

# Annual Epidemiological Report

Updated November 2022

## DTaP-IPV & MMR vaccine uptake in Junior Infants & children aged 4-5 years, in Ireland 2020/2021

### Key Facts

In the academic year of 2020/2021 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 2019/2020 and 2020/2021, overall uptake in HSE-vaccine administered LHOs fell markedly from 91.5% to 88.3%
- Between 2019/2020 and 2020/2021 uptake decreased slightly from 88.5% to 88.0% in GP-vaccine administered LHOs (Donegal; Sligo/Leitrim): Donegal reported a marked uptake decrease of -4.2%, and Sligo/Leitrim reported a small reduction of -0.7%

#### MMR uptake:

- Overall uptake between 2019/2020 and 2020/2021 in HSE-vaccine administered LHOs decreased markedly from 91.1% to 88.0%
- In GP-vaccine administered LHOs uptake fell from 90.3% to 88.1% between 2019/2020 and 2020/2021: Donegal reported an uptake reduction of -3.5%, whilst Sligo/Leitrim reported a slight reduction of -0.2%

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 2020/2021 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 2020/2021 academic year. Data from all HSE-vaccine administered LHOs is based on what was recorded on SIS by 14<sup>th</sup> November 2022.

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 2019/2020 season.

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

In 2020/2021, 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 2020/2021 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 2020. For GP-vaccine administered LHOs, the target population was all children born between the 1<sup>st</sup> September 2014 and 31<sup>st</sup> August 2015.

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.

The proportion of uptake attributable to home schooled children in HSE administered LHOs is normally captured on SIS, but in 2020/2021 it was not possible to report how many children fell into this category and, consequently, it was not possible to ascertain what percentage they constituted of the birth cohort for each vaccine.

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

Between 2019/2020 and 2020/2021, the overall uptake of the DTaP-IPV vaccine in HSE-vaccine administered LHOs decreased markedly from 91.5% to 88.3%. In 2020/2021, the average uptake among these LHOs was 88.6% with a range from 73.9% in Dublin North Central to 97.2% in Carlow/Kilkenny. Of the 30 HSE-vaccine administered LHOs, five reported an average uptake increase of +1.8% and 25 reported an average decrease of -4.2%. The largest reduction in uptake was reported by Dublin North Central (-14.8%) and the highest increase was reported by Laois/Offaly (+4.2%).

During the same period of time, overall DTaP-IPV vaccine uptake in exclusively GP-vaccine administered LHOs (Donegal; Sligo/Leitrim) decreased overall from 91.5% to 88.3%: Donegal reported a marked uptake reduction of -4.2%, whilst Sligo/Leitrim reported a fall of -0.7%.

#### *Uptake of MMR vaccine*

The overall uptake of the MMR vaccine between 2019/2020 and 2020/2021 in HSE-vaccine administered LHOs decreased markedly from 91.1% to 88.0%. In 2020/2021, the average uptake among these LHOs was 88.3% with a range from 73.3% in Dublin North Central to 96.9% in Carlow/Kilkenny. Of the 30 HSE-vaccine administered LHOs, 25 reported an average uptake reduction of -4.1% and five reported an average increase of +1.8%. The largest reduction in uptake was reported by Dublin North Central (-15.5%) and the highest increase was reported by Laois/Offaly (+3.4%).

Overall MMR vaccine uptake in exclusively GP-vaccine administered LHOs decreased from 90.3% to 88.1% during the same time period: Donegal reported an uptake decrease of -3.5%, whilst Sligo/Leitrim reported a slight reduction of -0.2%.

Figure 1 to 3 present trends in the percentage uptake of the DTaP-IPV and MMR vaccines between 2011/2012 and 2020/2021 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 2020/2021 are presented in Table 1 and in the maps in Figure 4.

## Discussion

Overall uptake for both vaccines, 4 in 1 and MMR, fell markedly between 2019/2020 and 2020/2021 in both HSE- and the GP-administered areas. The decline in uptake is most likely related in part to the impact of the COVID-19 pandemic. On site school attendance was interrupted due to pandemic surges at different times, school vaccination teams and administrative staff were frequently re-deployed to support covid-19 vaccination programme activities during this period, all of which would have contributed to delays and interruptions to the school vaccination programme as well as data entry onto SIS. Additionally, for the GP-administered areas, access to GP services may have been impacted due to pressures on the services related to responding to 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 meeting the 95% threshold appears to be more distant than ever. 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. Provision of catch-up opportunities for all 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. HPSC is aware that data inputting for this cohort was still ongoing at the time of report writing and therefore, the data does not reflect full activity of vaccination for this cohort. Further review at a future date will be required. 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/>

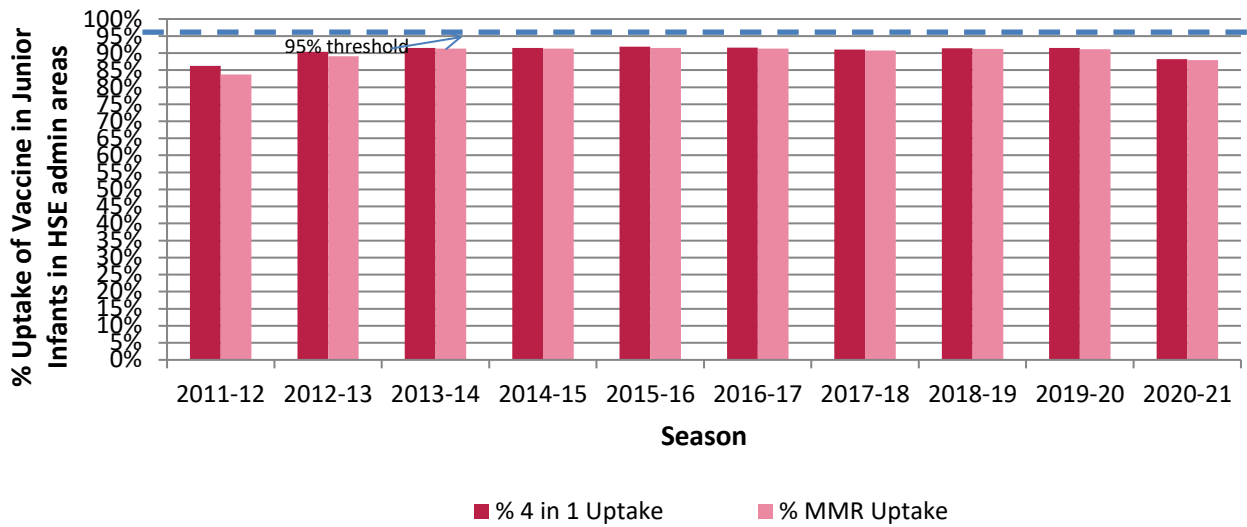
## Acknowledgements

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.

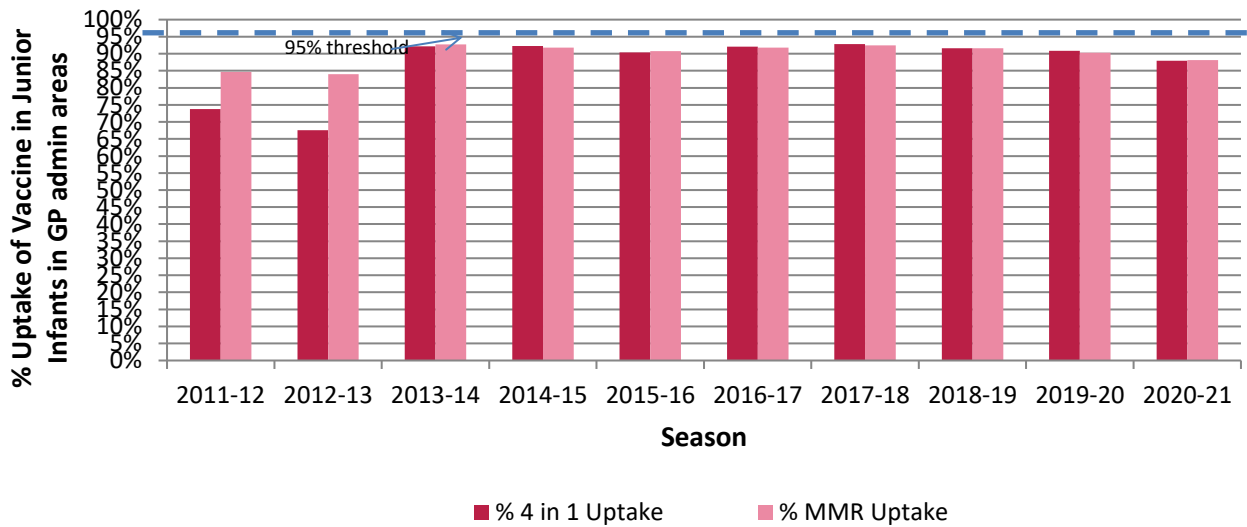
### Report prepared by:

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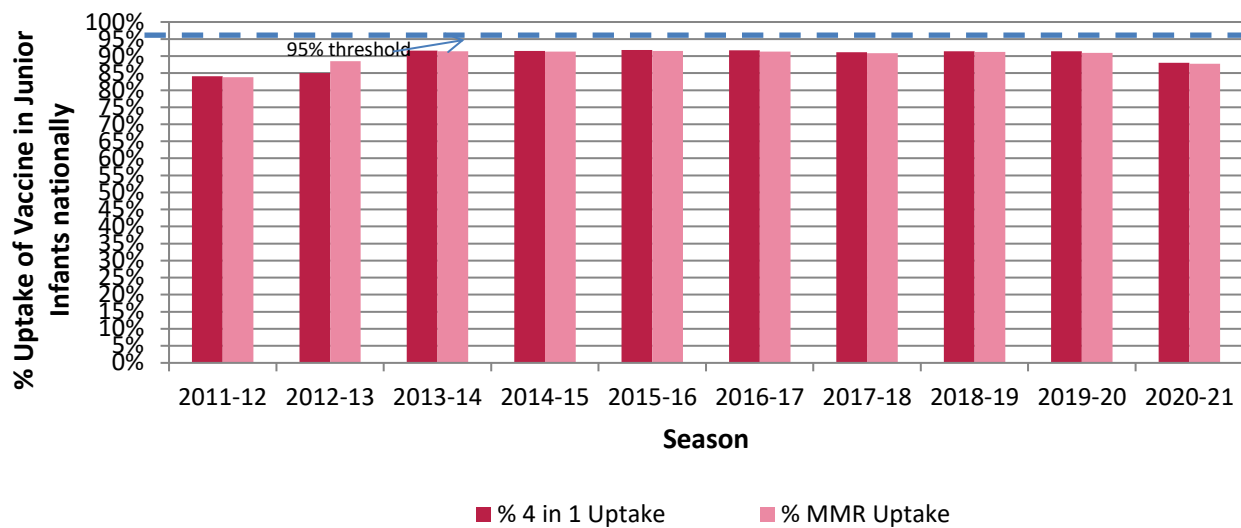
**Figure 1.** Percentage uptake of the DTaP-IPV and MMR vaccines in HSE administered areas in Ireland, between 2011/2012 and 2020/2021



**Figure 2.** Percentage uptake of the DTaP-IPV and MMR vaccines in GP administered areas in Ireland, between 2011/2012 and 2020/2021



**Figure 3.** Estimated percentage uptake of the DTaP-IPV and MMR vaccines nationally in Ireland, between 2011/2012 and 2020/2021



**Table 1. Overall uptake of the DTaP-IPV and MMR vaccines in junior infants in Ireland during the 2020/2021 academic year**

2020-2021	Data as of 14/11/2022			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	2030	1870	92.1	2030	1869	92.1
NW	CHO1	DL	Donegal	2133	1780	83.5	2133	1785	83.7
NW	CHO1	SO/LM	Sligo/Leitrim	1358	1291	95.1	1358	1290	95.0
W	CHO2	G	Galway	3475	3160	90.9	3475	3141	90.4
W	CHO2	MO	Mayo	1691	1468	86.8	1691	1461	86.4
W	CHO2	RN	Roscommon	883	797	90.3	883	801	90.7
MW	CHO3	CE	Clare	1576	1402	89.0	1576	1405	89.1
MW	CHO3	L	Limerick	1929	1597	82.8	1929	1594	82.6
MW	CHO3	TN	Tipperary North/East Limerick	1719	1538	89.5	1719	1529	88.9
S	CHO4	KY	Kerry	1771	1594	90.0	1771	1597	90.2
S	CHO4	NC	North Cork	1392	1339	96.2	1392	1339	96.2
S	CHO4	NSL	North Lee - Cork	2477	2256	91.1	2477	2242	90.5
S	CHO4	NSL	South Lee - Cork	2744	2459	89.6	2744	2453	89.4
S	CHO4	WC	West Cork	741	671	90.6	741	669	90.3
SE	CHO5	CW/KK	Carlow/Kilkenny	1794	1743	97.2	1794	1739	96.9
SE	CHO5	TS	Tipperary South	1206	1122	93.0	1206	1119	92.8
SE	CHO5	WD	Waterford	1768	1655	93.6	1768	1639	92.7
SE	CHO5	WX	Wexford	2010	1836	91.3	2010	1826	90.8
E	CHO6	CCA1	Dublin South	1716	1455	84.8	1716	1424	83.0
E	CHO6	CCA2	Dublin South East	1745	1577	90.4	1745	1573	90.1
E	CHO6	CCA10	Wicklow	1785	1700	95.2	1785	1697	95.1
E	CHO7	CCA3	Dublin South City	1436	1276	88.9	1436	1261	87.8
E	CHO7	CCA4	Dublin South West	2009	1721	85.7	2009	1721	85.7
E	CHO7	CCA5	Dublin West	2203	1859	84.4	2203	1861	84.5
E	CHO7	CCA9	Kildare/West Wicklow	3682	3316	90.1	3682	3309	89.9
M	CHO8	LS/OY	Laois/Offaly	2289	2115	92.4	2289	2098	91.7
M	CHO8	LD/WH	Longford/Westmeath	1885	1596	84.7	1885	1592	84.5
NE	CHO8	LH	Louth	1916	1660	86.6	1916	1655	86.4
NE	CHO8	MH	Meath	3071	2675	87.1	3071	2674	87.1
E	CHO9	CCA8	Dublin North	3914	3270	83.5	3914	3264	83.4
E	CHO9	CCA7	Dublin North Central	1305	965	73.9	1305	956	73.3
E	CHO9	CCA6	Dublin North West	2976	2265	76.1	2976	2276	76.5
Homeschooled				198	17	8.6	198	17	8.6
NSL				5221	4715	90.3	5221	4695	89.9
HSE area Only				61138	53957	88.3	61138	53784	88.0
GP area Only				3491	3071	88.0	3491	3075	88.1
Total including homeschooled				64827	57045	88.0	64827	56876	87.7
CHO1				5521	4941	89.5	5521	4944	89.5
CHO2				6049	5425	89.7	6049	5403	89.3
CHO3				5224	4537	86.8	5224	4528	86.7
CHO4				9125	8319	91.2	9125	8300	91.0
CHO5				6778	6356	93.8	6778	6323	93.3
CHO6				5246	4732	90.2	5246	4694	89.5
CHO7				9330	8172	87.6	9330	8152	87.4
CHO8				9161	8046	87.8	9161	8019	87.5
CHO9				8195	6500	79.3	8195	6496	79.3

**Notes:**

GP=Vaccine administered by GPs in these areas;

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

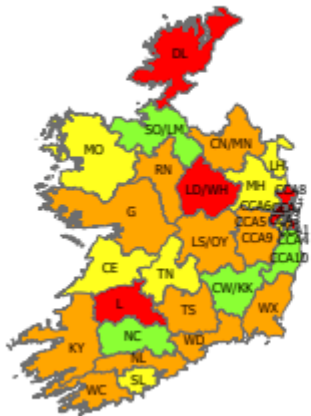
Target Population in LHO: All children in Junior Infants on the school register in LHO on 30th September 2020 for the 2020/2021 academic year;

Target Population in LHO: All children born between 01/09/2014 and 31/08/2015



**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 2020/2021 academic year

HSE and GP-DTaP-IPV Vaccine Uptake



HSE & GP-MMR Vaccine Uptake

