



UK Health
Security
Agency

Seasonal influenza vaccine uptake in children of school age

Winter season 2022 to 2023

Final data for 1 September 2022 to 28 February 2023

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Main points

In 2022 to 2023, the following school-aged cohorts were offered influenza vaccination; primary school-aged children in Reception to Year 6; and secondary school-aged children focusing on Years 7, 8 and 9 with any remaining vaccine offered to Years 10 and 11, subject to vaccine availability. Vaccination of younger cohorts and at-risk children was prioritised first with vaccination of secondary school-aged children continuing into the new year.

This report describes the final influenza vaccine uptake for the school-aged programme targeted at all school children aged 4 to 14 years old (Reception to Year 9) in England from 2022 to 2023. Data for Years 10 and 11 is presented within the additional tables only.

All data in this report represents data returned from 100% (153 out of 153) of local authorities (LAs) in England on cumulative influenza vaccinations administered from 1 September 2022 to 28 February 2023. In previous seasons reports, data represents cumulative influenza vaccinations administered from 1 September to 31 January.

This season:

- 51.9% (3,502,566 out of 6,747,523) of all school aged children in Reception to Year 9 combined were vaccinated, compared with 53.8% (917,109 out of 2,014,657) during the 2021 to 2022 season (this data reflects vaccinations in Reception to Year 9 which has not been previously published)
- 56.3% (2,647,295 out of 4,705,474) of primary school children (Reception to Year 6) combined were vaccinated, compared with 57.4% (2,698,427 out of 4,701,000) during the 2021 to 2022 season
- 41.9% (855,271 out of 2,042,049) of secondary school children (Year 7 to Year 9) combined were vaccinated, compared with 45.5% (634,247 out of 1,344,804) during the 2021 to 2022 season

Cumulative influenza vaccine uptake by academic year for the national programme in England this season was:

- 56.7% (358,090 out of 631,948) of children in Reception (aged 4 rising to 5 years) compared with 56.7% during the 2021 to 2022 season
- 56.4% (371,724 out of 658,504) of children in school Year 1 (aged 5 rising to 6 years) compared with 58.7% during the 2021 to 2022 season
- 57.5% (385,524 out of 670,319) of children in school Year 2 (aged 6 rising to 7 years) compared with 58.6% during the 2021 to 2022 season
- 57.3% (384,685 out of 671,067) of children in school Year 3 (aged 7 rising to 8 years) compared with 57.8% during the 2021 to 2022 season
- 56.2% (380,757 out of 676,946) of children in school Year 4 (aged 8 rising to 9 years) compared with 57.2% during the 2021 to 2022 season

Seasonal influenza vaccine uptake in children of school age 2022 to 2023

- 55.6% (383,397 out of 689,328) of children in school Year 5 (aged 9 rising to 10 years) compared with 56.1% during the 2021 to 2022 season
- 54.2% (383,118 out of 707,362) of children in school Year 6 (aged 10 rising to 11 years) compared with 55.8% during the 2021 to 2022 season
- 45.2% (311,033 out of 687,562) of children in school Year 7 (aged 11 rising to 12 years) compared with 48.2% during the 2021 to 2022 season
- 40.7% (277,775 out of 681,751) of children in school Year 8 (aged 12 rising to 13 years) compared with 45.4% during the 2021 to 2022 season
- 39.6% (266,463 out of 672,736) of children in school Year 9 (aged 13 rising to 14 years) compared with 42% during the 2021 to 2022 season

The national ambition for the 2022 to 2023 flu season was to demonstrate a 100% offer and to achieve at least the uptake levels of 2021 to 2022. Of 153 local authorities in England, 51 (33.3%) had an uptake equal or above that of the 2021 to 2022 season.

Notes on the report

Intended audience

This report is aimed at professionals directly involved in the delivery of the influenza vaccine to children such as GPs, pharmacy leads, screening and immunisation teams, local commissioners involved in the planning and financing of local health services, the wider public health community, governmental organisations and researchers with an interest in the influenza vaccination programme in England.

Aim of the report

This report provides an evaluation of the national childhood influenza vaccination programme in school aged children (from school years Reception to Year 9) at national and sub-national levels.

Glossary

Term	Meaning
At-risk	Patients with clinical risk group(s) as listed in the Green Book.
Green Book	The Green Book 'Immunisation against infectious disease' has the latest information on vaccines and vaccination procedures, for vaccine preventable infectious diseases in the UK. Chapter 19 refers to influenza.
ImmForm	A website that provides a secure online platform for vaccine uptake data collection for several immunisation surveys, including the seasonal influenza vaccine uptake collection.
School-age year	The school age year is determined by their age on the 31 August. This will be correct for the majority of children.

Background

Childhood influenza programme roll-out timeline

Following the [recommendation of the Joint Committee on Vaccination and Immunisation \(JCVI\)](#) in 2012 and [accompanying statement](#), the Department of Health and Social Care (DHSC) (formerly the Department of Health) in partnership with UK Health Security Agency (UKHSA, formerly Public Health England (PHE)) and the National Health Service (NHS) England began the phased roll-out of the national influenza vaccination programme to ultimately cover all 2 to 16 year olds (inclusive) in the UK. This programme uses the licensed live attenuated influenza vaccine (LAIV), with the aim of providing direct protection for those immunised, as well as indirectly protecting the remaining population by reducing transmission. Children in clinical risk groups who are contraindicated for LAIV would most likely be offered the injectable vaccine through their GP.

2022 to 2023

For the 2022 to 2023 season, between April 2022 and July 2022 there was a change in policy for school-aged children, with an expansion from the original policy of primary school-aged children (Reception to Year 6), to also include secondary school-aged children focusing on Years 7, 8 and 9, with any remaining vaccine offered to Years 10 and 11, subject to vaccine availability. More details about this can be found in the [National flu immunisation programme plan 2022 to 2023](#) and [Statement of amendments to annual flu letter 2022 to 2023](#). Vaccination of younger cohorts and at-risk children was therefore prioritised first with vaccination of secondary school-aged children continuing into the new year. Therefore, for the first-time data for the 2022 to 2023 season included data submitted up until 28 February.

During the 2022 to 2023 season, the national programme included all primary school-aged children and secondary school-aged children in Year 7 to Year 9 (aged 13 years rising to 14 years), with no pilot areas. The mode of vaccination remained primarily through school delivery, with eligible children in the Isles of Scilly and all children aged 2 and 3 years offered the vaccine in GP practices.

2021 to 2022

The 2021 to 2022 season represented the first time in which all secondary school-aged children (in Years 7 to 11) were offered the vaccine through the school delivery model. As a temporary measure, all children aged 2 years through to 16 years old were offered the vaccine. The national school-aged programme was extended beyond the 2020 to 2021 cohort (primary school (Reception to Year 6) and Year 7) to include children of Year 8 (aged 12 years rising to 13 years), to Year 11 (aged 15 years rising to 16 years) with no pilot areas. This was an expansion of 4 additional year groups (whereas previous seasons saw an expansion of one

additional year group). The mode of vaccination remained primarily through school delivery, with eligible children in the Isles of Scilly and all children aged 2 and 3 years offered the vaccine in GP practices. Note that the programme will have been affected by COVID-19 related pupil and immunisation staff absences.

Methods

UKHSA provides screening and immunisation teams in England a standard protocol describing the inclusion criteria and method of collecting the data. Data providers must use a suitable data source to identify eligible school cohorts in the locality which are decided locally usually by the screening and immunisation team or the school aged immunisation service (SAIS). Most children are offered a single dose of vaccine. Eligible children in clinical at-risk groups without prior vaccination history under the age of 9 years of age are recommended 2 doses of vaccine and are counted as one vaccination in the numerator. More information about this can be found in [chapter 19 of The Green Book](#).

Cumulative data on seasonal influenza vaccine uptake was collected for all 153 local authorities between 1 September 2022 to 28 February 2023 using the ImmForm website managed by UKHSA. ImmForm provides a secure online platform for vaccine uptake data collection for nearly all the national immunisation programmes, including the seasonal influenza vaccine uptake collections.

End-of-season programme vaccine uptake was calculated based on the number of children in the target population reported as having received the influenza vaccine (either LAIV or inactivated influenza vaccine (IIV)) during the campaign period). Therefore, vaccine coverage reflects all children in school years Reception to Year 9 (aged 4 years rising to 14 years old, based on age on 31 August 2022) that received an influenza vaccine between 1 September 2022 and 28 February 2023.

Data in this report covers all reported vaccinations given during the 2022 to 2023 season and is compared with data from the season before where this is available. Additional tables also compare uptake data from 2022 to 2023 season to all previous seasons where school-aged delivery has taken place.

Target population

In 2022 to 2023, the following school-aged cohorts were included for the national school-aged childhood influenza vaccination programme; primary school-aged children in Reception to Year 6; and secondary school-aged children focusing on Years 7, 8 and 9 with any remaining vaccine offered to Years 10 and 11, subject to vaccine availability. Vaccination of younger cohorts and at-risk children was prioritised first with vaccination of secondary school-aged children continuing into the new year. The target population is defined by school age cohorts born between 1 September 2008 and 31 August 2018, as defined by the child's age on 31 August 2022 ([Table 1](#)). This season all children in Reception to Year 9 (aged 4 years rising to 14 years old) were offered the vaccine.

Table 1. Year group cohort definitions

Academic year group	Age range on 31 August 2022	Born from date	Born to date
Reception	Aged 4 to 5 years	1 September 2017	31 August 2018
1	Aged 5 to 6 years	1 September 2016	31 August 2017
2	Aged 6 to 7 years	1 September 2015	31 August 2016
3	Aged 7 to 8 years	1 September 2014	31 August 2015
4	Aged 8 to 9 years	1 September 2013	31 August 2014
5	Aged 9 to 10 years	1 September 2012	31 August 2013
6	Aged 10 to 11 years	1 September 2011	31 August 2012
7	Aged 11 to 12 years	1 September 2010	31 August 2011
8	Aged 12 to 13 years	1 September 2009	31 August 2010
9	Aged 13 to 14 years	1 September 2008	31 August 2009

Data in this report is a school-aged collection, predominantly delivered in schools and also a GP based delivery model for some cohorts (such as Isles of Scilly and 2- and 3-year-olds). Children who reside in one locality attending schools in neighbouring localities would be captured by the schools in the neighbouring locality to avoid double counting. Data providers can use single or multiple sources as appropriate to identify their eligible population.

For the 153 local authorities where the programme was delivered through a school model, the denominator was based on both all the eligible children in schools (all state funded primary schools, special schools, academies, faith schools, free schools, pupil referral units, and independent schools) in the local authority geography and those children who were educated out of school in the local authority geography. This was defined by child age on 31 August 2022 using routine data sources such as the local education authority (LEA) school registers. Data was submitted by data providers and/or screening and immunisation coordinators at the local authority level. Data was submitted on the [ImmForm reporting website](#) via manual upload.

For the Kernow local authority (which comprises Cornwall and the Isles of Scilly), most children were offered the vaccine through school delivery programmes, except for the Isles of Scilly, where the programme was delivered through GPs. The denominators for the Isles of Scilly were derived from GP systems that are based on the number of patients registered with a GP practice located within the local authority's geographical boundary, as defined by a child's age on 31 August 2022. Data was submitted on the ImmForm reporting website either via an automated extraction (XML bulk upload or a web service) or provided by GP IT software suppliers who extract data directly from GP computer systems as described in full in the GP flu vaccination annual report. Data was submitted at GP practice level and then aggregated at local authority level by GP postcode for reporting purposes.

Data limitations

The identification of school-aged population may differ between localities depending on the data sources consulted. Depending on the characteristics of the local school-age population, it may be necessary that providers use multiple data sources to identify eligible school-aged cohorts, such as the school roll call and the local Child Health Information Services (CHIS) system. Where the denominators (total number of children for the influenza vaccine) were not amended, denominators from [the school census survey](#) from January 2022 were used (this is provided to data providers at the start of the data collection as not all will have a complete school roll call whilst consent forms are still being collected). Some of the school data providers will only be indicating those children that have returned information on their vaccination status in consent forms (those who have already received the vaccine at the GP).

Although every effort is made to capture vaccinations delivered in other settings within this data collection, where data providers have indicated that they have included additional children that were vaccinated in other settings, it should be noted that the completeness of these figures may vary. It is important to note not all data providers may be able to access information on children vaccinated through other settings such as GP practices. Most of the children vaccinated in GP practice are at-risk children that have been called in by their GP to receive the vaccination. Healthy children in school years Reception to Year 9 who are not in a clinical risk group should not ordinarily be offered vaccination by their GP practice unless commissioned to vaccinate these children.

For these reasons, some caution is advised when making direct comparisons of vaccine coverage between localities and historic data as delivery models and timing of vaccine supply will affect any comparisons.

Throughout the 2022 to 2023 season, provisional uptake [data by school year cohort was published on UKHSA's website](#) on a cumulative monthly basis.

Results

Full data tables and graphs showing final influenza vaccine uptake for children in school years Reception to Year 9 at NHS region and local authority level are described and shown throughout this section. Data for this season and prior seasons is also available at [vaccine uptake guidance and the latest coverage data](#).

National uptake

An estimated 3,502,566 children from school years Reception to Year 9 in England were vaccinated with an influenza vaccine between 1 September 2022 to 28 February 2023. Cumulative influenza vaccine uptake based on combined data for the target populations (Reception to Year 9) was 51.9% (3,502,566 out of 6,747,523) and the median uptake is given in [Table 2](#).

Table 2. Total number of children in primary school, in secondary school and all school years between Reception to Year 9 eligible for influenza vaccination, total number who received vaccination, vaccine uptake and median vaccine uptake in England for the 2022 to 2023 season

	Total number of eligible children	Total number of children vaccinated	Influenza vaccine uptake (%)	Median influenza vaccine uptake (%)
Primary school-aged children (Reception to Year 6)	4,705,474	2,647,295	56.3	56.3% (IQR 45.7% to 64.7%)
Secondary school-aged children (Year 7 to Year 9)	2,042,049	855,271	41.9	38.4% (IQR 29.2% to 50.4%)
All eligible school-aged (Reception to Year 9)	6,747,523	3,502,566	51.9	51.9% (IQR 41.4% to 59%)

The total number of children vaccinated in the school-aged programme in 2022 to 2023 (Reception to Year 9) was 3,502,566, compared with 3,615,536 (Reception to Year 9) in 2021 to 2022. This season (2022 to 2023) 112,970 less children in Reception to Year 9 were vaccinated than the 2021 to 2022 season.

Year group

The cumulative uptake and the median uptake for primary school aged children is shown below by year group for primary school-aged children (Reception to Year 6) (Tables [3a](#) and [3b](#) and Figure 1.).

Figure 1. Influenza vaccine uptake (%) for children in primary school years Reception to Year 6 by year group and season

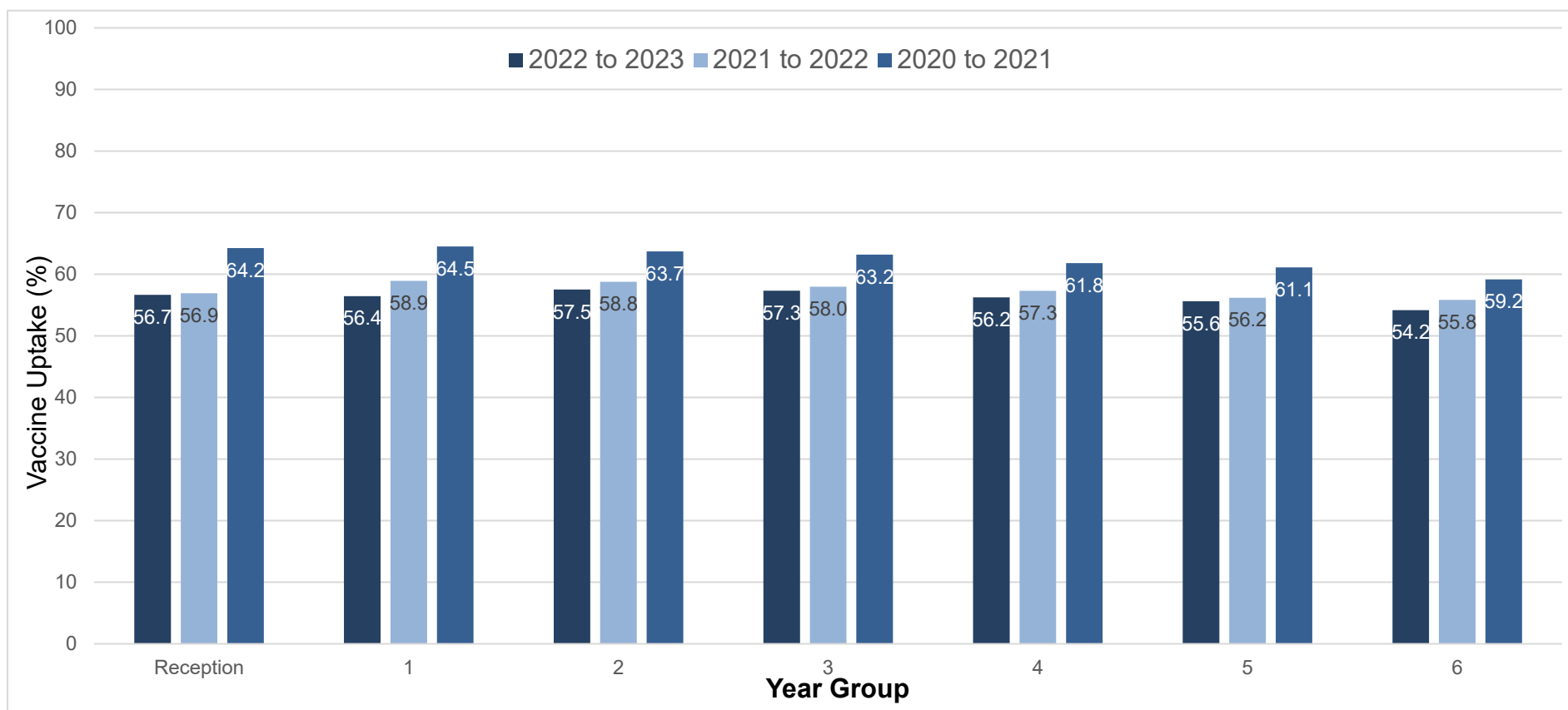


Table 3a. Total number of children in primary school years Reception to Year 6 eligible for influenza vaccination, total number who received vaccination, vaccine uptake and median vaccine uptake in England for the 2022 to 2023 season

School year	Total number of eligible children in the local authority geography	Total number of children vaccinated with influenza vaccine	Influenza vaccine uptake (%)	Median influenza vaccine uptake (%)
Reception	631,948	358,090	56.7	56.6% (IQR 47.2% to 65%)
Year 1	658,504	371,724	56.4	56.5% (IQR 46.9% to 64.5%)
Year 2	670,319	385,524	57.5	57.6% (IQR 47.5% to 65.7%)
Year 3	671,067	384,685	57.3	57.7% (IQR 47.6% to 66%)
Year 4	676,946	380,757	56.2	56.1% (IQR 45.4% to 64.5%)
Year 5	689,328	383,397	55.6	55.1% (IQR 45.2% to 64.2%)
Year 6	707,362	383,118	54.2	54.3% (IQR 42.8% to 62.3%)
Total	4,705,474	2,647,295	56.3	56.3% (IQR 45.7% to 64.7%)

Table 3b. Total number of children in primary school years Reception to Year 6 eligible for influenza vaccination, total number who received vaccination, vaccine uptake and median vaccine uptake in England for the 2021 to 2022 season

School year	Total number of eligible children in the local authority geography	Total number of children vaccinated with influenza vaccine	Influenza vaccine uptake (%)
Reception	640,974	364,816	56.9
Year 1	658,699	388,137	58.9
Year 2	660,811	388,453	58.8
Year 3	667,526	387,068	58.0
Year 4	682,552	391,122	57.3
Year 5	696,578	391,338	56.2
Year 6	693,860	387,493	55.8
Total	4,701,000	2,698,427	57.4

The cumulative uptake and the median uptake for secondary school aged children (Year 7 to Year 9) are shown in [Tables 4a](#) and [4b](#). The 2021 to 2022 season was the first in which vaccine rollout was extended to include all secondary school-aged children in Year 7 to Year 11. Please note that for the 2022 to 2023 season data for Year 10 and Year 11 is not comparable to the previous season as the programme was prioritised for those up to school Year 9 in 2022 to 2023.

Table 4a. Total number of children in secondary school years Year 7 to Year 9 eligible for influenza vaccination, total number who received vaccination, vaccine uptake and median vaccine uptake for England for the 2022 to 2023 season

School year	Total number of eligible children in the local authority geography	Total number of children vaccinated with influenza vaccine	Influenza vaccine uptake (%)	Median influenza vaccine uptake (%)
Year 7	687,562	311,033	45.2	42.6% (IQR 32% to 54.4%)
Year 8	681,751	277,775	40.7	37% (IQR 28% to 48.9%)
Year 9	672,736	266,463	39.6	37.1% (IQR 26% to 48.1%)
Total	2,042,049	855,271	41.9	38.4% (IQR 29.2% to 50.4%)

Table 4b. Total number of children in secondary school years Year 7 to Year 9 eligible for influenza vaccination, total number who received vaccination, vaccine uptake and median vaccine uptake for England for the 2021 to 2022 season

School year	Total number of eligible children in the local authority geography	Total number of children vaccinated with influenza vaccine	Influenza vaccine uptake (%)
Year 7	676,277	328,168	48.5
Year 8	668,527	306,079	45.8
Year 9	669,853	282,862	42.2
Total	2,014,657	917,109	45.5

The national ambition set in the [national flu letter](#) for the 2022 to 2023 flu season is to demonstrate a 100% offer and to achieve at least the uptake levels of 2021 to 2022 (see Table 5) for each cohort, and ideally exceed them. Of 153 local authorities in England, 51 (33.3%) had an uptake equal or above that of the [2021 to 2022 season](#).

For all school-aged children (Reception to Year 9) influenza vaccine uptake decreased by 1.9 percentage points to 51.9% (3,502,566 out of 6,747,523) in the 2022 to 2023 season, compared with the corresponding year groups in the previous 2021 to 2022 season (53.8% (3,615,536 out of 6,715,657)).

For primary school-aged children (Reception to Year 6) Influenza vaccine uptake decreased by 1.1 percentage points to 56.3% (2,647,295 out of 4,705,474) in the 2022 to 2023 season, compared with the corresponding year groups in the previous 2021 to 2022 season (57.4% (2,698,427 out of 4,701,000)) ([Table 3a](#) and [3b](#)).

For secondary school-aged children (Year 7 to Year 9) Influenza vaccine uptake decreased by 3.6 percentage points to 41.9% (855,271 out of 2,042,049) in the 2022 to 2023 season compared with the corresponding year groups in the previous 2021 to 2022 season (45.5% (917,109 out of 2,014,657)) ([Table 4a](#) and [4b](#)).

Table 5. Change in vaccine uptake between 2021 to 2022 and 2022 to 2023

	2022 to 2023 Influenza vaccine uptake (%)	2021 to 2022 Influenza vaccine uptake (%)	% Decrease
Reception	56.7	56.9	0.3
Year 1	56.4	58.9	2.5
Year 2	57.5	58.8	1.3
Year 3	57.3	58.0	0.7
Year 4	56.2	57.3	1.1
Year 5	55.6	56.2	0.6
Year 6	54.2	55.8	1.7
Year 7	45.2	48.5	3.3
Year 8	40.7	45.8	5.0
Year 9	39.6	42.2	2.6
Total primary school-aged	56.3	57.4	1.1
Total secondary school-aged	41.9	45.5	3.6
Total school-aged	51.9	53.8	1.9

The cumulative uptake for all eligible year groups each season since the schools' programme was rolled out nationally are shown below ([Table 6](#)). For most years groups (Year 1 to Year 7) the highest uptake was seen in 2020 to 2021 season (the first year of the COVID-19 pandemic). For reception aged children the highest uptake was seen pre-COVID-19 pandemic (2018 to 2019 and 2019 to 2020) with uptake of 64.3% in both seasons. The highest uptake in year group was seen in 2020 to 2021 in Year 1 (64.5%).

For the eighth consecutive season the general trend in vaccine uptake was to decrease as age increased in school aged children ([Table 6](#)). Reception year has been an exception to this trend for both this season (2022 to 2023) and the previous season (2021 to 2022), where uptake was almost equivalent (2022 to 2023) or lower (2021 to 2022) than Year 1 ([Table 3a and 3b](#), [Table 6](#)). Indeed, for 2022 to 2023, uptake in Reception and Year 1 was below that of Year 2. This season the highest uptake was among children in Year 2 (57.5%) and the lowest in eligible children in Year 9 (39.6%) ([Table 3a and 3b](#)).

Table 6. Flu vaccine uptake (%) for all eligible year groups each season since schools' programme was rolled out nationally

School year	2022 to 2023	2021 to 2022	2020 to 2021	2019 to 2020	2018 to 2019	2017 to 2018	2016 to 2017	2015 to 2016
Reception	56.7	56.9	64.2	64.3*	64.3*	62.6	[Note 1]	[Note 1]
Year 1	56.4	58.9	64.5*	63.6	63.6	61.0	57.6	54.4
Year 2	57.5	58.8	63.7*	62.6	61.5	60.4	55.4	52.9
Year 3	57.3	58.0	63.2*	60.6	60.4	57.6	53.3	
Year 4	56.2	57.3	61.8*	59.6	58.3	55.8		
Year 5	55.6	56.2	61.1*	57.2	56.5			
Year 6	54.2	55.8	59.2*	55.0				
Total primary school-aged	56.3	57.4	62.5	60.4	60.8	63.1	55.4	54.8
Year 7	45.2	48.5	56.2*					
Year 8	40.7	45.8*						
Year 9	39.6	42.2*						
Year 10	[Note 2]	42.0						
Year 11	[Note 2]	38.9						
Total secondary school-aged	(Year 7 to Year 9) 41.9	(Year 7 to Year 11) 45.5	(Year 7 only) 56.2					
Total school-aged	(Reception to Year 9) 51.9	(Reception to Year 11) 53.8	(Reception to Year 7) 61.7					

Note 1: Reception-aged children were vaccinated through GP practices, not school-aged delivery

Note 2: Figures not reported here (subject to vaccine availability, any remaining vaccine offered to Years 10 and 11 once an offer had been made to younger children)

* This figure shows the season with the highest uptake on record for that year group

NHS region

Variation in vaccine uptake was observed between the 7 NHS England Regions, ranging from 38.5% (London) to 58.8% (South West). The East of England, North East and Yorkshire, South East, and South West were all above the national average uptake of 51.9% ([Table 7](#)).

Table 7. Estimated number and proportion of children in school years Reception to Year 9 who were vaccinated with influenza vaccine by NHS Region from 1 September 2022 to 28 February 2023

NHS commissioning region	Number of children eligible for vaccination	Number of children vaccinated with at least one dose of influenza vaccine	Vaccine uptake (%)
East of England	787,311	462,360	58.7
London	1,016,832	391,568	38.5
Midlands	1,322,046	653,940	49.5
North East and Yorkshire	1,030,942	543,413	52.7
North West	855,328	434,620	50.8
South East	1,113,736	651,109	58.5
South West	621,328	365,556	58.8
Total	6,747,523	3,502,566	51.9

Figure 2. Number and estimated proportion of children in school years Reception to Year 9 who were vaccinated with flu vaccine by NHS region between 1 September 2022 to 28 February 2023, with line showing national England average uptake of 51.9%

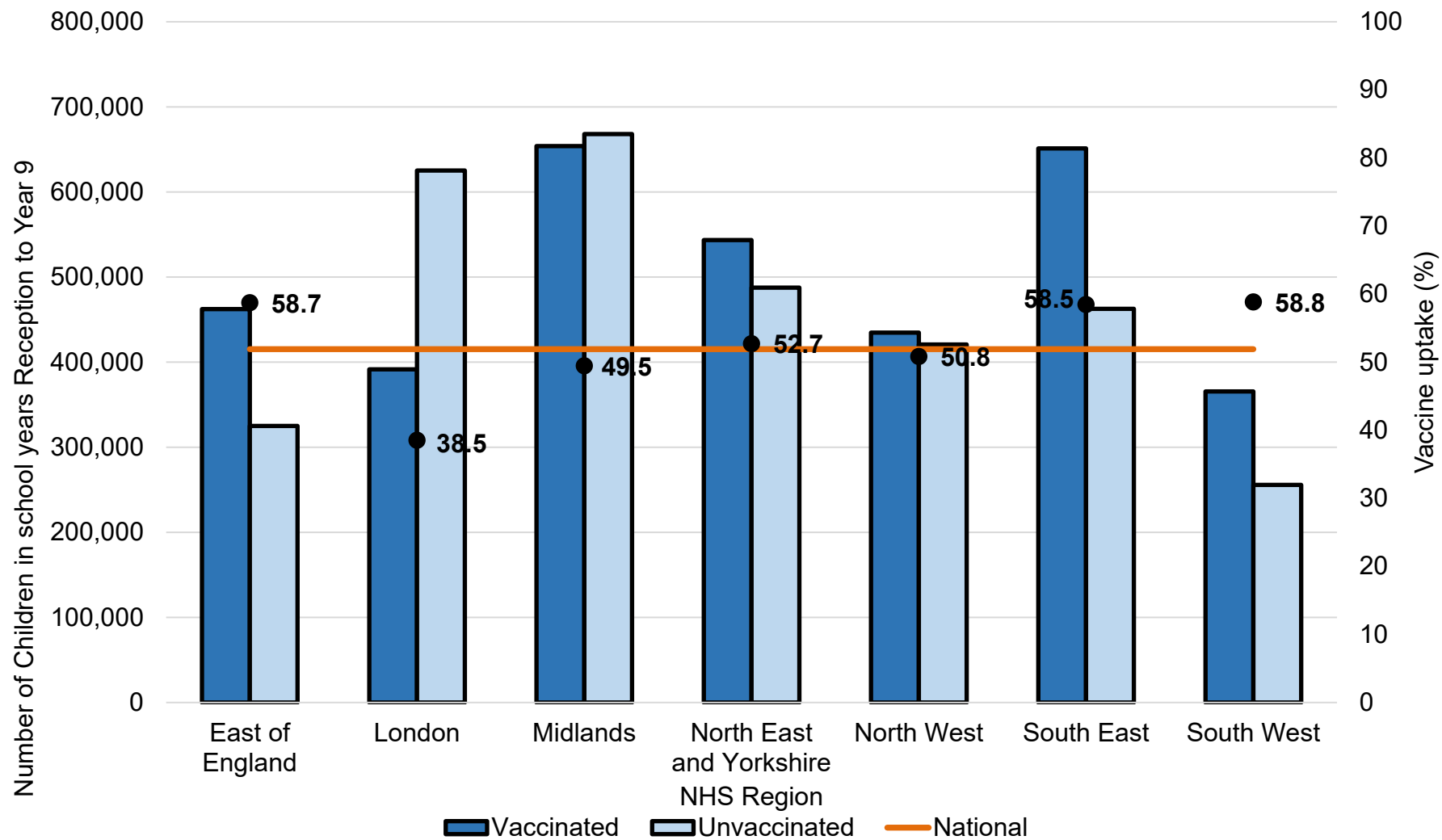


Table 8a. Change in vaccine uptake between 2021 to 2022 and 2022 to 2023 – primary school-aged (Reception to Year 6)

Region	2022 to 2023 Influenza vaccine uptake (%)	2021 to 2022 Influenza vaccine uptake (%)	% Change
East of England	62.7	61.5	1.2
London	43.9	50.4	-6.5
Midlands	53.2	55.6	-2.4
North East and Yorkshire	57.4	59.5	-2.1
North West	57.3	57.5	-0.2
South East	61.8	61.6	0.1
South West	62.4	56.8	5.7
Total	56.3	57.4	-1.1

Table 8b. Change in vaccine uptake between 2021 to 2022 and 2022 to 2023 – secondary school-aged (Year 7 to Year 9)

Region	2022 to 2023 Influenza vaccine uptake (%)	2021 to 2022 Influenza vaccine uptake (%)	% Change
East of England	49.7	47.6	2.1
London	24.5	37.8	-13.3
Midlands	40.8	43.4	-2.6
North East and Yorkshire	42.1	46.1	-4.1
North West	35.7	41.6	-5.9
South East	51.2	54.4	-3.1
South West	50.9	47.4	3.5
Total	41.9	45.5	-3.6

Table 8c. Change in vaccine uptake between 2021 to 2022 and 2022 to 2023 – all school-aged (Reception to Year 9)

Region	2022 to 2023 Influenza vaccine uptake (%)	2021 to 2022 Influenza vaccine uptake (%)	% Change
East of England	58.7	57.3	1.4
London	38.5	46.9	-8.4
Midlands	49.5	51.9	-2.4
North East and Yorkshire	52.7	55.4	-2.7
North West	50.8	52.7	-1.9
South East	58.5	59.4	-0.9
South West	58.8	53.9	4.9
Total	51.9	53.8	-1.9

Local authority

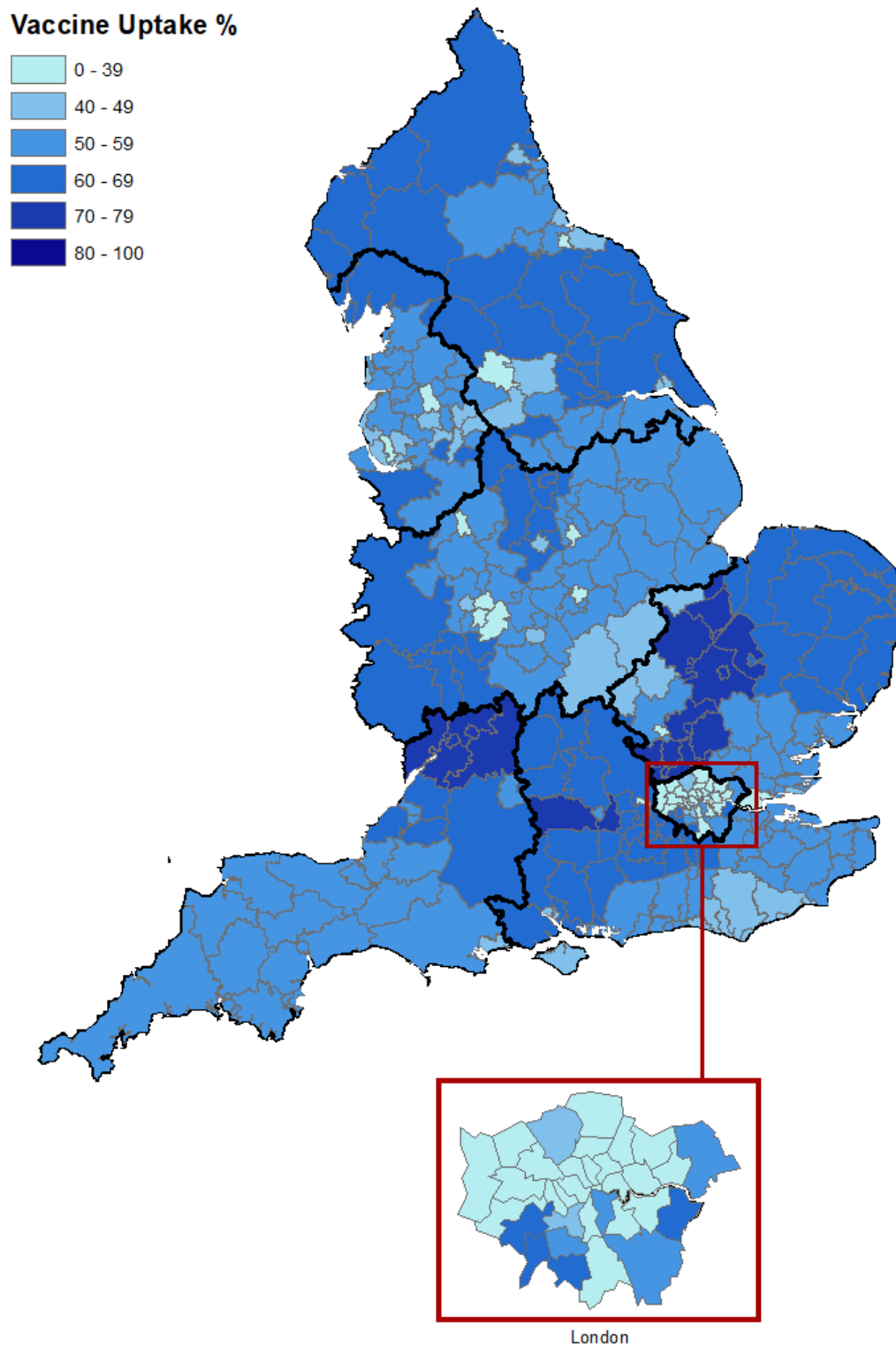
Overall vaccine uptake for children in school years Reception to Year 9 combined by local authority varied across England, ranging from 17.1% in Brent to 72.4% in Cambridge.

Thirty-six local authorities had uptake in the range of 0% to 39%, 51 were in the range of 40% to 49%, 40 were in the range of 50% to 59%, 21 were in the range of 60% to 69%, 5 were in the range of 70% to 79% and none had uptake of over 80% ([Figure 3](#)).

Vaccine uptake by year group and local authority ranged from:

- 21.9% to 77.9% in Reception
- 21.2% to 77.1% in Year 1
- 21.2% to 86.8% in Year 2
- 21.2% to 83.0% in Year 3
- 19.9% to 79.6% in Year 4
- 19.2% to 79.5% in Year 5
- 17.1% to 74.7% in Year 6
- 0.7% to 70.6% in Year 7
- 0.7% to 67.7% in Year 8
- 0.7% to 66.3% in Year 9

Figure 3. Vaccine uptake (%) in school years Reception to Year 9 for the 152 local authorities and 7 NHS regions collected between 1 September 2022 and 28 February 2023



Discussion

This is the ninth report evaluating uptake in the national childhood influenza school aged vaccination programme across England.

Between 2014 to 2015 and the 2020 to 2021 seasons the school aged immunisation programme has seen a consistent expansion with the addition of one year group each season. In contrast both this season (2022 to 2023) and the previous season (2021 to 2022) have seen the addition of multiple additional year groups within one season. There were additional challenges to both seasons: for the 2022 to 2023 season there was a change in policy for secondary school age children between April and July 2022 (see the [Annual flu letter 2022 to 2023](#) and [Amendment to annual flu letter 2022 to 2023](#)), with the announcement of the expansion just prior to schools closing for the summer term. This meant that the usual time to plan the secondary school age programme was reduced and the time to implement the programme was therefore extended into the new year. For the first time this report describes influenza vaccine uptake for children of school age up to 28 February (rather than 31 January). For the previous season (2021 to 2022) the Influenza immunisation programme will have been affected by COVID-19 related pupil and immunisation staff absences.

Across primary school age children (Reception to Year 6) and secondary school age children (Year 7 to Year 9) the vaccine uptake of influenza vaccine was lower than it was in the 2021 to 2022 season, however the implementation challenges noted above should be taken into account.

The highest uptake on record in England for school-aged children was during the 2020 to 2021 season. It is important to build on this in future seasons and continue to monitor uptake in all current groups in the future. It is important that uptake in target groups of the national influenza vaccination programme improve to provide direct protection for those immunised and indirect protection for the population by reducing transmission.

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Appendix

Childhood Influenza Vaccination Programme roll-out timeline

2013 to 2014

The children's programme began in the 2013 to 2014 season with all 2 and 3 year-olds being offered vaccination with LAIV through general practice and a school pilot programme was rolled out in geographically distinct areas in England, targeting all primary school-age children (aged 4 to 10 years, rising to 11 years old).

2014 to 2015

In the 2014 to 2015 season, the national programme was extended to 4 year olds through general practice in England. In addition, the school pilot programme was extended to a total of 14 pilot areas (including 6 pilots that participated in 2013 to 2014 season), targeting both primary school-age children (aged 4 to 10 years, rising to 11 years old) and secondary school-age children (12 years rising to 13 years old).

2015 to 2016

In the 2015 to 2016 season, the national programme was extended to include children of appropriate age in school years 1 and 2. For most children, this was offered via a school-based programme, although in a few areas of England vaccinations were delivered through alternative schemes such as community pharmacies and general practices. The 2014 to 2015 pilot areas continued to offer vaccination to all primary school-age children (aged 5 to 10 years, rising to 11 years old) in 2015 to 2016.

2016 to 2017

In the 2016 to 2017 season, the national programme was extended to include children in school year 3, offering LAIV vaccination to all children in school years 1, 2 and 3. Most children were offered the influenza vaccine via a school-based programme. However, in a few areas vaccinations were delivered through alternative schemes such as community pharmacies and general practice. Children aged 2, 3 and 4 years (but not 5 years or older) continued to be vaccinated by GPs. Vaccination continued to be offered to primary school-aged children (aged 5 to 10 years, rising to 11 years old) in the areas that had participated previously as pilot areas in England.

2017 to 2018

In the 2017 to 2018 season, the national programme was extended to include children in Reception (aged 4 years, rising to 5 years old) to children in Year 4 (aged 8 years rising to 9 years old) and all children of primary school age (aged 4 to 10 years, rising to 11 years old) in areas that participated previously as pilot areas. The mode of vaccination remained primarily through school delivery models with children aged 2 and 3 years offered the vaccine in GP practices, the only exception being the Isles of Scilly who delivered the vaccines through GP practices.

2018 to 2019

In the 2018 to 2019 season, the national programme was extended to include children in Year 5 (aged 9 years rising to 10 years old). For most children, the LAIV vaccine was offered via school-based programmes (with additional mop-up clinics where required), with the Isles of Scilly operating via a GP model. Children aged 2 and 3 years (but not 4 years or older on 31 August 2018) were still offered the vaccine through general practices. Vaccination continued to be offered to primary school-aged children in reception to Year 6 (aged 4 to 10 years rising to 11 years old) in those areas that previously participated in primary school pilots in England.

2019 to 2020

During the 2019 to 2020 season, the national programme was extended to include children of Year 6 (aged 10 years rising to 11 years old) and thus included all children of primary school age for the first time and no additional age cohorts were added to the previous pilot areas. It is important to note that there were supply issues for the LAIV vaccine in this season that may have affected the programme (more information about this can be found in the [2020 to 2021 edition of this release](#)). The mode of vaccination remained primarily through school delivery, with eligible children in the Isles of Scilly and all children aged 2 and 3 years offered the vaccine in GP practices.

2020 to 2021

During the 2020 to 2021 season, the national programme was extended to include children of Year 7 (aged 11 years rising to 12 years old), with no pilot areas. The mode of vaccination remained primarily through school delivery, with eligible children in the Isles of Scilly and all children aged 2 and 3 years offered the vaccine in GP practices. Please note that the programme will have been affected by the second and third national COVID-19 restrictions ('lockdowns') in England that began on the 31 October 2020 and 6 January 2021. The third lockdown included school closures except for vulnerable children and children of key workers.

2021 to 2022

During the 2021 to 2022 season, the national programme was extended as a temporary measure to include children of Year 8 (aged 12 rising to 13 years), Year 9 (aged 13 rising to 14 years), Year 10 (aged 14 rising to 15 years) and Year 11 (aged 15 rising to 16 years) with no pilot areas. This was the first season where all children aged 2 through to 16 years old had been offered the vaccine. This was an expansion of 4 additional year groups (whereas previous seasons have seen an expansion of one additional year group) and was [announced later in the programme planning cycle than usual](#) (July 2021). The mode of vaccination remained primarily through school delivery, with eligible children in the Isles of Scilly and all children aged 2 and 3 years offered the vaccine in GP practices. Note that the programme will have been affected by the COVID-19 related pupil and immunisation staff absences.

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