

# Annual Epidemiological Report

December 2023

## DTaP-IPV & MMR vaccine uptake in Junior Infants & children aged 4-5 years in Ireland, 2021/2022

### Key Facts

In the academic year 2021/2022, DTaP-IPV\* and MMR<sup>†</sup> vaccines in junior infant schoolchildren/children aged 4-5 years were delivered by HSE school teams in 30 Local Health Offices (LHOs) and by GPs only in two LHOs areas in the North West<sup>§</sup>.

#### DTaP-IPV (4 in 1) uptake:

- Between 2020/2021 and 2021/2022, overall uptake in HSE-vaccine administered LHOs decreased from 88.3% to 87.0%.
- In GP-vaccine administered LHOs (Donegal and Sligo/Leitrim), uptake fell from 88.0% to 86.5% between 2020/2021 and 2021/2022. A reduction in uptake was observed in both these LHOs.

#### MMR uptake:

- Between 2020/2021 and 2021/2022, overall uptake in HSE-vaccine administered LHOs decreased from 88.0% to 87.5%.
- In GP-vaccine administered LHOs, uptake fell from 88.1% to 86.3% between 2020/2021 and 2021/2022. A reduction in uptake was observed in both these LHOs.

Uptake less than 95% for these vaccines indicates vulnerability amongst 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 the nine Community Healthcare Organisations (CHO) and 32 Local Health Offices (LHO). Table 1 also presents a summary of data by HSE Health Regions.

DTaP-IPV\* and MMR<sup>†</sup> vaccine booster doses are primarily administered by the HSE school immunisation teams to children in junior infant classes. However, in two LHOs in the North West (Donegal and Sligo/Leitrim) these vaccines are routinely administered by GP services to children aged 4-5 years. Since the 2011/2012 academic school year, data on 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 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 now use SIS for recording these data, though a few also continue to maintain their own local information systems. In this report, data for the 2021/2022 academic year DTaP-IPV and MMR vaccination programme are provided, and uptake compared with previously reported data.

## Results

Uptake was monitored across all LHOs during the 2021/2022 academic year. Data from all HSE-vaccine administered LHOs are based on what was recorded on SIS by 26<sup>th</sup> September 2023.

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 2020/2021 season.

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

In 2021/2022, vaccines were delivered in 30 LHOs by HSE school teams only and in two LHOs based in the North West by GPs only. In regions where immunisations are administered routinely by HSE Schools teams, there may be a small number of children who receive vaccination from their GPs, these are not captured on SIS and so are not included in this report.

### *Target populations*

For the 2021/2022 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 2021. For GP-vaccine administered LHOs, the target population was all children born between the 1<sup>st</sup> September 2015 and 31<sup>st</sup> August 2016.

The different ways that 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. The two GP-vaccine administered LHOs (Donegal and Sligo/Leitrim) 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 (areas 2 to 9). However, to estimate uptake at a national level, the cohorts for Cavan/Monaghan, Donegal and Sligo/Leitrim have been combined.

The proportion of uptake attributable to home schooled children in HSE administered LHOs can now be captured on SIS and in 2021/2022 it accounted for just over 0.38% of the birth cohort for each vaccine.

### *Uptake of DTaP-IPV (4 in 1) vaccine*

Between 2020/2021 and 2021/2022, the overall uptake of the DTaP-IPV vaccine in HSE-vaccine administered LHOs decreased from 88.3% to 87.0%. In 2021/2022, the average uptake among these LHOs was 87.2% with a range from 71.4% in Dublin North Central to 96.5% in Dublin South East. Of the 30 HSE-vaccine administered LHOs, 11 reported an average uptake increase of +2.0 %, one reported no change in uptake, and 18 reported an average decrease of -3.6% when compared to previous academic year. The largest reduction in uptake was reported by Louth (-8.3%) and the highest increase was reported by Dublin South and Dublin South East (both LHOs +6.1%).

During the same timeframe, overall DTaP-IPV vaccine uptake in exclusively GP-vaccine administered LHOs (Donegal and Sligo/Leitrim) decreased overall from 88.0% to 86.5%. Donegal reported a reduction of -0.7%, whilst Sligo/Leitrim reported a fall of -2.3%.

### *Uptake of MMR vaccine*

The overall uptake of the MMR vaccine between 2020/2021 and 2021/2022 in HSE-vaccine administered LHOs decreased from 88.0% to 87.5%. In 2021/2022, the average uptake among these LHOs was 87.7% with a range from 74.1% in Dublin North Central to 97.2% in Dublin South East. Of the 30 HSE-vaccine administered LHOs, 13 reported an average uptake reduction of -3.8% and 17 reported an average increase of +1.9%. The largest reduction in uptake was reported by Cavan/Monaghan (-7.1%) and the highest increase was reported by Dublin South East (+7.0%).

Overall MMR vaccine uptake in exclusively GP-vaccine administered LHOs decreased from 88.1% to 86.3% during the same timeframe. Donegal uptake decreased by -1.1%, whilst Sligo/Leitrim uptake reduced by -2.3%.

Figures 1 to 3 present trends in the percentage uptake of the DTaP-IPV and MMR vaccines between 2011/2012 and 2021/2022 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 2021/2022 are presented in Table 1a and 1b.

## Discussion

Overall uptake for both vaccines, 4 in 1 and MMR, fell between 2020/2021 and 2021/2022 in both HSE- and the GP-administered areas. The decline in uptake during this academic year may have been related to the impact of the COVID-19 pandemic. On site school attendance may have been interrupted owing to ongoing public health advice related to the pandemic. Furthermore, school vaccination teams and administrative staff were frequently re-deployed to support COVID-19 vaccination programme activities during this period. This would have contributed to delays and interruptions to the school vaccination programme. Additionally, for the GP-administered areas, access to GP services may have been impacted due to pressures related COVID-19 in the communities. Uptake levels remain well short of the 95% threshold levels 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, and since then it has declined. This is a concern as uptake of these vaccines in 2021/2022 remained sub-optimal among junior infants, nationally, in all CHOs and in all but two LHOs. Efforts to catch-up children who are not fully vaccinated, in all areas, should be considered as a priority as services return to normal.

### *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 school 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/>

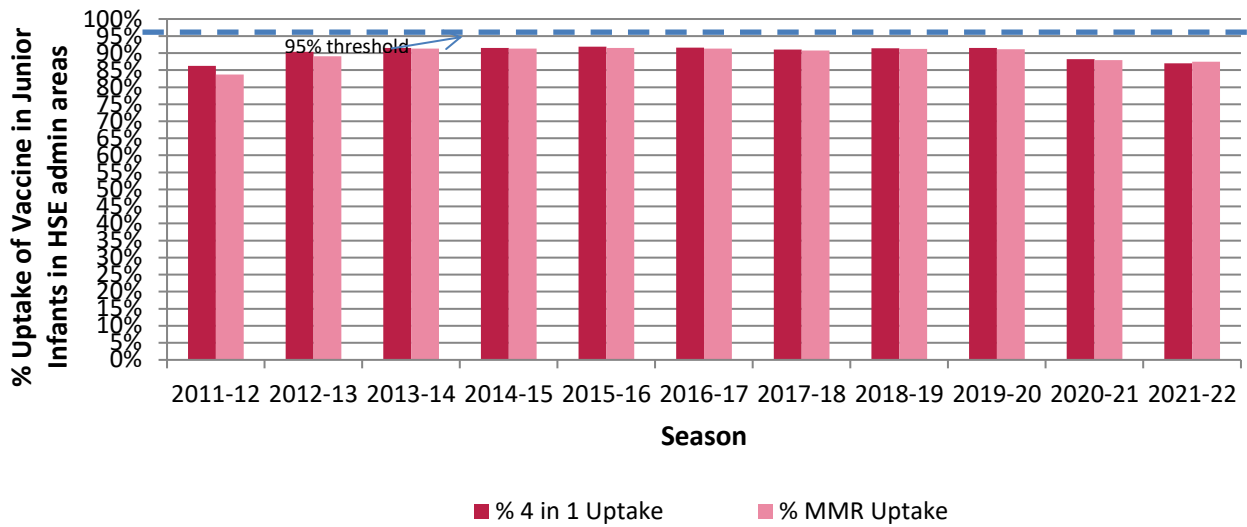
## Acknowledgements

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.

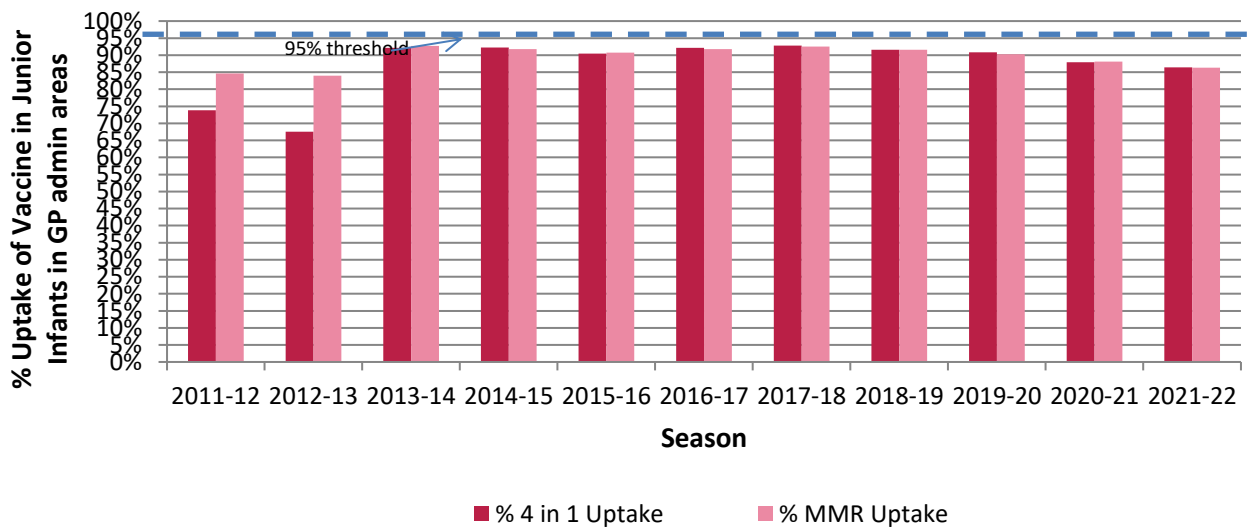
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**Figure 1.** Percentage uptake of the DTaP-IPV and MMR vaccines in HSE administered areas in Ireland, between 2011/2012 and 2021/2022

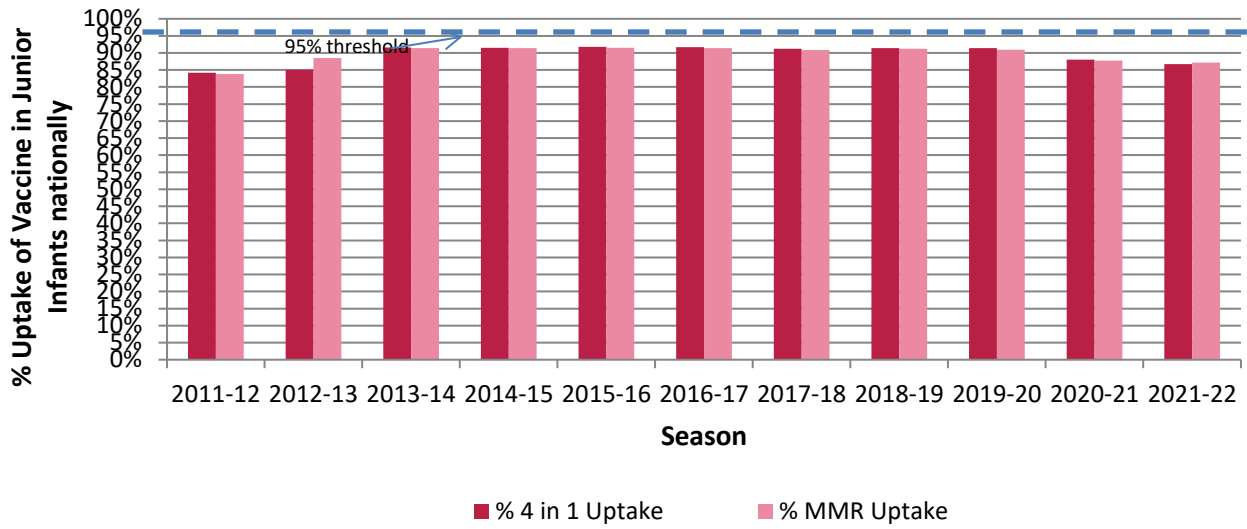


**Figure 2.** Percentage uptake of the DTaP-IPV and MMR vaccines in GP administered areas in Ireland, between 2011/2012 and 2021/2022



Target Population in GP administered LHOs: All children born between 01/09/2015 and 31/08/2016

**Figure 3.** Estimated percentage uptake of the DTaP-IPV and MMR vaccines nationally in Ireland, between 2011/2012 and 2021/2022



Target Population in GP LHOs: All children born between 01/09/2015 and 31/08/2016

**Table 1a. Overall uptake of the DTaP-IPV and MMR vaccines in junior infants in Ireland by LHO during the 2021/2022 academic year**

2021-2022	Data as of 26/09/2023			4 in 1			MMR			
	HSE Area	CHO	CCA Code	LHO	Birth Cohort	Total No. vaccinated	% Uptake	Birth Cohort	Total No. vaccinated	% Uptake
	NE	CHO1	CN/MN	Cavan/Monaghan	2094	1785	85.2	2094	1780	85.0
	NW	CHO1	DL	Donegal	2137	1768	82.7	2137	1765	82.6
	NW	CHO1	SO/LM	Sligo/Leitrim	1259	1168	92.8	1259	1167	92.7
	W	CHO2	G	Galway	3552	3218	90.6	3552	3228	90.9
	W	CHO2	MO	Mayo	1741	1512	86.8	1741	1532	88.0
	W	CHO2	RN	Roscommon	924	813	88.0	924	826	89.4
	MW	CHO3	CE	Clare	1572	1362	86.6	1572	1351	85.9
	MW	CHO3	L	Limerick	1930	1606	83.2	1930	1604	83.1
	MW	CHO3	TN	Tipperary North/East Limerick	1700	1518	89.3	1700	1544	90.8
	S	CHO4	KY	Kerry	1832	1663	90.8	1832	1671	91.2
	S	CHO4	NC	North Cork	1277	1200	94.0	1277	1203	94.2
	S	CHO4	NSL	North Lee - Cork	2444	2257	92.3	2444	2258	92.4
	S	CHO4	NSL	South Lee - Cork	2669	2468	92.5	2669	2488	93.2
	S	CHO4	WC	West Cork	719	650	90.4	719	656	91.2
	SE	CHO5	CW/KK	Carlow/Kilkenny	1839	1693	92.1	1839	1726	93.9
	SE	CHO5	TS	Tipperary South	1260	1134	90.0	1260	1139	90.4
	SE	CHO5	WD	Waterford	1709	1506	88.1	1709	1493	87.4
	SE	CHO5	WX	Wexford	1974	1813	91.8	1974	1815	91.9
	E	CHO6	CCA1	Dublin South	1699	1545	90.9	1699	1510	88.9
	E	CHO6	CCA2	Dublin South East	1669	1610	96.5	1669	1622	97.2
	E	CHO6	CCA10	Wicklow	1812	1731	95.5	1812	1730	95.5
	E	CHO7	CCA3	Dublin South City	1426	1207	84.6	1426	1208	84.7
	E	CHO7	CCA4	Dublin South West	2367	1922	81.2	2367	1915	80.9
	E	CHO7	CCA5	Dublin West	1901	1449	76.2	1901	1476	77.6
	E	CHO7	CCA9	Kildare/West Wicklow	3719	3440	92.5	3719	3432	92.3
	M	CHO8	LS/OY	Laois/Offaly	2337	1992	85.2	2337	2021	86.5
	M	CHO8	LD/WH	Longford/Westmeath	1945	1657	85.2	1945	1652	84.9
	NE	CHO8	LH	Louth	1841	1443	78.4	1841	1533	83.3
	NE	CHO8	MH	Meath	3036	2675	88.1	3036	2672	88.0
	E	CHO9	CCA8	Dublin North	3982	3233	81.2	3982	3228	81.1
	E	CHO9	CCA7	Dublin North Central	1304	931	71.4	1304	966	74.1
	E	CHO9	CCA6	Dublin North West	2955	2240	75.8	2955	2293	77.6
				Homeschooled	230	29	12.6	230	28	12.2
				NSL	5113	4725	92.4	5113	4746	92.8
				HSE area Only	61229	53273	87.0	61229	53572	87.5
				GP area Only	3396	2936	86.5	3396	2932	86.3
				Total including homeschooled	64855	56238	86.7	64855	56532	87.2

**Notes:**

GP=Vaccine administered by GPs in these areas;

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

Target Population in 30 LHOs: All children in Junior Infants on the school register in LHO on 30th September 2021 for the 2021/2022 academic year;

Target Population in 2 LHOs: All children born between 01/09/2015 and 31/08/2016;



**Table 1b. Overall uptake of the DTaP-IPV and MMR vaccines in junior infants in Ireland by CHO and HSE Health Regions during the 2021/2022 academic year**

2021-2022	Data as of 26/09/2023	4 in 1			MMR		
		Birth Cohort	Total No. vaccinated	% Uptake	Birth Cohort	Total No. vaccinated	% Uptake
<b>HSE Area</b>							
<b>CHOs</b>	CHO1	5490	4721	86.0	5490	4712	85.8
	CHO2	6217	5543	89.2	6217	5586	89.9
	CHO3	5202	4486	86.2	5202	4499	86.5
	CHO4	8941	8238	92.1	8941	8276	92.6
	CHO5	6782	6146	90.6	6782	6173	91.0
	CHO6	5180	4886	94.3	5180	4862	93.9
	CHO7	9413	8018	85.2	9413	8031	85.3
	CHO8	9159	7767	84.8	9159	7878	86.0
	CHO9	8241	6404	77.7	8241	6487	78.7
<b>HSE Health Regions</b>	HSE Dublin and North East	15212	12307	80.9	15212	12472	82.0
	HSE Dublin and Midlands	13695	11667	85.2	13695	11704	85.5
	HSE Dublin and South East	11962	11032	92.2	11962	11035	92.3
	HSE South West	8941	8238	92.1	8941	8276	92.6
	HSE Mid West	5202	4486	86.2	5202	4499	86.5
	HSE West and North West	9613	8479	88.2	9613	8518	88.6

**Notes:**

Target Population in 30 LHOs: All children in Junior Infants on the school register in LHO on 30th September 2021 for the 2021/2022 academic year;

Target Population in 2 LHOs: All children born between 01/09/2015 and 31/08/2016;

HSE Health Regions are: HSE Dublin and North East, HSE Dublin and Midlands, HSE Dublin and South East, HSE Mid West, HSE South West, HSE West and North West