



Public Health
England

Protecting and improving the nation's health

Seasonal influenza vaccine uptake in children of primary school age: winter season 2018 to 2019

Final data for 1 September 2018 to
31 January 2019

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Executive summary

This document describes the final influenza vaccine uptake for the school-age influenza vaccination programme targeted at primary school children aged 4 to 11 in England from 2018 to 2019.

Providers returned data for a total of 153/153 local authorities (LAs) in England within the 14 Local NHS England teams on cumulative influenza vaccinations administered from 1 September 2018 to end of 31 January 2019.

Cumulative influenza vaccine uptake from 1 September 2018 to 31 January 2019 for the national programme in England was:

- 64.3% (417,984 / 649,711) of children in reception (aged 4 rising to 5 years) compared to 62.6% during the 2017 to 2018 season
- 63.6% (426,452 / 670,529) of children in school year 1 (aged 5 rising to 6 years) compared to 61.0% during the 2017 to 2018 season
- 61.5% (423,877 / 688,843) of children in school year 2 (aged 6 rising to 7 years) compared to 60.4% during the 2017 to 2018 season
- 60.4% (417,777 / 691,540) of children in school year 3 (aged 7 rising to 8 years) compared to 57.6% during the 2017 to 2018 season
- 58.3% (396,183 / 680,002) of children in school year 4 (aged 8 rising to 9 years) compared to 55.8% during the 2017 to 2018 season
- 56.5% (379,290 / 671,073) of children in school year 5 (aged 9 rising to 10 years)
- 60.8% (2,461,563 / 4,051,698) in children school years reception, 1, 2, 3, 4 and 5 combined, compared to 59.5% during the 2017 to 2018 season (for children of school ages reception to year 4)

Data was returned for a total of 153/153 LAs in England within the 14 NHS England local teams on cumulative influenza vaccinations administered from 1 September 2018 to 31 January 2019

Cumulative influenza vaccine uptake from 1 September 2018 to 31 January 2019 for the 11 LAs running pilot programmes in England was:

- 62.6% (214,977 / 343,280) overall in children of school years reception to year 6 (aged 4 to 10 rising to 11 years), similar to the uptake in the 2017 to 2018 season which was 62.4% (195,185 / 312,697)
- ranging from 57.2% (28,214 / 49,360) in school year 6 (aged 10 rising to 11 years) to 69.1% (31,649 / 45,804) in reception (aged 4 rising to 5 years)

The results show encouraging levels of uptake for the third year of vaccinating all children of school years from reception to year 5 in England via school delivery programmes.

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 update on influenza vaccination uptake (%) in school children (from school academic years reception, 1, 2, 3, 4 and 5) at national and sub-national levels. The report also includes an update on influenza vaccination uptake in all primary school children (from reception to year 6) in 11 pilot local authorities where the influenza vaccine in England is offered to these cohorts.

Background

Childhood Influenza Programme roll-out timeline

Following the recommendations of the Joint Committee on Vaccination and Immunisation (JCVI) in 2012, the Department of Health (DH)¹, in partnership with Public Health England (PHE) and 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) and the programme expands by year to ultimately target children ages 2 to 17 years of age, with the aim of providing direct protection for those immunised as well as indirectly protecting the remaining population by reducing transmission.

2013 to 2014

The children's programme began in 2013/14 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, rising to 11 years).

2014 to 2015

In 2014 to 2015, 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 2013/14), targeting both primary school-age children (aged 4 to 10, rising to 11 years) and secondary school-age children (12 rising to 13 years).

2015 to 2016

In 2015 to 2016, 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, rising to 11 years) in 2015 to 2016.

2016 to 2017

In 2016 to 2017, the national programme was extended to include children in school year 3. Thus, LAIV vaccination was offered 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, rising to 11 years) in the areas that had participated previously as pilot areas in England.

2017 to 2018

During the 2017 to 2018 season, the national programme was extended to include children in reception (4 rising to 5 years), as well as children of year 4 (aged 8 rising to 9 years) and all children of primary school age (aged 4 to 10, rising to 11) in areas that participated previously as pilot areas. The mode of vaccination remained primarily through school delivery models whilst younger children aged 2 and 3 years old were offered the vaccine in GP practices.

2018 to 2019

During the 2018 to 2019 season, the national programme was extended to include children of year 5 (aged 9 rising to 10 years). For most children, the LAIV vaccine was offered via school-based programmes (with additional mop-up clinics where required), the only exception being the Isles of Scilly who delivered the vaccines through GP practices. Children aged 2 and 3 years (but not 4 years or older on 1 September 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 4-10 rising to 11 years) in those areas that previously participated in primary school pilots in England.

This report describes influenza vaccine uptake for children of primary school age in England from 1 September 2018 to 31 January 2019. The eligible school cohorts under survey are children in school academic years reception, 1, 2, 3, 4 and 5 (based on age at 1 September 2018). Additionally, school children aged 4 to 10 rising to 11 were vaccinated in the 11 pilot local authorities during the 2018 to 2019 influenza vaccination programme in England.

Methods

Screening and immunisation teams throughout England are given 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. Most children are offered a single dose of vaccine. Eligible children in clinical at-risk groups <9 years of age without prior vaccination history are recommended 2 doses of vaccine and are counted as one vaccination in the numerator.

Cumulative data on seasonal influenza vaccine uptake was collected for all 153 local authorities (LAs) between 1 September 2018 to 31 January 2019 using the ImmForm website managed by PHE. ImmForm provides a secure online platform for vaccine uptake data collection for several immunisation surveys, including the seasonal influenza vaccine uptake collections.

End-of-season programme uptake was calculated based on the number of children in the target population who were reported as having received the influenza vaccine (either LAIV or IIV) during the campaign period. Therefore, vaccine coverage reflects all eligible children in years reception, 1, 2, 3, 4 and 5 that have been vaccinated with an influenza vaccine between 1 September 2018 and 31 January 2019.

Eligible population

The target population for the national primary school age childhood influenza vaccination programme is defined by school age cohorts born between 1 September 2007 and 31 August 2014, as defined by the child's age on 1 September 2018 (Table 1). This season all children in reception (aged 4 rising to 5 years), year 1 (aged 5 rising to 6 years), year 2 (aged 6 rising to 7 years), year 3 (aged 7 rising to 8 years), year 4 (aged 8 rising to 9 years) and year 5 (aged 9 rising to 10 years) were offered the vaccine.

The target population for the 11 pilot LAs vaccinating all primary school-age children is defined as all children in reception to year 6 (aged 4 to 10, rising to 11 years) born between 1 September 2007 and 31 August 2014, as defined by child age on 1 September 2018 (Table 1). These LAs are Leicester, Rutland, Leicestershire, South Tyneside, Sunderland, Gateshead, Essex, Southend-on-Sea, Thurrock, Bury and Havering.

Table 1. Year group cohort definitions

Academic group	Age range on 1 September 2018	Birth Date	
		Born from date	Born to date
Reception	Aged 4-5 years	01/09/2013	31/08/2014
1	Aged 5-6 years	01/09/2012	31/08/2013
2	Aged 6-7 years	01/09/2011	31/08/2012
3	Aged 7-8 years	01/09/2010	31/08/2011
4	Aged 8-9 years	01/09/2009	31/08/2010
5	Aged 9-10 years	01/09/2008	31/08/2009
6	Aged 10-11 years	01/09/2007	31/08/2008

For the 153 LAs where the programme was delivered through a school model, the denominator was based on both all the eligible children in schoolsⁱ in the LA geography and those children who were educated out of school in the LA geography. This was defined by child age on 1 September 2018 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 LA level. Data was submitted on the ImmForm reporting website via manual upload.

For the Kernow LA (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 LAs geographical boundary, as defined by a child's age at 1 September 2018. 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 report². Data was submitted at GP practice level and then aggregated at LA level by GP postcode for reporting purposes.

The school child flu vaccination surveillance is a school-based collection, apart from delivery models based on GPs. 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.

This report presents data aggregated at PHE Centre, NHS England Local Team, and LA levels for comparison with past and future reports.

ⁱ All state funded primary schools, special schools, academies, faith schools, free schools, pupil referral units, and independent schools.

Due to the reformulation of regional teams in 2017 to 2018, this report will continue to use the 14 NHS England Local Teams as the basis for grouping LAs.

Data limitations

It is important to note there may not be full data coverage in all LAs, as not all data providers were able to access information on additional children that had been vaccinated by their registered GP in addition to the local delivery model. Most of these children are at-risk children that have been called in by their GP to receive the vaccination. Healthy children in school years reception, 1, 2, 3, 4 and 5 who are not in a clinical risk group should not have been offered vaccination by their GP unless the local vaccination programme was a GP delivery model, or if designated GPs were commissioned to vaccinate these children in mop up clinics, which are accounted for.

Where data providers have indicated that they have included additional children that were vaccinated by their GP, it should be noted that the completeness of these figures may vary between GP practices as the IT systems used to extract this information may vary between IT suppliers.

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). Depending on the characteristics of the local school-age population, it may be necessary that other providers use multiple data sources to identify eligible school age cohorts, such as the school roll and the local Child Health Information Services (CHIS) system. This may be valid for one locality and not for others. The extent of enumerating the eligible population may differ between localities depending on the data sources consulted, however, each locality must be satisfied with the methods it chooses to use to identify its school-age population. For these reasons, some caution is advised when making direct comparisons of coverage between localities.

Moreover, when assessing local trends, changes could reflect changes in the quality of data reported as well as real changes in vaccination coverage. While this issue will be more apparent at a local level, any impact on the national figures is likely to be minimal.

Finally, where the denominators (total number of children eligible for the influenza vaccine) were not amended, denominators from the school census survey from January 2018 were used³.

Throughout the 2018 to 2019 season, provisional uptake data by school year cohort was published on PHE's website on a cumulative monthly basis. Following the end of the vaccine data collection period (31 January 2019), providers were contacted to confirm their final figures if they had not already done so when making their final submission.

Results

Full data tables showing final influenza vaccine uptake for children in school years reception, 1, 2, 3, 4 and 5 at LA, NHS England Team and PHE centre level are described throughout this section and can be found in appendix A of this report. Data for this season and prior seasons are also available using the following link:

www.gov.uk/government/collections/vaccine-uptake

All 153 of the 153 LAs confirmed that their vaccination campaign had been completed and the data was final up until 31 January 2019.

National uptake

An estimated 2,461,563 children from school years reception to year 5 in England were vaccinated with either the LAIV or IIV influenza vaccine between 1 September 2018 to 31 January 2019. Cumulative influenza vaccine uptake based on combined data for the target populations (reception and years 1 to 5) was 60.8% (2,461,563/4,051,698) (Table 2).

The cumulative uptake in children by the following school age cohorts' reception, 1, 2, 3, 4 and 5 was 64.3%, 63.6%, 61.5%, 60.4%, 58.3% and 56.5%, respectively (Table 2). The median uptake for children in school years reception, 1, 2, 3, 4, and 5 was 65.0% (IQR 56.1% to 71.5%), 64.1% (IQR 56.8% to 70.9%), 61.9% (IQR 53.5% to 69.1%), 61.0% (IQR 52.6% to 68.3%), 58.7% (50.2% to 66.0%) and 57.3% (48.9% to 64.5%), respectively.

The national ambition for every local authority for the 2018 to 2019 flu season is an average uptake of at least 65% across all years (reception to year 5)⁴. Of 153 LAs in England, n=33 (21.6%) had an uptake of 65% or more, n=75 (49.02%) had an uptake in the range 50% to 64% and n=45 LAs (29.4%) had uptake <50%. However, this masks achievement of the 65% ambition in specific age cohorts for LAs. The number and proportion of LAs that achieved 65% or more uptake in the 2018 to 2019 season by each cohort are as follows: n=75 (49.0%) for reception; n=72 (47.1%) for year 1, n=65 (42.5%) for year 2, n= 59 (38.6%) for year 3, n=43 (28.1%) for year 4 and n=35 (22.9%) for year 5.

Influenza vaccine uptake increased by 2.1 percentage points to 61.6% (2,082,273/3,380,625) in the 2018 to 2019 season for children in school years reception to year 4 combined, compared to the corresponding group in the previous season (Table 2)⁵.

Table 2. Total number of children in school years reception, 1, 2, 3, 4 and 5 eligible for influenza vaccination, total number of children who received influenza vaccination, and the total vaccine uptake in England from 1 September 2018 to 31 January 2019 and in 2017 to 2018

School year	Total no. of eligible children in the LA geography	2018 to 2019		2017 to 2018
		Total no. of children vaccinated with influenza vaccine	Influenza vaccine uptake (%)	Influenza vaccine uptake (%)
Reception	649,711	417,984	64.3	62.6
1	670,529	426,452	63.6	61.0
2	688,843	423,877	61.5	60.4
3	691,540	417,777	60.4	57.6
4	680,002	396,183	58.3	55.8
5	671,073	379,290	56.5	-
Total	4,051,698	2,461,563	60.8	59.5

Local NHS England team

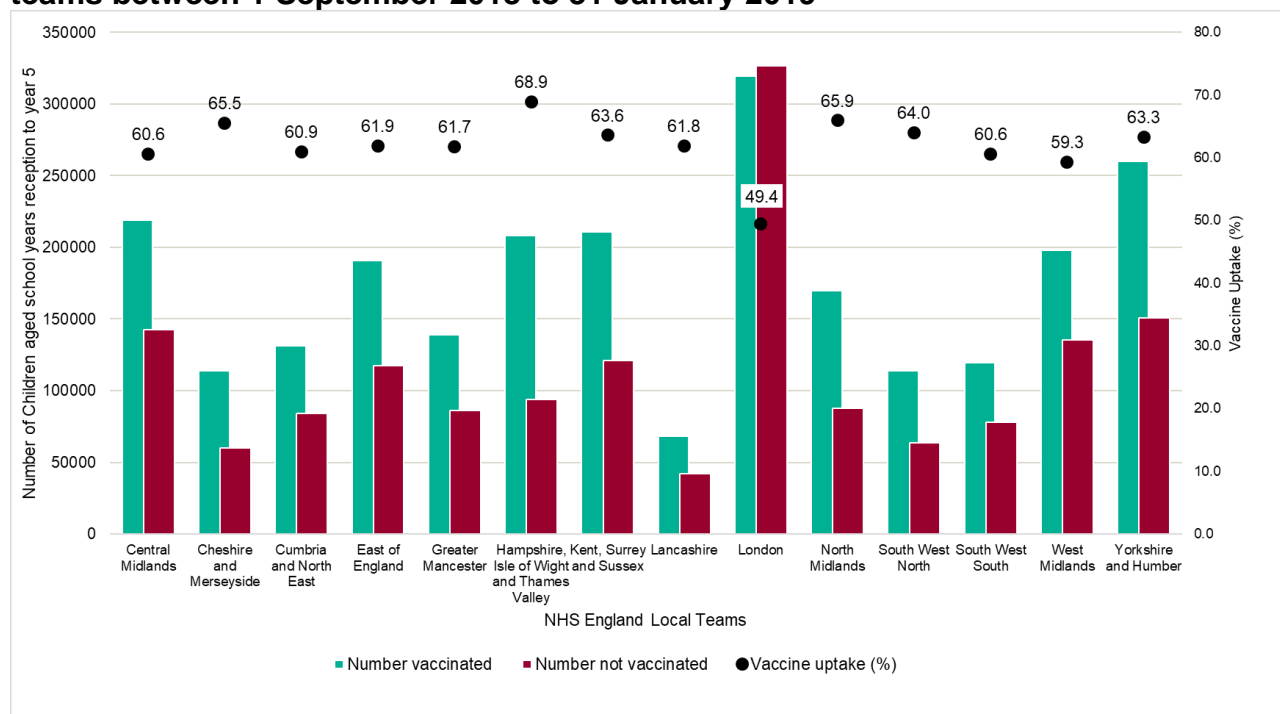
Variation in vaccine uptake was observed between the 14 NHS England Local Teams, ranging from 49.4% (London) to 68.9% (Hampshire, Isle of Wight and Thames Valley) (Figure 1).

Data for 2018 to 2019 by NHS England local teams is shown in Table 3.

Table 3. Estimated number and proportion of children in school years reception, 1, 2, 3 and 4 who were vaccinated with influenza vaccine by local NHS England team from 1 September 2018 to 31 January 2019ⁱⁱ

Local NHS England team	No. of children eligible for vaccination	No. of children vaccinated with at least 1 dose of influenza vaccine	Vaccine uptake (%)
London	646,222	319,424	49.4
London	646,222	319,424	49.4
Midlands & East	1,260,744	777,304	61.7
Central Midlands	361,384	218,899	60.6
East of England	308,448	190,795	61.9
North Midlands	257,490	169,760	65.9
West Midlands	333,422	197,850	59.3
North	1,135,678	712,286	62.7
Cheshire & Merseyside	173,483	113,706	65.5
Cumbria & North East	215,472	131,278	60.9
Greater Manchester	225,492	139,178	61.7
Lancashire & South Cumbria	110,356	68,243	61.8
Yorkshire & Humber	410,875	259,881	63.3
South East	633,944	419,240	66.1
Hampshire, Isle of Wight and Thames Valley	302,243	208,315	68.9
Kent, Surrey and Sussex	331,701	210,925	63.6
South West	375,110	233,309	62.2
South West North	177,456	113,602	64.0
South West South	197,654	119,707	60.6
Total	4,051,698	2,461,563	60.8

Figure 1. Number and estimated proportion of children in school years reception, 1, 2, 3, 4 and 5 who were vaccinated with influenza vaccine by local NHS England teams between 1 September 2018 to 31 January 2019ⁱⁱ



ⁱⁱ Data for Bassetlaw, an LA district of Nottinghamshire UA, was collected independently. Bassetlaw uptake figures are reported under Yorkshire and Humber NHS England team.

PHE centres

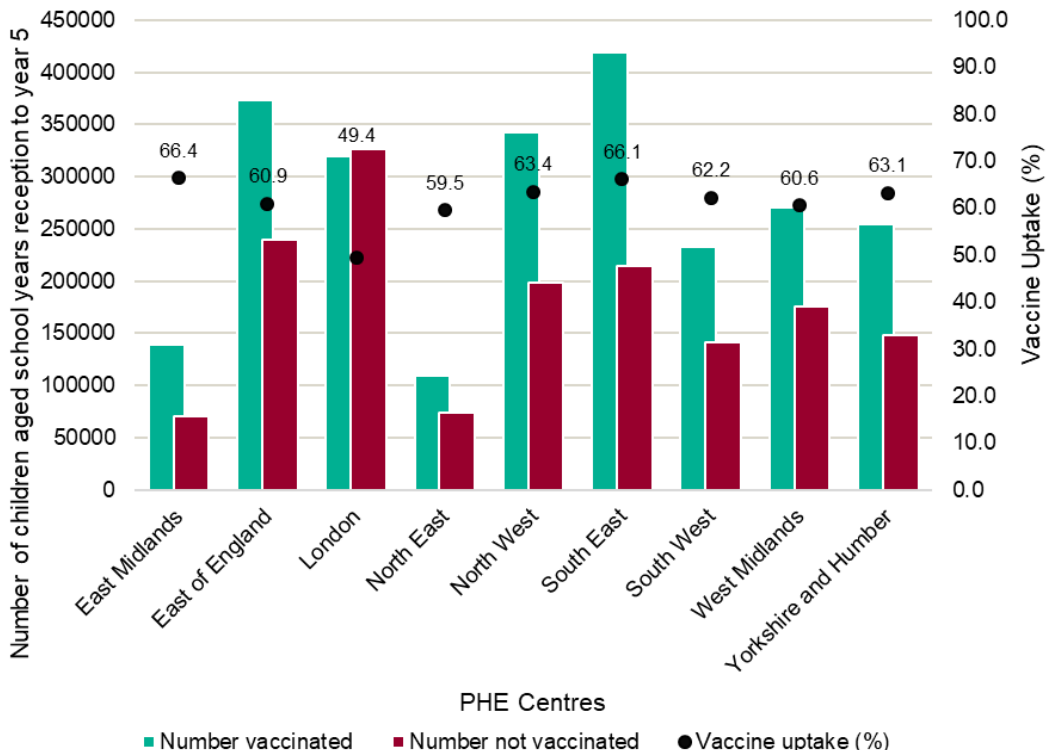
Results for the 9 PHE centres also for children in school years reception to year 5 are broadly comparable to the results obtained for the 14 NHS England Local Teams. Variation in vaccine uptake was also observed for the combined years, ranging from 49.4% in London to 66.4% in the East Midlands (Table 4 & Figure 2).

Table 4. Influenza vaccine uptake (%) for children in school years reception, 1, 2, 3, 4, and 5 in the 9 PHE centres, collected between 1 September 2018 to 31 January 2019ⁱⁱⁱ

PHE Centre	Vaccine uptake (%)						Total (reception to Yr 5)
	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	
East Midlands	69.1	69.2	67.3	66.2	64.2	62.5	66.4
East of England	66.3	64.0	61.8	60.0	58.0	56.0	60.9
London	53.7	52.7	50.2	48.9	46.5	44.6	49.4
North East	61.3	62.6	60.9	60.0	57.6	54.8	59.5
North West	66.8	66.3	64.1	62.8	61.3	59.4	63.4
South East	70.3	68.9	66.6	65.8	63.4	62.0	66.1
South West	65.6	66.2	63.7	61.6	59.0	57.2	62.2
West Midlands	63.2	62.8	61.1	60.6	58.9	56.7	60.6
Yorkshire and Humber	65.1	64.9	63.6	63.5	61.2	60.5	63.1
Total	64.3	63.6	61.5	60.4	58.3	56.5	60.8

ⁱⁱⁱ Data for Bassetlaw, an LA district of Nottinghamshire UA, was collected independently. Bassetlaw uptake figures are included with Nottinghamshire LA under East Midlands PHE Centre.

Figure 2. Number of children vaccinated between September 1 2018 to January 31 2019 out of the total recorded population of children aged school years reception, 1, 2, 3, 4 and 5^{iv}



Local authority

Overall uptake for children in school years reception, 1, 2, 3, 4 and 5 combined by LA ranged from 30.1% in Tower Hamlets to 80.6% in East Riding of Yorkshire. Uptake by year group and LA ranged from 32.2% to 89.1% in reception, 34.2% to 82.3% in year 1, 31.4% to 80.3% in year 2, 31.3% to 80.7% in year 3, 26.3% to 78.3% in year 4 and 24.9% to 77.3% in year 5 (Figure 3, Figure 4, Figure 5 & Appendix A).

^{iv} Data for Bassetlaw, an LA district of Nottinghamshire UA, was collected independently. Bassetlaw uptake figures are included with Nottinghamshire LA under East Midlands PHE Centre.

Figure 3. Vaccine uptake (%) in school years reception and 1 for the 153 local authorities and 9 PHE centres, collected between 1 September 2018 and 31 January 2019

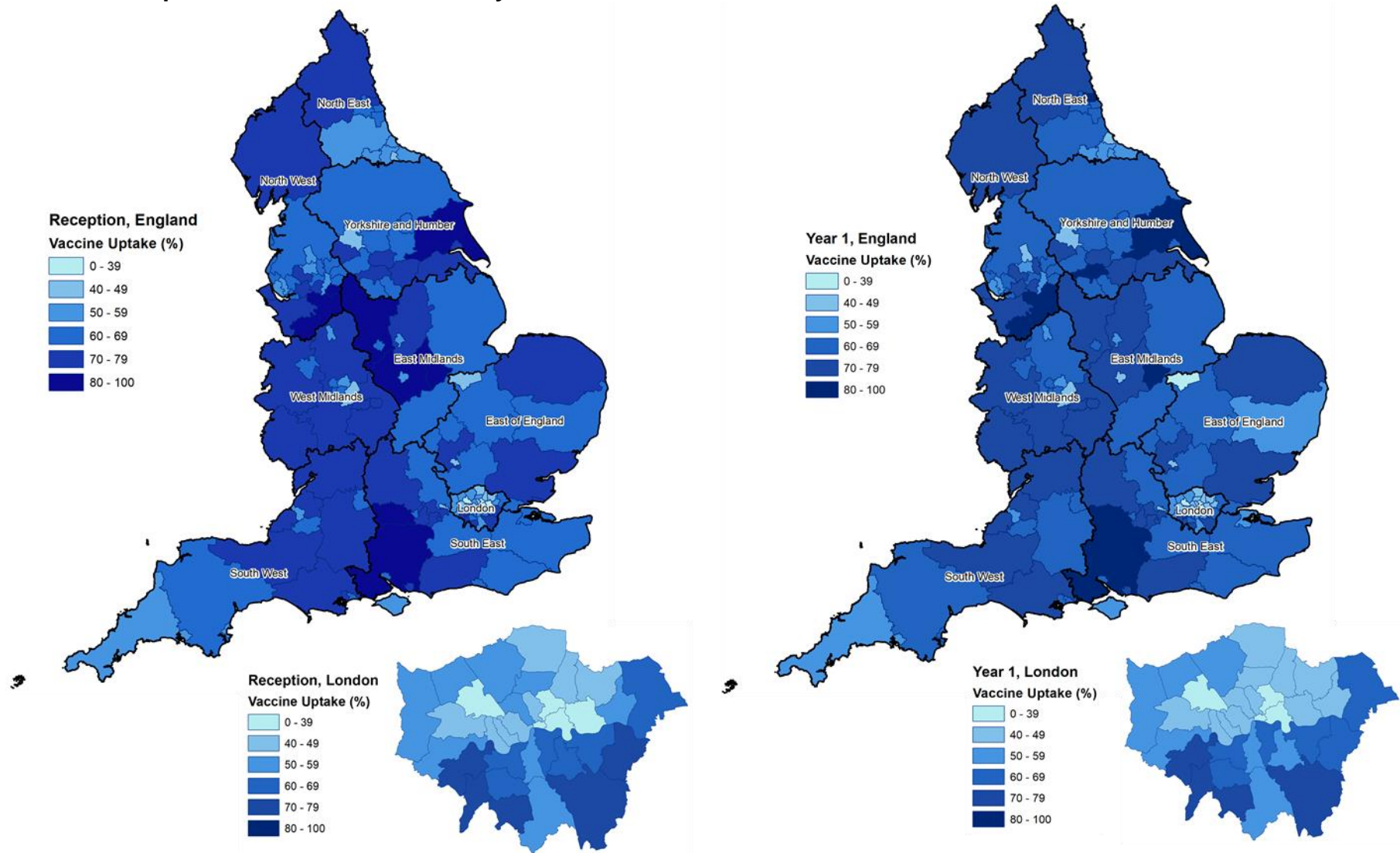


Figure 4. Vaccine uptake (%) in school years 2 and 3 for the 153 local authorities and 9 PHE centres, collected between 1 September 2018 and 31 January 2019

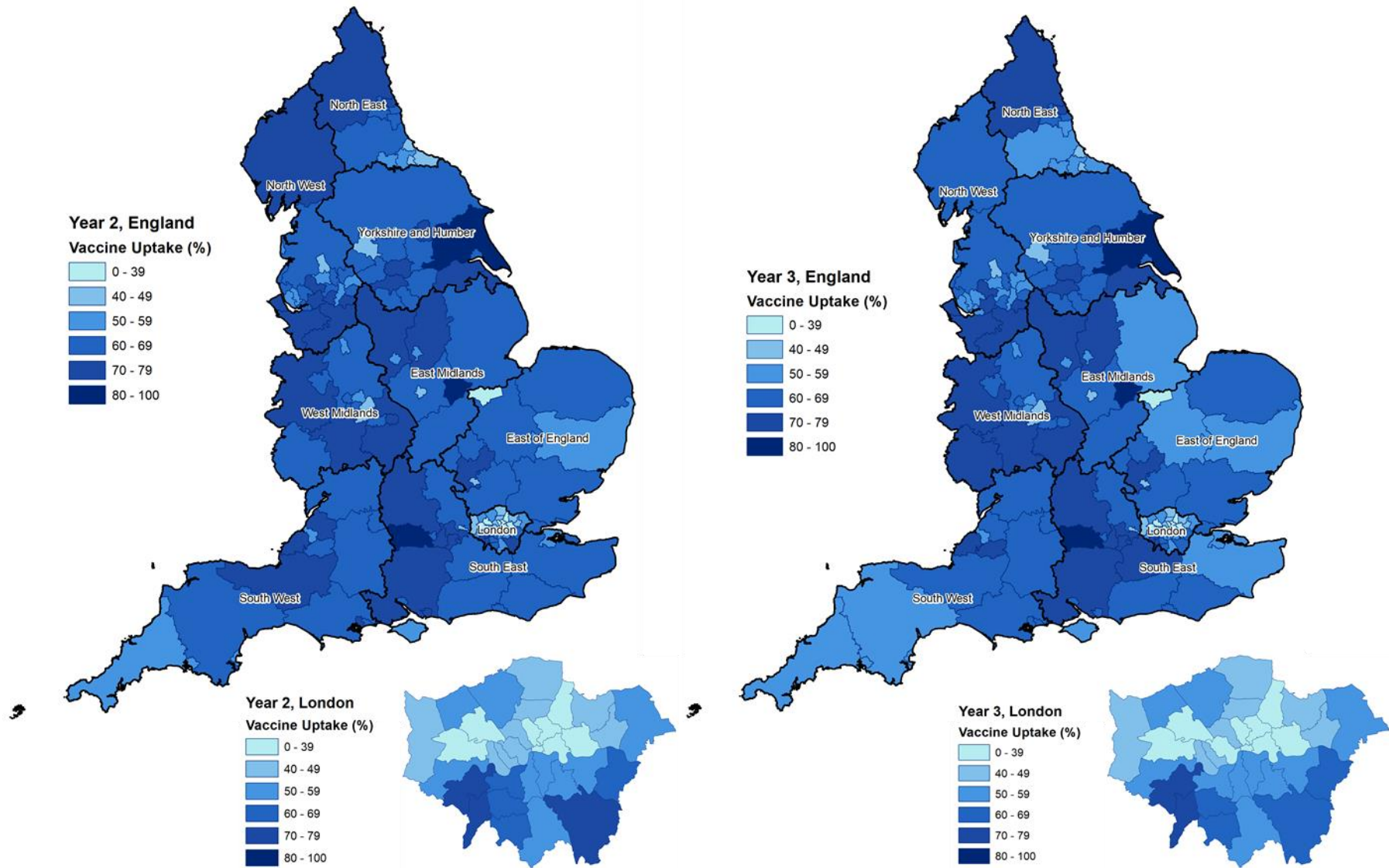
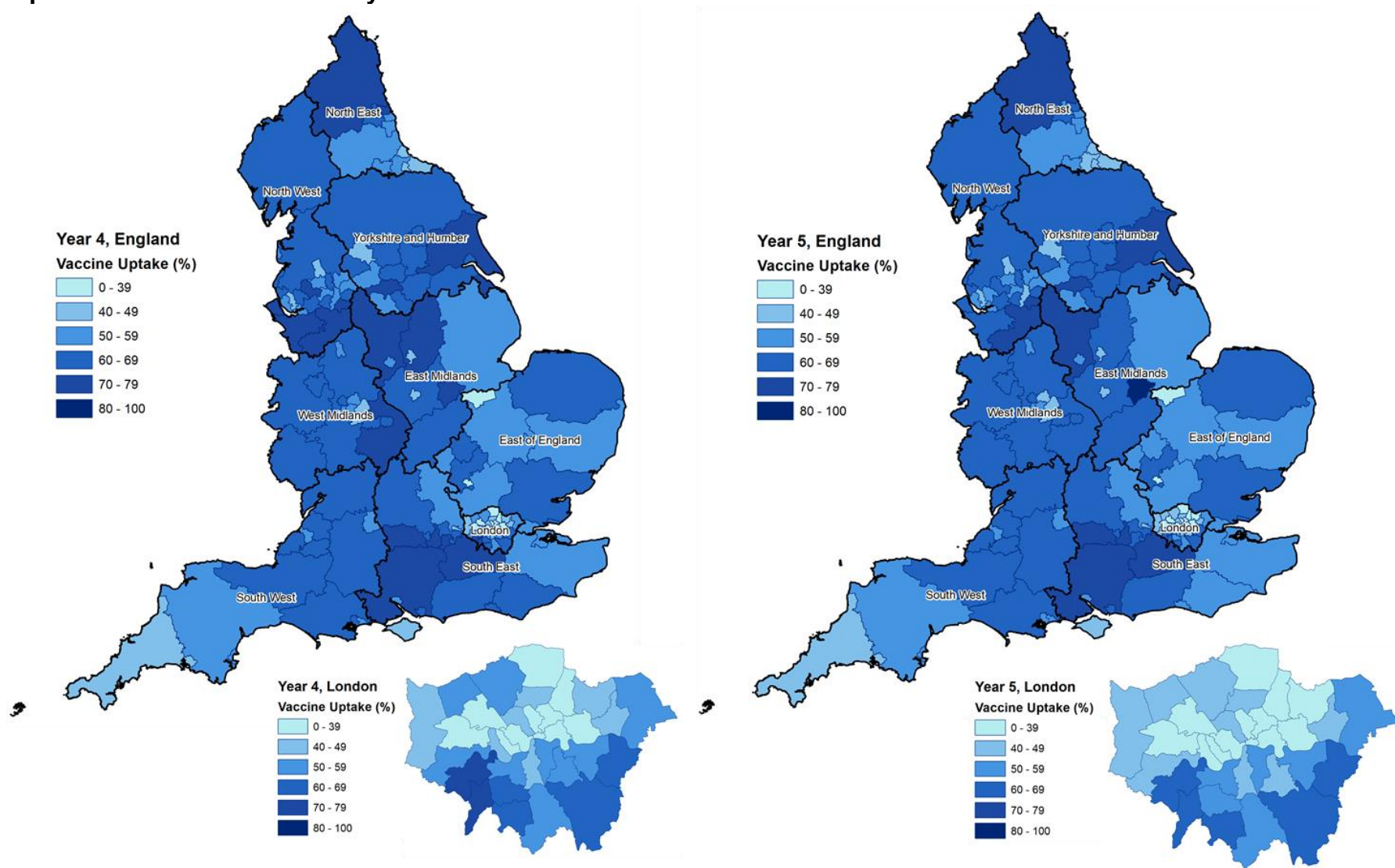


Figure 5. Vaccine uptake (%) in school years 4 and 5 for the 153 local authorities and 9 PHE centres, collected between 1 September 2018 and 31 January 2019



Overall vaccine uptake for children in reception to year 5 combined was reported as being lower than 40% in 10 LAs, 9 of which are in London, one of which is in the East of England and one in the Central Midlands. This is a slight increase from the 2017 to 2018 season where 8 LAs reported 40% vaccine uptake for children in reception to year 5 combined⁵.

It may be worth noting that only one of the 11 LAs reporting a vaccine uptake less than 40% included data on children that had been vaccinated by their GPs or via other community settings such as pharmacies.

Pilot uptake

An estimated 214,977 primary school children aged 4 to 11 years in 5 pilot areas received the influenza vaccine during the period 1 September 2018 to 31 January 2019 (Table 5). With an estimated total eligible population of 343,280, this results in an overall uptake of 62.6% (median, 61.3%, IQR 57.6% to 67.0%). Vaccine uptake by LA ranged from 44.6% in Leicester to 80.6% in Rutland (Table 5, Figure 6).

As the national LAIV programme was extended to include reception-aged children (aged 4 rising to 5) only from the 2017 to 2018 season, the pilot programme can compare the LAIV uptake for reception to year 6 combined over 2 seasons only. Prior to the 2017 to 2018 season, children in reception were vaccinated in GP practices, hence vaccine uptake data for reception-age children was sourced from GPs for those years (Figure 7).

In the pilot areas, the cumulative LAIV vaccine uptake in the 2018 to 2019 season was 62.6%, similar to the uptake in the 2017 to 2018 season (62.4%), both seasons based on data from reception to year 6 combined (Figure 6). By year group, vaccine uptake in the 2018 to 2019 season ranged from 57.2% (28,214 / 49,360) in year 6 to 69.1% (31,649 / 45,804) in reception (Figure 7)^{5,6}.

As reception-age data was only collected from the 2017 to 2018 season, a 4-year comparison based on data from year 1 to 6 combined is also presented (appendix C)^{5,6,7}. Among children in school years 1 to 6 in the pilot areas (5 to 11 years old), vaccine uptake was 61.6% in the season 2018 to 2019, similar to the previous season at 61.7%.

Table 5. Estimated number and proportion of children aged 4-11 years who were vaccinated with influenza vaccine during the 2018 to 2019 influenza season in pilot areas across England

NHS Local Team	Local Authority	2018/19		
		Estimated total number of children eligible for vaccination	Number of children vaccinated with at least 1 dose of flu vaccine	Vaccine Uptake (%)
Leicestershire and Lincolnshire	Leicester	33,789	15,081	44.6
	Rutland	2,732	2,202	80.6
	Leicestershire	58,815	39,534	67.2
Cumbria, Northumberland, Tyne and Wear	South Tyneside	11,908	7,253	60.9
	Sunderland	22,010	12,683	57.6
	Gateshead	16,041	9,836	61.3
East of England	Essex	124,631	83,534	67.0
	Southend-on-Sea	16,028	10,221	63.8
	Thurrock	17,204	10,130	58.9
Greater Manchester	Bury	17,380	11,513	66.2
London	Havering	22,742	12,990	57.1
Total		343,280	214,977	62.6

Figure 6. Estimated number and proportion of children aged 4-11 years who were vaccinated with influenza vaccine by pilot area, England, 1 September 2018 to 31 January 2019

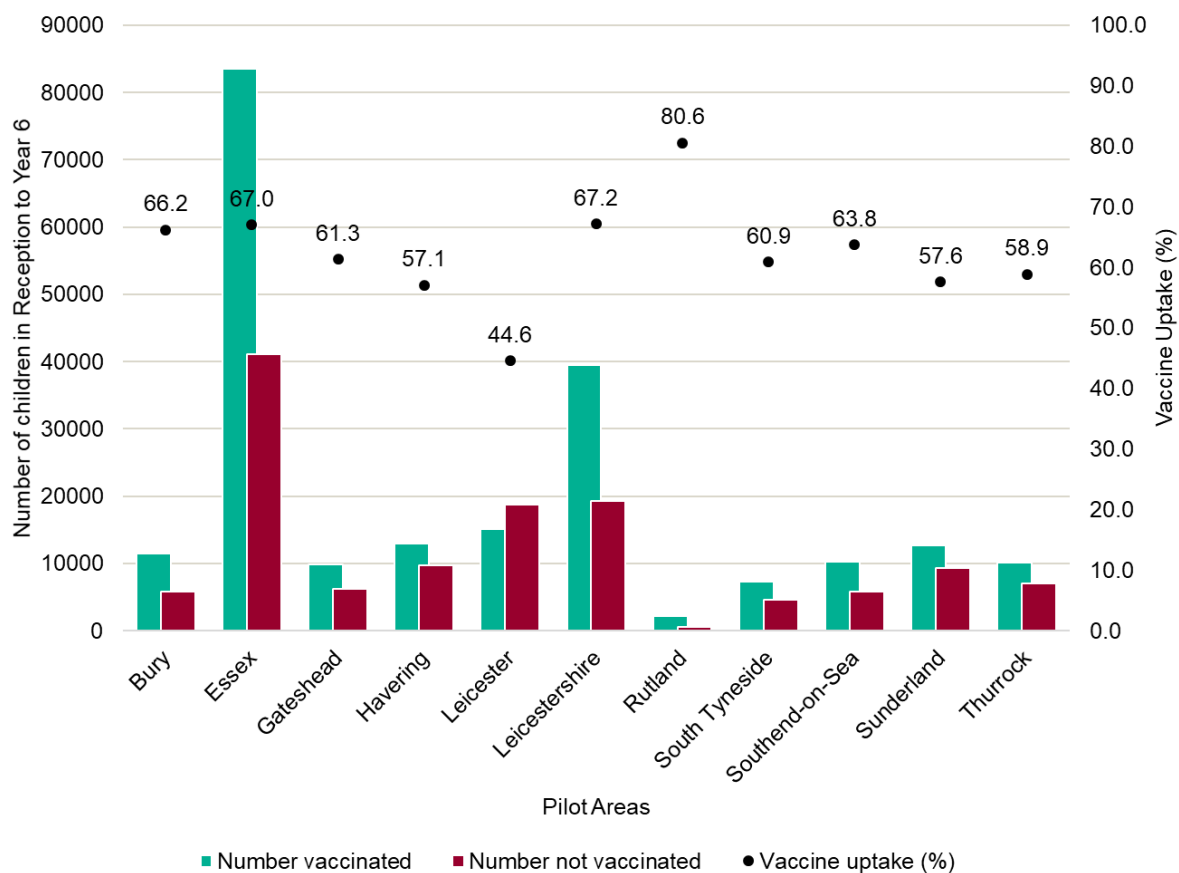
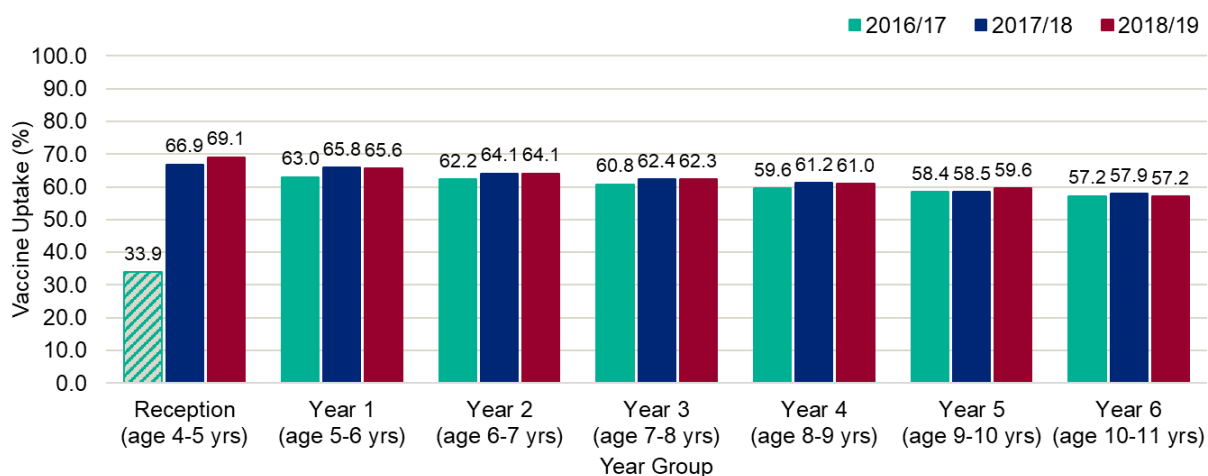


Figure 7. Estimated proportion of children aged 4 to 11 years who were vaccinated with influenza vaccine, shown by school year group for seasons 2018 to 2019, 2017 to 2018 and 2016 to 2017 in pilot areas across England^v



^v Children ages 4 to 5 years old were vaccinated in GP practices during the 2016/17 season.

Discussion

This is the fifth year for reporting on the uptake results for national childhood influenza primary school vaccination programme across England. This season saw the extension of the childhood vaccination programme to include children of school year 5, aged 9 rising to 10 years. In total from September 2018, LAIV was offered to all healthy children in school years reception to year 5 across the country. For all but one local authority, who used the GP delivery model, this vaccine was offered through the school-based programme. All pre-school children (aged 2 rising to 3 years) were offered the influenza vaccine through their GP clinics.

Across year groups reception to year 4, the uptake of influenza vaccine was higher than it was in the 2017 to 2018 season, with all year groups showing an overall vaccine uptake of over 55%, showing the continued success and improvement in the delivery of the programme⁵. As was the case in the 2017 to 2018 season, London continued to show the lowest vaccination uptake of all local NHS England teams, with overall uptake remaining slightly below 50%.

The national ambition for every local authority for the 2018 to 2019 flu season was an average uptake of at least 65% across all years (reception to year 5)⁴. Of 153 LAs in England, 33 (21.6%) had an uptake of 65% or more, 75 (49.02%) had an uptake in the range 50% to 64% and 45 LAs (29.4%) had uptake <50%. However, the combined data masks variation by individual school years. Reception class had the highest proportion of LAs (49%, 75/153) achieving 65% or more uptake.

Uptake based on PHE centres were broadly comparable to those obtained for the 14 NHS England Local Teams, with the lowest rate in London and highest in South East and Midland Areas.

For the first time, children in year 5 were offered the vaccine through the school delivery model. Uptake was the lowest among this age cohort compared to the other school groups. This lower uptake follows the trend shown by both this season and last season's data of vaccine uptake decreasing as age increases in school-aged children, with the highest vaccine uptake continuing to be shown by reception children. These trends could be due in part to the effect of children being exposed to the school-based delivery programme for the first time when they are in reception and therefore may be more inclined to receive a vaccination. Despite being the lowest, children in school year 5 still showed an average vaccine uptake of

over 56%, which is greater than the uptake of year 4 school children in the 2017 to 2018 season when the vaccination programme was first rolled out to include them⁵. It is important that uptake ambitions in target groups of the national influenza vaccination programme are met to provide optimal direct and population indirect protection against influenza infection.

Uptake levels within the 11 pilot LA areas was 62.6% among children in reception to year 6 combined. The pilot data shows that the overall vaccine uptake for combined school years 1 to 6 was higher than corresponding cohorts in 2015 to 2016 and 2016 to 2017^{5,6}. The data shows an overall pattern of increasing uptake with younger age, which will be important to monitor with the on-going roll out of the national programme. With the uptake levels achieved this year, it will be important to continue to build on this and improve uptake further in forthcoming seasons.

The results of the 2018 to 2019 childhood flu vaccination programme show encouraging levels of influenza vaccine uptake in children from reception to school year 5 in England. It is important to build on this and continue to monitor uptake in all current groups under survey and those who will be included in the 2019 to 2020 season when the programme is rolled out to year 6 children and thus to all children of primary school age for the first time.

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Appendices

Appendix A1. Estimated number and proportion of children in school years reception, 1 and 2 who were vaccinated against influenza by LA and NHS England Local Team, England, 1 September 2018 to 31 January 2019

NHS England Local Team	Local Authority	Response Rate			Reception (age 4-5)			Year 1 (age 5-6 yrs)			Year 2 (age 6-7 yrs)		
		No. of Organisations	No. of Organisation making a return	% of organisations responding	Estimated total number of children eligible for vaccination ¹	Estimated total number of children vaccinated with influenza vaccine	% Vaccine Uptake	Estimated total number of children eligible for vaccination ¹	Estimated total number of children vaccinated with influenza vaccine	% Vaccine Uptake	Estimated total number of children eligible for vaccination ¹	Estimated total number of children vaccinated with influenza vaccine	% Vaccine Uptake
NHS ENGLAND LONDON	Barking and Dagenham	1	1	100	3,243	1,634	50.4	3,476	1,607	46.2	3,563	1,654	46.4
	Barnet	1	1	100	4,577	2,647	57.8	4,603	2,527	54.9	4,839	2,655	54.9
	Bexley	1	1	100	3,154	2,203	69.8	3,159	2,178	68.9	3,336	2,211	66.3
	Brent	1	1	100	3,787	1,437	37.9	3,809	1,462	38.4	4,018	1,411	35.1
	Bromley	1	1	100	4,131	2,911	70.5	4,218	3,030	71.8	4,291	2,966	69.1
	Camden	1	1	100	2,137	1,128	52.8	2,157	1,041	48.3	2,225	1,073	48.2
	City and Hackney	2	2	100	2,690	980	36.4	2,756	1,022	37.1	2,833	981	34.6
	Croydon	1	1	100	4,872	2,807	57.6	4,835	2,730	56.5	5,053	2,654	52.5
	Ealing	1	1	100	4,314	1,782	41.3	4,336	1,797	41.4	4,477	1,647	36.8
	Enfield	1	1	100	4,347	2,081	47.9	4,486	2,065	46.0	4,667	2,040	43.7
	Greenwich	1	1	100	3,773	2,332	61.8	3,937	2,397	60.9	3,838	2,250	58.6
	Hammersmith and Fulham	1	1	100	1,828	841	46.0	1,881	855	45.5	1,863	829	44.5
	Haringey	1	1	100	3,128	1,584	50.6	3,094	1,506	48.7	3,169	1,449	45.7
	Harrow	1	1	100	3,097	1,752	56.6	3,266	1,787	54.7	3,191	1,705	53.4
	Havering	1	1	100	3,365	2,050	60.9	3,395	2,045	60.2	3,333	1,934	58.0
	Hillingdon	1	1	100	4,220	2,199	52.1	4,224	2,107	49.9	4,372	2,104	48.1
	Hounslow	1	1	100	3,452	1,959	56.7	3,604	2,013	55.9	3,683	1,990	54.0
	Islington	1	1	100	1,936	863	44.6	2,070	883	42.7	1,991	773	38.8
	Kensington and Chelsea	1	1	100	1,818	764	42.0	1,840	816	44.3	1,807	717	39.7
	Kingston Upon Thames	1	1	100	2,102	1,591	75.7	2,114	1,609	76.1	2,167	1,574	72.6
	Lambeth	1	1	100	3,097	1,685	54.4	3,207	1,743	54.3	3,209	1,660	51.7
	Lewisham	1	1	100	3,583	2,116	59.1	3,761	2,136	56.8	3,775	2,001	53.0
	Merton	1	1	100	2,642	1,731	65.5	2,750	1,781	64.8	2,768	1,721	62.2
	Newham	1	1	100	4,735	1,823	38.5	4,932	1,927	39.1	4,905	1,769	36.1
	Redbridge	1	1	100	4,365	2,088	47.8	4,548	2,055	45.2	4,699	2,051	43.6
	Richmond Upon Thames	1	1	100	2,773	2,124	76.6	2,970	2,258	76.0	3,004	2,220	73.9
	Southwark	1	1	100	3,398	2,037	59.9	3,408	2,036	59.7	3,542	1,963	55.4
	Sutton	1	1	100	2,553	1,829	71.6	2,637	1,884	71.4	2,782	1,885	67.8
	Tower Hamlets	1	1	100	3,403	1,095	32.2	3,423	1,171	34.2	3,530	1,109	31.4
	Waltham Forest	1	1	100	3,440	1,426	41.5	3,635	1,431	39.4	3,664	1,347	36.8
Wandsworth	1	1	100	3,743	2,365	63.2	3,751	2,266	60.4	3,758	2,236	59.5	
Westminster	1	1	100	1,419	584	41.2	1,594	651	40.8	1,589	638	40.2	
NHS ENGLAND MIDLANDS AND EAST (CENTRAL MIDLANDS)	Bedford	1	1	100	2,305	1,564	67.9	2,319	1,524	65.7	2,403	1,485	61.8
	Central Bedfordshire	1	1	100	3,571	2,695	75.5	3,665	2,704	73.8	3,671	2,628	71.6
	Hertfordshire	1	1	100	15,100	9,678	64.1	15,216	9,724	63.9	15,607	9,600	61.5
	Leicester	1	1	100	3,957	2,123	53.7	4,766	2,256	47.3	5,020	2,308	46.0
	Leicestershire and Rutland	2	2	100	7,179	5,963	83.1	8,697	6,227	71.6	9,022	6,258	69.4
	Lincolnshire	1	1	100	8,352	5,187	62.1	8,045	5,016	62.3	8,430	5,079	60.2
	Luton	1	1	100	3,176	1,433	45.1	3,266	1,446	44.3	3,358	1,353	40.3
NHS ENGLAND MIDLANDS AND EAST (EAST)	Milton Keynes	1	1	100	3,639	2,424	66.6	3,954	2,623	66.3	3,959	2,502	63.2
	Northamptonshire	1	1	100	9,181	5,993	65.3	9,536	6,335	66.4	9,671	6,236	64.5
	Cambridgeshire	1	1	100	4,498	4,498	100	7,587	4,762	62.8	7,870	4,655	59.1
	Essex	1	1	100	17,419	12,602	72.3	17,815	12,493	70.1	18,027	12,428	68.9
	Norfolk	1	1	100	9,139	6,583	72.0	9,601	6,824	71.1	9,951	6,844	68.8
	Peterborough	1	1	100	2,990	1,255	42.0	3,098	1,201	38.8	3,227	1,186	36.8
NHS ENGLAND MIDLANDS AND EAST (EAST)	Southend-On-Sea	1	1	100	2,206	1,533	69.5	2,217	1,470	66.3	2,295	1,498	65.3
	Suffolk	1	1	100	4,904	4,904	100	8,288	4,825	58.2	8,646	4,887	56.5
	Thurrock	1	1	100	2,411	1,509	62.6	2,453	1,514	61.7	2,565	1,555	60.6

Seasonal influenza vaccine uptake in children of primary school age

NHS England Local Team	Local Authority	Response Rate			Reception (age 4-5)			Year 1 (age 5-6 yrs)			Year 2 (age 6-7 yrs)		
		No. of Organisations	No. of Organisation making a return	% of organisations responding	Estimated total number of children eligible for vaccination ¹	Estimated total number of children vaccinated with influenza vaccine	% Vaccine Uptake	Estimated total number of children eligible for vaccination ¹	Estimated total number of children vaccinated with influenza vaccine	% Vaccine Uptake	Estimated total number of children eligible for vaccination ¹	Estimated total number of children vaccinated with influenza vaccine	% Vaccine Uptake
NHS ENGLAND MIDLANDS AND EAST (NORTH MIDLANDS)	Derby	1	1	100	3,306	2,019	61.1	3,469	2,078	59.9	3,631	2,059	56.7
	Derbyshire	1	1	100	7,935	6,330	79.8	8,135	6,372	78.3	8,494	6,512	76.7
	Nottingham	1	1	100	3,783	1,956	51.7	3,956	2,118	53.5	4,022	2,021	50.2
	Nottinghamshire	1	1	100	8,120	6,017	74.1	8,272	6,162	74.5	8,579	6,268	73.1
	Shropshire	1	1	100	2,982	2,171	72.8	3,135	2,218	70.7	3,233	2,299	71.1
	Staffordshire	1	1	100	9,499	6,588	69.4	9,715	6,595	67.9	9,847	6,481	65.8
	Stoke-On-Trent	1	1	100	3,332	1,888	56.7	3,361	1,946	57.9	3,384	1,783	52.7
	Telford And Wrekin	1	1	100	2,343	1,472	62.8	2,439	1,592	65.3	2,444	1,516	62.0
NHS ENGLAND MIDLANDS AND EAST (WEST MIDLANDS)	Birmingham	1	1	100	15,768	7,630	48.4	16,448	7,915	48.1	16,861	7,929	47.0
	Coventry	1	1	100	4,436	3,132	70.6	4,584	3,231	70.5	4,780	3,300	69.0
	Dudley	1	1	100	3,870	2,628	67.9	4,028	2,619	65.0	4,093	2,656	64.9
	Herefordshire, County Of	1	1	100	1,878	1,374	73.2	2,100	1,503	71.6	2,055	1,399	68.1
	Sandwell	1	1	100	4,724	2,797	59.2	5,033	3,063	60.9	5,028	2,975	59.2
	Solihull	1	1	100	2,841	2,045	72.0	2,870	1,995	69.5	2,990	2,035	68.1
	Walsall	1	1	100	3,893	2,133	54.8	3,863	2,092	54.2	3,941	2,025	51.4
	Warwickshire	1	1	100	6,698	4,909	73.3	6,779	5,004	73.8	6,875	5,000	72.7
Wolverhampton	1	1	100	3,397	2,275	67.0	3,381	2,221	65.7	3,663	2,303	62.9	
Worcestershire	1	1	100	6,352	4,487	70.6	6,680	4,771	71.4	6,900	4,799	69.6	
NHS ENGLAND NORTH (CHESHIRE AND MERSEYSIDE)	Cheshire East	1	1	100	3,984	3,298	82.8	4,140	3,320	80.2	4,392	3,404	77.5
	Cheshire West and Chester	1	1	100	3,958	2,950	74.5	4,016	3,018	75.1	4,182	3,035	72.6
	Halton	1	1	100	1,435	957	66.7	1,586	982	61.9	1,581	982	62.1
	Knowsley	1	1	100	1,801	981	54.5	1,914	1,042	54.4	2,001	1,042	52.1
	Liverpool	1	1	100	5,447	3,036	55.7	5,424	3,014	55.6	5,662	3,071	54.2
	Sefton	1	1	100	3,035	2,083	68.6	3,034	2,075	68.4	3,075	2,023	65.8
	St. Helens	1	1	100	2,115	1,317	62.3	2,162	1,360	62.9	2,237	1,381	61.7
	Warrington	1	1	100	2,403	1,826	76.0	2,568	1,880	73.2	2,665	1,863	69.9
Wirral	1	1	100	3,651	2,658	72.8	3,715	2,734	73.6	4,003	2,845	71.1	
NHS ENGLAND NORTH (CUMBRIA AND NORTH EAST)	County Durham	1	1	100	5,891	3,281	55.7	5,746	3,448	60.0	5,528	3,359	60.8
	Cumbria	1	1	100	5,009	3,605	72.0	5,194	3,693	71.1	5,281	3,672	69.5
	Darlington	1	1	100	1,348	733	54.4	1,360	775	57.0	1,365	757	55.5
	Gateshead	1	1	100	2,226	1,366	61.4	2,279	1,479	64.9	2,282	1,442	63.2
	Hartlepool	1	1	100	1,099	559	50.9	1,182	545	46.1	1,233	571	46.3
	Middlesbrough	1	1	100	1,961	923	47.1	1,931	984	51.0	1,923	924	48.0
	Newcastle Upon Tyne	1	1	100	3,198	2,179	68.1	3,275	2,181	66.6	3,216	2,094	65.1
	North Tyneside	1	1	100	2,376	1,857	78.2	2,331	1,847	79.2	2,356	1,783	75.7
	Northumberland	1	1	100	3,101	2,383	76.8	3,353	2,538	75.7	3,534	2,612	73.9
	Redcar and Cleveland	1	1	100	1,674	863	51.6	1,728	851	49.2	1,768	858	48.5
	South Tyneside	1	1	100	1,650	1,072	65.0	1,695	1,064	62.8	1,750	1,094	62.5
	Stockton-On-Tees	1	1	100	2,567	1,380	53.8	2,585	1,469	56.8	2,650	1,353	51.1
Sunderland	1	1	100	2,933	1,807	61.6	2,998	1,893	63.1	3,262	1,959	60.1	
NHS ENGLAND NORTH (GREATER MANCHESTER)	Bolton	1	1	100	3,968	2,291	57.7	3,988	2,323	58.2	4,135	2,316	56.0
	Bury	1	1	100	2,458	1,694	68.9	2,522	1,753	69.5	2,524	1,693	67.1
	Manchester	1	1	100	7,034	3,710	52.7	7,373	3,947	53.5	7,318	3,678	50.3
	Oldham	1	1	100	3,408	2,026	59.4	3,522	2,093	59.4	3,468	1,971	56.8
	Rochdale	1	1	100	2,957	1,838	62.2	3,104	1,941	62.5	3,117	1,922	61.7
	Salford	1	1	100	3,178	1,980	62.3	3,318	2,045	61.6	3,321	1,988	59.9
	Stockport	1	1	100	3,672	2,933	79.9	3,735	2,957	79.2	3,804	2,922	76.8
	Tameside	1	1	100	2,895	1,982	68.5	3,053	2,095	68.6	3,109	2,064	66.4
	Trafford	1	1	100	3,121	2,310	74.0	3,172	2,322	73.2	3,361	2,343	69.7
	Wigan	1	1	100	3,645	2,791	76.6	3,754	2,812	74.9	3,804	2,800	73.6
NHS ENGLAND NORTH (LANCASHIRE)	Blackburn With Darwen	1	1	100	1,988	1,039	52.3	2,111	1,023	48.5	2,169	1,058	48.8
	Blackpool	1	1	100	1,688	1,053	62.4	1,682	1,013	60.2	1,728	980	56.7
	Lancashire	1	1	100	13,892	9,553	68.8	14,342	9,811	68.4	14,561	9,581	65.8

Seasonal influenza vaccine uptake in children of primary school age

NHS England Local Team	Local Authority	Response Rate			Reception (age 4-5)			Year 1 (age 5-6 yrs)			Year 2 (age 6-7 yrs)		
		No. of Organisations	No. of Organisation making a return	% of organisations responding	Estimated total number of children eligible for vaccination ¹	Estimated total number of children vaccinated with influenza vaccine	% Vaccine Uptake	Estimated total number of children eligible for vaccination ¹	Estimated total number of children vaccinated with influenza vaccine	% Vaccine Uptake	Estimated total number of children eligible for vaccination ¹	Estimated total number of children vaccinated with influenza vaccine	% Vaccine Uptake
NHS ENGLAND NORTH (YORKSHIRE AND HUMBER)	Barnsley	1	1	100	2,815	2,211	78.5	2,924	2,353	80.5	3,052	2,359	77.3
	Bassetlaw (Lower Tier LA)	1	1	100	1,278	910	71.2	1,301	916	70.4	1,411	987	70.0
	Bradford	1	1	100	8,290	3,913	47.2	8,204	3,841	46.8	8,372	3,745	44.7
	Calderdale	1	1	100	2,719	1,917	70.5	2,733	1,892	69.2	2,902	1,945	67.0
	Doncaster	1	1	100	3,505	2,477	70.7	3,827	2,657	69.4	3,764	2,567	68.2
	East Riding Of Yorkshire	1	1	100	3,085	2,748	89.1	3,547	2,919	82.3	3,828	3,038	79.4
	Kingston Upon Hull, City Of	1	1	100	3,265	2,280	69.8	3,441	2,325	67.6	3,606	2,359	65.4
	Kirklees	1	1	100	5,477	3,274	59.8	5,634	3,475	61.7	5,763	3,412	59.2
	Leeds	1	1	100	10,529	6,670	63.3	9,956	6,306	63.3	10,314	6,266	60.8
	North East Lincolnshire	1	1	100	1,934	1,498	77.5	2,019	1,588	78.7	2,042	1,584	77.6
	North Lincolnshire	1	1	100	1,815	1,281	70.6	1,975	1,411	71.4	2,024	1,409	69.6
	North Yorkshire	1	1	100	6,026	3,891	64.6	6,454	3,970	61.5	6,185	3,904	63.1
	Rotherham	1	1	100	3,290	2,135	64.9	3,315	2,233	67.4	3,424	2,290	66.9
	Sheffield	1	1	100	6,312	3,801	60.2	6,572	4,000	60.9	6,764	4,122	60.9
Wakefield	1	1	100	4,177	3,050	73.0	4,311	3,135	72.7	4,367	3,044	69.7	
York	1	1	100	1,974	1,340	67.9	2,037	1,365	67.0	1,866	1,354	72.6	
NHS ENGLAND SOUTH EAST (HAMPSHIRE, ISLE OF WIGHT AND THAMES VALLEY)	Bracknell Forest	1	1	100	1,563	1,127	72.1	1,611	1,127	70.0	1,655	1,191	72.0
	Buckinghamshire	1	1	100	6,571	4,267	64.9	6,822	4,332	63.5	7,093	4,377	61.7
	Hampshire	1	1	100	15,264	12,301	80.6	15,836	12,512	79.0	16,643	12,811	77.0
	Isle Of Wight	1	1	100	1,397	786	56.3	1,370	788	57.5	1,406	735	52.3
	Oxfordshire	1	1	100	7,698	5,728	74.4	7,937	5,973	75.3	8,192	5,936	72.5
	Portsmouth	1	1	100	2,450	1,824	74.4	2,550	1,900	74.5	2,512	1,795	71.5
	Reading	1	1	100	1,948	1,275	65.5	2,099	1,357	64.6	2,058	1,323	64.3
	Slough	1	1	100	2,339	1,101	47.1	2,452	1,146	46.7	2,516	1,138	45.2
	Southampton	1	1	100	2,956	1,857	62.8	2,946	1,897	64.4	3,008	1,860	61.8
	West Berkshire	1	1	100	1,904	1,544	81.1	1,972	1,621	82.2	2,056	1,650	80.3
	Windsor And Maidenhead	1	1	100	1,778	1,265	71.1	1,865	1,352	72.5	1,981	1,371	69.2
Wokingham	1	1	100	2,279	1,768	77.6	2,379	1,874	78.8	2,456	1,857	75.6	
NHS ENGLAND SOUTH EAST (KENT, SURREY AND SUSSEX)	West Sussex	1	1	100	9,444	6,929	73.4	9,864	7,060	71.6	10,194	7,007	68.7
	Surrey	1	1	100	12,324	8,476	68.8	12,543	8,551	68.2	13,419	9,055	67.5
	Medway	1	1	100	3,702	2,408	65.0	3,974	2,331	58.7	4,101	2,383	58.1
	Kent	1	1	100	18,291	12,136	66.3	19,449	12,163	62.5	20,546	12,254	59.6
	East Sussex	1	1	100	5,404	3,712	68.7	5,736	3,875	67.6	5,878	3,684	62.7
Brighton And Hove	1	1	100	2,626	1,794	68.3	2,706	1,825	67.4	2,793	1,884	67.5	
NHS ENGLAND SOUTH WEST (SOUTH WEST NORTH)	Bath and North East	1	1	100	1,968	1,314	66.8	2,051	1,361	66.4	2,061	1,410	68.4
	Bristol, City Of	1	1	100	5,933	3,428	57.8	5,953	3,507	58.9	5,923	3,267	55.2
	Gloucestershire	1	1	100	6,959	4,977	71.5	7,129	5,049	70.8	7,408	5,023	67.8
	North Somerset	1	1	100	2,237	1,713	76.6	2,416	1,824	75.5	2,488	1,808	72.7
	South Gloucestershire	1	1	100	3,451	2,563	74.3	3,423	2,547	74.4	3,510	2,533	72.2
	Swindon	1	1	100	2,901	1,840	63.4	2,927	1,913	65.4	3,061	1,890	61.7
Wiltshire	1	1	100	5,477	3,782	69.1	5,583	3,816	68.4	5,714	3,858	67.5	
NHS ENGLAND SOUTH WEST (SOUTH WEST SOUTH)	Bournemouth	1	1	100	1,925	1,286	66.8	2,098	1,339	63.8	2,119	1,296	61.2
	Devon	1	1	100	7,911	4,772	60.3	7,738	4,933	63.8	8,196	5,057	61.7
	Dorset	1	1	100	4,014	2,800	69.8	4,288	2,990	69.7	4,423	2,975	67.3
	Kernow (Cornwall and Isles)	2	2	100	5,703	3,256	57.1	6,052	3,533	58.4	6,210	3,339	53.8
	Plymouth	1	1	100	3,108	1,706	54.9	3,044	1,735	57.0	3,167	1,697	53.6
	Poole	1	1	100	1,615	1,148	71.1	1,532	1,052	68.7	1,700	1,205	70.9
	Somerset	1	1	100	5,921	4,350	73.5	5,981	4,359	72.9	6,351	4,490	70.7
	Torbay	1	1	100	1,454	798	54.9	1,414	842	59.5	1,473	814	55.3
Total		153	153	100.0	649,711	417,984	64.3	670,529	426,452	63.6	688,843	423,877	61.5

Appendix A2. Estimated number and proportion of children in school years 3, 4 and 5 who were vaccinated against influenza by LA and NHS England Local Team, England, 1 September 2018 to 31 January 2019

NHS England Local Team	Local Authority	Response Rate			Year 3 (age 7-8 yrs)			Year 4 (age 8-9 yrs)			Year 5 (age 9-10 yrs)		
		No. of Organisations	No. of Organisation making a return	% of organisations responding	Estimated total number of children eligible for vaccination ¹	Estimated total number of children vaccinated with influenza vaccine	% Vaccine Uptake	Estimated total number of children eligible for vaccination ¹	Estimated total number of children vaccinated with influenza vaccine	% Vaccine Uptake	Estimated total number of children eligible for vaccination ¹	Estimated total number of children vaccinated with influenza vaccine	% Vaccine Uptake
NHS ENGLAND LONDON	Barking and Dagenham	1	1	100	3,639	1,552	42.6	3,542	1,576	44.5	3,463	1,465	42.3
	Barnet	1	1	100	4,753	2,561	53.9	4,609	2,343	50.8	4,570	2,219	48.6
	Bexley	1	1	100	3,356	2,233	66.5	3,319	2,065	62.2	3,180	1,896	59.6
	Brent	1	1	100	3,863	1,337	34.6	3,864	1,210	31.3	3,692	1,131	30.6
	Bromley	1	1	100	4,358	2,876	66.0	4,346	2,810	64.7	4,088	2,518	61.6
	Camden	1	1	100	2,319	1,009	43.5	2,185	973	44.5	2,191	856	39.1
	City and Hackney	2	2	100	2,868	982	34.2	2,826	889	31.5	2,726	864	31.7
	Croydon	1	1	100	4,956	2,615	52.8	4,832	2,503	51.8	4,702	2,438	51.9
	Ealing	1	1	100	4,508	1,748	38.8	4,548	1,549	34.1	4,464	1,431	32.1
	Enfield	1	1	100	4,677	1,969	42.1	4,696	1,831	39.0	4,625	1,660	35.9
	Greenwich	1	1	100	3,806	2,122	55.8	3,725	2,033	54.6	3,536	1,863	52.7
	Hammersmith and Fulham	1	1	100	1,996	877	43.9	1,962	783	39.9	1,909	654	34.3
	Haringey	1	1	100	3,208	1,421	44.3	3,121	1,308	41.9	3,035	1,208	39.8
	Harrow	1	1	100	3,238	1,710	52.8	3,185	1,591	50.0	3,107	1,483	47.7
	Havering	1	1	100	3,251	1,814	55.8	3,140	1,732	55.2	3,118	1,780	57.1
	Hillingdon	1	1	100	4,363	2,073	47.5	4,251	1,922	45.2	4,285	1,873	43.7
	Hounslow	1	1	100	3,522	1,779	50.5	3,440	1,691	49.2	3,429	1,566	45.7
	Islington	1	1	100	2,042	794	38.9	2,079	714	34.3	1,984	619	31.2
	Kensington and Chelsea	1	1	100	1,691	669	39.6	1,631	555	34.0	1,658	474	28.6
	Kingston Upon Thames	1	1	100	2,209	1,571	71.1	2,135	1,496	70.1	2,173	1,492	68.7
	Lambeth	1	1	100	3,180	1,578	49.6	3,132	1,444	46.1	3,136	1,383	44.1
	Lewisham	1	1	100	3,818	1,983	51.9	3,692	1,828	49.5	3,534	1,619	45.8
	Merton	1	1	100	2,808	1,717	61.1	2,796	1,662	59.4	2,691	1,572	58.4
	Newham	1	1	100	4,953	1,653	33.4	4,882	1,505	30.8	4,834	1,447	29.9
	Redbridge	1	1	100	4,582	1,883	41.1	4,488	1,846	41.1	4,333	1,681	38.8
	Richmond Upon Thames	1	1	100	3,112	2,280	73.3	3,157	2,206	69.9	3,074	2,095	68.2
	Southwark	1	1	100	3,572	2,006	56.2	3,491	1,838	52.6	3,378	1,776	52.6
	Sutton	1	1	100	2,745	1,859	67.7	2,743	1,759	64.1	2,732	1,790	65.5
Tower Hamlets	1	1	100	3,381	1,058	31.3	3,367	886	26.3	3,295	819	24.9	
Waltham Forest	1	1	100	3,608	1,251	34.7	3,512	1,152	32.8	3,496	1,108	31.7	
Wandsworth	1	1	100	3,560	2,006	56.3	3,599	1,873	52.0	3,408	1,764	51.8	
Westminster	1	1	100	1,677	633	37.7	1,781	644	36.2	1,742	563	32.3	
NHS ENGLAND MIDLANDS AND EAST (CENTRAL MIDLANDS)	Bedford	1	1	100	2,402	1,471	61.2	2,482	1,465	59.0	2,431	1,384	56.9
	Central Bedfordshire	1	1	100	3,705	2,653	71.6	3,539	2,434	68.8	3,439	2,286	66.5
	Hertfordshire	1	1	100	16,240	9,871	60.8	15,823	9,286	58.7	15,696	8,763	55.8
	Leicester	1	1	100	5,064	2,225	43.9	4,995	2,059	41.2	4,983	2,106	42.3
	Leicestershire and Rutland	2	2	100	9,421	6,317	67.1	9,127	5,896	64.6	8,965	5,870	65.5
	Lincolnshire	1	1	100	8,473	4,895	57.8	8,425	4,661	55.3	8,362	4,385	52.4
	Luton	1	1	100	3,416	1,384	40.5	3,307	1,171	35.4	3,255	1,091	33.5
	Milton Keynes	1	1	100	4,045	2,478	61.3	3,926	2,275	57.9	3,963	2,227	56.2
Northamptonshire	1	1	100	9,743	6,138	63.0	9,588	5,997	62.5	9,504	5,747	60.5	
NHS ENGLAND MIDLANDS AND EAST (EAST)	Cambridgeshire	1	1	100	8,162	4,641	56.9	7,644	4,191	54.8	7,637	3,915	51.3
	Essex	1	1	100	17,999	12,110	67.3	17,976	11,868	66.0	17,689	11,226	63.5
	Norfolk	1	1	100	9,767	6,539	66.9	9,538	6,120	64.2	9,386	5,880	62.6
	Peterborough	1	1	100	3,365	1,109	33.0	3,178	1,067	33.6	3,024	1,002	33.1
	Southend-On-Sea	1	1	100	2,347	1,495	63.7	2,341	1,456	62.2	2,328	1,415	60.8
	Suffolk	1	1	100	8,740	4,734	54.2	8,441	4,431	52.5	8,710	4,331	49.7
Thurrock	1	1	100	2,515	1,485	59.0	2,395	1,397	58.3	2,426	1,357	55.9	

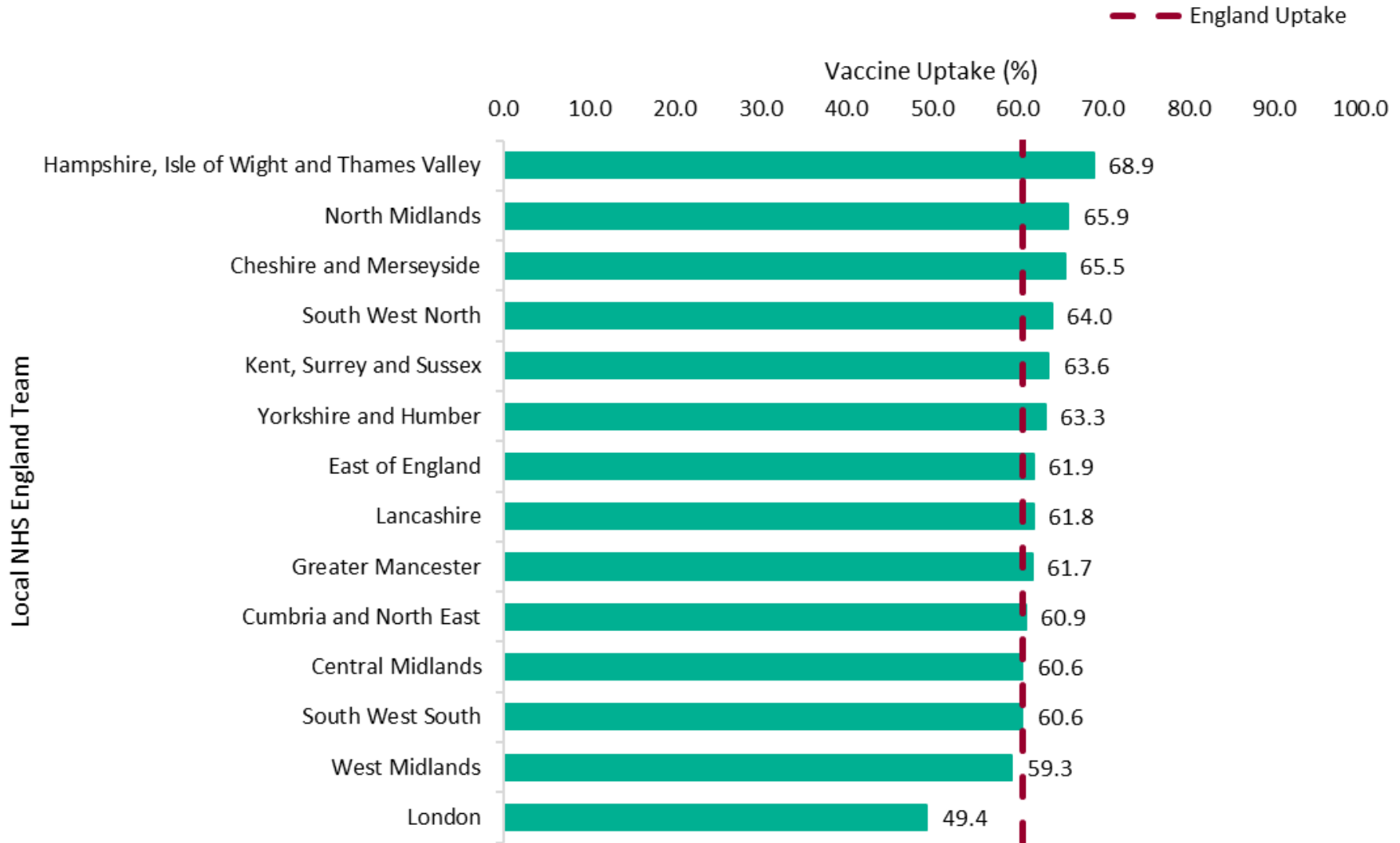
Seasonal influenza vaccine uptake in children of primary school age

NHS England Local Team	Local Authority	Response Rate			Year 3 (age 7-8 yrs)			Year 4 (age 8-9 yrs)			Year 5 (age 9-10 yrs)		
		No. of Organisations	No. of Organisation making a return	% of organisations responding	Estimated total number of children eligible for vaccination ¹	Estimated total number of children vaccinated with influenza vaccine	% Vaccine Uptake	Estimated total number of children eligible for vaccination ¹	Estimated total number of children vaccinated with influenza vaccine	% Vaccine Uptake	Estimated total number of children eligible for vaccination ¹	Estimated total number of children vaccinated with influenza vaccine	% Vaccine Uptake
NHS ENGLAND MIDLANDS AND EAST (NORTH MIDLANDS)	Derby	1	1	100	3,495	1,947	55.7	3,546	1,807	51.0	3,576	1,827	51.1
	Derbyshire	1	1	100	8,595	6,644	77.3	8,512	6,248	73.4	8,328	5,919	71.1
	Nottingham	1	1	100	4,033	2,014	49.9	3,908	1,846	47.2	3,865	1,769	45.8
	Nottinghamshire	1	1	100	8,683	6,065	69.8	8,358	5,842	69.9	8,243	5,635	68.4
	Shropshire	1	1	100	3,186	2,225	69.8	3,208	2,161	67.4	3,237	2,174	67.2
	Staffordshire	1	1	100	10,013	6,640	66.3	9,855	6,465	65.6	9,705	6,146	63.3
	Stoke-On-Trent	1	1	100	3,612	1,928	53.4	3,292	1,766	53.6	3,363	1,698	50.5
Telford And Wrekin	1	1	100	2,517	1,523	60.5	2,442	1,480	60.6	2,502	1,530	61.2	
NHS ENGLAND MIDLANDS AND EAST (WEST MIDLANDS)	Birmingham	1	1	100	16,896	7,752	45.9	16,335	7,071	43.3	16,627	6,719	40.4
	Coventry	1	1	100	4,761	3,194	67.1	4,733	3,199	67.6	4,556	2,905	63.8
	Dudley	1	1	100	3,925	2,448	62.4	3,913	2,301	58.8	3,776	2,180	57.7
	Herefordshire, County Of	1	1	100	2,108	1,541	73.1	2,046	1,393	68.1	2,011	1,381	68.7
	Sandwell	1	1	100	4,985	2,928	58.7	4,771	2,765	58.0	4,760	2,580	54.2
	Solihull	1	1	100	3,034	2,005	66.1	2,882	1,788	62.0	2,851	1,778	62.4
	Walsall	1	1	100	3,799	1,957	51.5	3,070	1,526	49.7	3,713	1,816	48.9
	Warwickshire	1	1	100	6,929	4,887	70.5	6,853	4,780	69.8	6,630	4,571	68.9
	Wolverhampton	1	1	100	3,718	2,315	62.3	3,570	2,205	61.8	3,423	2,084	60.9
Worcestershire	1	1	100	6,703	4,831	72.1	6,698	4,461	66.6	6,537	4,244	64.9	
NHS ENGLAND NORTH (CHESHIRE AND MERSEYSIDE)	Cheshire East	1	1	100	4,370	3,386	77.5	4,274	3,185	74.5	4,268	3,105	72.8
	Cheshire West and Chester	1	1	100	4,187	2,998	71.6	4,172	2,910	69.8	4,042	2,771	68.6
	Halton	1	1	100	1,546	888	57.4	1,656	934	56.4	1,517	845	55.7
	Knowsley	1	1	100	1,942	1,002	51.6	1,853	901	48.6	1,812	886	48.9
	Liverpool	1	1	100	5,544	2,975	53.7	5,311	2,693	50.7	5,257	2,682	51.0
	Sefton	1	1	100	3,212	2,108	65.6	3,156	2,016	63.9	3,146	1,986	63.1
	St. Helens	1	1	100	2,179	1,268	58.2	2,161	1,298	60.1	2,108	1,222	58.0
	Warrington	1	1	100	2,694	1,872	69.5	2,705	1,783	65.9	2,614	1,716	65.6
Wirral	1	1	100	3,889	2,773	71.3	3,854	2,690	69.8	3,828	2,636	68.9	
NHS ENGLAND NORTH (CUMBRIA AND NORTH EAST)	County Durham	1	1	100	5,744	3,310	57.6	5,960	3,105	52.1	5,551	2,769	49.9
	Cumbria	1	1	100	5,427	3,744	69.0	5,376	3,557	66.2	5,458	3,631	66.5
	Darlington	1	1	100	1,408	729	51.8	1,424	725	50.9	1,449	719	49.6
	Gateshead	1	1	100	2,380	1,543	64.8	2,291	1,396	60.9	2,345	1,397	59.6
	Hartlepool	1	1	100	1,198	582	48.6	1,222	513	42.0	1,092	515	47.2
	Middlesbrough	1	1	100	1,991	921	46.3	1,825	877	48.1	1,873	786	42.0
	Newcastle Upon Tyne	1	1	100	3,299	2,156	65.4	3,246	2,036	62.7	3,175	1,840	58.0
	North Tyneside	1	1	100	2,398	1,781	74.3	2,421	1,789	73.9	2,360	1,604	68.0
	Northumberland	1	1	100	3,420	2,502	73.2	3,390	2,413	71.2	3,413	2,411	70.6
	Redcar and Cleveland	1	1	100	1,699	862	50.7	1,598	749	46.9	1,580	709	44.9
	South Tyneside	1	1	100	1,716	1,061	61.8	1,705	998	58.5	1,717	988	57.5
	Stockton-On-Tees	1	1	100	2,698	1,419	52.6	2,648	1,346	50.8	2,610	1,221	46.8
Sunderland	1	1	100	3,254	1,843	56.6	3,138	1,821	58.0	3,135	1,657	52.9	
NHS ENGLAND NORTH (GREATER MANCHESTER)	Bolton	1	1	100	4,137	2,276	55.0	4,142	2,173	52.5	4,202	2,156	51.3
	Bury	1	1	100	2,482	1,614	65.0	2,500	1,687	67.5	2,456	1,581	64.4
	Manchester	1	1	100	7,345	3,698	50.3	7,373	3,657	49.6	7,360	3,499	47.5
	Oldham	1	1	100	3,611	1,957	54.2	3,623	1,913	52.8	3,645	1,863	51.1
	Rochdale	1	1	100	3,063	1,805	58.9	3,064	1,766	57.6	3,117	1,592	51.1
	Salford	1	1	100	3,364	1,952	58.0	3,228	1,843	57.1	3,143	1,811	57.6
	Stockport	1	1	100	3,732	2,852	76.4	3,637	2,704	74.3	3,732	2,640	70.7
	Tameside	1	1	100	3,076	1,992	64.8	3,127	2,010	64.3	2,970	1,839	61.9
	Trafford	1	1	100	3,383	2,309	68.3	3,269	2,224	68.0	3,301	2,125	64.4
Wigan	1	1	100	3,932	2,818	71.7	3,819	2,734	71.6	3,821	2,548	66.7	
NHS ENGLAND NORTH (LANCASHIRE)	Blackburn With Darwen	1	1	100	2,239	1,029	46.0	2,221	977	44.0	2,331	915	39.3
	Blackpool	1	1	100	1,667	916	54.9	1,731	1,005	58.1	1,691	914	54.1
	Lancashire	1	1	100	14,943	9,494	63.5	14,753	9,152	62.0	14,619	8,730	59.7

Seasonal influenza vaccine uptake in children of primary school age

NHS England Local Team	Local Authority	Response Rate			Year 3 (age 7-8 yrs)			Year 4 (age 8-9 yrs)			Year 5 (age 9-10 yrs)		
		No. of Organisations	No. of Organisation making a return	% of organisations responding	Estimated total number of children eligible for vaccination ¹	Estimated total number of children vaccinated with influenza vaccine	% Vaccine Uptake	Estimated total number of children eligible for vaccination ¹	Estimated total number of children vaccinated with influenza vaccine	% Vaccine Uptake	Estimated total number of children eligible for vaccination ¹	Estimated total number of children vaccinated with influenza vaccine	% Vaccine Uptake
NHS ENGLAND NORTH (YORKSHIRE AND HUMBER)	Barnsley	1	1	100	3,075	2,361	76.8	2,941	2,237	76.1	2,780	2,099	75.5
	Bassetlaw (Lower Tier LA),	1	1	100	1,367	952	69.6	1,363	908	66.6	1,316	861	65.4
	Bradford	1	1	100	8,520	3,860	45.3	8,724	3,706	42.5	8,587	3,481	40.5
	Calderdale	1	1	100	2,785	1,812	65.1	2,945	1,847	62.7	2,804	1,764	62.9
	Doncaster	1	1	100	3,997	2,650	66.3	3,835	2,513	65.5	3,832	2,445	63.8
	East Riding Of Yorkshire	1	1	100	3,640	2,894	79.5	3,628	2,807	77.4	3,581	2,768	77.3
	Kingston Upon Hull, City Of	1	1	100	3,441	2,279	66.2	3,412	2,171	63.6	3,356	2,127	63.4
	Kirklees	1	1	100	5,903	3,552	60.2	5,736	3,296	57.5	5,748	3,146	54.7
	Leeds	1	1	100	10,105	6,310	62.4	10,206	6,128	60.0	9,848	6,141	62.4
	North East Lincolnshire	1	1	100	2,078	1,613	77.6	2,026	1,483	73.2	1,993	1,489	74.7
	North Lincolnshire	1	1	100	2,041	1,426	69.9	2,020	1,361	67.4	2,063	1,384	67.1
	North Yorkshire	1	1	100	6,112	3,950	64.6	6,023	3,835	63.7	5,897	3,657	62.0
	Rotherham	1	1	100	3,392	2,203	64.9	3,480	2,170	62.4	3,393	2,057	60.6
	Sheffield	1	1	100	6,606	3,900	59.0	6,570	3,769	57.4	6,609	3,633	55.0
Wakefield	1	1	100	4,380	3,056	69.8	4,417	2,985	67.6	4,191	2,811	67.1	
York	1	1	100	1,925	1,339	69.6	1,882	1,244	66.1	1,877	1,234	65.7	
NHS ENGLAND SOUTH EAST (HAMPSHIRE, ISLE OF WIGHT AND THAMES VALLEY)	Bracknell Forest	1	1	100	1,562	1,182	75.7	1,625	1,137	70.0	1,614	1,091	67.6
	Buckinghamshire	1	1	100	7,167	4,357	60.8	7,120	4,022	56.5	7,006	3,761	53.7
	Hampshire	1	1	100	16,643	12,488	75.0	16,169	11,794	72.9	15,873	11,364	71.6
	Isle Of Wight	1	1	100	1,433	748	52.2	1,397	654	46.8	1,319	644	48.8
	Oxfordshire	1	1	100	8,565	6,093	71.1	8,271	5,687	68.8	7,910	5,295	66.9
	Portsmouth	1	1	100	2,457	1,685	68.6	2,476	1,643	66.4	2,391	1,599	66.9
	Reading	1	1	100	2,015	1,312	65.1	2,006	1,288	64.2	1,995	1,249	62.6
	Slough	1	1	100	2,519	1,132	44.9	2,525	1,082	42.9	2,473	1,040	42.1
	Southampton	1	1	100	3,136	1,889	60.2	2,956	1,671	56.5	2,826	1,562	55.3
	West Berkshire	1	1	100	2,084	1,681	80.7	2,045	1,601	78.3	1,992	1,540	77.3
	Windsor And Maidenhead	1	1	100	1,992	1,380	69.3	1,960	1,282	65.4	1,909	1,254	65.7
Wokingham	1	1	100	2,465	1,846	74.9	2,445	1,809	74.0	2,340	1,687	72.1	
NHS ENGLAND SOUTH EAST (KENT, SURREY AND SUSSEX)	West Sussex	1	1	100	10,222	6,867	67.2	10,161	6,480	63.8	10,043	6,182	61.6
	Surrey	1	1	100	13,478	9,430	70.0	13,123	9,209	70.2	12,910	9,131	70.7
	Medway	1	1	100	4,012	2,156	53.7	3,933	2,025	51.5	3,922	1,987	50.7
	Kent	1	1	100	20,156	11,841	58.7	20,141	11,204	55.6	20,064	10,892	54.3
	East Sussex	1	1	100	6,073	3,777	62.2	6,000	3,648	60.8	5,881	3,443	58.5
Brighton And Hove	1	1	100	2,826	1,773	62.7	2,945	1,752	59.5	2,817	1,601	56.8	
NHS ENGLAND SOUTH WEST (SOUTH WEST NORTH)	Bath and North East Somerset	1	1	100	2,059	1,429	69.4	2,047	1,364	66.6	2,062	1,306	63.3
	Bristol, City Of	1	1	100	5,754	3,097	53.8	5,506	2,768	50.3	5,394	2,658	49.3
	Gloucestershire	1	1	100	7,322	4,797	65.5	7,342	4,586	62.5	7,172	4,396	61.3
	North Somerset	1	1	100	2,559	1,783	69.7	2,614	1,769	67.7	2,506	1,626	64.9
	South Gloucestershire	1	1	100	3,514	2,420	68.9	3,455	2,251	65.2	3,396	2,122	62.5
	Swindon	1	1	100	3,004	1,774	59.1	2,914	1,632	56.0	2,846	1,484	52.1
Wiltshire	1	1	100	5,983	3,912	65.4	5,801	3,634	62.6	5,633	3,371	59.8	
NHS ENGLAND SOUTH WEST (SOUTH WEST SOUTH)	Bournemouth	1	1	100	2,141	1,297	60.6	2,032	1,148	56.5	2,086	1,136	54.5
	Devon	1	1	100	8,273	4,877	59.0	8,002	4,492	56.1	8,127	4,380	53.9
	Dorset	1	1	100	4,567	2,988	65.4	4,559	2,884	63.3	4,638	2,862	61.7
	Kernow (Cornwall and Isles of Scilly)	2	2	100	6,315	3,280	51.9	6,008	2,935	48.9	6,032	2,871	47.6
	Plymouth	1	1	100	3,179	1,672	52.6	3,075	1,496	48.7	3,076	1,503	48.9
	Poole	1	1	100	1,655	1,054	63.7	1,678	1,078	64.2	1,480	869	58.7
	Somerset	1	1	100	6,391	4,368	68.3	6,339	4,282	67.6	6,209	4,222	68.0
	Torbay	1	1	100	1,468	792	54.0	1,458	741	50.8	1,429	708	49.5
Total		153	153	100.0	691,540	417,777	60.4	680,002	396,183	58.3	671,073	379,290	56.5

Appendix B. Estimated proportion of children in school years reception, 1, 2, 3, 4 and 5 who were vaccinated in England with influenza vaccine by Local NHS England Team, 1 September 2018 to 31 January 2019



Appendix C. Estimated number and proportion of children aged 5 to 11 years who were vaccinated with influenza vaccine in 2018 to 2019 vs. 2017 to 2018, 2016 to 2017 and 2015 to 2016 in pilot areas across England^{vi}

Area Team	Local Authority	2018/19			2017/18	2016/17	2015/16
		Number eligible	Number vaccinated	Vaccine Uptake (%)	Vaccine Uptake (%)	Vaccine Uptake (%)	Vaccine Uptake (%)
Leicestershire and Lincolnshire	Leicester	29,832	12,958	43.4	45.1	44.5	43.6
	Rutland	2,419	1,894	78.3	73.3	73.4	72
	Leicestershire	51,949	33,944	65.3	72.5	68.9	68.4
Cumbria, Northumberland, Tyne and Wear	South Tyneside	10,258	6,181	60.3	55.4	60.6	52.7
	Sunderland	19,077	10,876	57.0	-	58.2	52.5
	Gateshead	13,815	8,470	61.3	60.1	60.2	56.9
East of England	Essex	107,212	70,932	66.2	63.8	62.8	58.5
	Southend-on-Sea	13,822	8,688	62.9	61.0	61.8	59.4
	Thurrock	14,793	8,621	58.3	55.6	56.0	54.1
Greater Manchester	Bury	14,922	9,824	65.8	65.8	57.6	65.2
London	Havering	19,377	10,940	56.5	54.4	52.7	52.1
Total		297,476	183,328	61.6	61.7	60.3	57.9

^{vi} Excluding 2016 to 2017 London boroughs that vaccinated children in special schools only. There was no data provided for Sunderland for the 2017/18 season.