carlow/Kilkenny	1943	1870	96.2	1943	1858	95.6
	SE	CHO5	TS	Tipperary South	1304	1215	93.2	1304	1212	92.9
	SE	CHO5	WD	Waterford	1877	1731	92.2	1877	1725	91.9
	SE	CHO5	WX	Wexford	2172	2036	93.7	2172	2032	93.6
	E	CHO6	CCA1	Dublin South	1869	1699	90.9	1869	1658	88.7
	E	CHO6	CCA2	Dublin South East	1648	1547	93.9	1648	1503	91.2
	E	CHO6	CCA10	Wicklow	1873	1768	94.4	1873	1774	94.7
	E	CHO7	CCA3	Dublin South City	1506	1381	91.7	1506	1368	90.8
	E	CHO7	CCA4	Dublin South West	2129	1837	86.3	2129	1841	86.5
	E	CHO7	CCA5	Dublin West	2604	2306	88.6	2604	2305	88.5
	E	CHO7	CCA9	Kildare/West Wicklow	3839	3555	92.6	3839	3581	93.3
	M	CHO8	LS/OY	Laois/Offaly	2548	2364	92.8	2548	2346	92.1
	M	CHO8	LD/WH	Longford/Westmeath	1999	1903	95.2	1999	1901	95.1
	NE	CHO8	LH	Louth	2072	1866	90.1	2072	1858	89.7
	NE	CHO8	MH	Meath	3317	3090	93.2	3317	3083	92.9
	E	CHO9	CCA8	Dublin North	4383	3729	85.1	4383	3733	85.2
	E	CHO9	CCA7	Dublin North Central	1359	1199	88.2	1359	1189	87.5
	E	CHO9	CCA6	Dublin North West	3382	2891	85.5	3382	2890	85.5
			Homeschooled		42	26	61.9	42	27	64.3
			NSL		5684	5191	91.3	5684	5198	91.4
			HSE area Only		65696	60039	91.4	65696	59911	91.2
			GP area Only		3660	3353	91.6	3660	3353	91.6
			Total including homeschooled		69398	63418	91.4	69398	63291	91.2
			CHO1		5889	5443	92.4	5889	5445	92.5
			CHO2		6525	6018	92.2	6525	6026	92.4
			CHO3		5343	5032	94.2	5343	5014	93.8
			CHO4		9775	8912	91.2	9775	8922	91.3
			CHO5		7296	6852	93.9	7296	6827	93.6
			CHO6		5390	5014	93.0	5390	4935	91.6
			CHO7		10078	9079	90.1	10078	9095	90.2
			CHO8		9936	9223	92.8	9936	9188	92.5
			CHO9		9124	7819	85.7	9124	7812	85.6

**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 2018 for the 2018/2019 academic year;

Target Population in LHO: All children born between 01/09/2012 and 31/08/2013

**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 2018/2019 academic year

HSE and GP-DTaP-IPV Vaccine Uptake

HSE & GP-MMR Vaccine Uptake

