# Inequalities in immunisations uptake

JSNA Topic Assessment

2024

# Abbreviations

| | |
|---|---|
| ADPHL | Association of Directors of Public Health for London |
| BSL | British Sign Language |
| CCG | Clinical Commissioning Group |
| COVID-19 | Coronavirus disease 19 |
| COVER | Cover of vaccination evaluated rapidly |
| EMIS | Egton Medical Information Systems |
| GP | General Practitioner |
| HPV | Human Papilloma Virus |
| ICB | Integrated Care Board |
| ICS | Integrated Care System |
| IMD | Index of Multiple Deprivation |
| JCVI | Joint Committee on Vaccination and Immunisation |
| JSNA | Joint Strategic Needs Assessment |
| LD | Learning Disabilities |
| LSOA | Lower super output area |
| MECC | Making Every Contact Count |
| MMR | Measles Mumps & Rubella |
| NHS | National Health Service |
| NHSE | NHS England |
| OECD | Organisation for Economic Cooperation and Development |
| OHID | Office for Health Improvement & Disparities |
| ONS | Office for National Statistics |
| PCV | Pneumococcal vaccine |
| PHE | Public Health England |
| PCN | Primary Care Network |
| QOF | Quality and Outcomes Framework |
| RCT | Randomised Control Trial |
| SAIS | School Aged Immunisation Service |
| SEL | South East London |
| SMI | Severe Mental Illness |
| UK | United Kingdom |
| UK HSA | UK Health Security Agency |
| WHO | World Health Organisation |

# Executive summary

This report provides an overview of routine immunisation coverage and uptake in Lewisham, highlighting local and national trends. Alongside this are detailed analyses examining the variation in MMR and prenatal pertussis vaccination uptake, given the recent rise in cases nationally. Through this in-depth analysis, supplemented with local insight, the possible barriers to uptake and approaches to improve uptake is discussed.

**Key findings:**

- Lewisham's vaccination uptake, while generally mirroring London's trends, consistently falls below national targets across both childhood and adult immunisations.
- Uptake of most childhood vaccinations experienced a decline from 2018 onwards, worsening during the COVID-19 pandemic (2020-2022).
- Positive post pandemic recovery seen in many of the childhood vaccinations, particularly D3 (DTaP/IPV/HiB (D3), Hib/MenC, first dose of MMR and HPV vaccinations in females.
- Despite catch-up efforts, recovery to pre-pandemic vaccination levels remains incomplete in some programmes particularly in the adult programmes e.g. flu and shingles and prenatal pertussis, and some of the childhood programmes e.g. HPV for males and MenACWY
- London exhibits the lowest MMR vaccination coverage, a trend mirrored particularly in Lewisham's second dose of MMR, which raises concerns about potential measles outbreaks.
- Inequalities in vaccination uptake were observed among different ethnic groups and socioeconomic backgrounds for MMR and prenatal pertussis.
- Data inconsistencies, stemming from factors like population mobility and outdated GP records, pose challenges to accurate vaccination coverage measurement in Lewisham.

**Barriers to vaccination uptake:**

- **Informational barriers:** Insufficient information on vaccine benefits and side effects, lack of trust in information sources, and confusion caused by conflicting local and national vaccine schedules.
- **Practical barriers**: Inconvenient appointment times and difficulties navigating appointment booking systems, particularly for families from low socioeconomic backgrounds.
- **Technical barriers**: Data inaccuracies and outdated records due to population mobility. These inaccuracies underestimate vaccination rates, making it difficult to identify and address inequalities.
- **Social and cultural barriers**. Stemming from historical mistrust in the medical profession, particularly among minority ethnic communities due to past discriminatory practices. Vaccine hesitancy is also fuelled by misinformation and lack of trust in government institutions.

**Enablers to vaccination uptake:**

- **Reliable information**: Clear, accurate, and accessible information that addresses community-specific concerns can combat misinformation and build trust.

- **Working with trusted organisations and people**: Collaborating with trusted organizations, community leaders, and utilizing community networks are essential for engaging communities and building confidence in vaccination programs.
- **Improved access**: Improving access involves offering vaccinations in various locations, including community centres, pharmacies, and mobile units, with flexible appointment times to accommodate busy schedules.
- **Primary care workforce**: Primary care improvements include implementing robust call and recall systems, offering opportunistic vaccinations, and providing training for healthcare professionals on effective communication and engagement strategies to address vaccine hesitancy.

To improve immunisation uptake in Lewisham, a key focus must be on tackling informational barriers by providing clear, consistent, and accessible information about vaccines in commonly spoken languages, especially regarding variations in local schedules. Strengthening collaboration among healthcare providers, local authorities, community organisations, and trusted figures is crucial. Good practice examples highlight that successful interventions require a multi-pronged approach that combines practical solutions with efforts to build trust, address misinformation, and empower individuals to make informed decisions about their health and the health of their children. Through this a significant impact can be made towards increasing the coverage of routine immunisations and improving outcomes for all residents of Lewisham.

# Contents

# Background

The UK immunisation programmes are some of the most comprehensive in the world. England has historically performed well across both life-course and seasonal vaccinations. We achieve among the highest rates of flu vaccination in the world (1) and it is estimated that the introduction of HPV (Human Papillomavirus) vaccination for school children could prevent 110,000 cases of cancer by 2058. (2)

In recent years the UK has seen a decline in immunisation performance, not reaching population coverage targets for childhood immunisations, and losing our measles elimination status due to re-established endemic transmission. There is significant variation in uptake and coverage of the vaccine between different communities that reflect wider health inequalities. Historically, Lewisham has not achieved its immunisation targets. We need to continue to build on the decades of successful immunisation delivery in the country, coupled with the lessons from the last 3 years of the NHS COVID-19 vaccination programme to increase overall uptake and coverage of vaccinations and reduce disparities within this. (3)

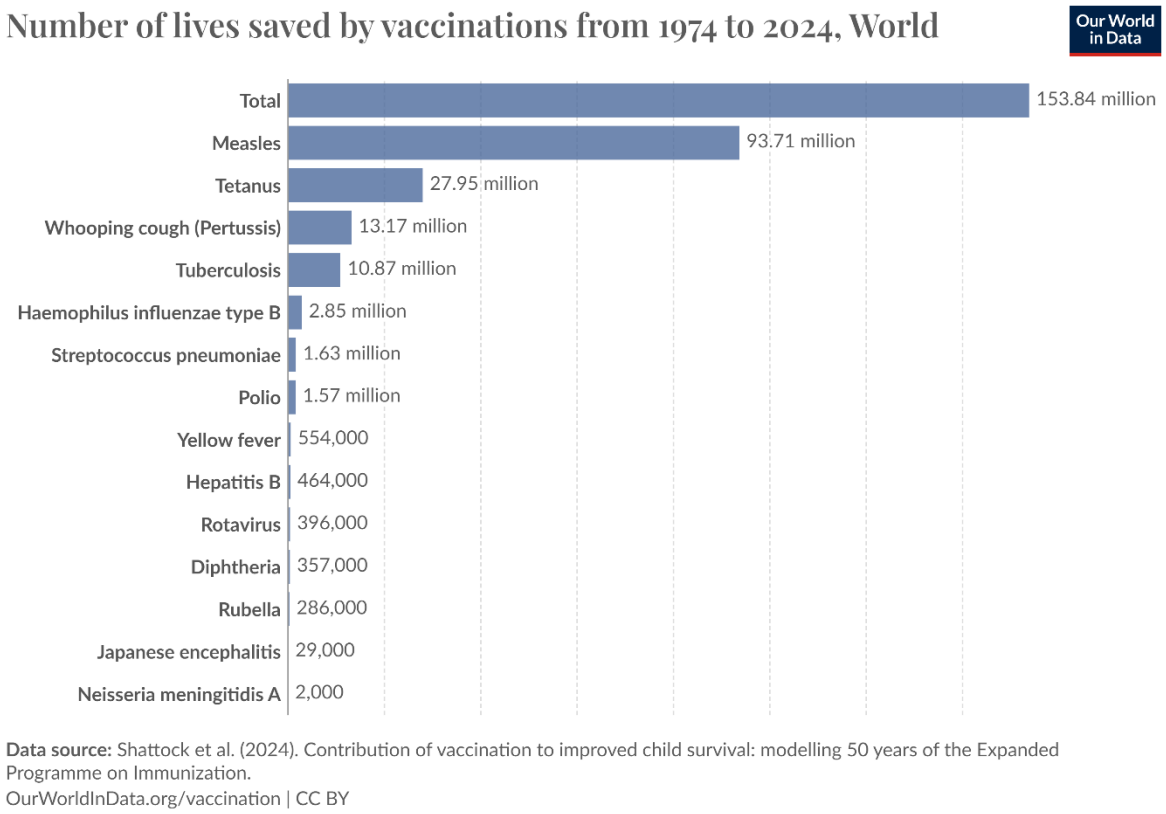
Given this, this needs assessment was prioritised to seek to understand and reduce the barriers that may mean people do not engage with an offer to or participate in immunisation programmes or who are otherwise disadvantaged.

Data sources were from a combination of local and national data from UK Health Security Agency (UKHSA) ImmForm extracted from the COVER (Cover of vaccination evaluated rapidly) programme, Office for Health Inequalities and Disparities (OHID) public health profiles as well as some regional and local reports. This was complimented by service data from Lewisham's Population Health Management System (Oracle).

# Introduction

Immunisations save millions of lives each year, currently preventing 3.5 to 5 million deaths every year from diseases like diphtheria, tetanus, pertussis and measles. Vaccines are critical to the prevention and control of infectious disease outbreaks, underpinning global health security.

Infants have seen the biggest benefit of vaccine development over the last 50 years, with infant mortality rate plummeting from around 10% in 1974 to less than 3% - 40% of this decline is said to be thanks to vaccines. (4)




**Source:** HR, Vaccines have saved 150 million children over the last 50 years, May 2024 OurWorldInData (4)

The World Health Organization (WHO) recommends that, on a national basis, at least 95% of children are immunised against vaccine-preventable diseases and these diseases are targeted for elimination or control. There is an expectation that all UK routine childhood immunisations that are evaluated up to five years of age achieve the 95% coverage in line with the WHO target. In 2022/23, for the fifth consecutive year, none of the routine vaccinations met this target in the UK. (5)

## Policy context

### *Global and national*

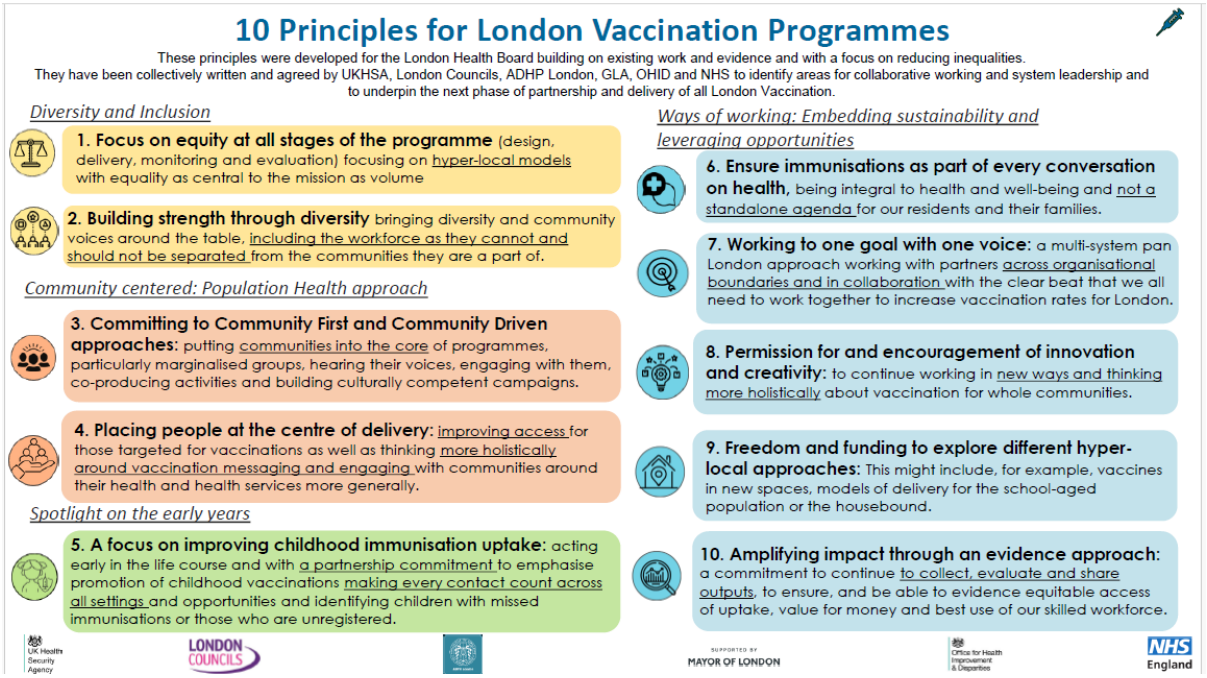
Improving immunisation uptake is a global and thus a national priority. Below is a list of some of the most recently published global and national strategic plans to achieve this.

**Table 1: A list of global and national policies relating to prevention of ill health through use of immunisation**

| Relevant policies | Most relevant strategic priority or target |
|---|---|
| WHO's Immunization Agenda 2030: A Global Strategy to Leave No One Behind (April 2020) (6) | Strategic priority 3: Coverage and Equity.<br><br>Goal: Everyone is protected by full immunization, regardless of location, age, socioeconomic<br>status or gender-related barriers. |
| NHS vaccination strategy, December 2023 (7) | Theme 1: Simple, convenient and efficient front door to service<br><br>Theme 2: Targets underserved populations through data-driven, focused outreach |
| UKHSA strategic plan 2023 to 2026: securing health, saving lives and protecting livelihoods. July 2023 (8) | Strategic priority 2: Improve health outcomes through vaccines. |

### *Regional*

The London Immunisation Board is developing a London Immunisation Strategy, underpinned by a set of Ten Principles for London Vaccination Programmes (9):




**Source:** Created by London Legacy and Health Equity Partnership (LHEP), NHS England (9)

The Association of Directors of Public Health (ADPH) for London developed a Vaccine Engagement Checklist for Local Authorities (2022) in collaboration with local authority public health teams as part of a 'Sector Led Improvement' project to collect 'lessons learnt' from the COVID-19 vaccine programmes. (10)

#### *Local*

Since 2013, NHS England have been responsible for commissioning immunisation programmes in Lewisham. The Director of Public Health, along with their public health team is however responsible to ensure that these programmes are delivered to a high standard, that coverage is adequate amongst their local population and have a key role in quality assurance and safety of vaccination. Improving uptake of immunisations are prioritised in local strategies, such as Lewisham's Health and Wellbeing Strategy 2015-18 (11) and Lewisham's children and young people's plan 2019-22 (Priority 2) (12).

As part of South East London's Integrated Care Systems Integrated Strategic Priorities for 2023-28, Prevention and Wellbeing is the first strategic priority, of which increasing the rates of vaccinations is part, with particular focus on reducing inequalities experienced by marginalised communities. (13)

### Objective

We seek to identify unmet need and provide recommendations for future actions to enhance delivery and uptake of immunisations.

This Joint Strategic Needs Assessment (JSNA) topic assessment outlines the trends in vaccination coverage in routine childhood and adult immunisations, as well as providing an in-depth analysis of the below immunisations, namely:

- Measles mumps and rubella (MMR) vaccine offered at 12 (MMR1) and 18 months (MMR2)
- Prenatal pertussis vaccine also known as the whooping cough vaccine for pregnant women and birthing people.

## Immunisations overview

### Vaccines and herd immunity

Vaccines help people's immune systems to create antibodies that protect them from the disease, and once it has learnt to fight a disease it can often provide lifelong protection. This protection is not limited to individuals, but in some cases, namely for infectious diseases e.g. measles, being vaccinated can offer protection at community and population levels. (14)

When a high proportion of the population is vaccinated against a certain disease, it makes it hard for the disease to spread. This is known as 'herd immunity'. This offers protection to more vulnerable people such as newborn babies, elderly and those who are very sick or immunocompromised who are unable to be vaccinated. (15)

If the proportion of the population falls below that which is needed for herd immunity, the disease will begin to spread again so it is important to maintain vaccinations levels in the population. In the UK there is a robust surveillance system in place, overseen by the UK Health Security Agency (UK HSA), who records the vaccinations that adults and children receive and the number of cases of notifiable diseases each year. This informs the Joint Committee on Vaccination and Immunisation (JCVI) on whether any changes to the routine vaccination programmes needs to be made.

## Local delivery

Since the Health and Social Care Act 2012, NHS England is responsible for the routine commissioning of national immunisation programmes. In London, commissioning of immunisation programmes is done by the NHS England (London) immunisation commissioning team.

Lewisham public health team have a responsibility to provide information and advice to relevant bodies within its area to protect the population's health. The Director of Public Health will provide independent scrutiny and challenge of the arrangements of NHS England, UK HSA and providers. This is done in Lewisham through Lewisham Immunisations Partnership Group, which oversees the statutory population and priority screening programme delivery. ADPH London Immunisation Network provides opportunity to share best practice across the capital.

The routine childhood immunisation programmes are delivered by GPs. The school aged and adolescent immunisation services are provided by Kingston and Richmond NHS Foundation Trust through the South London Children's and Young People Community Immunisation Service (CYPCIS). Both NHS England and UK HSA ensure that all providers have access to training that meets nationally agreed standards. Most routine queries from the public about immunisations are addressed by providers within the scope of Immunisation against infectious diseases ('the Green Book'). (16) Providers are encouraged to answer queries from the public within this remit.

## Childhood immunisations

Please see the full childhood immunisation schedule in Appendix A.

Since the previous JSNA on immunisations in 2018 (17) the Joint Committee on Vaccination and Immunisation (JCVI) has implemented some changes to the childhood immunisation schedule:

- PCV (pneumococcal vaccine) first dose now given at 12 weeks old rather than 8 weeks and booster dose at 12 months rather than 4 months for all babies born on or after the 1 January 2020 (18)
- HPV now given to year 8 boys aged 12 to 13 years as well as year 8 girls (19) from September 2019
- HPV vaccine is now given as a single dose (20) from September 2023

In November 2022, the JCVI also advised the following changes to the childhood immunisation schedule, once the current supply of Menitorix © (Hib/MenC) vaccine has been used (estimated. 2025) as it is being discontinued, so some of these changes are yet to be in effect nationally (21):

- an additional dose of Hib-containing multivalent vaccine (such as the DTaP/IPV/Hib/HepB which is also given earlier in infancy) should be given at 18 months
- the second dose of MMR vaccine should be brought forwards from 3 years 4 months to 18 months of age
- due to the success of the adolescent MenACWY programme in controlling meningococcal C disease across the population a dose of meningococcal C containing vaccine is no longer recommended at 12 months

In November 2023, the JCVI also made a recommendation for the introduction of a universal varicella (chickenpox) vaccination to the routine childhood schedule. This is yet to be rolled out.

## Summary facts, figures, and trends

**Key definitions:**

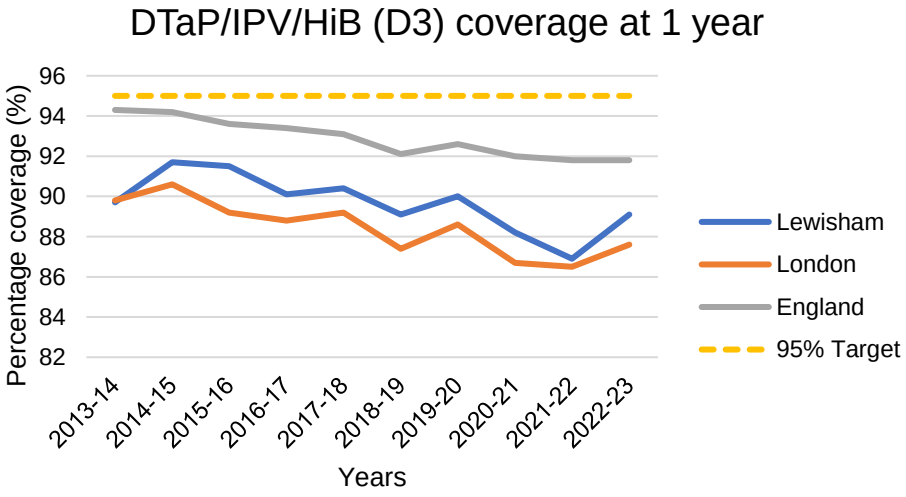
- **Immunisation:** Immunisation means both receiving a vaccine and then becoming immune to a disease
- **Vaccination:** The act of introducing a vaccine into the body to produce protection from a specific disease.
- **Vaccination coverage:** Vaccination coverage is the proportion of the eligible population receiving recommended vaccines by the recommended age.
- **Vaccination uptake:** Vaccine uptake is the absolute number of eligible people vaccinated with a certain dose of the vaccine in a certain time period.

Figures 1 to 9 show the trends in uptake of key childhood immunisations between 2013 and 2023. MMR vaccinations (doses 1 and 2) are covered separately in more depth from page 20 (Figures 10 to 20).

### *D3 (DTaP/IPV/HiB (D3) at 1 year*

Uptake of the third dose of Diphtheria vaccine (D3) is an indicator of completion of the primary course of immunisation of children under 12 months that aims to protect children against diphtheria, tetanus, whooping cough, polio, Haemophilus influenza b and Group C Meningococcus.

**Figure 1: Percentage coverage of DTaP/IPV/HiB (D3) coverage at 1 year from 2013 to 2023**




**Source:** ImmForm via Childhood vaccination coverage dashboard, local authority time series, NHS England Digital (22)

Figure 1 shows that D3 coverage remained stable between 2013 and 2017, however from 2018 coverage saw a slight decline, which became more pronounced during the years of the COVID-19 pandemic (2020 – 2022). Lewisham D3 coverage remains above the London average and below the England average, with coverage recovering somewhat in 2022-23 with Lewisham achieving coverage of 89.1%, London 87.6% and England 91.8%; all are below the national target coverage of 95%. (22, 23)

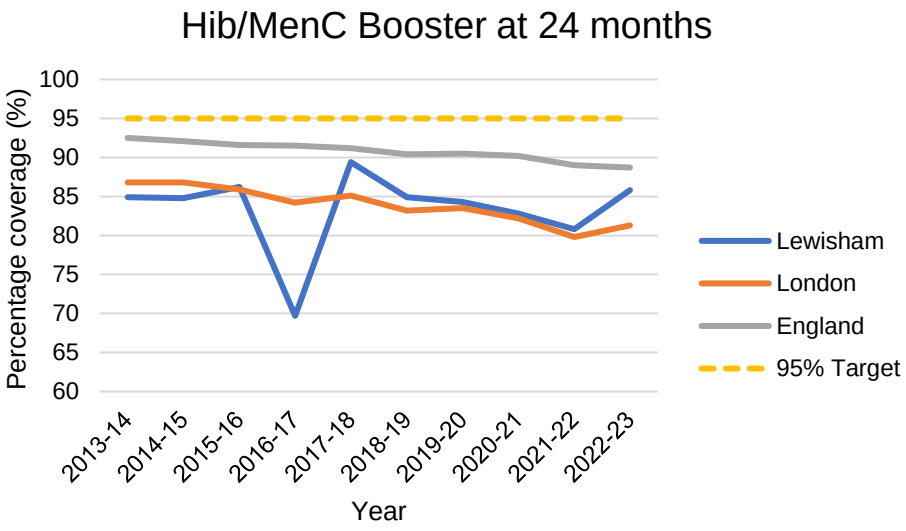
### *MMR (12 months and 5 years)*

Covered in subsequent deep dive.

### *Hib/MencC Booster (24 months)*

Given at 12 months, the Hib/MenC Booster aims to protect children against Haemophilus influenza B, Group C Meningococcus and pneumococcus.

**Figure 2: Percentage coverage of the Hib/MenC Booster in the age 2 cohort from 2013 to 2023**



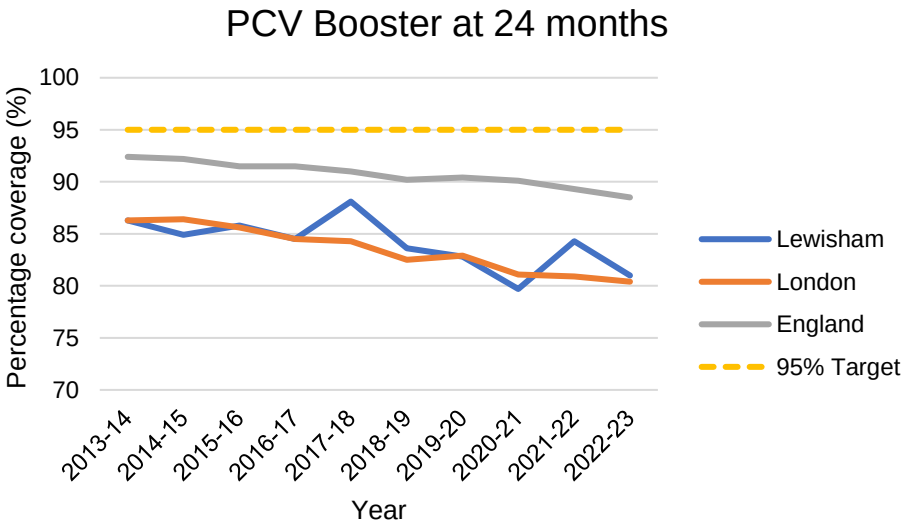

**Source:** ImmForm via Childhood vaccination coverage dashboard, local authority time series, NHS England Digital (22)

Figure 2 shows that coverage of the Hib/MenC booster has remained fairly constant in Lewisham around the 85% mark, except for a major drop in 2017 and slight decline during the COVID-19 pandemic. This has seen some recovery in 2022-23 with Lewisham doing better than London at 85.8% coverage compared to 81.3% but is below the England average of 88.7% (22, 23). However, this vaccine (Menitorix ©) has been discontinued and is not being replaced once it runs out (estimated to be in 2025), due to the success of the adolescent MenACWY programme in controlling meningococcal C disease across the population. However, an alternative Hib-containing multivalent vaccine will be offered at 12 or 18 months of age. (21)

### *PCV Booster (24 months)*

The pneumococcal vaccine (PCV) aims to protect against serious illnesses like pneumonia, sepsis and meningitis. For babies born on or after the 1st January 2020 the vaccination schedule has changed. The first dose is now given at 12 weeks old rather than 8 weeks and booster dose at 12 months rather than 4 months.

**Figure 3: PCV Booster in Age 2 cohort from 2013 to 2023**



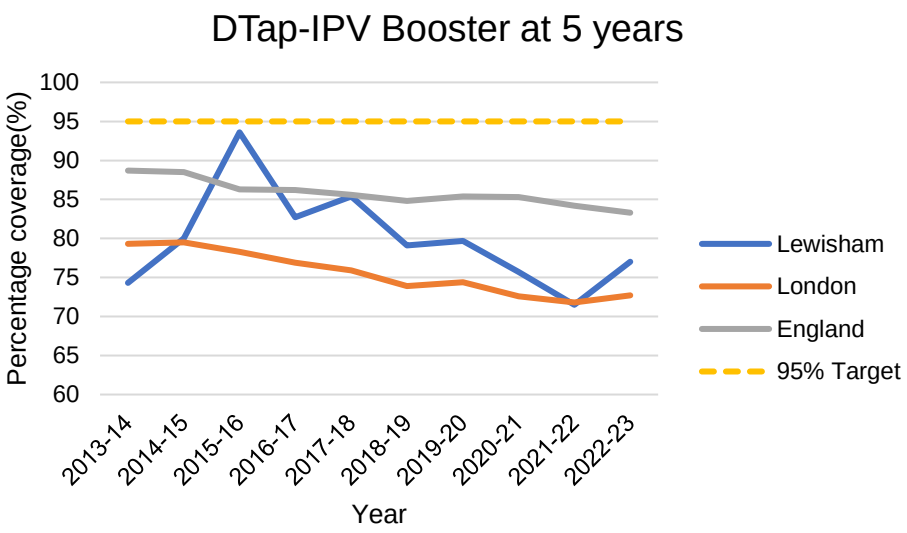

**Source:** ImmForm via Childhood vaccination coverage dashboard, local authority time series, NHS England Digital (22)

Figure 3 shows that over the last 10 years there has been a slow but steady decline in the coverage of the PCV booster vaccination nationally and regionally. Lewisham has experienced similar coverage to London, except for 2017-18 and 2021-22 where Lewisham did better than London. As of 2022-23, Lewisham achieved 81% coverage, similar to London at 80.4% but lower than England at 88.5%; all are below the national target coverage of 95%. (22, 23)

### *DTap-IPV Booster (D4) for the Age 5 cohort*

This booster contains the fourth dose of diphtheria vaccine. It is a key component of the preschool booster, which should be given at any time from the age of 3 years and 4 months and before the child starts school. The preschool booster completes the protection of children against diphtheria, tetanus, whooping cough and polio.

**Figure 4: Percentage coverage of the DTap-IPV Booster for the Age 5 cohort from 2013 to 2023**




**Source:** ImmForm via Childhood vaccination coverage dashboard, local authority time series, NHS England Digital (22)

Figure 4 shows that coverage for the D4 in Lewisham has predominantly been above London levels since 2014. However, coverage saw a dramatic decline since peaking at 93.6% in 2015-16. The lowest coverage of 71.5% was seen in 2020-21 during the COVID-19 pandemic. D4 coverage is still yet to recover to pre-pandemic levels. (22, 23)

### *Influenza vaccine (in children)*

The national flu immunisation programme eligibility is reviewed and published each year. In recent years, due to the COVID-19 pandemic, there has been some fluctuation in eligibility, with some years seeing an extension of the programme to wider cohorts.

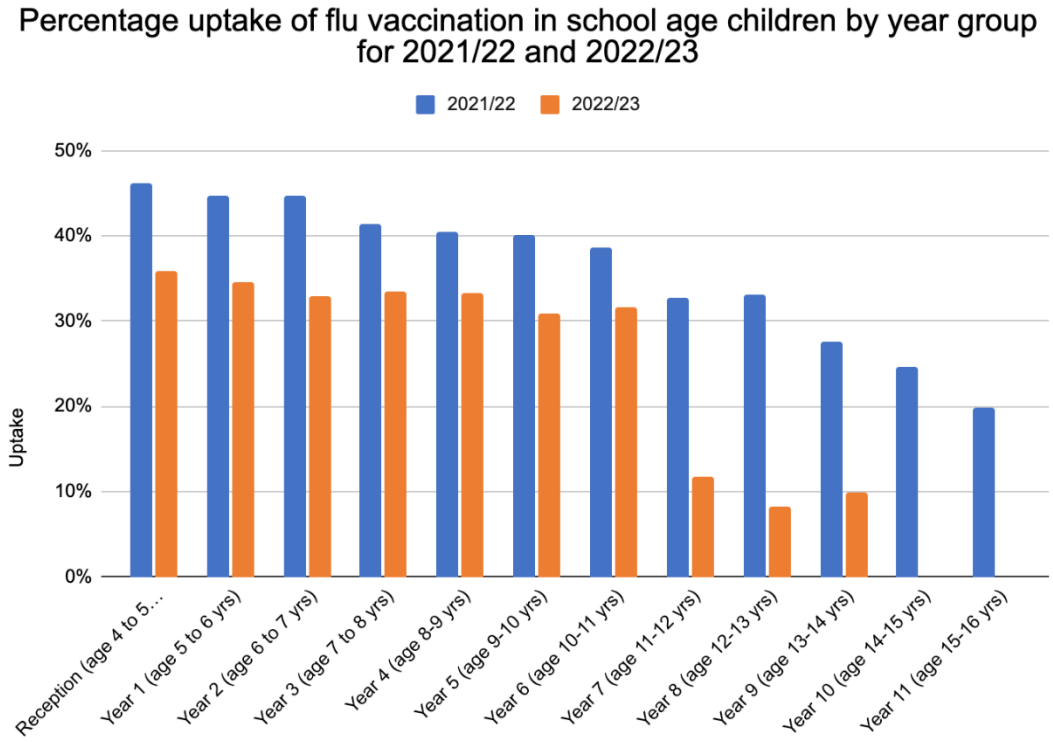
As of 2024/25, children from the age of two upwards are now offered the flu vaccine in the form of a nasal spray to help protect them from catching and spreading flu. The vaccine is offered to (24):

- 2 and 3 year olds through general practice
- primary school aged children (Reception to Year 6)
- secondary school aged children (Year 7 to 11) and
- all children in clinical risk groups aged from 6 months to less than 18 years

Flu vaccine uptake (%) in children aged 2 to 3 years in Lewisham (2022-23) was 38%, lower than England (43.7%). (25)

Percentage uptake of flu vaccination in the eligible cohort in school age children was 45% for primary school and 25.6% in secondary school as of 7th Jan 2024. In South East London overall, uptake was 47.8% in primary school and secondary school 31.9%. (26)

**Figure 5: Percentage uptake of flu vaccination in school age children by year group for 2021/22 and 2022/23**




**Source:** SAIS weekly flu submissions (26)

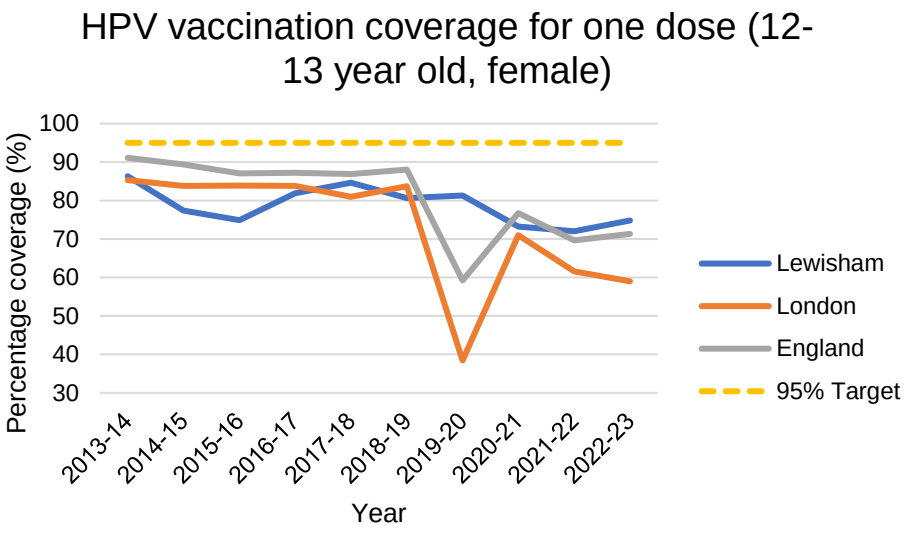
Figure 5 shows steady uptake in primary school aged children, with only slight decrease in uptake as they progress through the school year groups (up to Year 6). In 2021/22 the annual flu vaccination was offered to additional cohorts due to the COVID-19 pandemic, which saw secondary school-aged children, focusing on years 7 to 9 offered the flu vaccination, with years 10 and 11 offered subject to availability of remaining vaccine, hence the lower uptake in the older year groups. During the COVID-19 pandemic, uptake of the flu vaccination in children was higher. In 2022/23 the flu vaccination uptake reduced in school aged children by about 10%. (26) Eligibility criteria for the programme changed again, with the flu vaccination only offered to years 7, 8 and 9 in Secondary Schools during this season, hence no data is recorded for year groups 10 and 11. (27) For the 2024/25 eligibility has extended again to include secondary school aged children (Years 7 to 11). (24)

### *HPV*

The HPV vaccine helps protect against human papillomavirus (HPV), a common virus that's spread through skin contact (usually when having sex). Most types of HPV are harmless. But some types are linked to an increased risk of certain types of cancer. The HPV vaccine is recommended for children aged 12 to 13 years old and people at higher risk from HPV.

The HPV vaccine schedule has changed over the years. It was introduced initially to year 8 girls in 2008. Then in September 2019, the vaccine was extended to year 8 boys, due to evidence that the HPV vaccine helps protect both boys and girls from HPV related cancers. The dosage also changed from 3 does to 2 in 2014 and now down to 1 dose as of September 2023. (28)

**Figure 6: HPV vaccination coverage for one dose (12–13-year-old, Female)**

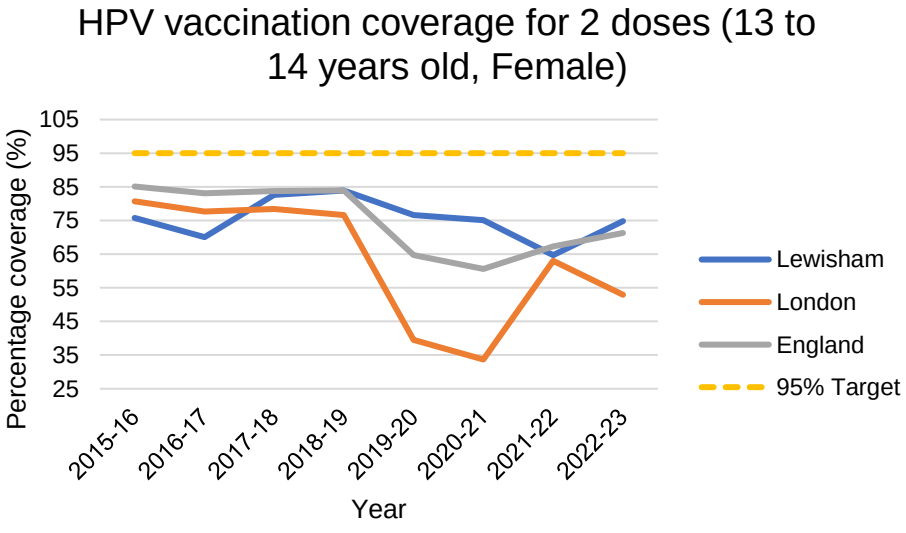



**Source:** Population vaccination coverage: HPV, collected on ImmForm (UKHSA), extracted via Public Health Profiles, Office for Health Improvement and Disparities (29)

Figure 6 shows that coverage for one dose of the HPV vaccine in 12-13 year old females was lower than London and England, between 2014 and 2017 but it then improved and stabilised around 80-85% until the COVID-19 pandemic hit in 2020. (28, 29)

In March 2020, schools were closed in the first national lockdown. Throughout the 2020 to 2021 academic year school attendance rates in England were lower than normal and in January 2021 schools were closed to all, except children of key workers and vulnerable children, with a phased reopening of secondary schools from March 2021, full restrictions lifted in February 2022. Lewisham managed to sustain higher HPV vaccination coverage during this period compared to regional and national coverage, as Lewisham put on additional catch-up clinics in the community to enable children to get their HPV vaccination. HPV vaccine coverage in 2021-22 saw some improvement nationally but yet to return to pre-pandemic levels. (28, 29)

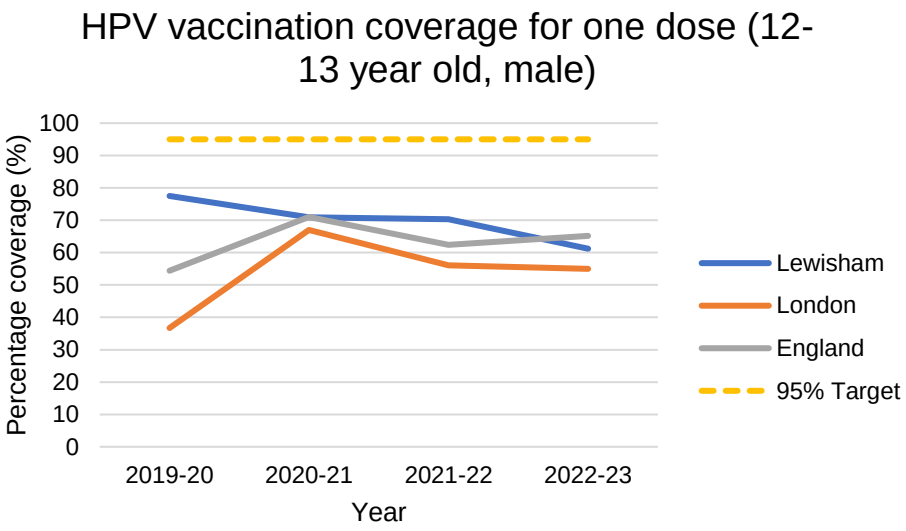
**Figure 7: HPV vaccination coverage for two doses (13–14-year-old, Female)**




**Source:** Population vaccination coverage: HPV, collected on ImmForm (UKHSA), extracted via Public Health Profiles, Office for Health Improvement and Disparities (29)

There has typically been higher uptake of the first dose of the HPV vaccine than subsequent doses over time in England. Figure 7 shows London saw a significant decline in coverage for 2 doses of the HPV vaccine during the COVID-19 pandemic, compared to Lewisham and the rest of England. Coverage for 2 doses of HPV vaccine is recovering to pre-pandemic levels.

**Figure 8: HPV vaccination coverage for one dose (12-13 year old, Male)**




**Source:** Population vaccination coverage: HPV, collected on ImmForm (UKHSA), extracted via Public Health Profiles, Office for Health Improvement and Disparities (29)

Figure 8 shows that, since being introduced to boys in September 2019, coverage of one dose of the HPV vaccination has been relatively steady, falling slightly during the COVID-19 pandemic. For 2022-23 Lewisham had 61.2% coverage, higher than London (55%) and similar to England (65.2%). (28, 29)

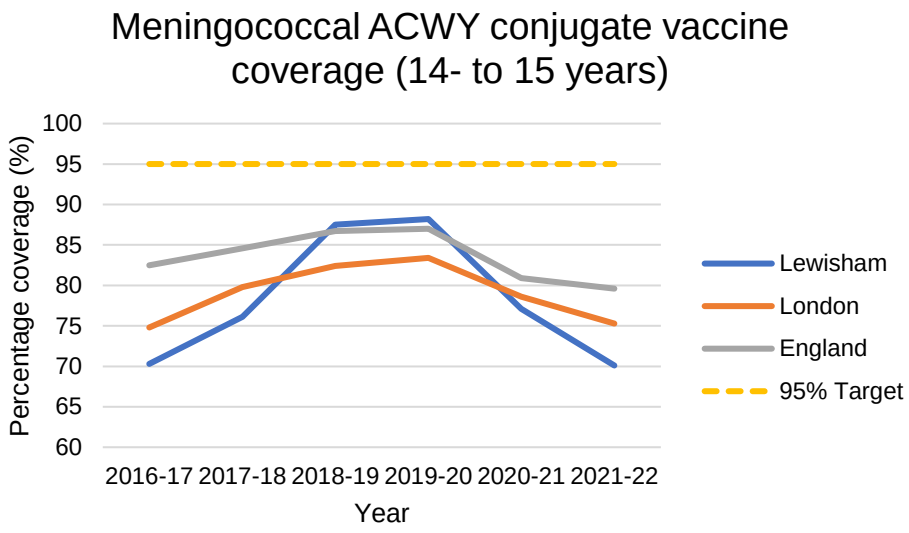
### Inequalities in HPV vaccination uptake

As part of the HPV vaccination uptake analysis, a data extraction from the GP patient record system via the Oracle Population Health System was carried out to look at the demographics of children receiving an HPV vaccination aged 13 years old and registered with a Lewisham GP between 2022 and 2023. There was no significant difference in uptake of the HPV vaccine by gender, indices of multiple deprivation or primary care network. However, there was a significant difference in uptake between some ethnic groups in 2022, with proportions of eligible children vaccinated for HPV of white ethnicity being greater than the proportions of children vaccinated for HPV of black and mixed ethnicity. However, this difference was not sustained in 2023. (30)

### *MenACWY (14-15 years)*

The MenACWY vaccine was introduced in 2015 to respond to a rapid and accelerating increase in cases of invasive meningococcal group W (MenW) disease and was added to the routine adolescent schools programme (school year 9 and 10) from Autumn 2015.

**Figure 9: MenACWY vaccination coverage for the adolescent (14-15 year) cohort**




**Source:** Population vaccination coverage: MenACWY 2022/23 (collected by UKHSA) extracted via Public Health Profiles, Office for Health Improvement and Disparities. (31)

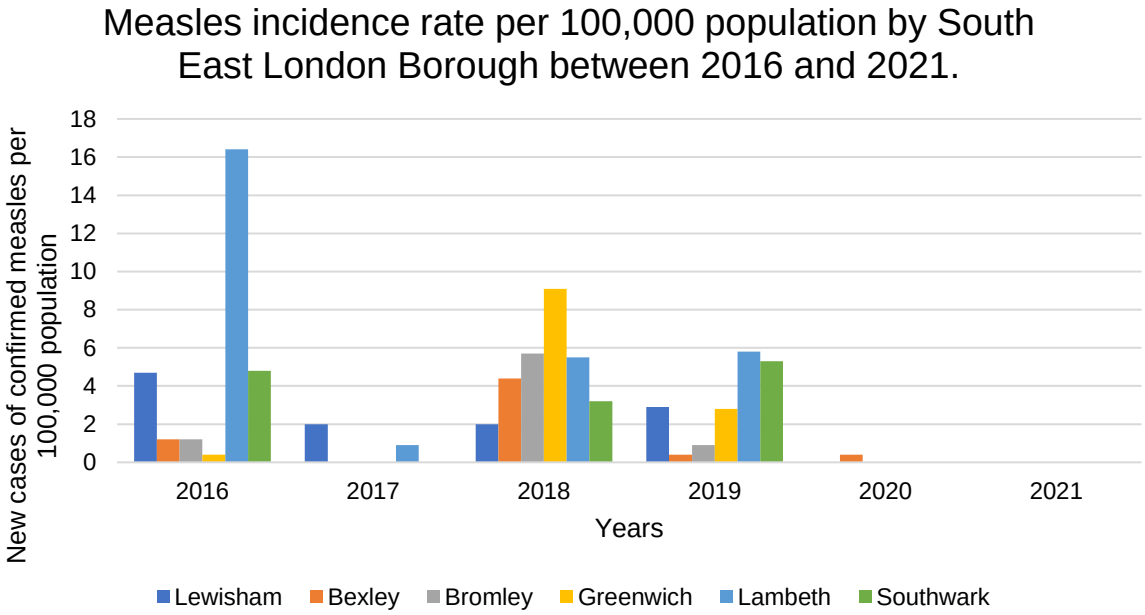
Figure 9 shows that Lewisham was doing well with MenACWY coverage between 2018 and 2020 hitting levels above London and in line with England above 85%. However, it saw a steep decline during the COVID-19 pandemic, falling to 70.1% in the year 2021-22. (31)

## Deep dive: MMR vaccination

In recent years, uptake of the MMR vaccination has gradually fallen, followed by a sharp decline during the COVID-19 pandemic, worsening immunity gaps. Due to the travel and social restrictions in place during the COVID-19 pandemic the incidence of measles in England was dramatically reduced.

Figure 10 illustrates the measles diagnosis rate per 100,000 from 2016 to 2021 across the South East London Boroughs. South East London has experienced high rates of new cases of measles over the years, particularly Lambeth in 2016 and Greenwich in 2018. However, through some improvements in the MMR vaccination rate following these peaks, coupled with reduced transmission during the COVID-19 pandemic due to the restrictions in movement and social distancing the numbers fell. (32)

**Figure 10: Measles incidence rate per 100,000 by South East London Borough between 2012 and 2021**




**Source:** Measles incidence (UKHSA) via Public Health Profiles, Office for Health Improvement and Disparities. (32)

However, since 2022 there has been a resurgence of measles cases globally, particularly in South Asia and Africa and in the UK, as there has become an accumulation of un- and under-vaccinated children. (33)

In February 2023, WHO Europe called for urgent action in all countries to implement catch-up of children and adults who missed MMR vaccine doses in order to prevent a resurgence of measles. (34)

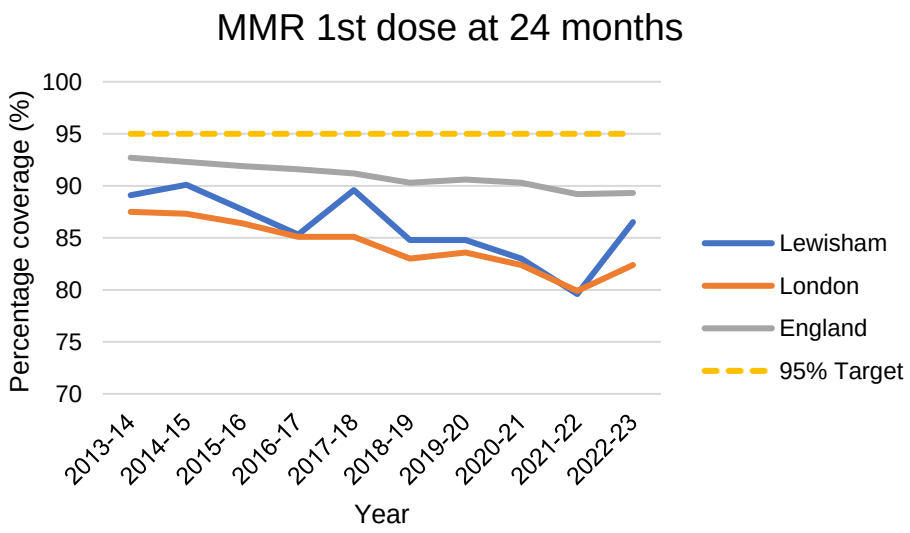
There is a high risk of imported cases leading to outbreaks in specific population groups and geographies (London and other inner-city areas) with some risk of limited spread to the wider community. There are also inequalities in vaccine uptake by ethnicity, deprivation and geography and the burden of measles falls disproportionately on under vaccinated communities. (35)

## MMR vaccination coverage

### *MMR 1*

MMR aims to protect children against measles, mumps and rubella. Two doses are required: the first dose (MMR 1) is given at 12 months and the second dose (MMR 2) is given at 18 months in Lewisham like other South East London Boroughs. This differs from the national schedule of 3 years and 4 months. However, the JCVI has recommended MMR 2 be brought forward to 18 months nationally.

**Figure 11: Percentage coverage of MMR1 for the age 2 cohort from 2013 to 2023**




**Source:** Childhood vaccination coverage dashboard, local authority time series taken from COVER [Childhood Vaccination Coverage Statistics, England, 2022-23 - NHS England Digital]

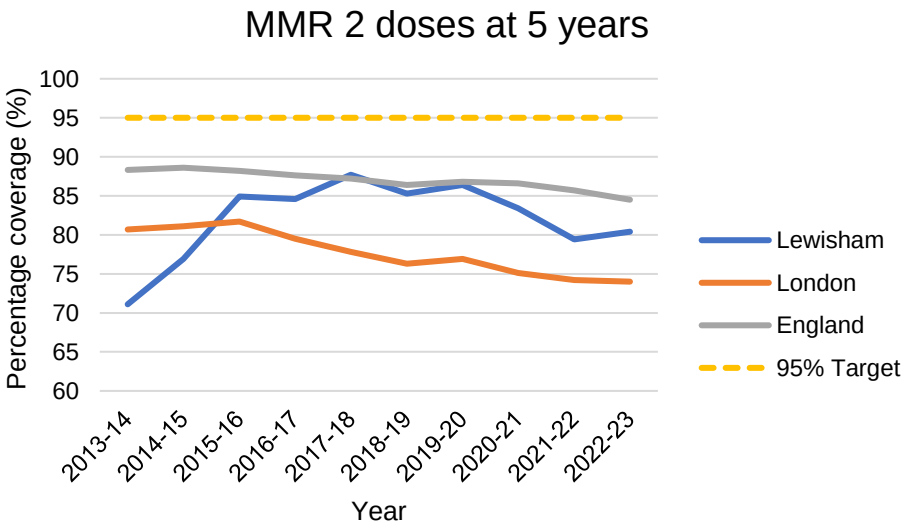
Figure 11 shows that MMR1 coverage saw a decline between 2015 and 2017, dropping 5% from 90.1% to 85.1%. Coverage improved back to 90% in 2017-18. However, it saw a steep decline there after over 2019 to 2022, with lowest coverage during the COVID-19 pandemic reaching 79.9%. Lewisham has seen a similar trend to London over the past 10 years, generally sitting slightly above the London average but below England.

### *MMR2*

Lewisham was one of the first boroughs who decided to offer an accelerated dose (initially at 15 months and later all South East Boroughs agreed to offer at 18 months) for MMR2, when the guidance in the Green Book said it was safe to deliver anytime 3 months after the first dose and the JCVI was recommending 3 years and 4 months, as a pre-school booster. Lewisham colleagues presented at webinars on their approach to other boroughs and were invited to present as a case study of the accelerated dose at a Parliamentary roundtable exploring opportunities to recover MMR vaccine uptake in London and the South East. This helped advocate for the JCVI to bring the second MMR dose forward, which is now being recommended.

MMR2 coverage has historically been lower than MMR1 and this pattern has continued. Figure 12 shows that currently, Lewisham's MMR 2 coverage is sitting at 80.4% (compared to 86.5% for MMR1), higher than London at 74.0% but lower than England at 84.5% Your indicator lists - OHID (phe.org.uk) (19) ; all are below the national target coverage of 95%. Over 99% of those who have 2 doses of the vaccine will be protected against measles and rubella. Although mumps protection is slightly lower, cases in vaccinated people are much less severe (gov.uk).

**Figure 12: Percentage coverage of MMR 2 for the age 5 cohort from 2013 to 2023**




**Source:** ImmForm via Childhood vaccination coverage dashboard, local authority time series, NHS England Digital (22)

Figure 12 shows that Lewisham saw the lowest coverage for MMR2 in 2013-14 at 71.1%, almost 10% below the London average and 17% below the England average. Significant progress was made over the following 5 years, reaching coverage of 87.2% in 2017-18, more in line with the England average. This remained until the years of the COVID-19 pandemic (2020-2022), which saw coverage drop down to 79.4%. (22, 23)

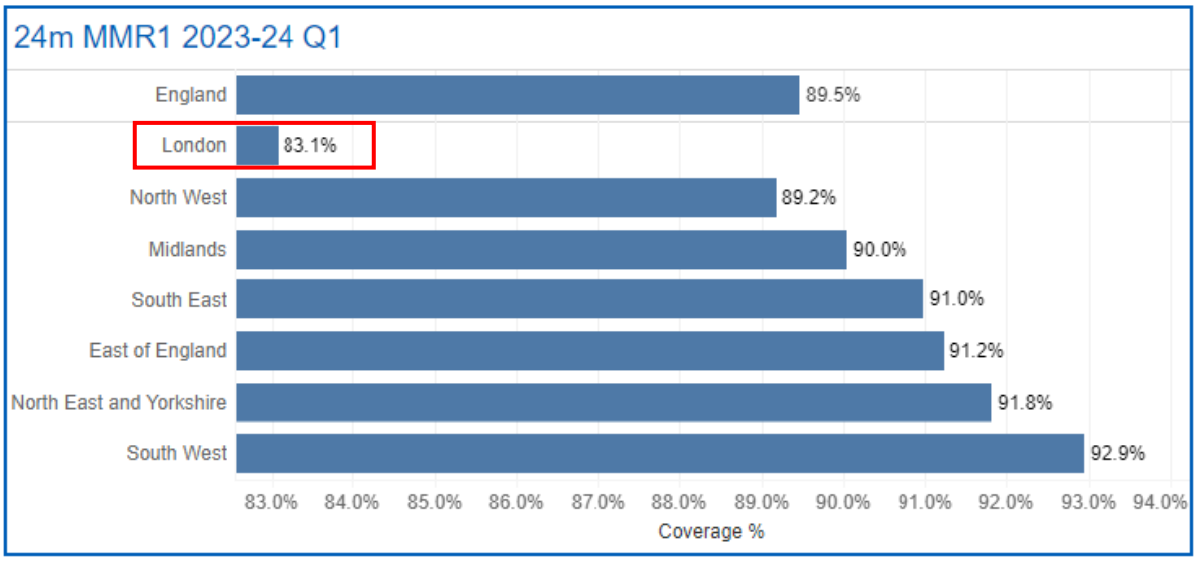
Coverage of both MMR 1 and 2 have saw some recovery in 2022-23, with Lewisham achieving MMR1 coverage of 86.5% and MMR 2 coverage of 80.4%. (22, 23) As part of COVID-19 recovery, catch up clinics were offered in the community including weekends, the school nursing team were commissioned to check MMR vaccination status and offer a catch up, as well as a mass vaccination site being established at LGT. Residents were able to walk-in to most of these sites without an appointment. All of this action may have contributed to the improvement of coverage locally.

## Variation in MMR vaccination uptake: Regional and local authority

**Please note**: the following figures look at 2023-24 quarterly data. Short term rates offer a snapshot of that point in time; therefore they are more variable and prone to change from quarter to quarter so we cannot confirm trends. This context needs to be taken into consideration when reading the following section where general inferences are drawn.

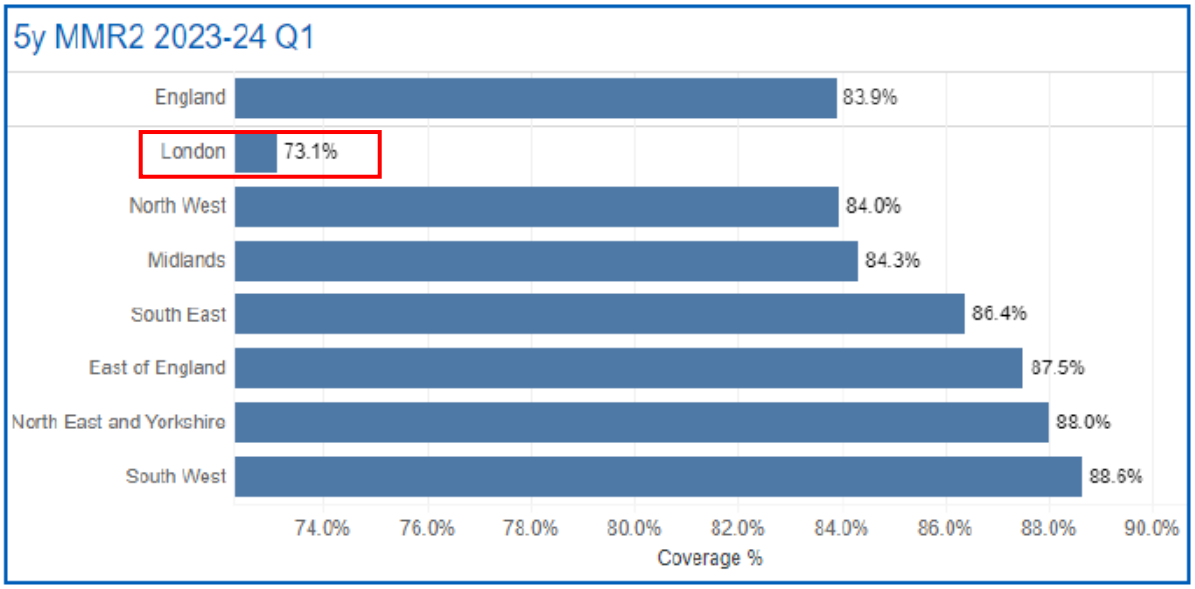
London has the lowest MMR vaccination coverage, at both 24 months and 5 years, with 2023-24 Q1 data showing 83.1% for MMR 1 and 73.1% for MMR2, compared to the England national average of 89.5% and 83.9% respectively for Q1 of 2023-24, illustrated in Figure 13 and 14 respectively. (22, 36)

**Figure 13: MMR1 Regional Q1 2023-24 data**




**Source:** ImmForm via London & SEL ICB COVER Overview 2023/24 Q1 data – NHSE London Region (22, 36)

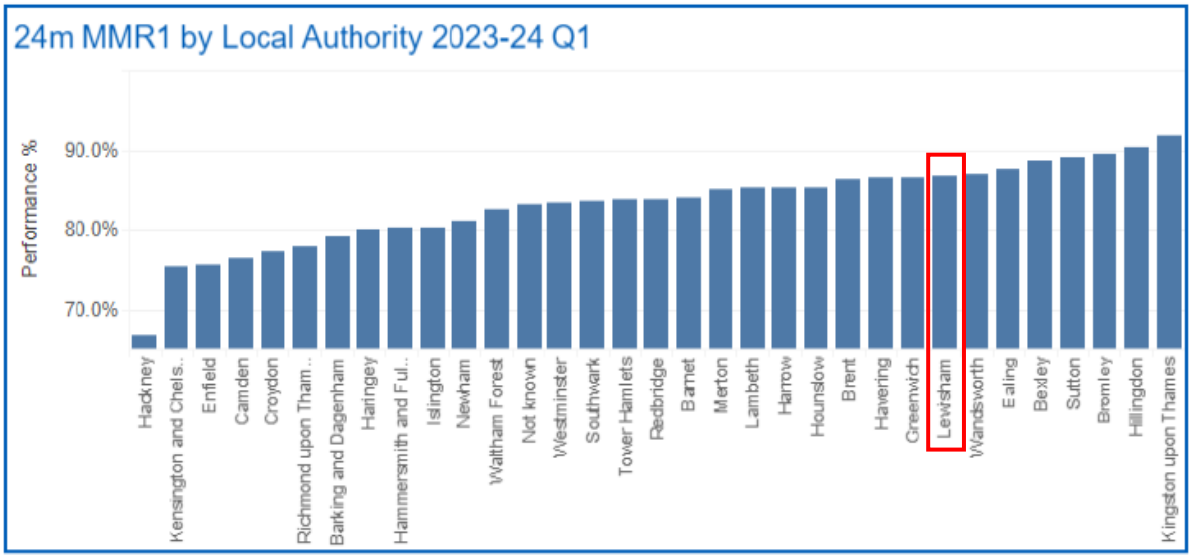
**Figure 14: MMR2 Regional Q1 2023-24 data**




**Source:** ImmForm via London & SEL ICB COVER Overview 2023/24 Q1 data – NHSE London Region (22, 36)

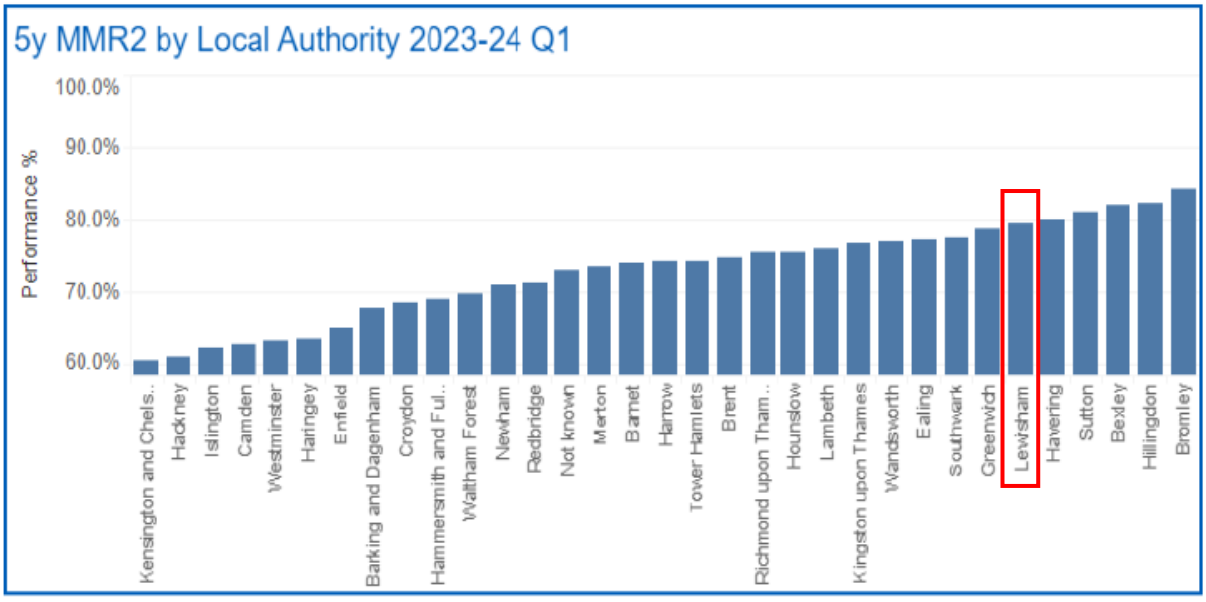
There is a significant variation in MMR vaccination coverage by local authority. Looking at London Q1 2023-24 data specifically, Figure 15 shows that coverage ranged from around 67% to just above 90% coverage for MMR1 at 24 months and around 62% to 85% for MMR2 at 5 years illustrated in Figure 16. Lewisham were toward the upper half of this range on both doses, with just over 85% coverage for MMR 1 at 24 months and just under 80% for MMR2 at 5 years (22, 36)

**Figure 15: MMR 1 Local authority Q1 2023-24 data**




**Source:** ImmForm via London & SEL ICB COVER Overview 2023/24 Q1 data – NHSE London Region (22, 36)

**Figure 16: MMR 2 Local authority Q1 2023-24 data**

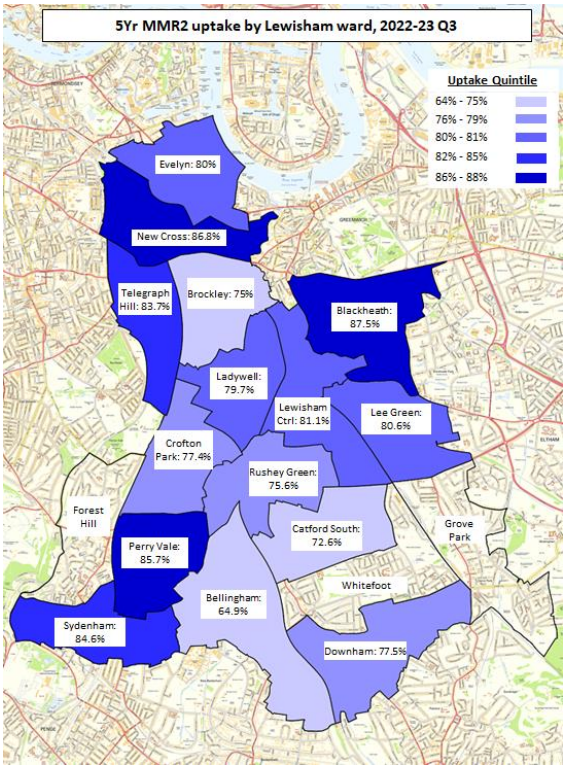


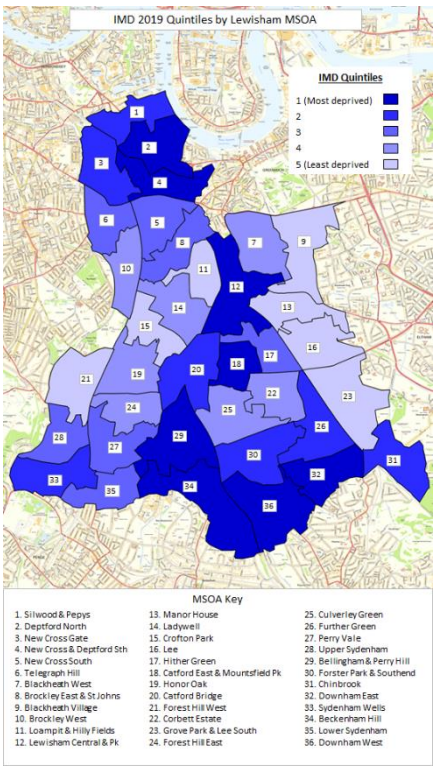

**Source:** ImmForm via London & SEL ICB COVER Overview 2023/24 Q1 data – NHSE London Region (22, 36)

### *Variation in MMR 2 vaccination uptake by Lewisham ward and IMD*

There is considerable variation in uptake within the borough, between wards illustrated in Figure 17a. If we compare vaccination uptake with IMD Quintiles, illustrated in Figure 17b, we can see that MMR 2 uptake shows some of the most deprived areas such as New Cross have some of highest uptake and some have the lowest uptake in other parts of the borough, such as Bellingham. Therefore, it is difficult to conclude that deprivation plays a role in uptake of vaccinations.

**Figure 17a: MMR 2 uptake by Lewisham ward, 2022-23 Q3 Figure 17b: IMD 2019 quintiles by Lewisham MSOA**




**Source**: ImmForm, developed by Lewisham Public Health intelligence team (22)

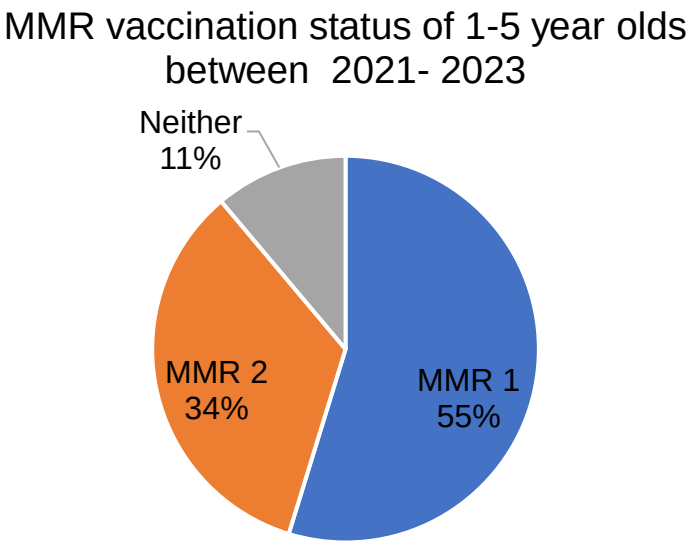
## Variation in MMR vaccination uptake: Population characteristics

To try to establish more detail on the demographics of both those who did or did not receive an MMR vaccination between 2021 and 2023, non-patient identifiable data was extracted from GP information systems, EMIS GP, via Oracle Health Analytics Platform (March 2024). (37)

From this extract 28,429 children were registered aged between 1 and 5 years old during this period. Of this 25,264 (89%) received an MMR vaccination (MMR 1 and/or MMR 2); 3165 (11.1%) did not receive an MMR vaccination. Of the children who got the MMR 1 vaccine, 62.23% also got a second dose (MMR 2). See Figure 18.

It's important to note that this is not validated data. Its accuracy relies on the completeness of primary care records. It also does not reflect the possibility of whether a child may have received their vaccination elsewhere outside of the UK, which may be relevant for children born or with family based outside of the UK.

**Figure 18: MMR vaccination uptake in 1- 5 years olds over the period 2021-23**

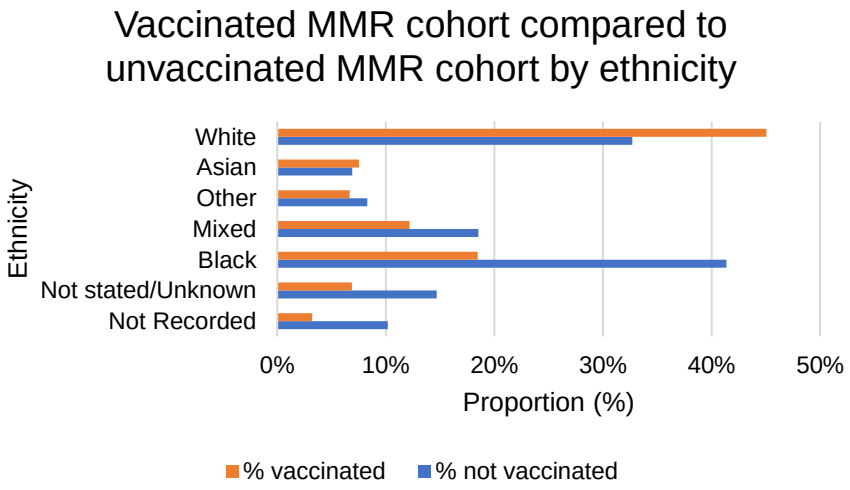



**Source:** EMIS GP via Oracle Health Analytics Platform, March 2024 (37)

*Variation in MMR vaccination uptake by ethnicity and main language spoken*

Comparing the vaccinated MMR cohort of children to the unvaccinated MMR cohort, Figure 19 illustrates that some groups make up a larger proportion of those who, according to their GP record, did not receive the vaccine than those who's GP records indicate they did. For example, black ethnicity made up 41% of children who did not receive an MMR vaccination, compared with 18% who did. Children of Mixed ethnicity made up 19% of children who did not receive an MMR vaccination, compared with 12% of those who did. (37)

**Figure 19: A bar chart comparing the proportions of vaccinated and unvaccinated cohorts of 1-5 years olds for MMR by broad ethnic group.**

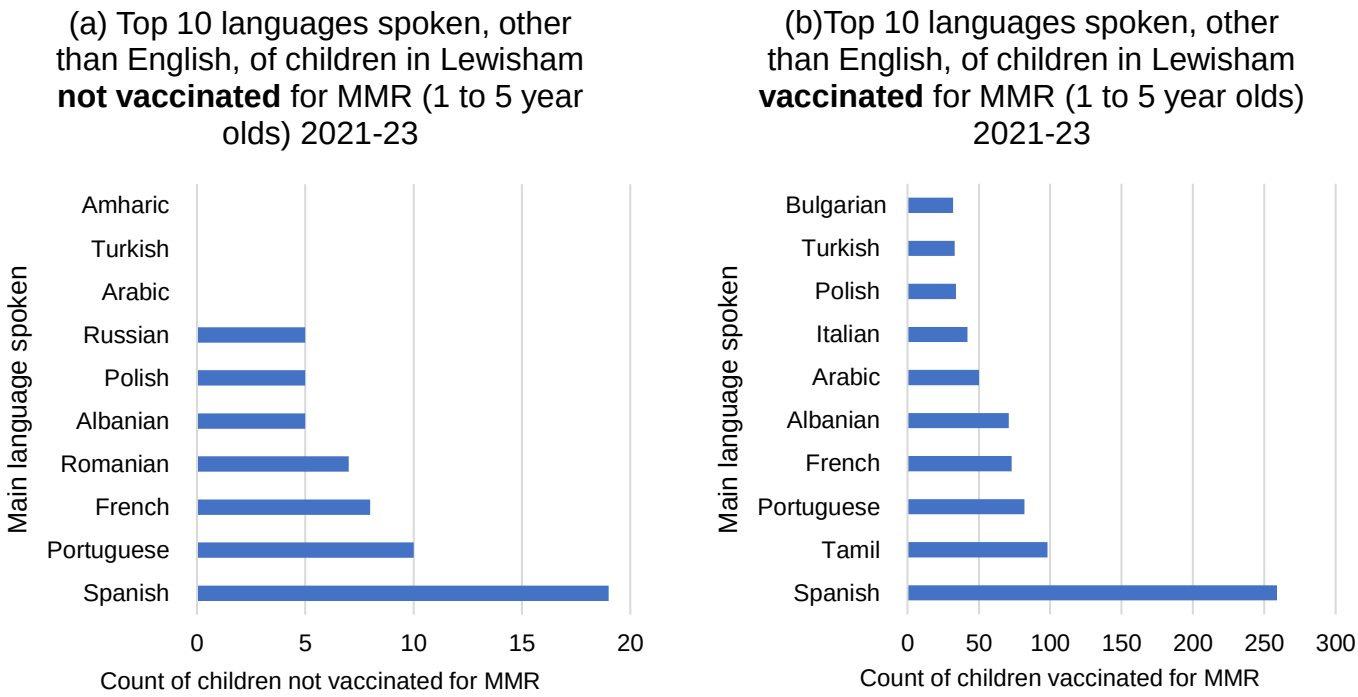



**Source:** EMIS GP via Oracle Health Analytics Platform, March 2024 (37)

To help characterise the ethnicity data more broadly, main languages spoken were explored. Comparing the vaccinated cohort to the unvaccinated cohort there were 36 different

languages included in the extract, however for this report the top 10 languages spoken other than English were presented (Figure 20). Please note that where a count was less than 5, the figures have not been included in the chart, but languages left there for completeness. (37)

**Figure 20: Top 10 languages spoken, other than English, of children in Lewisham (a) not vaccinated for MMR (b) vaccinated for MMR (1 to 5 year olds) 2021-23**




**Source:** EMIS GP via Oracle Health Analytics Platform, March 2024 (37)

16.5% of the unvaccinated cohort had English as the main language spoken, compared with 12.8% in the vaccinated cohort.

The most common main language spoken other than English across both vaccinated and unvaccinated cohorts of registered 1 to 5 year olds in Lewisham between 2021 and 2023, was Spanish – proportionally similar across both cohorts. Portuguese and French were the next most common languages spoken across both groups, again with similar proportions speaking these languages in both the vaccinated and unvaccinated cohorts.

A higher proportion of children whose main language spoken was either Romanian, Polish or Russian were in the unvaccinated cohort. Albanian speaking children had higher proportions in the vaccinated cohort. There is an assumption that these populations may offer some suggestions as to the make-up of the white ethnic group. (37)

Another consideration for some populations is that some parents who are not originally from the UK, choose to get their children vaccinated in their home country instead, so some children may appear to be unvaccinated if immunisation records have not been shared and updated to reflect this.

## Variation in MMR vaccination uptake: A GP perspective

There is known variation in MMR vaccination uptake by Primary Care Network (PCN) and General Practice. At the time of writing this needs assessment, preparations for measles resurgence in England is underway, with particular risk in London, due to the sub-optimal uptake of the MMR vaccine in the capital. Public health and primary care colleagues have been working together to close the gap in between current vaccination uptake and the levels required for herd immunity with an aim to curb the risk of outbreaks locally. Practices with lower uptake of the second dose of MMR in North Lewisham were contacted to gather insights on why uptake may have dipped. Practices fed back 4 main possible reasons for the reduced uptake, these are summarised in Table 2 below. (38)

**Table 2: General Practice insights into reasons for low uptake of MMR vaccination.**

| **Reason for lower MMR vaccine uptake** | **Description** | **Potential solution** |
|---|---|---|
| Vaccine hesitancy | Practices have seen a noticeable increase in vaccine hesitancy.<br><br>Some people will decline, despite any discussions with clinicians. | Patient education.<br><br>More conversations about immunisations with parents. |
| Conflicting information on local MMR 2 schedule – online, parents and in early years settings | Lewisham is offering an accelerated dose for MMR2, at 18 months as opposed to the 3 years and 4 months currently advised in the national childhood immunisation schedule.<br><br>There are several conflicting sources of information, both online and in some nurseries where they still refer to the national schedule, so parents are reluctant when invited to vaccinate their child at 18 months.<br><br>Additionally, some families who move from an area who do not offer the accelerated second dose are then either unaware it is due at 18 months or reluctant to have it early. | The JCVI has advised that the second dose of MMR vaccine should be brought forwards from 3 years 4 months to 18 months of age. Once this has taken effect nationally communications will be more consistent (expected 2025).<br><br>In the meantime, local websites need to have consistent messaging on the accelerated dose in Lewisham which also needs to be communicated clearly to health visiting service and early years settings who can then communicate this accurately to parents. |
| Poor EMIS searches | Searches are not national, so can be hard for GPs to find and carry out, so prompts not in place. | Identify issues with current EMIS search for MMR2 and work to improve GP access so |

| | | |
|---|---|---|
| | | that prompts can be activated. |
| People moving out of area | People no longer living in Lewisham but are still registered and unable to make contact. | Up to date records. |

## Adult immunisations

The routine immunisation schedule for adults comprises of the following vaccinations:

- Pneumococcal - offered at 65 years old
- Influenza & COVID-19 - offered to those aged 65 and over and other at-risk groups (annually from September)
- Shingles - offered at 65 years old as of September 2023 (70 years for anyone who turns 65 before that date)
- Pre-natal pertussis (dTaP/IPV) – for pregnant women and birthing people

Since the previous JSNA on immunisations (2018) there have been some changes to the adult immunisation schedule:

- Addition of COVID-19 boosters post pandemic
- Anyone who turns 65 after 1 September 2023 is eligible for the shingles vaccine after they turn 65. Offered 2 doses, given between 6 and 12 months apart. The routine offer will move from 70 to 60 years of age in 2 stages over a 10-year period. (39)

### Summary facts, figures, and trends

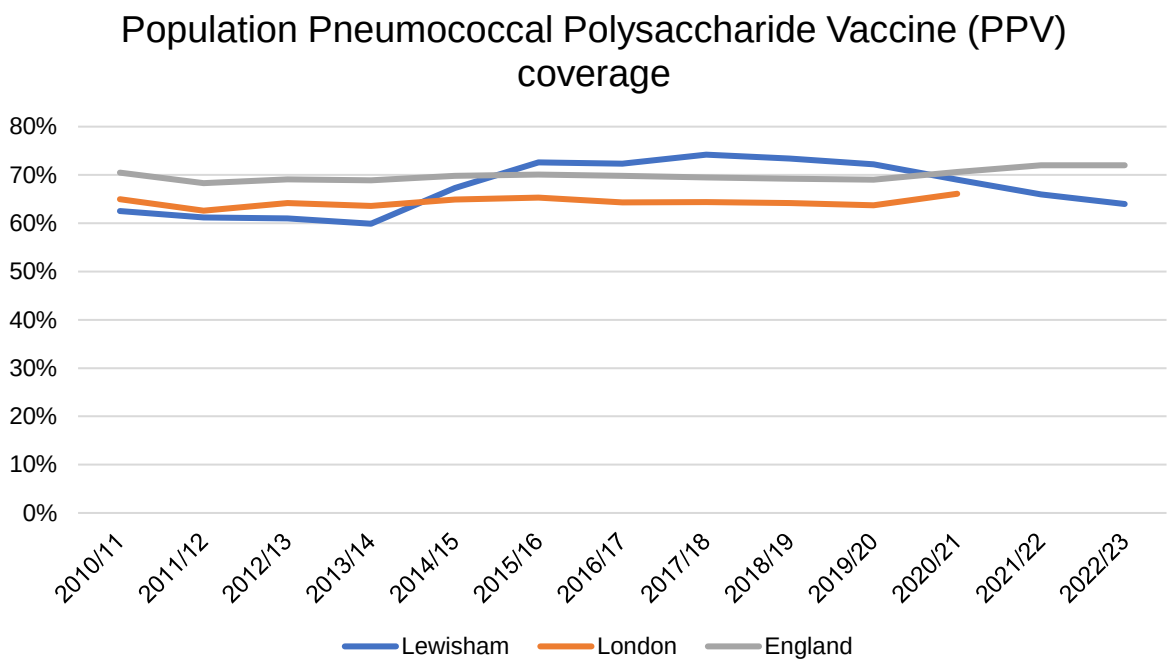
During the seasonal flu vaccination period (1st Oct - 31st Jan each year) data is collected on a monthly basis from GPs at a national level to monitor the uptake of this vaccination campaign. The GPs also provide other adult vaccination including pneumococcal, shingles alongside seasonal flu vaccination as well pre-natal pertussis and neonatal BCG. Pre-natal pertussis can also be administered within maternity services.

Figures 21-24 show the trends in uptake of the key adult immunisations. A more detailed analysis given to prenatal pertussis starts on page 35 (Figures 25 to 29).

#### *Pneumococcal*

The pneumococcal vaccine helps protect against serious illnesses like pneumonia and meningitis. It's recommended for people at higher risk of these illnesses, such as babies and adults aged 65 and over.

**Figure 21: Population Pneumococcal Polysaccharide Vaccine (PPV) coverage between 2010 and 2023**



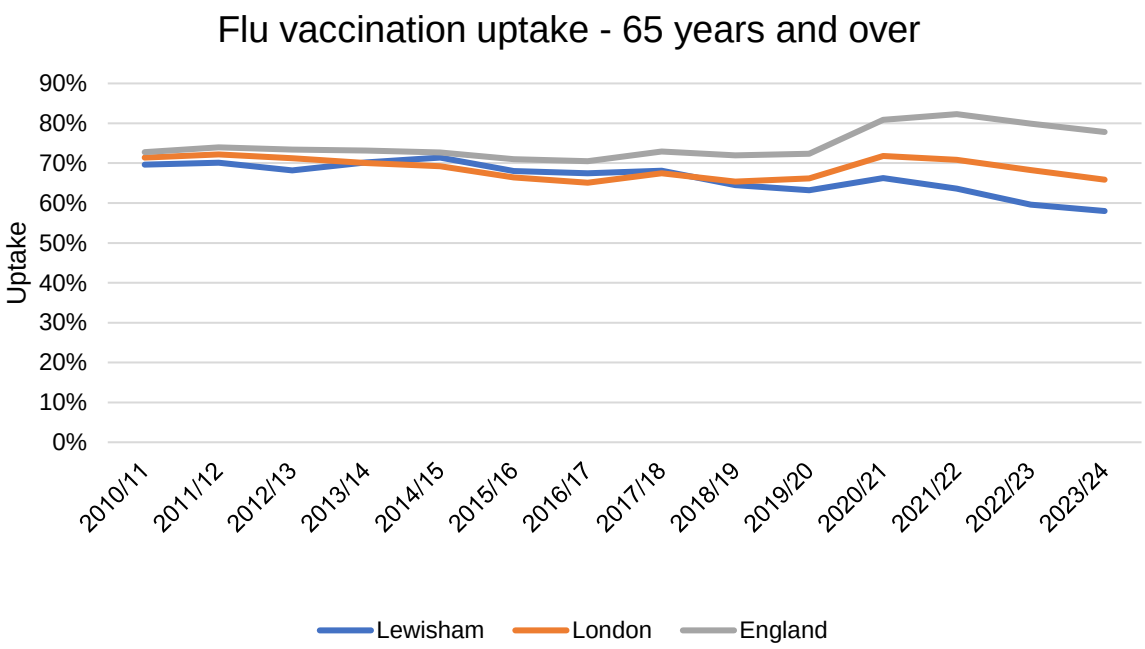

**Source:** Population vaccination coverage: PPV, UK Health Security Agency via Public Health Profiles, Office for Health Improvement and Disparities (23)

The UK Health Security Agency (UKHSA) reported a 64% coverage of Pneumococcal Polysaccharide Vaccine (PPV) for Lewisham adults aged 65 years and over in 2022/23 which was lower than both London (67%) and the national average (72%). Coverage declined slightly over the years of the COVID-19 pandemic, with 2019/20 pre-pandemic coverage sitting at 72%, which was higher than the regional and national averages at the time. (23, 40)

### *Influenza*

Some people are at higher risk from flu; these include pregnant women, children, those over the age of 65, healthcare workers and those with serious health conditions. Seasonal flu vaccine is offered to people in all of these groups, to help protect them from catching and spreading flu. Eligible people can have their flu vaccine at their GP surgery or a local pharmacy offering the service. Some midwifery services can offer the vaccine to pregnant women each winter.

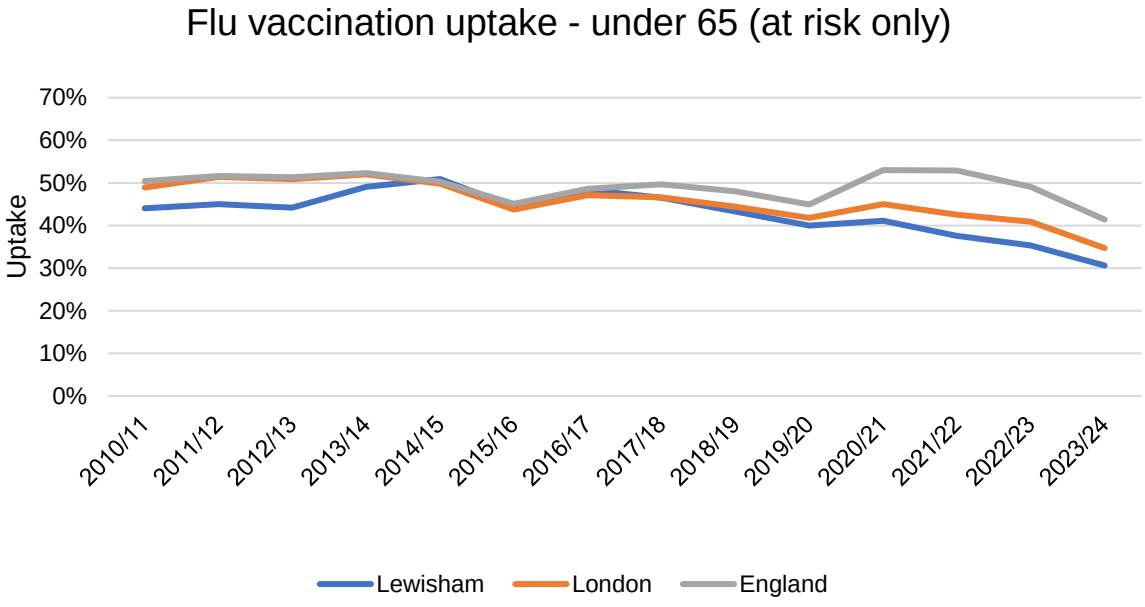
**Figure 22: Seasonal flu vaccination uptake for people aged 65 years and over between 2010 and 2023**




**Source:** Seasonal flu vaccine uptake: figures, UK Health Security Agency via Public Health Profiles, Office for Health Improvement and Disparities (23, 40)

Flu vaccination uptake remained stable in Lewisham 65 years and over cohort, maintaining around 68-70% uptake, in line with both regional and national uptake until 2017/18 where it declined a little for a few years. In 2020/21 uptake increased slightly, during the COVID-19 pandemic where flu vaccinations were given alongside COVID-19 vaccinations - greater uptake was seen nationally. However, uptake has since declined again with 60% uptake reported for 2022/23. (23, 40)

**Figure 23: Seasonal flu vaccination uptake for people aged under 65 years and at risk between 2010 and 2023**



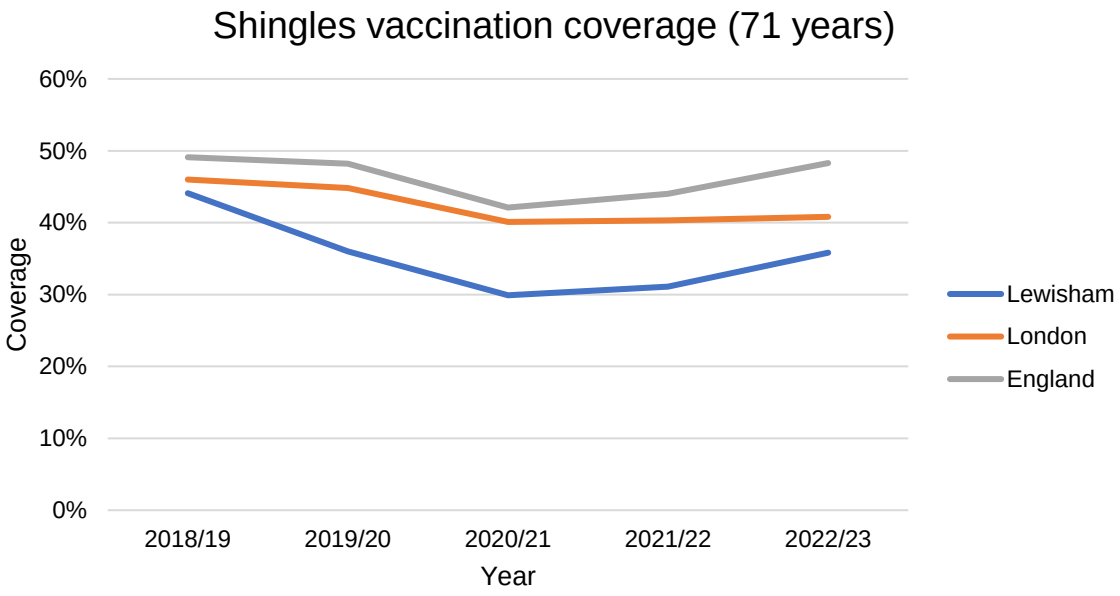

**Source:** Seasonal flu vaccine uptake: figures, UK Health Security Agency via Public Health Profiles, Office for Health Improvement and Disparities (23, 40)

Uptake in the at risk under 65-year-old group is considerably lower, in Lewisham, regionally and nationally. However, from 2020/21 during the COVID-19 pandemic, uptake improved for this group nationally but not locally, with rates declining even further with only 35% uptake in Lewisham in 2022/23. (23, 40)

### *Shingles*

The shingles vaccine helps protect against shingles. It's recommended for all adults turning 65, those aged 70 to 79 and those aged 50 and over with a severely weakened immune system.

**Figure 24: Shingles vaccination coverage (71 year olds) between 2018 and 2023**




**Source:** ImmForm (UKHSA) via Public Health Profiles, Office for Health Improvement and Disparities (23)

Shingles vaccination coverage declined in Lewisham from 44% in 2018/19 to 30% 2020/21. Significantly lower than both London (40%) and England (42%). Coverage in Lewisham saw some recovery in 2022/23 returning to pre-pandemic levels. (23)

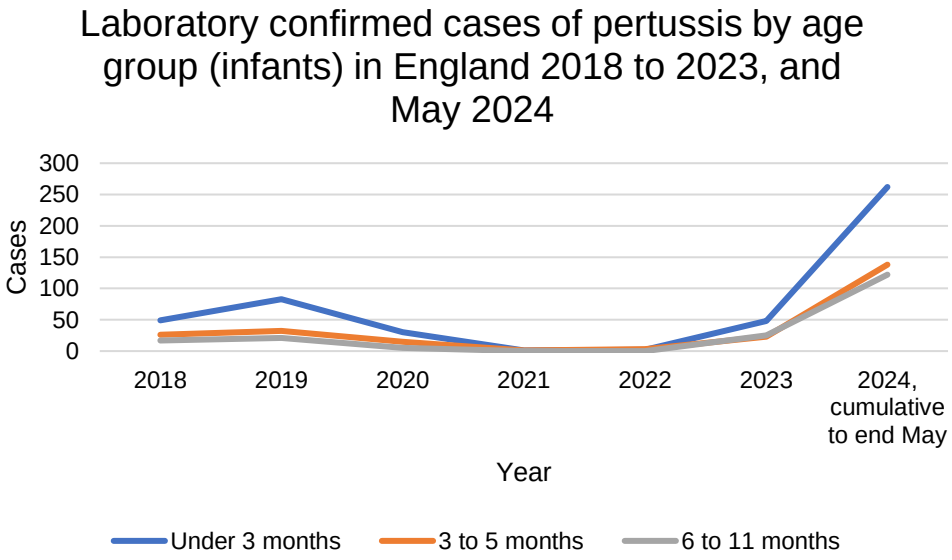
## Deep dive: Prenatal pertussis vaccination

Pertussis, a disease that follows a cyclical pattern peaking every 3 to 5 years, last saw a cyclical increase in 2016 and a major outbreak in 2012. Measures to control the spread of COVID-19 from March 2020 to July 2021 also affected the transmission of other infectious diseases, including pertussis, with effects lasting until 2023. Recently, there has been a rise in pertussis cases across all age groups and regions in England, with numbers increasing during the first five months of 2024.

In the 12 years before maternal pertussis vaccination was introduced in October 2012, 63 infants under one year old died from confirmed pertussis. Since the vaccination program began in 2013 through to the end of May 2024, there have been 29 confirmed pertussis deaths in infants too young to be fully protected by infant vaccination. Unfortunately, this includes 8 deaths from January to May 2024. Of the 29 infant deaths, 23 occurred in those whose mothers were not vaccinated during pregnancy. (41)

Figure 25 shows the trend of pertussis cases by age group (infants) in England between 2018 and May 2024.

**Figure 25: Laboratory confirmed cases of pertussis by age group (infants) in England 2018 to 2023, and May 2024**

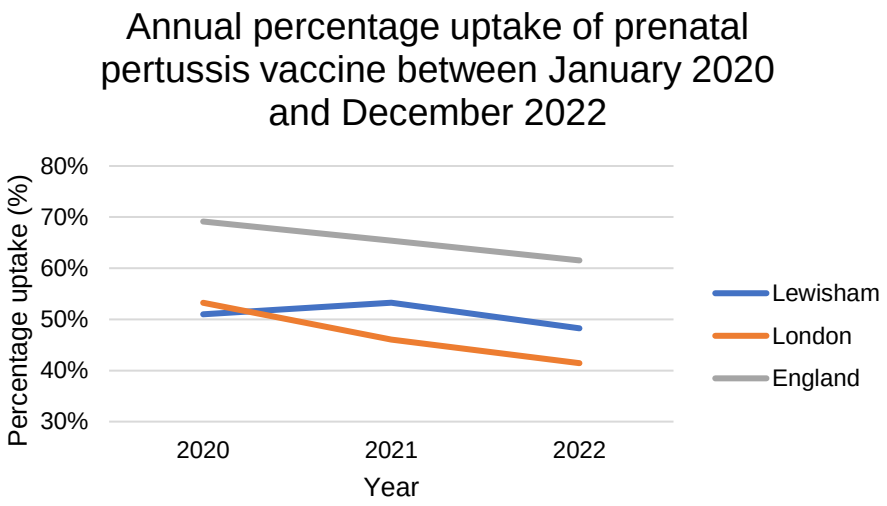



**Source:** Confirmed cases of pertussis in England by month, UK Health Security Agency, July 2024. (41)

## Prenatal pertussis vaccination uptake

The prenatal pertussis (whooping cough) vaccine is usually offered around the mid pregnancy scan (approx. 20 weeks gestation), however it can be given from 16 weeks. Vaccination in pregnancy provides very high levels of protection against serious whooping cough disease until a baby can have their own vaccination at 8 weeks of age. (42)

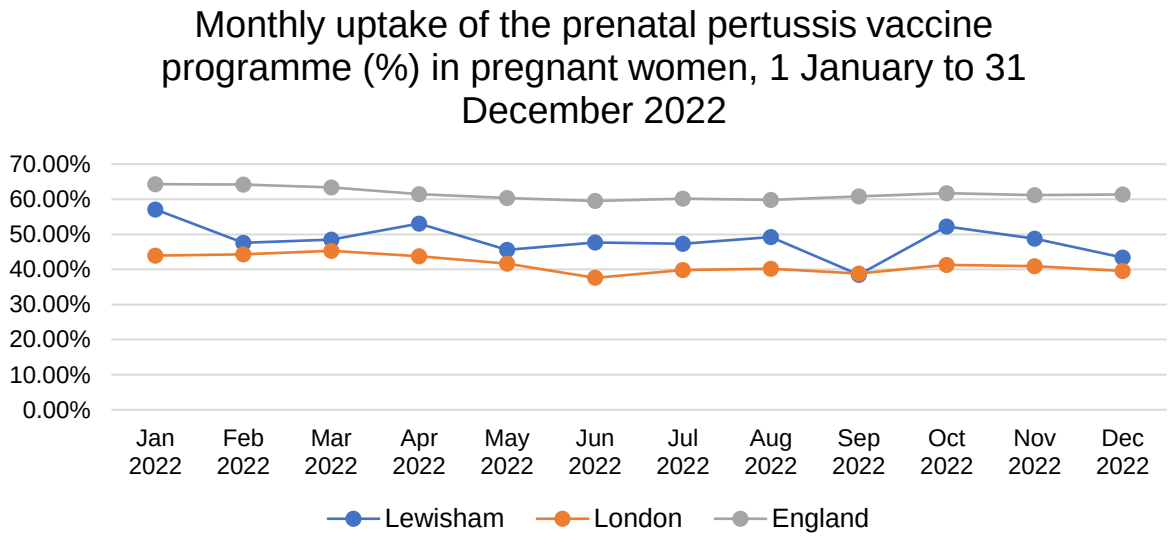
**Figure 26: Annual percentage uptake of prenatal pertussis vaccine between January 2020 and December 2022**




**Source:** ImmForm (UKHSA), Prenatal pertussis vaccine coverage monitoring programme, England (43)

Figure 26 shows the trend in uptake of the prenatal pertussis vaccine between 2020 and 2022. In the London region uptake of this vaccine has historically been lower than the England average, and this declined substantially after 2019, falling to 41%, almost 20% lower than England (62%). Lewisham has seen slightly higher uptake than the London average between years 2020 and 2022, with uptake of 48% in 2022. Figure 27 below, shows the monthly coverage of the prenatal pertussis vaccine programme for the year 2022. (43)

**Figure 27: Monthly coverage of the prenatal pertussis vaccine programme (%) in pregnant women, 1 January 2022 to 31 December 2022**




**Source:** ImmForm (UKHSA), Prenatal pertussis vaccine coverage monitoring programme, England (43)

To try to further understand the demographics of patients taking up the prenatal pertussis vaccine in Lewisham, an independent extract was taken from the Oracle Population Health System. Due to differences in definition with the nationally validated data, the figures below do not align with national data.

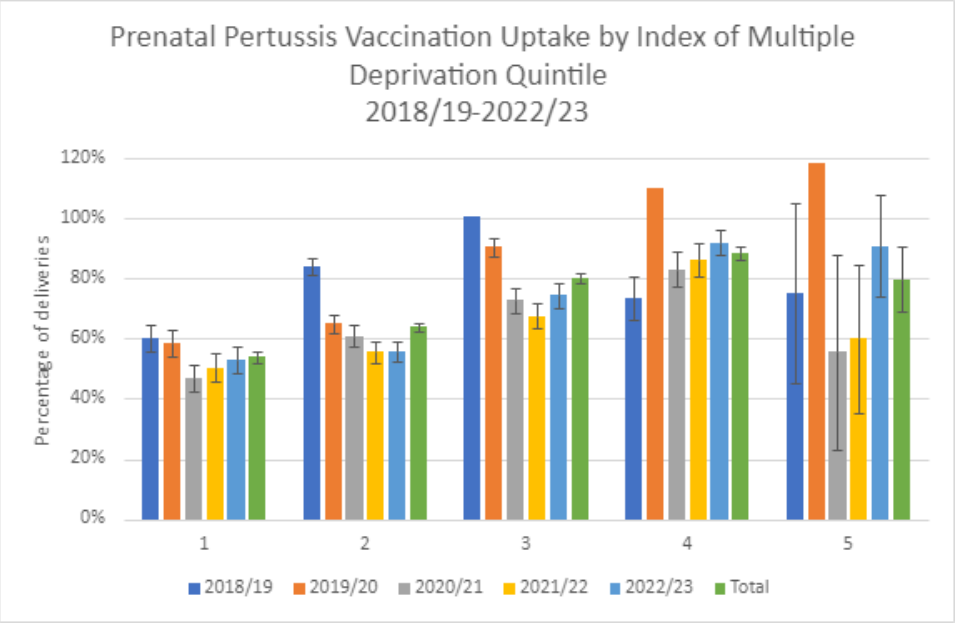
This extract used a denominator of those aged 15-59 years old, registered with a Lewisham GP and with a delivery date between 01/04/2018 - 31/03/2023. The extract identified 9584 patients with a delivery date, of which 6431 were coded as having received a pertussis vaccination.(44)

## Variation of prenatal pertussis vaccination uptake: Population characteristics

### *Deprivation*

Figure 28 illustrates the variation in uptake of the prenatal pertussis vaccine over the past 5 years by deprivation. It shows that there is lower uptake in those living in the more deprived quintiles compared to those in the least deprived quintiles. In some cases, there is a difference of around 20% between the most and least deprived quintiles. This is consistent with findings in a cohort study researching the social determinants of pertussis uptake in pregnancy (45).

**Figure 28: Prenatal pertussis vaccination uptake by deprivation quintile between 2018/19 and 2022/23**

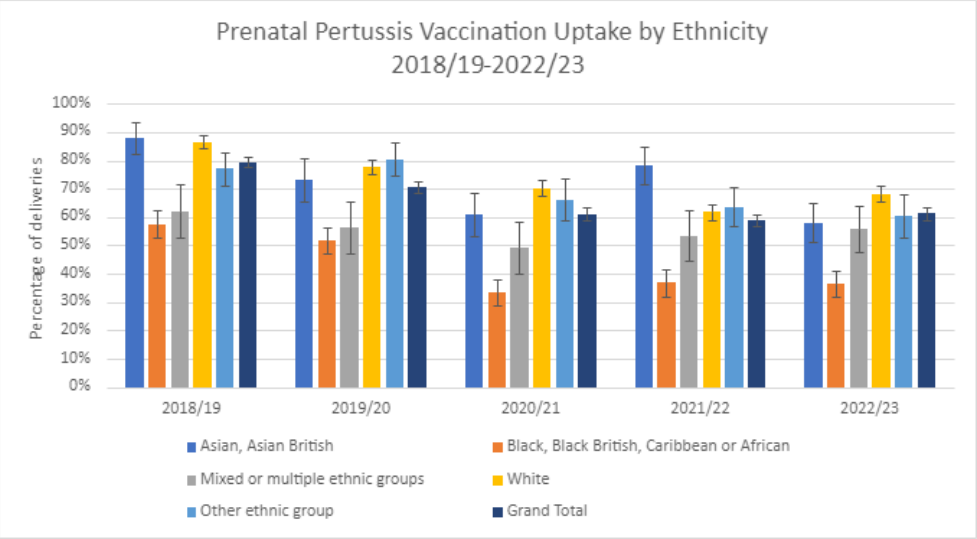



**Source:** EMIS GP via Oracle Population Health System, 2024. (44)

### *Ethnicity*

Figure 29 also shows variation in prenatal pertussis uptake by ethnicity. It shows that uptake of the vaccine for people of black ethnicity between 2018 and 2023 is significantly lower than those of Asian, or white ethnicities, at 95% confidence. Uptake of people of Mixed ethnicity was also significantly lower than people of white ethnicity at 95% confidence, except for in 2021/22 where this different was not statistically significant. This is consistent with national coverage, which reports highest coverage in white British (66.8%) and lowest in Black or Black British Caribbean (29.9%). (46)

**Figure 29: Prenatal pertussis vaccination uptake by ethnicity between 2018/19 and 2022/23**




**Source:** EMIS GP via Oracle Population Health System, 2024. (44)

## Barriers to vaccination uptake and local insights

"Vaccine hesitancy" has been defined by the World Health Organization (WHO) as "the delay in acceptance or refusal of vaccines despite the availability of vaccination services". (47)

Concerns about vaccines are not a new phenomenon. Throughout history, vaccine hesitancy has arisen for varied and complex social, political and cultural reasons. This hesitancy is still present and in some ways on the rise again.

There are many reasons why people decide to not take up the offer of routine immunisations for themselves and their children. The COVID-19 pandemic had significant impacts on coverage and uptake of routine immunisations in Lewisham and nationally, but many vaccination programmes saw declines in uptake before this. Key drivers for low vaccination uptake highlighted in the data analysis included deprivation and ethnicity. These factors, compounded by the significant distrust and misunderstandings that exist between 'government institutions' and many of our communities, can lead to difficulty establishing connections with and engaging effectively with our communities, which may impact their uptake of and engagement with routine health services and programmes, as well as leading to both misinformation and lack of information reaching communities.

There are variations in barriers to uptake of specific vaccinations, however the below discussion highlights the broader barriers to uptake of vaccinations. There will be reference to findings from two local surveys, one was a survey of parents on uptake of childhood vaccination programmes (48), the other a survey a survey of pregnant women and birthing people on the prenatal pertussis vaccination, both distributed in Spring of 2024. (49)

### *Informational barriers*

Because vaccinations are given to people who are not yet unwell, to protect them often from a disease they may not have heard of or have seen anyone suffer from, for some, the fear of the risks of having a vaccination is larger than the fear of the disease itself. Personal beliefs on what we think and feel about risks and benefits are driven by several things, but access to accurate and reliable information from trusted sources to inform these beliefs and influence subsequent decisions is crucial. Some report they have not been offered enough information in advance of a vaccination appointment on what the different vaccinations are, why they are important, what disease and symptoms they are protecting from, possible side effects and any before or after care required such as needing to give a child paracetamol. Others don't feel enough time is given to process and understand the information and have access to trusted professionals to ask questions or raise any concerns in advance of a vaccination appointment. For some the information available is difficult to understand and not provided in other formats, for example if English is not their first language. In places where the local schedules are different to national schedules (e.g. the second dose of MMR in Lewisham) this conflicting information may reduce parents confidence in the service, causing them to delay. Without access to consistent, reliable information and trusted professionals to get clarification from, people can find it difficult to make an informed decision and may turn to less reliable sources of information which could misinform them.

**Lewisham Parent and carer survey – Childhood Immunisations (48)**

- Health visitors were reported to be the main source of information on vaccinations for parents/carers, accounting for 53% of respondents.
- 43% of respondents said they received information about vaccinations from their GP/Doctor and 27% from their Midwife. 18% of respondents said they received no information about vaccinations from a healthcare professional.
- Some said they got their information from other sources including other parents, friends and the Red Book.
- 59% of respondents felt they received enough information on the vaccinations, 41% felt they did not.
- Most respondents found the information received on vaccinations easy (47%) or somewhat easy (23%) to understand. 12% of respondents found it either somewhat difficult or difficult.
- Several respondents mentioned in further comments that they did their own research, others mentioned that they asked or were given more information in the appointments themselves, which didn't offer time to digest the information.
- Some said that they felt there was limited details on what the vaccinations were, why they were important and what to expect in terms of side effects to look out for.
- Some mentioned they received no information regarding vaccinations. A couple of respondents mentioned conflicting information regarding the immunisation schedule from health professionals left them feeling unsure.

### *Practical barriers*

Poor availability, accessibility and convenience of appointments is an important factor in determining vaccine uptake. Timing and availability of appointments are often the most common barriers to vaccinating children, particularly for families from low socioeconomic backgrounds who may find it challenging to attend appointments around work or who need to pay to travel or who have multiple children to care for. The ease of booking an appointment can also vary with primary care under increased pressure and in some cases reduced capacity, patients may struggle to get through to book appointments over the phone or are asked to navigate different systems to book appointments alongside life's other priorities, and for some this results in delays to or no uptake of routine vaccinations.

**Parent and carer survey – Childhood Immunisations (48)**

- Over half of the respondents (52%) said that they would prefer to receive information from immunisations from health professionals. 30% said they would prefer to receive information via websites and 13% from leaflets.

- 47% of respondents said they were asked to make an appointment by their GP practice, 22% said they contacted the GP practice to arrange the appointment themselves and 13% said they were sent an appointment. 12% said they were not contacted by their GP practice.

- Around 90% of respondents felt the appointment time was between somewhat and extremely convenient.

- For those that either did not attend or did not have their child vaccinated, the reasons ranged from lack of awareness of the vaccination schedule, issues with the appointment – including unsuitable timing, cancellation, or child sickness.

- One respondent said they made an informed decision not to vaccinate their child.

### *Technical barriers*

Lack of availability of granular (demographic information – particularly ethnicity), timely and accurate uptake and coverage data from GPs and other providers, can impact local ability to understand the scale of the unvaccinated population, identify inequalities and possible inequity of access and respond effectively to it.

There are several challenges relating to data and coding inaccuracies which impact vaccination data. Migrant children or adults who have received vaccinations abroad may not be able to transfer their immunisation record to their UK health record and are often coded as ‘not fully vaccinated’. Although in these cases children are offered to be re-vaccinated, some parents are reluctant to do so, so coverage rates will appear lower than they are. Another issue is the amount of population mobility, which is significant in London, that can lead to outdated practice lists. When a patient moves area, there may be a period where records have not transferred to the new practice system so a prompt to attend a vaccination appointment might be missed. Some patients don’t inform their GP they are moving, and appear as a “ghost patient”, which would inflate the number of people eligible and make uptake appear lower than it is. In other instances, the basic issue of contact details being incorrect can lead to challenges to call or recall patients who are due or overdue their vaccinations. For school age vaccinations, there is also the fact that not all children who go to a Lewisham school, live in Lewisham – so there are limits to what can be done to influence families who live outside of the borough to have their children vaccinated.

These inaccuracies typically underestimate who has been vaccinated, resulting in borough uptake rates not being a reliable measure of true vaccine coverage in the borough. This impacts local system partners ability to make informed, evidence-based decisions about how to deliver the vaccination programmes more effectively.

### *Social and cultural barriers*

Vaccination uptake is significantly influenced by social norms and the opinions of friends, family, and colleagues. These factors can influence people's beliefs about the need for vaccination or about vaccine safety.

Resistance to vaccination is notably higher among certain population segments, particularly those from lower-income groups and minority ethnic communities, including Black, Asian, Eastern European, and other marginalized groups e.g. traveller communities. (50)

Vaccine hesitancy within some of these communities is often rooted in a historical lack of trust in the medical profession. This distrust stems from past discriminatory practices, racist ideologies, and unethical medical experiments conducted on people of colour. For example, in October 2020, some White European doctors controversially suggested that vaccines be trialled on African populations, citing their perceived lower adherence to COVID-19 safety measures. Such statements exacerbate distrust among African-origin populations globally.

Scientific literacy and attitudes towards science also play a critical role in vaccine acceptance. Modern biomedical knowledge is inherently complex, therefore requiring a foundation of trust in experts. However, this can be influenced when coupled with political ideology and differing levels trust in the governments and institutions responsible for developing and endorsing the uptake of vaccinations. (51)

Other social and cultural aspects that can reduce uptake of vaccinations include communities who move frequently, are not routinely registered on health records and children who may not attend mainstream schools.

**Prenatal pertussis pregnant women and birthing people's survey (49)**

Of the 13% who decided not to have the prenatal pertussis vaccination, the reasons given for not having the vaccine included:

- language barriers
- mistrust of medical services
- insufficient information provided
- offered vaccine too close to their due date
- making an informed decision
- anti-vaccine sentiments

## Enablers of vaccination uptake and local insights

Addressing these multifaceted barriers is essential for improving vaccination rates. There are well known approaches that can be delivered at a national, regional and local level to support people to make an informed decision to take up the offer of a vaccination for themselves or their children.

The following box summarises suggestions from parents that came out of the local insights on childhood immunisations and prenatal pertussis. This is followed by broader suggestions and examples of approaches and successful interventions that have been trialled to address barriers and improve uptake of vaccinations.

**Lewisham parent and carer survey – Childhood Immunisations (48)**

- The main reasons given for attending the appointment and vaccinating their child were, because they felt vaccines were important and wanted to protect their child from getting sick.
- Over 50% of respondents thought Saturday appointments and walk in clinics would help uptake, and over 40% felt evening appointments and conversations with a health professional would support them to have their child vaccinated.
- When asked to state, in their own words, what support parents/carers would like to further support them to have their child vaccinated, responses other than the choices offered above included:
    - Text and phone reminders
    - More consistent information on the local vaccine schedule i.e. accelerated MMR booster programme (18 months)
    - A poster checklist chart or leaflet with the local vaccine schedule for families to have somewhere visible in the home as a reminder of what vaccines their child has had and what vaccines are due and when
    - More accessible information on the vaccines (both recommended and additional e.g. chickenpox): what they are, why they are important, possible side effects, before & after care – e.g. paracetamol
    - More appointment flexibility and availability
    - Something to incentivise and reassure the children at the appointment– e.g. stickers, using a teddy as a role play

**Lewisham prenatal pertussis pregnant women and birthing people's survey (49)**

- The highest scoring suggestions of how to support uptake of the prenatal pertussis vaccine included:
    - 27% more time to speak to a professional
    - 18% weekend appointments
    - 15% information in other languages
    - 14% appointment text reminders
    - 13% evening appointments
- The other main suggestions respondents gave to support uptake included:
    - A more thorough explanation of what the vaccine is, details of the risks and benefits to mother and baby of taking or not taking the vaccine in appointments. Don't assume patients know this.
    - More accessible formats – easy read, large print, YouTube video, British Sign Language
    - More appointment options at the hospital
    - Offering the vaccine as part of scheduled antenatal appointments
    - Local GP appointments bookable by midwives

### *Reliable information and resources*

Access to reliable information on the risks, benefits, and side effects of vaccinations is vital for informed decision-making. Tailored, co-designed communications ensure that messages are culturally relevant and trustworthy, effectively addressing community-specific concerns. Hyper-local messaging and events in community settings like libraries and shopping centres make this information more accessible, reducing barriers and combating misinformation. By providing clear, accurate details in familiar environments, public health initiatives can build trust, dispel myths, and encourage vaccine uptake.

**Case study: Ealing improving vaccine uptake across the borough (52)**

Ealing Council implemented a comprehensive strategy to increase COVID-19 vaccination uptake, focusing on community participation and engagement:

- **Interactive Public Webinars**: Included an online event with a Somali group and an Islamic scholar to address specific community concerns.
- **Targeted Resource Allocation:** Recognized the necessity of allocating more resources to reach smaller, disadvantaged, and hesitant groups.
- **Community Engagement:** Collaborated with residents, community groups, faith leaders, and others through established relationships, including visits to vaccination sites to engage directly with various groups.
- **Accessible Vaccination Sites:** Established pop-up vaccination sites at faith centres, schools, and supermarket parking lots to make vaccination more accessible and convenient.
- **Clear Communication:** Developed clear messages to reassure individuals that personal details were not required for vaccination, leading to the vaccination of many unregistered individuals, including undocumented migrants. Information was also translated into relevant languages using community-based networks.

### *Working with trusted organisations and people*

Successful delivery of vaccination programmes requires a multiagency approach. This includes regional teams, integrated care systems and boards, primary care, community pharmacy, public health and wider local authority, schools, and early year settings, the third sector and community engagement through champions, trusted voices and community leaders.

Collaborating with trusted organisations and individuals is crucial for overcoming barriers to vaccine uptake. These partners can effectively communicate with communities, addressing fears and building trust. Utilising community networks and qualitative research or behavioural insights helps identify specific concerns and cultural contexts. It’s important to acknowledge that mistrust and fears are logical responses to historical inequities. This approach fosters empathy and ensures that interventions are respectful, relevant and community centric, and hopefully more effective.

The wider workforce (e.g. staff in early years settings, schools, hospitals, social services) and community champions need to have access to accurate, up to date information in a variety of formats. It can also be useful to provide training in Making Every Contact Count (MECC) as well as specific training on engagement around vaccinations that is tailored by insights from local communities, this can increase wider workforce confidence to have these conversations with residents.

**Case study: Tackling Vaccine Hesitancy - The Black-Caribbean Community in Brent (53)**

**Intervention:**

Brent faced low vaccine uptake among the Black-Caribbean community due to historical distrust and prevalent misinformation. The council engaged a trusted community figure, to create a relatable video addressing vaccine concerns. The video was widely promoted on social media and local news, leveraging this trusted individual's credibility and personal journey with vaccination.

**Key Learnings:**

1.**Trust Building**: Trust must be established before attempting to change attitudes or behaviours.

2. **Cultural Relevance**: Messaging should acknowledge and address legitimate community concerns.

3. **Community Voices**: Effective communication comes from within the community, not authoritative figures.

4.**Broader Context**: Vaccine messaging should be integrated into overall health and wellbeing conversations.

5.**Targeted Engagement**: Focus on influential community members, like young-adult women, who can shape broader community attitudes.

6.**Social Media**: Leveraging social media influencers with large followings can significantly amplify the message.

*Improving access*

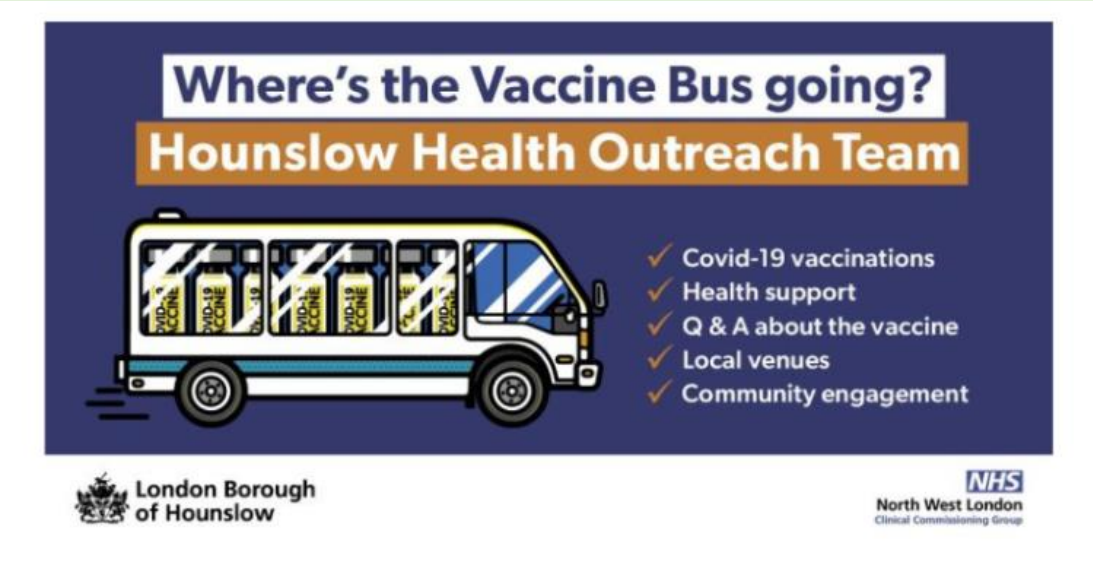
Improving access to vaccinations by offering them at various locations in the local area in addition to GP practices, such as community centres mobile vans, hospitals, and pharmacies, help improve uptake. Expanding the number of places that offer routine vaccinations, along with offering evening and weekend hours, makes it more convenient for people with busy schedules. Also increasing GP registration for children ensures early and consistent access to vaccines, promoting long-term health. These strategies reduce logistical barriers, making vaccinations more accessible to diverse populations. Enhanced access points and flexible hours are vital for addressing public health needs and ensuring widespread immunisation coverage.

**Case study: Hounslow Public Health Outreach Team (HOT)**

Hounslow have a roving outreach model. There are 2 modes of outreach to maximise their reach and show regular visibility:

1. A shop in Hounslow Central based in the Treat Centre where people can drop in to ask questions, to access vaccination leaflets available in different languages and vaccinations are available onsite. (54)

2. A mobile information van which is sent to areas of low vaccination uptake once a week. The van offers childhood immunisations, blood pressure checks, provides residents with general health information and signposts to other support services. (55)




**Source of image:** Get on board the good health bus, Healthwatch Hounslow (56)

*Primary care improvement interventions and training*

GP practices are well placed to identify eligible children that have not been vaccinated, inviting them in to receive vaccination and offer any advice and support to parents who may be hesitant. To do this, practices need to 1) have accurate data and have robust call and recall processes in place and 2) have available and knowledgeable staff to engage and encourage patients who are hesitant.

Most practices have call and recall processes in place - using a combination of messaging via the NHS app, text messages, phone calls and letters to prompt vaccination appointments. These can be tailored to the local context and maximised by offering translation into different languages or in different formats. Having a clinical lead in practices who is responsible for immunisations programmes can be useful to maintain attention on immunisations within the practice and support improvement work. Where there is one, local immunisation coordinators can provide support to practices in areas of low uptake, to understand their data through tailored searches, identify inequalities and any perceived barriers, assist with improvement plans and help share insights from high performing practices.

There are some creative approaches to improve vaccination uptake in primary care. Some include enabling opportunistic vaccination when patients are in the surgery in for other reasons, offering a catch up of missing vaccinations at every point where a vaccine is given,

arranging health events and outreach clinics in religious or community settings, working with local leaders.

Like wider partners and community champions, upskilling the primary care workforce within practices (including non-clinical staff) in MECC and offering specific training on how to engage and encourage vaccination uptake can increase the capacity and capability within a practice to talk to patients about vaccinations. Well-trained staff can address various community needs effectively. Diversifying the workforce can also help foster trust and cultural sensitivity, ensuring more inclusive and accessible vaccination services for communities.

**Case study: Islington GP practice and PCN collaboration (57)**

To address low vaccination uptake, Islington GPs and PCNs did the following actions to address this:

1. **Automatic registration and health check**

- Offer an automatic health check appointment with nurse when a child registers at a practice – review immunisation record and book any missing
- Register new babies as temporary patient on discharge from hospital and contact parents about immunisations

**2. Convenient appointments**

- Offered evening and weekend appointments
- Followed up immunisation appointments when patients in for any other appointment.
- Opportunistic vaccinations

**3. PCN collaboration**

- Learnings from COVID-19 vaccination programme – success supported by PCN collaboration.

# Conclusion and recommendations

## Conclusion

It is important to highlight the good work that has been done in Lewisham to recover immunisations programmes post COVID-19 pandemic, working with practices and wider partners to address dips in routine vaccination uptake in key communities. However, whilst Lewisham's immunisation uptake broadly aligns with, and sometimes exceeds, London's trends, there is still a way to go to achieve herd immunity against key diseases and reduce the possibility of localised community transmission. Vaccine preventable disease remains low but is present and there is risk of re-emergence.

The analysis identified variation in uptake between practices and PCNs and inequalities in uptake related to ethnicity and socioeconomic factors, underscoring the need for targeted interventions. However not all is explained by deprivation, so further work is needed to unpick causes for falling rates in some vaccination programmes and population groups. GP's reports of technical challenges, because of large population mobility, also create challenges for accurate data capture, impacting our ability to plan effective improvement programmes and reach national immunisations coverage targets.

In addition to addressing practical barriers like appointment availability, a key focus must be on tackling informational barriers by providing clear, consistent, and accessible information about vaccines, especially regarding variations in local schedules. Building capability of the wider workforce to have conversations with the public around vaccinations and strengthening collaboration among healthcare providers, local authorities, community organisations, and trusted figures is crucial to create a conducive environment for sharing best practice, building trust, addressing concerns, and promoting informed decision-making about vaccinations in Lewisham.

## Recommendations

Below is a range of recommendations aimed at enhancing the uptake of routine childhood and adult immunisations in Lewisham. The recommendations address various barriers, specifically by addressing the concerns of parents and adults hesitant about vaccines.

**Communications and engagement**

1. **Clear and accessible information:** Ensure healthcare professionals have up-to-date, clear, and consistent information about vaccinations to give to patients in a range of formats (e.g., leaflets, videos) that can enhance accessibility and understanding for diverse audiences. They should cover the diseases vaccines protect against, the importance of vaccination, potential side effects, and addressing any variations between local and national vaccination schedules.
2. **Address specific concerns and respect individual decisions:** Seek to address specific concerns of parents and adults who are hesitant about vaccines. Provide tailored information that responds to their specific questions and worries, give them adequate time to process information and follow up if needed. It's important to create a space where parents and adults feel heard and respected, even if they choose not to vaccinate.

3. **Culturally sensitive campaigns and engagement:** Explore the development of targeted and culturally sensitive campaigns that resonate with Lewisham's diverse population. This can be done through engaging trusted community leaders and organizations, addressing historical mistrust stemming from past inequities, and tailoring communication materials to specific cultural contexts.
4. **Teenager engagement:** Explore approaches to enhance vaccination education for teenagers to support their informed decision-making.

**Health service delivery and collaboration**

5. **Improve access and availability:** Ensure flexible appointment times to accommodate work schedules and other commitments. Expand access to vaccinations beyond traditional GP settings. This includes offering appointments at convenient locations like community centres, pharmacies, or collaborating with local faith or community leaders. Explore alternative delivery models, e.g. mobile or walk-in clinics in places that are acceptable to the diverse population of Lewisham.
6. **Improve data collection and accuracy:** Strengthening data collection practices is essential to understand the reasons behind low vaccine uptake and tailor interventions effectively. This includes better data management within GP practices, ensuring accurate coding of vaccination records, and robust call and recall systems to track and remind patients about vaccinations and identify reasons for not taking up the offer of vaccinations to inform local improvement programmes.
7. **Strengthen relationships**: Schools play a big role in the delivery of some childhood immunisation programmes. Exploring ways to better support the relationship between schools and vaccination providers may increase the accessibility of vaccinations for this cohort.
8. **Empowering the wider workforce:** Utilise and train a wider workforce, including early years staff, community pharmacists, and community health workers, to have more detailed conversations about vaccinations. This approach leverages trusted figures within the community to reach a broader audience and provide consistent messaging. Training on techniques like Making Every Contact Count (MECC) can equip these individuals to confidently address vaccine-related questions and concerns.
9. **Collaboration and best practice sharing:** Collaboration among healthcare providers, local authorities, schools, and community organisations is key to maximizing reach and impact. Utilise forums for sharing best practices, identifying challenges, and developing joint solutions can optimize vaccination programs within South East London, particularly in boroughs with similar demographic profiles.
10. **Advocate for change:** Utilise relevant forums and channels to advocate for actions that must be advanced at regional or national level.

# Acknowledgements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| Maternity Voices Partnership | |
| Wilma Chadewa-Munzara | Community Matron & Lead for 5- 19 for School Health Services |

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# Appendices

## Appendix A

| Age for Immunisation | Protects against… | Which Vaccines to be Given | Number of Injections |
|---|---|---|---|
| **Birth to 28 days** | Tuberculosis | **BCG** | **One injection** |
| **Two months** | Diphtheria, tetanus, whooping cough, polio, *haemophilus influenzae b, hepatitis B and* pneumococcal infection, rotavirus and meningitis B | **DTaP/IPV/Hib/HepB**<br>**PCV (Prevenar13)**<br>**Rotavirus** (Rotarix)<br>**MenB** (Bexsero) | **Three injections**<br>+<br>**Oral** |
| **Three months** | Diphtheria, tetanus, whooping cough, polio, *haemophilus influenzae b, hepatitis B and* rotavirus | **DTaP/IPV/Hib/HepB**<br>+<br>**Rotavirus** (Rotarix) | **One injection**<br>+<br>**Oral** |
| **Four months** | Diphtheria, tetanus, whooping cough, polio, *haemophilus influenzae b, hepatitis B and* pneumococcal infection and meningitis B | **DTaP/IPV/Hib/HepB**<br>+<br>**PCV (Prevenar13)**<br>+<br>**MenB** (Bexsero) | **Three injections** |
| **12 months** | Measles, mumps, rubella,<br>Hib, meningitis C, pneumococcal infection and meningitis B | **MMR** (MMRvaxPro, Priorix)<br>**Hib/MenC** (Menitorix)<br>**PCV** (Prevenar13)<br>**MenB** Bexsero | **Four injections** |
| **18 Months**<br>(or 3 months after MMR1) | Measles, mumps, rubella<br>There needs to be a three month gap between the two doses of MMR for children in this age group. | **MMR**<br>(MMRvaxPro, Priorix) | **One injection** |
| **2,3,4,5,6,7 year olds** | Seasonal flu | **Fluenz -** nasal vaccine | **One dose**<br>Each year |
| **Three years and 4 months and over** | Diphtheria, tetanus, whooping cough and polio | **dTaP/IPV** (Infanrix/IPV)<br>*(NB Boostrix - DTaP/IPV for pregnant women 20-32 weeks. Can be given later if missed.)* | **One injection** |
| **12 to 13 years** | Cervical cancer and genital warts<br>Children in school year 8 and above are immunised against **Human Papilloma Virus** by school nurses. | **HPV (Gardasil)**<br>TWO doses 6-12 months apart | **Two injections** |
| **13 to 18 years** | Diphtheria, tetanus, polio and meningitis types ACW and Y | **Td/IPV (Revaxis)**<br>**+**<br>**MenACWY** | **Two injections** |

# Appendix B

## Childhood immunisations:  parent and carer survey insights

To provide insight into parental and carer attitudes to childhood immunisations, a survey was distributed to all parents of children under 5 years in Sevenfields and North Lewisham Primary Care Networks (areas currently experiencing lower levels of MMR vaccination uptake). The survey was distributed via text message from the GP practices in these networks. There were 83 respondents.

The survey consisted of 9 questions:

1. Did you receive information about what vaccinations are advised for your child from a healthcare professional?
2. Did you feel you received enough information on the vaccinations?
3. How easy was it to understand the information you received on vaccinations?
4. Which would be your preferred method of receiving information on immunisations?
5. Were you contacted by your GP practice to make an appointment for your child's immunisation?
6. How convenient was the appointment time you could get?
7. Did you attend the immunisation appointment and get your child vaccinated?
8. If you did not attend the immunisation appointment, what prevented you from doing so?
9. Is there anything that could further support you to have your child vaccinated?

### *Summary of survey responses*

The headlines from the survey responses were:

- Health visitors were reported to be the main source of information on vaccinations for parents/carers, accounting for 53% of respondents. 43% of respondents said they received information about vaccinations from their GP/Doctor and 27% from their Midwife. 18% of respondents said they received no information about vaccinations from a healthcare professional. Some said they got their information from other sources including parents and friends and the Red Book.

- 59% of respondents felt they received enough information on the vaccinations, 41% felt they did not.

- Most respondents found the information received on vaccinations easy (47%) or somewhat easy (23%) to understand. 12% of respondents found it either somewhat difficult or difficult.

- Several respondents mentioned in further comments that they did their own research, others mentioned that they asked or were given more information in the appointments themselves, which didn't offer time to digest the information. Some said that they felt there was limited details on what the vaccinations were, why they were important and what to expect in terms of side effects to look out for. Some mentioned they received no information regarding vaccinations. A couple of

respondents mentioned conflicting information regarding the immunisation schedule from health professionals left them feeling unsure.

- Over half of the respondents (52%) said that they would prefer to receive information from immunisations from health professionals. 30% said they would prefer to receive information via websites and 13% from leaflets.

- 47% of respondents said they were asked to make an appointment by their GP practice, 22% said they contacted the GP practice to arrange the appointment themselves and 13% said they were sent an appointment. 12% said they were not contacted by their GP practice.

- Around 90% of respondents felt the appointment time was between somewhat and extremely convenient.

- 86% of respondents attended the immunisation appointment and their child was vaccinated.

- The main reasons given for attending the appointment and vaccinating their child were, because they felt vaccines were important and wanted to protect their child from getting sick.

- For those that either did not attend or did not have their child vaccinated, the reasons ranged from lack of awareness of the vaccination schedule, issues with the appointment – including unsuitable timing, cancellation or child sickness - to one respondent said they made an informed decision not to vaccinate their child.

- Respondents agreed with the range of options offered regarding potential additional support that could be provided to have their child vaccinated. Over 50% thought Saturday appointments and walk in clinics would help, and over 40% felt evening appointments and conversations with a health professional would support them to have their child vaccinated.

- When asked to state, in their own words, what support parents/carers would like to further support them to have their child vaccinated, responses other than the choices offered above included:
    - Text and phone reminders
    - More consistent information on the local vaccine schedule i.e. accelerated MMR booster programme (18 months)
    - A poster checklist chart or leaflet with the local vaccine schedule for families to have somewhere visible in the home as a reminder of what vaccines their child has had and what vaccines are due and when
    - More accessible information on the vaccines (both recommended and additional e.g. chickenpox): what they are, why they are important, possible side effects, before & after care – e.g. paracetamol
    - More appointment flexibility and availability
    - Something to incentivise and reassure the children at the appointment– e.g. stickers, using a teddy as a role play

# Appendix C

## Prenatal pertussis vaccination uptake: pregnant women and birthing people's survey insights

An online survey using Microsoft forms (which translated into multiple languages) was distributed via the Lewisham Council e-newsletter and on social media, as well as being shared by members of the Maternity Voices Partnership to their networks. The aim of the survey was to understand:

1) the level of awareness pregnant women and birthing people in Lewisham had of the whooping cough vaccination offered during pregnancy
2) what may be preventing people from taking the vaccine
3) what we could do to better support residents to make an informed decision about this.

The survey ran for 3 weeks, between 7th June 2024 to 28th June 2024. There was a total of 68 responses. (48)

The survey consisted of 7 questions:

1. Did you know that whooping cough in young babies can be prevented by vaccination for pregnant women and birthing people?
2. Did you receive information about the whooping cough vaccine for pregnant women and birthing people from a healthcare professional? Please tick all that apply.
3. Do you feel you received enough information on the whooping cough vaccine for pregnant women and birthing people?
4. If yes, how easy was it to understand the information you received on the whooping cough vaccine for pregnant women and birthing people?
5. Did you decide to have the whooping cough vaccination offered during pregnancy?
6. If you did not get the whooping cough vaccination during pregnancy, can you tell us what prevented you from doing so? If it was something other than the options listed, please specify.
7. Which of the options do you feel would support pregnant women and birthing people to take up the whooping cough vaccine? If you have other suggestions, please write this in "Other".

### *Summary of survey responses*

The headlines from the survey responses were:

- 94% of respondents knew that whooping cough in young babies is preventable by vaccination during pregnancy.
- 78% of respondents received information about the whooping cough vaccine from their midwife. 10% said they received information from their GP. 6% said they received no information.
- 85% felt they received enough information on the whooping cough vaccine during pregnancy.
- 91% found the information provided extremely easy or somewhat easy to understand. 2% found it difficult to understand.

- 87% of respondents decided to have the prenatal pertussis vaccination.
- Of the 13% who decided not to have the prenatal pertussis vaccination, the reasons given for not having the vaccine included:
    - language barriers
    - mistrust of medical services
    - insufficient information provided
    - offered vaccine too close to their due date
    - making an informed decision
    - anti-vaccine sentiments
- Highest scoring suggestions of how to support uptake of the prenatal pertussis vaccine included:
    - 27% more time to speak to a professional
    - 18% weekend appointments
    - 15% information in other languages
    - 14% appointment text reminders
    - 13% evening appointments
- The other main suggestions respondents gave to support uptake included:
    - A more thorough explanation of what the vaccine is, details of the risks and benefits to mother and baby of taking or not taking the vaccine in appointments. Don’t assume patients know this.
    - More accessible formats – easy read, large print, YouTube video, British Sign Language
    - More appointment options at the hospital
    - Offering the vaccine as part of scheduled antenatal appointments
    - Local GP appointments bookable by midwives