



Public Health  
England

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# **Human papillomavirus (HPV) vaccination coverage in adolescent females and males in England: academic year 2019 to 2020**

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## Main points

Principal conclusions arising from the data presented in this report are as follows:

From September 2019 the national Human papillomavirus (HPV) vaccination programme became universal with 12- to 13-year-old males becoming eligible alongside females.

We report HPV vaccine coverage for the priming dose (dose one) for school Year 8 males and females separately for the 2019/20 academic year, in England.

In addition, we report on the completed course (2 dose) HPV vaccine coverage for Year 9 females (aged 13 to 14) in England.

Due to the COVID-19 pandemic, all educational settings were closed from the 23 March 2020 and the delivery of the 2019/20 school immunisation programmes was paused, in line with UK Government COVID-19 guidance. This has had a significant impact on the uptake of the HPV vaccination programme in the 2019/20 academic year.

By 20 March 2020 HPV programme delivery was:

- fully complete in 8 out of 150\* Local Authorities (LAs)
- partially complete in 116/150 LAs
- not yet started in 26/150 LAs

From 1 June 2020 some schools partially re-opened for some year groups for a mini summer term and all schools fully re-opened for the 2020/21 academic year. All NHS England and NHS Improvement (NHSEI) commissioned school aged providers were asked to implement HPV vaccination restoration and recovery plans with some catch-up already undertaken by all providers.

64.7% of Year 9 females completed the 2-dose HPV vaccination course in 2019/20, compared with 83.9% in 2018/19.

HPV vaccine coverage for the priming dose in 2019/20 was 59.2% in Year 8 females (compared with 88.0% in 2018/19) and 54.4% in Year 8 males.

\* For the purpose of this report, City of London and Hackney Local Authorities are counted as one local authority because their data is submitted together on ImmForm.

# Background to the HPV Vaccination Programme

On the advice of the Joint Committee on Vaccination and Immunisation (JCVI), a HPV national vaccination programme was introduced in 2008, to protect adolescent females against cervical cancer. At that time, a 3-dose schedule was offered routinely to secondary school Year 8 females (aged 12 to 13) alongside a catch-up programme targeting females aged 13 to 18 [1].

In September 2014 [2] the programme changed to a 2-dose schedule based on evidence that showed that antibody response to 2 doses of HPV vaccine in adolescent females was as good as 3 doses. PHE recommended the following:

- the first dose can be given at any time during school Year 8
- the minimum time between the first and second dose should be 6 months
- for operational purposes a 12-month gap between the 2 doses is recommended, that is, the first HPV vaccine dose should be offered in Year 8 (aged 12 to 13) and the second dose should be offered in Year 9 (aged 13 to 14), as this reduces the number of HPV vaccination sessions required in school
- however, local needs should be considered when planning the programme

In England, the decision on when to offer the 2 HPV vaccine doses is made by NHSEI-commissioned providers and so some areas offer both doses in Year 8 and others offer HPV Dose 1 in Year 8 and HPV Dose 2 in Year 9.

From September 2019 [3], 12- to 13-year-old males became eligible for HPV immunisation alongside females, based on JCVI advice [1].

Extending the HPV vaccination programme to males aged 12 to 13 will:

- offer them direct protection against HPV-related cancers such as anal, penile and oropharyngeal cancers and anogenital warts
- reduce the overall burden of these cancers and cervical cancer, sooner than a female-only programme would do
- add resilience to the UK vaccination programme against any short-term fluctuations in vaccine uptake in females

In order to evaluate the roll-out of the HPV vaccine to males the vaccine coverage collection has also changed to monitor coverage in males and females separately.

## Impact of COVID-19 pandemic on HPV programme delivery during the 2019 to 2020 academic year

On 23 March 2020, all educational settings in England were advised to close by the UK Government as part of COVID-19 pandemic measures. As a result, the operational delivery of all school-aged immunisation programmes was paused with immediate effect.

The NHSEI central public health commissioning and operations team rapidly established an Immunisation Task and Finish Group, with regional NHSEI and PHE representation. The group was established to:

- assess the impact of COVID-19 on all immunisation programmes, including school-aged programmes
- develop technical guidance and a plan for restoration and recovery of school-aged programmes, once education settings were re-opened

From 1 June 2020 some schools partially re-opened for some year groups for a mini summer term and all schools fully re-opened in September for the 2020/21 academic year.

In June 2020, NHSEI-commissioned, school-aged immunisation providers were able to implement their restoration and recovery plans to commence catch-up of partially or incomplete programmes during the summer period. This included delivery of programmes in school and community settings following a robust risk assessment and in line with UK Government Public Health COVID-19 guidance. By the end of July, 91% of all NHSEI commissioned providers were delivering school aged immunisation programmes, and were working to ensure that those eligible for HPV vaccination had been offered at least one dose of vaccine in line with **JCVI recommendations**, with the second dose scheduled at a later date.

NHSEI-commissioned school-aged immunisation providers have continued to operationalise their restoration and recovery plans, with delivery continuing throughout August and September 2020.

## Methods and previous data collections

Full details of the cohort definitions and methodology can be found in the 2019/20 HPV vaccine coverage [user guide](#) for data providers.

Data providers must use updated data sources (that is, school rolls for all types of schools/units plus children schooled at home or Child Health Information Systems) to identify all eligible females and males in the locality for the academic year. The 2019/20 HPV vaccine coverage was calculated based on the total number of eligible females or males in the target population who had received Dose 1 and/or Dose 2 of the HPV vaccine for the academic year. Historical annual HPV vaccine coverage reports from 2008/09 to 2018/19 and associated data tables can be found on the [PHE website](#).

PHE developed a new optional school level standardised data collection tool for local providers for the 2019/20 season. This tool allowed for the collection of vaccination coverage data for males and females separately. 2019/20 was the first year that the updated tool had the capability to capture Dose 1 vaccine coverage for the Year 8 birth cohort and then capture updated Dose 1 and Dose 2 coverage for the same cohort when they move up to Year 9 in the 2020/21 academic year. The data collection tool and associated user guide can be found online [here](#). In addition, tutorial videos for the tool can be viewed online [here](#). School-level data allows PHE to better monitor inequalities in vaccine uptake at a more granular level.

Local Authority (LA) level HPV vaccine coverage data up to 20 March 2020 (before lockdown was implemented) were manually uploaded to the [ImmForm \[4\]](#) website retrospectively, from 25 June 2020 to 31 July 2020. Providers that resumed HPV vaccination delivery in the summer months provided some additional LA level data on vaccinations that took place post 20 March 2020. Accurately recording cohort denominators and numerators across multiple school years is challenging and requires local teams and providers to combine multiple data sources. It is important to note that due to the COVID-19 pandemic and school closures, this year some areas were unable to provide complete estimates of the number of students eligible for and vaccinated with HPV vaccine. Consequently, this report is not badged as official statistics.

## Results

This report presents annual human papillomavirus (HPV) vaccine coverage data for the sixth year (2019/20) of the 2-dose schedule and the fifth year of completed course data up to Year 9. The 2019/20 academic year marks the first year the HPV vaccine was offered to males in school Year 8 (aged 12 to 13).

2019/20 was the fourth year all NHSEI commissioned providers ran a predominately school based HPV immunisation programme. It is important to note that alternative provision is in place for children who are not in mainstream schools. Full data tables are available by NHS England Local Team (LT) and LA.

HPV immunisation programme delivery had been completed in only 8/150 LAs by 20 March 2020. Programme delivery was partially completed in 116/150 LAs and not yet started in 26/150 LAs by 20 March 2020. PHE worked with NHSEI commissioners and providers and regional commissioners and PHE embedded teams to develop technical guidance, recovery and restoration plans which were informed by prioritisation guidance as articulated in the related [JCVI statement](#). Once the COVID-19 lockdown restrictions were eased many NHSEI providers were able to offer HPV immunisation programme catch-up ahead of the 2020/21 academic year. Data from these catch-up clinics will only have been partially captured through this annual survey. Therefore, the figures presented in the report should be taken as an estimate of the minimum coverage achieved during the 2019/20 academic year.

HPV vaccine coverage of the priming dose for Year 8 females in 2019/20 (born 1 September 2006 to 31 August 2007) was 59.2% in England, 28.8 percentage points lower than 2018/19. Coverage was 88.0% in 2018/19, 86.9% in 2017/18, 87.2% in 2016/17, 87.0% in 2015/16, and 89.4% in 2014/15. Coverage by LT ranged from 24.2% (North West - Lancashire and South Cumbria) to 85.8% (North West - Greater Manchester).

HPV vaccine coverage of the priming dose for Year 8 males in 2019/20 (born 1 September 2006 to 31 August 2007) was 54.4% in England. Coverage by LT ranged from 25.2% (North West - Lancashire and South Cumbria) to 78.3% (North West - Greater Manchester). National coverage for Year 8 males was 4.8 percentage points lower compared to coverage for Year 8 females this academic year. Only North West (Lancashire and South Cumbria) LT vaccinated more males than females with 1.0 percentage points difference. All other LTs all had vaccinated greater number of females, with the greatest difference of 9.7 percentage points in South West (South West South).

HPV vaccine coverage in England for females completing a 2-dose HPV schedule by Year 9 (born 1 September 2005 to 31 August 2006) was 64.7%, 19.2 percentage points

lower compared to 83.9% in 2018/19. Coverage was 83.8% in 2017/18, 83.1% in 2016/17, 85.1% in 2015/16. Coverage in 2019-20 by LT ranged from 39.5% (London) to 87.3% (Central Midlands). HPV vaccine coverage in England for the priming dose in Year 9 females in 2019/20 was 88.9%, 0.9 percentage points increase from 2018/19 coverage of 88.0% for the same cohort.

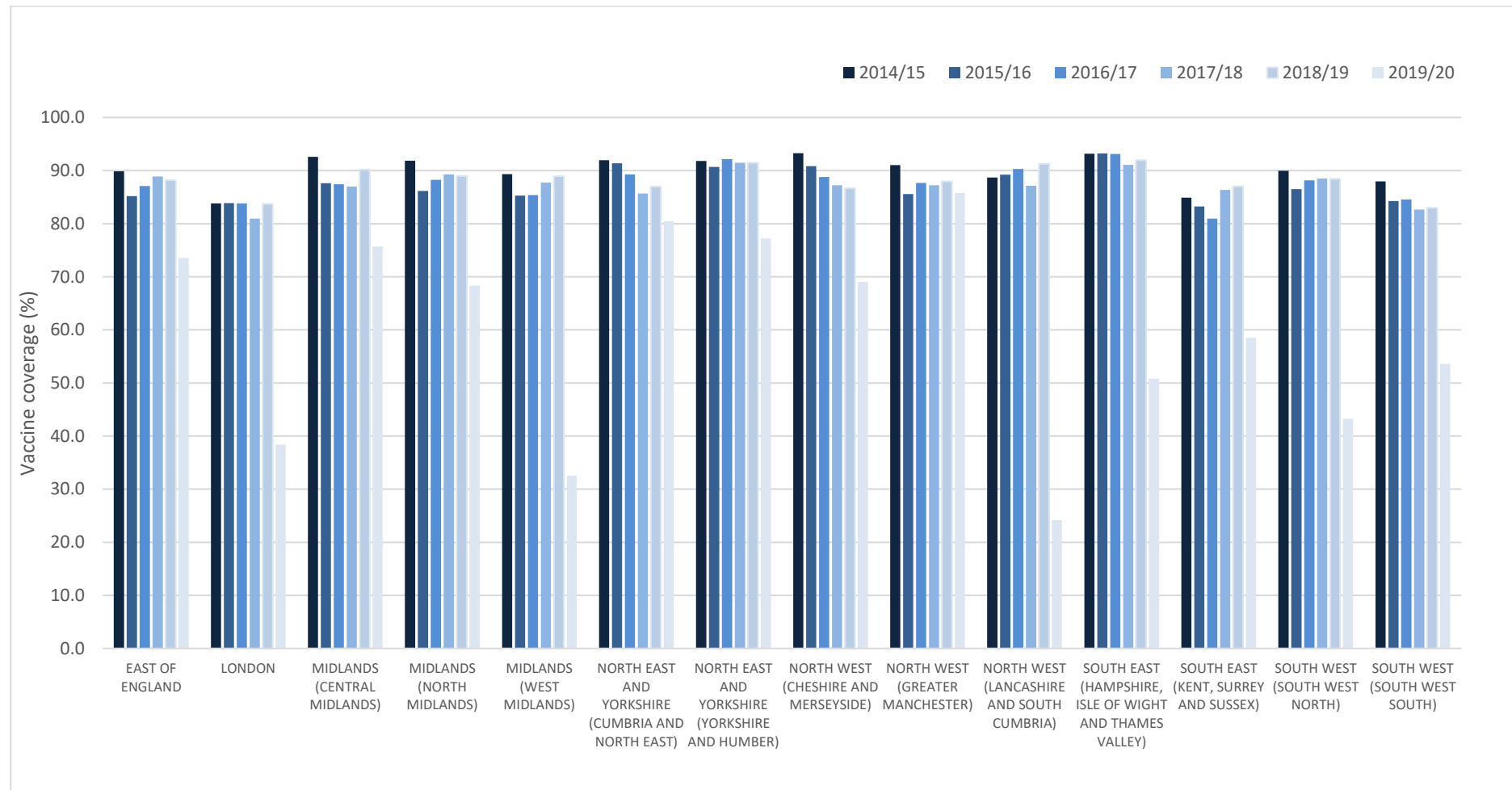
It is encouraging to note that vaccine coverage in all but one of the 8 LAs who reported that they had completed their HPV programme by 20 March was comparable to previous years. This suggests that the roll-out of the universal HPV programme was progressing well and that the drop in coverage observed nationally is mainly due to the impact of the COVID-19 pandemic.

**Table 1. HPV vaccine programme status by 20 March 2020 for NHS England Local Teams in academic year 2019/20: England**

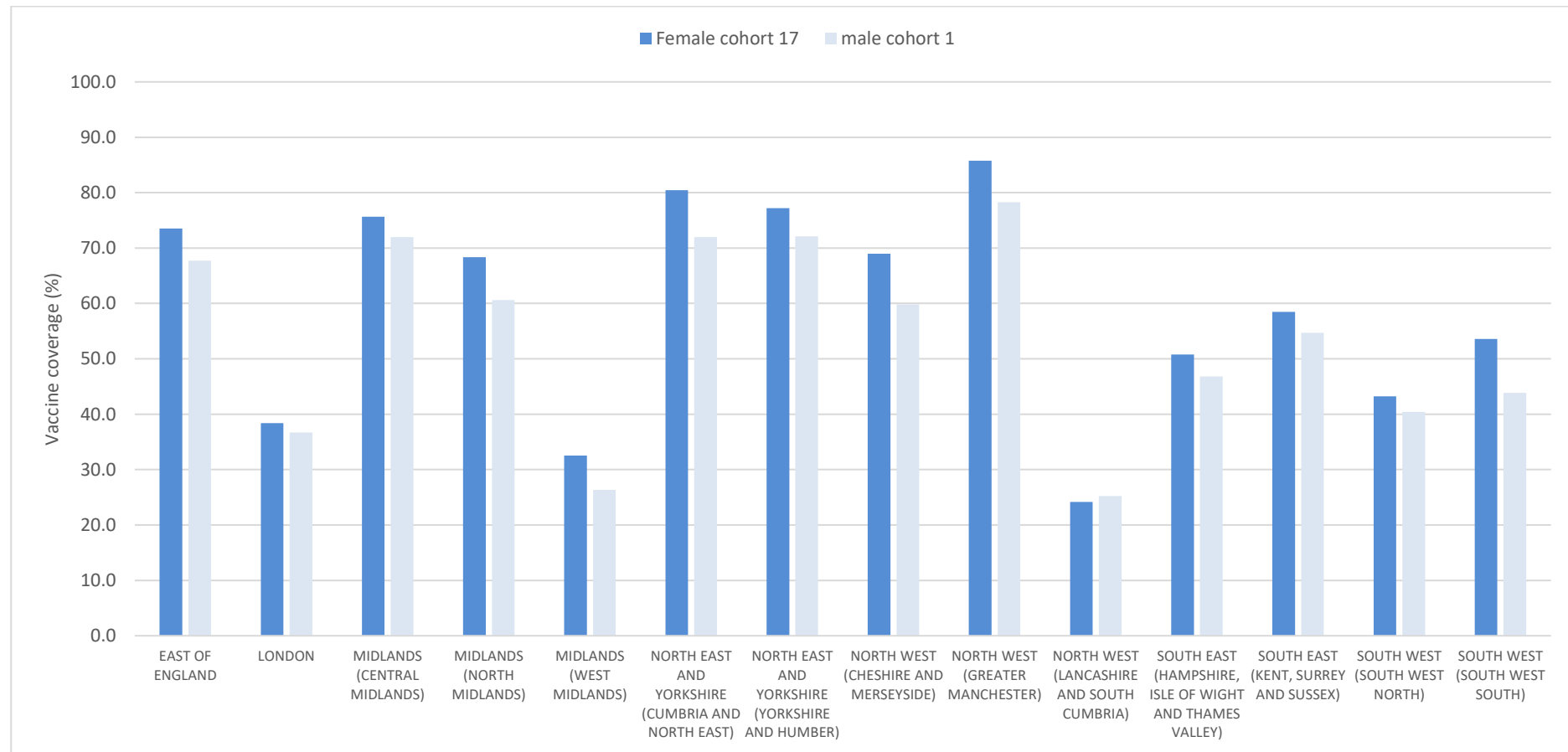
	HPV programme delivery completed (at LA level)	HPV programme delivery partially completed (at LA level)	HPV programme delivery not started (at LA level)
EAST OF ENGLAND	0	7	0
LONDON	1	22	9
MIDLANDS (CENTRAL MIDLANDS)	0	10	0
MIDLANDS (NORTH MIDLANDS)	1	6	1
MIDLANDS (WEST MIDLANDS)	0	5	5
NORTH EAST AND YORKSHIRE (CUMBRIA AND NORTH EAST)	4	9	0
NORTH EAST AND YORKSHIRE (YORKS & HUMBER)	0	14	1
NORTH WEST (CHESHIRE AND MERSEYSIDE)	0	8	1
NORTH WEST (GREATER MANCHESTER)	0	10	0
NORTH WEST (LANCASHIRE AND SOUTH CUMBRIA)	0	2	1
SOUTH EAST (HAMPSHIRE, ISLE OF WIGHT AND THAMES VALLEY)	0	7	5
SOUTH EAST (KENT, SURREY AND SUSSEX)	1	5	0
SOUTH WEST (SOUTH WEST NORTH)	0	4	3
SOUTH WEST (SOUTH WEST SOUTH)	1	7	0
<b>England</b>	<b>8</b>	<b>116</b>	<b>26</b>



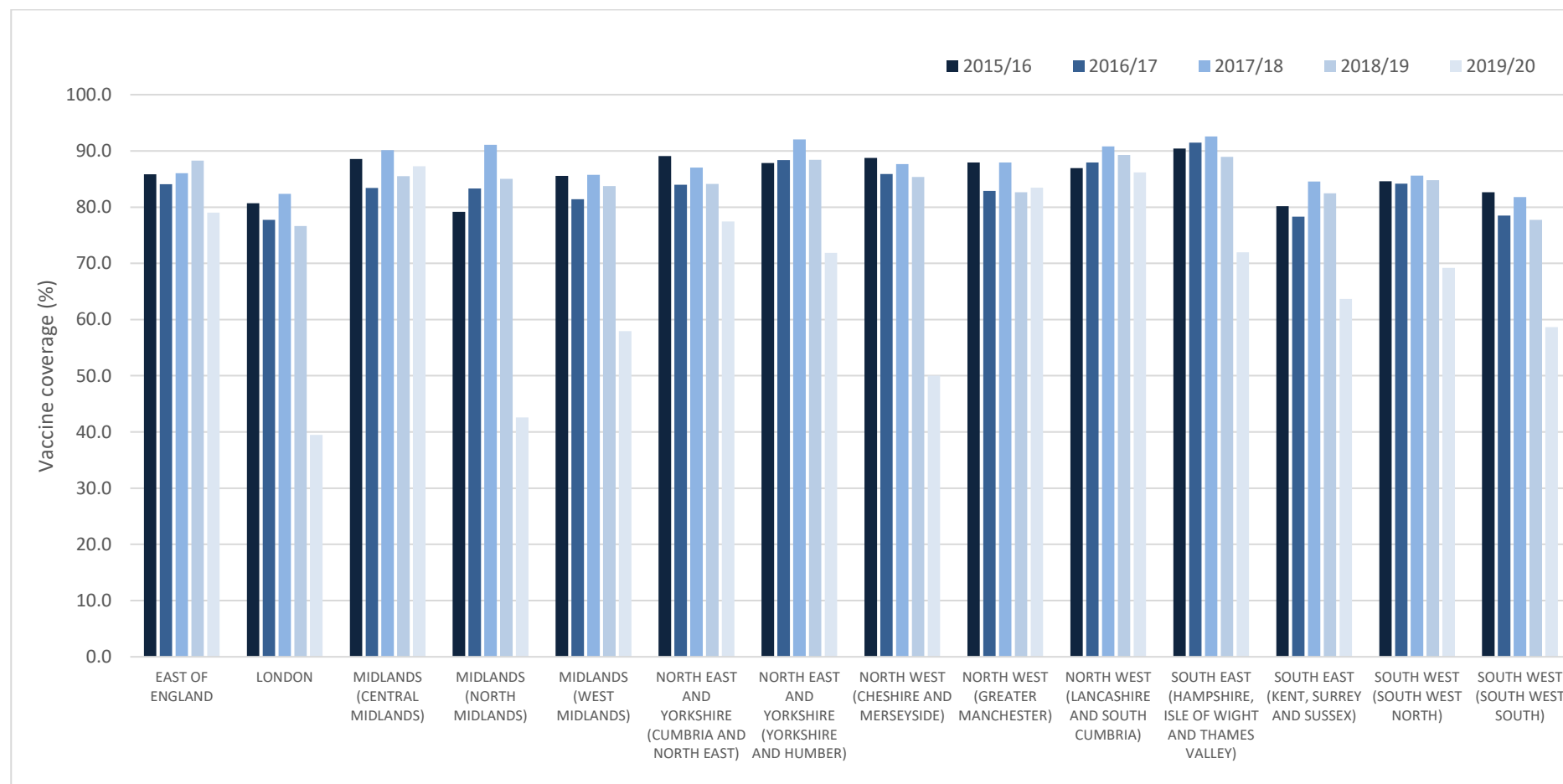
**Figure 1. Dose 1 (priming) HPV vaccine coverage by NHS England Local Team for the routine female cohort (Year 8) in academic years 2014/15 to 2019/20: England**



**Figure 2. Dose 1 (priming) HPV vaccine coverage by NHS England Local Team for the routine female and male cohort (Year 8) in academic year 2019/20: England**



**Figure 3. Dose 2 (completed course) HPV vaccine coverage in females (Year 9) by NHS England Local Team in 2015/16 to 2019/20 (2-dose administered across 2 years): England**



## Factors affecting HPV vaccine coverage estimates in academic year 2019 to 2020

The COVID-19 pandemic led to all educational settings closing from 23 March 2020 (some schools remained partially open for children of key workers) and the delivery of all school-aged immunisation programmes, including HPV, were paused in line with UK government COVID advice.

From 1 June 2020, some schools partially re-opened for some year groups for a mini summer term and all schools fully re-opened in September for the 2020/21 academic year.

All NHSEI-commissioned school-aged providers were asked to implement HPV vaccination restoration and recovery plans. Once the COVID-19 lockdown restrictions were eased, all providers were able to offer some HPV immunisation catch-up ahead of the 2020/21 academic year. Data from these catch-up clinics will only have been partially captured through this annual survey. Therefore, the figures presented in the report should be taken as an estimate of the minimum coverage achieved during the 2019/20 academic year.

In addition, there are some factors that were previously reported in relation to data collected for 2015/16, 2016/17, 2017/18, and 2018/19 reports. All apply to the 2019/20 data.

All data providers were queried whether their submitted figures included vaccinations that took place post 20 March 2020. NHSEI school-aged providers submitting data for 66 LAs responded to this query, of which providers for 47 of these LAs had included post-20 March 2020 data, whereas providers for 19 LAs had not. Therefore, the data presented in the report will cover different time periods and should be interpreted with caution.

Coverage (of 1 and/or 2 doses) may be over- or under-estimated for some LAs due to movement of students in and out of schools during the academic year not being accurately reflected in the denominators and/or numerators for some data providers. Some LA areas have had a change of NHSEI school-aged immunisation providers during the academic years 2018/19 and 2019/20 covered by this survey. This may have temporarily impacted on the delivery of the HPV programme.

An increased denominator (>10%) was observed in 19 LAs for Year 8 females estimate compared to 2018/19, whereas, this was observed in two LAs for Year 9 females compared to same cohort in 2018/19. Consequently, local coverage in some of these areas may appear to be lower than previous years when the cohort size was smaller.

Reasons for large increases in the denominator include:

- inclusion of private schools, independent schools and home educated that may not have been included last year
- amalgamation of two LAs
- change in local providers that may use different data collection methods
- addition of new schools

A decreased denominator (>10%) was observed in 6 LAs for Year 8 females estimate compared to 2018/19, whereas, this was observed in 2 LAs for Year 9 females compared to same cohort in 2018/19. Consequently, local coverage in some of these areas may be slightly inflated where the cohort size was smaller.

Reasons for large decreases in the denominator include:

- changes to boundaries of some LAs
- movement of children out of LAs

Decrease in coverage in LAs this year:

- 116 LAs had not completed HPV vaccination programme and 26 LAs had not begun the HPV vaccination programme by 20 March 2020
- the disruptions cause by COVID-19 impacted the ability to hold large vaccination sessions in schools
- depending on programme status, some NHSEI school-aged immunisation providers paused their programme until the 2020/21 academic year, whereas other areas have continued to vaccinate by setting up drive-throughs, community clinics and catch-up programmes, despite being affected by limited access to schools and social distancing measures
- transient population where children move in and out of the LA

## References/notes

1. JCVI (2008). Statement on human papillomavirus vaccines to protect against cervical cancer (July).
2. PHE, DH, NHS England (2014). Tripartite letter
3. JCVI (2018). Statement on HPV vaccination (July).
4. ImmForm is the system used by Public Health England to record vaccine coverage data for some immunisation programmes and to provide vaccine ordering facilities for NHS England.

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