

Immunisations in Southwark: Pre-school programmes

Southwark's Joint Strategic Needs Assessment

Southwark Public Health Division

April 2019

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GATEWAY INFORMATION

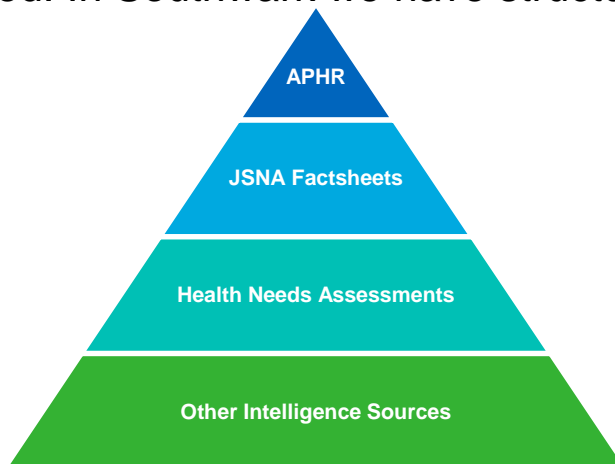
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Prepared by:	Miriam Bullock
Contributors:	S Robinson, N Cooke-O'Dowd, C Williamson, S Regmi, T Boshari, M Sharma
Approved by:	Kevin Fenton
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Contact details:	publichealth@southwark.gov.uk
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Health Needs Assessments form part of Southwark's Joint Strategic Needs Assessment process

BACKGROUND

The Joint Strategic Needs Assessment (JSNA) is the ongoing process through which we seek to identify the current and future health and wellbeing needs of our local population.

- The purpose of the JSNA is to inform and underpin the Joint Health and Wellbeing Strategy and other local plans that seek to improve the health of our residents.
- The JSNA is built from a range of resources that contribute to our understanding of need. In Southwark we have structured these resources around 4 tiers:



Tier I: The Annual Public Health Report provides an overview of health and wellbeing in the borough.

Tier II: JSNA Factsheets provide a short overview of health issues in the borough.

Tier III: Health Needs Assessments provide an in-depth review of specific issues.

Tier IV: Other sources of intelligence include Local Health Profiles and national Outcome Frameworks.

- This document forms part of those resources.
- All our resources are available via: www.southwark.gov.uk/JSNA

This needs assessment aims to highlight opportunities to improve immunisation uptake in 0-3 year olds

AIMS & OBJECTIVES

The aim of this Joint Strategic Needs Assessment (JSNA) is to provide an overview of immunisations in pre-school children (aged 0-3 years) to inform development of the Southwark Immunisation Strategy and Action Plan.

The objectives are to:

- Summarise uptake of routine and selective 0-3s immunisation programmes in Southwark
- Benchmark immunisation uptake in Southwark compared to London and England
- Provide an overview of relevant national and regional policies on immunisations
- Consolidate stakeholder views with available data to ascertain barriers, challenges, and areas for improvement
- Identify local opportunities to improve immunisation uptake
- Make broad evidence-based recommendations to inform development of the Southwark Immunisation Strategy and Action Plan

Different immunisation programmes in Southwark present different challenges.

This report is the first part of a series of three JSNAs covering immunisations across the life course. Reports focused on school-aged programmes (part 2) and adult immunisations (part 3) should be read alongside this one.

This report is part of a series of immunisation needs assessments that cover vaccinations across the life-course

SCOPE

Needs Assessment	Immunisation programme	Vaccine
Part 1: Pre-school (0-3 years)	Routine	<ul style="list-style-type: none"> ▪ DTaP/IPV/Hib/HepB (6-in-1) ▪ PCV ▪ Rotavirus ▪ Men B ▪ Hib/Men C ▪ MMR ▪ DTaP/IPV (4-in-1) booster
	Selective	<ul style="list-style-type: none"> ▪ Hep B ▪ BCG
	Flu	<ul style="list-style-type: none"> ▪ All children aged 2-3 years ▪ Children at-risk* (6 months – 17 years**)
Part 2: School-age (4-16 years)	Routine	<ul style="list-style-type: none"> ▪ Td/IPV ▪ HPV ▪ MenACWY
	Flu	<ul style="list-style-type: none"> ▪ School-aged (4-10 years) ▪ School aged children at risk (covered in the pre school JSNA)
Part 3: Adults (17+)	Routine	<ul style="list-style-type: none"> ▪ PPV (Pneumococcal Polysaccharide vaccine) ▪ Shingles (Herpes Zoster) ▪ Maternal pertussis
	Flu	<ul style="list-style-type: none"> ▪ Adults at-risk* (17-64 years old) ▪ Older adults (65+ years old) ▪ Pregnant women

*Children & adults are considered to be clinically 'at-risk' if they have a serious medical conditions. This includes, but is not limited to, chronic respiratory disease, chronic learning disability, splenic dysfunction/asplenia, weakened immune system, morbid obesity¹

** All children clinically at risk of flu will be covered in the pre-school JSNA from 6 months to 17 years for convenience

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Immunisation is both a life-saving and cost-effective intervention

INTRODUCTION

Vaccination is the safest and most effective way of protecting individuals and communities from vaccine preventable diseases. National immunisation programmes have led to exceptional reductions in the incidence of previously common disease, and related deaths.

- According to the World Health Organization (WHO), an estimated 2-3 million deaths from diphtheria, tetanus, pertussis and measles are averted each year due to immunisations¹.
- Since the introduction of measles vaccination in the UK, measles notifications fell from 236,154 cases in 1968 to 1,642 in 2016; a decrease of 99.3%²
- Immunisations are highly cost effective – the total cost of the 2012-2013 measles outbreak in Merseyside has been modelled at £4.4million. The additional vaccinations required to raise coverage to the herd immunity threshold of 95% was £182,909³.

Nevertheless, inequalities persist in immunisation uptake. A number of groups of children (e.g. those who are disadvantaged, looked-after, minority ethnic, or are from a large family (≥4 children)) are less likely to be fully immunised.

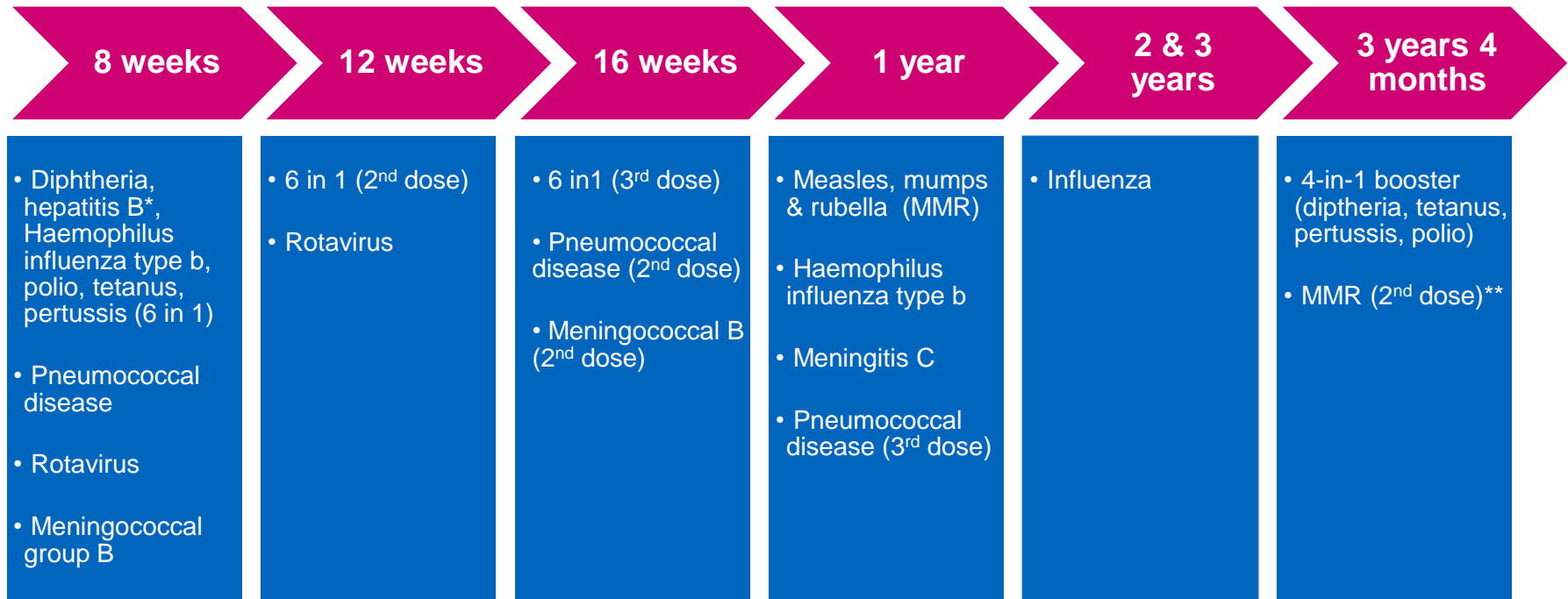
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1. World Health Organization. Immunisation coverage <http://www.who.int/en/news-room/fact-sheets/detail/immunization-coverage>
2. Public Health England
3. Ghebrehewet S, Thorrington D, Farmer S, et al. The economic cost of measles: Healthcare, public health and societal costs of the 2012-13 outbreak in Merseyside, UK. *Vaccine*. 2016;34(15):1823-31.
4. Department of Health (DoH) (2009) Healthy Child Programme from 5-19 year old

The routine immunisation schedule provides a universal offer to all children under 4 years

INTRODUCTION

The NHS aims to protect children against several diseases by offering a range of routine immunisation programmes to children under 4 years old.



* Added to routine schedule September 2017

**MMR (2nd dose) is given from 18 months old in Southwark

Selective vaccination programmes aim to protect infants at higher risk of hepatitis B, tuberculosis and flu

INTRODUCTION

In addition to the routine programmes, there are a number of selective immunisation programmes offered to targeted children:

Hepatitis B

- An accelerated schedule is given to babies born to mothers screened positive for hepatitis B during pregnancy
- These high risk babies should have 6 doses of vaccine by the time they are 1 year old

BCG

- BCG is offered in areas of the country where the incidence of TB is 40/100,000 or more, and this includes a universal offer to all babies born in a London hospital.
- This offer is for babies from 0-28 days old, and in addition, vaccination is also offered to high risk babies aged 29 days to 12 months. High risk is defined as those with a parent or grandparent who was born in a country where the annual incidence of TB is 40/100,000 or more.

Influenza

- In addition to the routine universal flu vaccine offered to all 2 and 3 year olds, flu vaccine is also given to children from 6 months old who have a long term health condition or who are immunosuppressed

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European and national polices aim to improve coverage and reduce inequalities in vaccination uptake

NATIONAL POLICY CONTEXT

Vaccination programmes aim to achieve a level of coverage that confers herd immunity; a form of indirect protection that occurs when a large percentage of a population has become immune to an infection, thereby providing some protection for individuals who are not immune. There are a range of national and international policies and strategies that seek to improve the coverage of vaccination programmes:

- WHO Europe's immunisation work is guided by the **European Vaccine Action Plan 2015-2020 (EVAP)¹**, which was adopted in 2014 and includes commitments to eliminate measles and rubella and control hepatitis B infection, amongst others. Two of the **EVAP objectives** are:
 - to ensure individuals understand the value of immunisation services.
 - that the benefits of vaccination are equitably extended to all people through tailored, innovative strategies to reach the underserved.
- The **Green Book²** provides comprehensive and up to date information about all vaccinations and procedures in the UK. The aim of the routine childhood vaccination schedule is to offer early protection against those vaccine preventable diseases that are most dangerous to the very young.
- **NHSE/PHE Immunisation and Screening National Delivery Framework & Local Operating Model³** – sets out how, after 1 April 2013, national, regional, and local operational and governance arrangements for national screening and immunisation programmes in England will be coordinated.

References

1. www.euro.who.int/en/health-topics/disease-prevention/vaccines-and-immunization/policy
2. www.gov.uk/government/collections/immunisation-against-infectious-disease-the-green-book
3. www.england.nhs.uk/wp-content/uploads/2013/05/del-frame-local-op-model-130524.pdf

A number of national, regional, and local organisations are involved in immunisation governance and delivery

NATIONAL POLICY CONTEXT

There are a range of organisations across the country involved in childhood immunisation programmes, with different roles and responsibilities:

- **Joint Committee on Vaccines and Immunisation (JCVI); Public Health England; NICE:** Programme-level clinical policy-making, including the vaccination schedule.
- **Department of Health & Social Care:** National strategic oversight, policy and finance of national programmes.
- **Public Health England:** Working with NHS England to improve and sustain the successful delivery of existing programmes. Communicating clinical policy updates.
- **NHS England:** Routine commissioning of national immunisation programmes.
- **Screening and Immunisation Team (SIT):** Ensuring that immunisation services commissioned by NHS London area team meet national service specifications.
- **Local Authority Public Health:** Independent scrutiny and challenge of immunisation arrangements of NHS(E), PHE and providers. Responsibility for the health of the local population and for reducing health inequalities.
- **CCGs:** a duty of quality improvements regarding immunisation programmes delivered by primary care providers.
- **Primary care providers:** contractual obligation for service delivery.

References

1. NICE Immunisations: reducing difference in uptake in the under 19s, Public health guideline [PH21] Updated 2017
<https://www.england.nhs.uk/wp-content/uploads/2013/05/del-frame-local-op-model-130524.pdf>

NHSE (London) published a 2-year Immunisation plan for London in 2017/18 to improve immunisation uptake

REGIONAL POLICY CONTEXT

In London, commissioning of the immunisation programmes (Section 7a agreement) is done by the NHS England (London) immunisation team.

- This team comprises of PHE and NHSE staff who work together to improve the uptake and quality of commissioned vaccination services in London.
- Providers commissioned for immunisation services include GPs, school-aged vaccination teams, pharmacies, maternity services and some outreach services.

NHSE (London) published a 2-year Immunisation plan for London in 2017/18 to improve immunisation uptake and coverage by aiming to:

- Improve information management systems and data management across London
- Improve provider performance with specified immunisation targets
- Increase patient choice and access
- Capture patient views and experience
- Implement best-practice in call/recall

The London Plan sets out specific targets relating to immunisations for the under 4s:

- 100% of babies at risk of Hepatitis B have serology test and complete schedule by 12 months
- 100% offer of BCG to all new-borns in maternity services, London-wide
- 40% uptake of child flu vaccine at ages 2 and 3
- 95% uptake at 12 months of Meningitis B and Rotavirus
- 95% uptake at 12 months of primary immunisations [preceding 12 months]
- 90% uptake at 24 months of MMR 1st dose and PCV booster
- 85% uptake at 5 years of MMR 2nd dose
- 90% uptake of Hib/MenC

A local steering group monitors immunisation programmes and makes recommendations for action

LOCAL POLICY CONTEXT

Local oversight, scrutiny, and challenge of arrangements between NHSE and providers is the responsibility of the Lambeth & Southwark Immunisation Steering Group.

Functions:

- Monitor local coverage data and make recommendations for action.
- To provide scrutiny and challenge of the arrangements of NHSE, PHE and providers.
- To address inequalities and improve access to under-served groups.
- To review and update the Lambeth and Southwark Immunisation Risk Log.
- To provide assurance to the Director of Public Health of immunisation programme quality.

Membership:

- Public Health Southwark & Lambeth
- South London Health Protection (PHE).
- Southwark and Lambeth CCGs; NHSE London region commissioning.
- Clinical and / or service management colleagues: primary care development; practice nursing; immunisation clinical coordinators; community paediatric and immunisation consultant.

Accountability:

- The Steering Group is accountable to the Southwark CCG Quality and Safety sub-Committee (QSC), which in turn is accountable to the CCG Governing Body.

References

1. Immunisation programmes in Southwark Annual Report 2016/17, Sarah Robinson, Sabrina Kwaa

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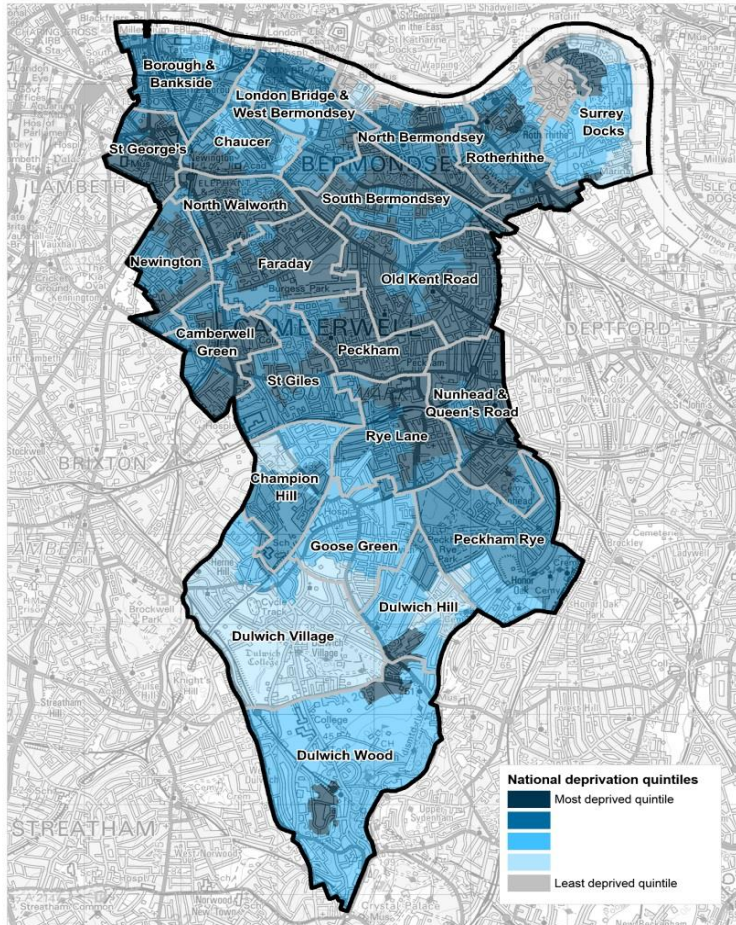
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Southwark is one of the most deprived boroughs in England, with 38% living in the most deprived communities

DEPRIVATION



Indices of Deprivation 2015

Data source: Department for Communities & Local Government
Southwark Public Health Department | People & Health Intelligence | publichealth@southwark.gov.uk
July 2017.
© Crown copyright and database rights 2017. Ordnance Survey (0)100019252

Whilst there has been significant regeneration in Southwark in recent years, the borough remains one of the most deprived in the country.

- Southwark is the 40th most deprived of 326 local authorities in England and ninth most deprived out of 32 local authorities in London.
- Two in five Southwark residents live in communities ranked in the 20% most deprived areas nationally.
- By contrast, only two in one hundred residents live in communities considered the least deprived nationally.
- We also know that around a quarter of under 16 live in poverty, compared to just over 18% in London as a whole.

References

1. Annual Public Health Report of the Director of Health and Wellbeing 2017, London Borough of Southwark

The population of Southwark is young, diverse and expected to increase by 20% in the medium term.

SOUTHWARK DEMOGRAPHICS

Southwark is a young, mobile and culturally diverse borough with large numbers of working age adults and residents from a wide range of ethnic backgrounds.

- Home to some 312,000 people, Southwark has a comparatively young population; median age (32.9 yrs) is two years younger than London. This is due to a large number of young working age residents; over 40% of the Southwark population is aged 20 to 39, compared to just 34% in the rest of London. Latest estimates show there are just under 22,000 children aged 0 to 4 years living in the borough.
- Our population is also highly mobile, between 2016 and 2017:
 - 847 children aged 0-4 moved into Southwark from other parts of the UK (approximately 4% of the age group)
 - 1,910 children aged 0-4 moved out of Southwark to other parts of the UK (approximately 9% of the age group)
- Just over half of Southwark's residents are White, a quarter Black and a quarter Asian, mixed or other ethnicities. The population under 20 is much more diverse than other age groups, with a similar proportion of young people from White and Black ethnic backgrounds.
- The population of Southwark is growing rapidly, with projections suggesting there will be an additional 63,000 people in the borough by 2026.

References

1. Annual Public Health Report of the Director of Health and Wellbeing 2017, London Borough of Southwark

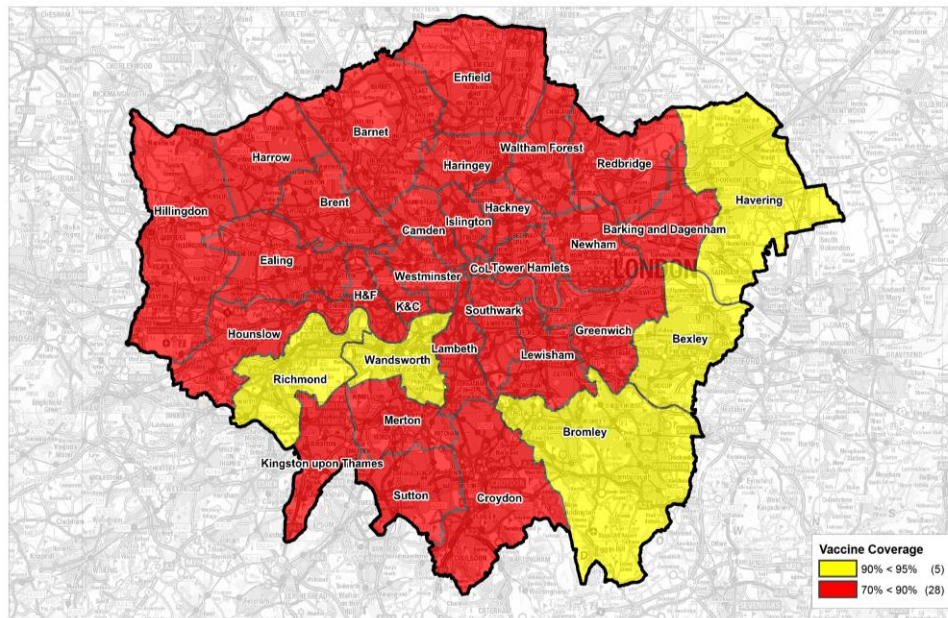
Coverage rates are lower in London than in the rest of England – Southwark reflects the London average

LOCAL, REGIONAL AND NATIONAL COVERAGE DATA

Coverage rates for 0-3 immunisations in most regions of England are 90-95%, with some variation by vaccination / age of vaccination.

- Across the majority of London boroughs – including Southwark – coverage rates for most vaccinations are below 90%.
- In 2017-18, for example, coverage of MMR in Southwark was 87.8%, compared to 85.1% in London and 91.2% in England.

Figure 1: MMR 1st dose at 24 months 2017-18



References

1. Source: NHS Digital Childhood Vaccination Coverage Statistics 2017-18
2. © Crown copyright and database rights 2018, Ordnance Survey (0) 100019252

Ten year trends of primary immunisations show coverage has increased, but still falls below 95% targets

COVERAGE OF DTAP/IPV/HIB

Primary immunisation rates in Southwark (i.e.: those given before 12 months of age) have increased substantially over the last 10 years and are now closely aligned with London and national average.

- The national and London target for DTaP/IPV/Hib (6in1*) is 95%.
- The latest available data places vaccine uptake of the 6in1 at 12 months of age at approximately 90% in Southwark and London, and 93% in England overall. This represents a modest increase in take-up in England, but a marked increase in take-up in London and Southwark.
- Coverage of the DTaP/IPV booster, given at 3 years 4 months old, has increased since 2006-7 - from 54.5% to 83.5%. Again, Southwark's coverage at 5 years broadly matches London rates.

Figure 2: DTaP/IPV/Hib* at 12 months

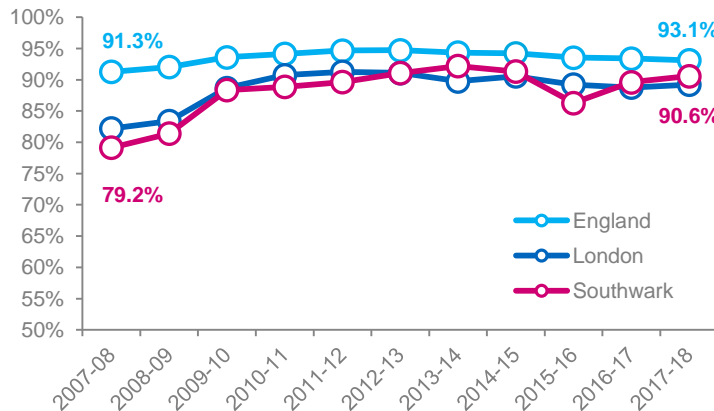
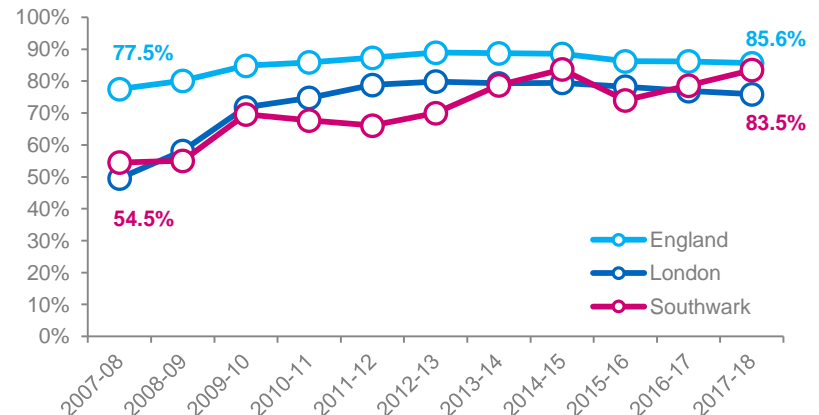


Figure 3: DTaP / IPV Booster at 5 years



References

1. Source: NHS Digital Childhood Vaccination Coverage Statistics

* Hepatitis B was added to the 5in1 in September 2017 and is now known as the 6 in 1

Uptake of MMR vaccine in Southwark is higher than in London but remains below the target

COVERAGE OF MMR

The NHSE London target for MMR1 at two years old is 90%, and for MMR2 at 5 years old is 85%.

- Southwark achieved 87.8% uptake for MMR1 in 2017/18, and nearly 81.8% for MMR2 - above London rates but below England and below target. By 5 years, MMR1 coverage had risen to 92.7%
- Second dose coverage levels being lower than first dose suggests that reasons other than vaccine hesitancy may be contributing to below-target take up, e.g. accessibility or awareness. The higher coverage of MMR1 by 5 years suggests that some of those that miss the scheduled first dose MMR go on to receive it at a later stage.
- Since 2008, Southwark has encouraged its GP practices to run an accelerated MMR programme, with second MMR dose currently offered from 18 months. This was as a result of several outbreaks of measles and aimed to protect children earlier and improve uptake

Figure 4: MMR1 at 24 months

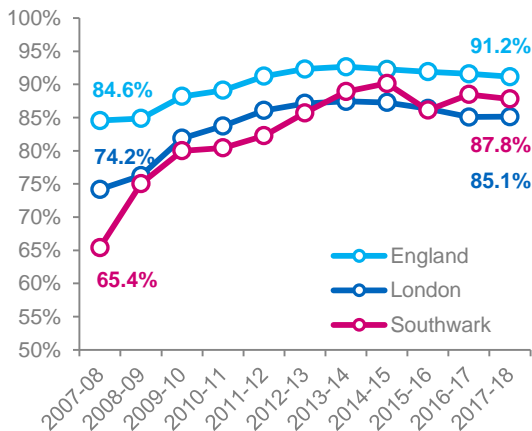


Figure 5: MMR1 uptake at 5 years

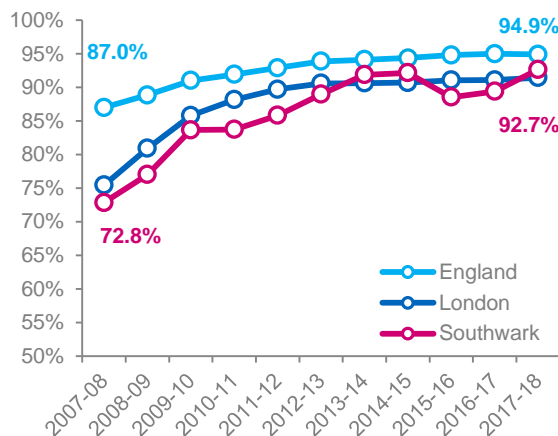
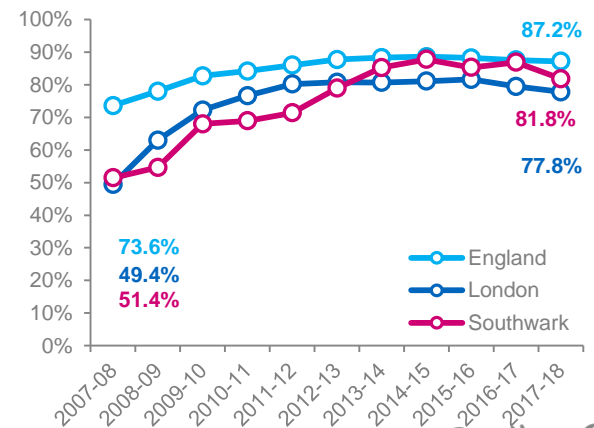


Figure 6: MMR2 uptake at 5 years



References

- Source: NHS Digital Childhood Vaccination Coverage Statistics

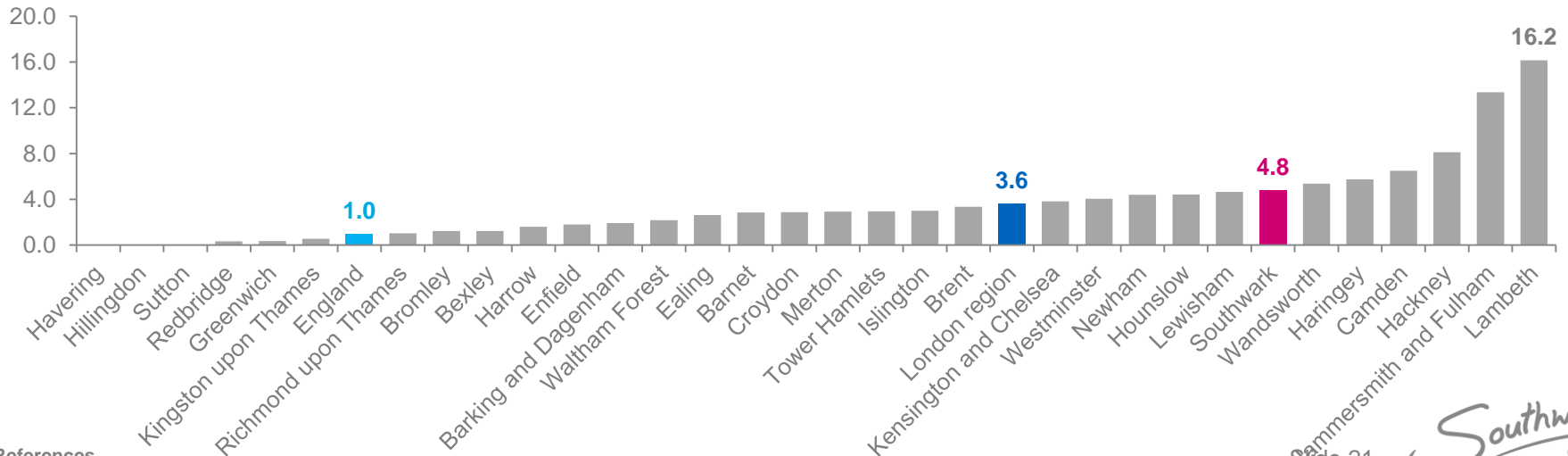
The impact of low vaccination coverage in Southwark: outbreaks of vaccine-preventable disease

THE IMPACT OF LOW UPTAKE

The herd immunity threshold for measles exceeds 90%. Vaccine coverage below this level will prevent achievement of herd immunity in 0-5 age group, risking ongoing transmission between non-vaccinated individuals in the event of an imported case.

- Figures for 2016 show there were 15 confirmed cases of measles in Southwark, compared to 2 cases in 2012.
- Levels of measles in the borough in 2016 were significantly above national levels, and amongst the highest in London. Neighbouring Lambeth had the highest diagnosis rate that year, with 53 confirmed cases.
- Public Health England also declared several measles outbreaks in England in 2018, despite the WHO declaring measles eliminated from the UK in 2016.

Figure 7: Rate of new diagnosis of confirmed cases of measles per 100,000 in 2016



References

1. Public Health England Health Protection Profiles.

Immunisation coverage across Southwark shows wide variation when examined by practice

THE LOCAL PICTURE: PRACTICE LEVEL COVERAGE

Patterns of immunisation coverage across both GP Federations in Southwark showed greater variation between practices in Quay Health Solutions for most vaccinations in 2017/18.



Figure 8 : Box Plots displaying immunisation coverage in practices based across both GP Federations in Southwark

Timely selective hepatitis B vaccination is challenging and the BCG programme has modest take up

UPTAKE IN SELECTIVE IMMUNISATION PROGRAMMES

Hepatitis B vaccination in high risk babies

- All babies born to hepatitis B positive mothers should receive a complete accelerated course of vaccine:
 - dose 1** - given within 24 hours of birth (in hospital)
 - dose 2** - at 4 weeks old (by general practice)
 - doses 3, 4 & 5** - at 8/12/16 weeks old by GP (hep B is now in the 6in1)
 - dose 6** - at 1 year of age along with a test for infection (both in general practice),
- Timing of the first and second doses are very important and there are known to be challenges with the second dose in general practice.

BCG vaccination

- Of 2,477 babies born January to March 2017, more than 97% were offered a vaccination appointment and the overall uptake was 50%.
- Recent vaccine shortages in 2015 are likely to have disrupted local programmes.
- Between October 2016 and April 2017, 2,761 children received their BCG vaccination: 1,531 (aged 29 days to 12 months in high risk group) and 1,230 in the universal service since Feb 17 (0-29 day olds).

Flu vaccination uptake is low in those children who have a long term condition and are particularly at risk

UPTAKE IN SELECTIVE IMMUNISATION PROGRAMMES

Flu vaccination in clinically at risk children

- The flu vaccine is given to children from 6 months old who have a serious medical condition:
 - Chronic respiratory or heart disease
 - Chronic kidney or liver disease
 - Chronic neurological disease or learning disability
 - Morbid obesity (defined as BMI \geq 40
 - Diabetes
 - Splenic dysfunction or asplenia
 - Weakened immune system
- For babies 6 months to <2 years old the recommended vaccine is an inactivated injected vaccine and for children 2 years and older are given a live nasal spray
- Uptake in the 2017/18 season in this group was approximately 45% in Southwark. Published data is not split further by age group for all clinically at risk people from the age of 6 months to under 65 years.
- Data for at risk 2 and 3 year olds shows that uptake is below the target of 55%

Table 1: Uptake of flu vaccination in 2017-18 (provisional data to end of January 2018)

	Southwark	London	England
All 2 year olds (2017/18 target = 40-65%)	36.7%	33.2%	42.8%
2 year olds at risk (2017/18 target = 55%)	54.3%	46.2%	54.1%
All 3 year olds (2017/178 target = 40-65%)	35.9%	33.3%	44.2%
3 years olds at risk (2017/18 target = 55%)	42.9%	45.6%	56.6%
6mths to <65 years at risk (2017/18 target = 55%)	44.7%	45.4%	48.9%

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Public Health recognises the need for an evidence-based immunisation strategy and action plan for Southwark

THE LOCAL RESPONSE

The London 2-year Immunisation plan

- The London plan gives clear coverage targets for the under 5s, and provides a comprehensive set of system priorities.
- System priorities are: improving information management systems, improving provider performance, increasing patient choice and access, capturing patient views and experience, and implementing best-practice in call/recall.

Recognition of vulnerable groups

- A project to evaluate the increased risk of under-immunisation amongst looked after children¹ and children attending complex needs primary and secondary schools² has been undertaken by the Community Paediatric service, and recommendations made.
- In 2017, rates of immunisation for children in care in Southwark were 90.2%, compared to 81.8% in England.

Strategy development by Southwark Public Health

- Southwark Public Health has identified the need for an evidence-informed immunisation strategy and action plan. This JSNA, together with companion volumes relating to other age groups, will provide the evidence base for a local strategy to support this work.

References

1: Is this looked after child fully immunised? A comparison of records and the development of an immunisation look-up tool.

Lynn Snow, Ann Lorek, Jennifer Kasule. Adoption & Fostering DOI: 10.1177/0308575913490858 2013

2: Immunisation uptake in children attending complex needs primary and secondary schools.

Dr Claire Wicks, Dr Tamara Zerby, Dr Ann Lorek. Evelina London.

Health Visiting and GP Federations may offer opportunities to improve access and uptake

LOCAL OPPORTUNITIES TO IMPROVE UPTAKE

Health visiting

- The Personal Child Health Record (“red book”) provides a record of a child’s health milestones, including immunisations and Health Visitors could check a child’s vaccination history.
- A digital version of the red book is in development, which will help health professionals determine the vaccination status of a child more easily.

GP Federations may present opportunities to improve access to immunisations

- Southwark has two primary care federations (GP practices working in collaboration) – Improving Health Limited (20 practices in South Southwark) Quay Health Solutions (18 practices in the North)
- Extended Primary Care Services (EPCS): 8am to 8pm GP and practice nurse appointments are available at two locations, one north, one south. This will improve access for some parents.
- Additional nurse appointments available for immunisations are available to Southwark residents on Thursday and Saturday at the Spa Medical Centre, Bermondsey.
- EPCS in South Southwark is available for patients requiring an urgent GP appointment - nurse appointments/immunisations not specified as being available).

CHIS (Child Health Information System)

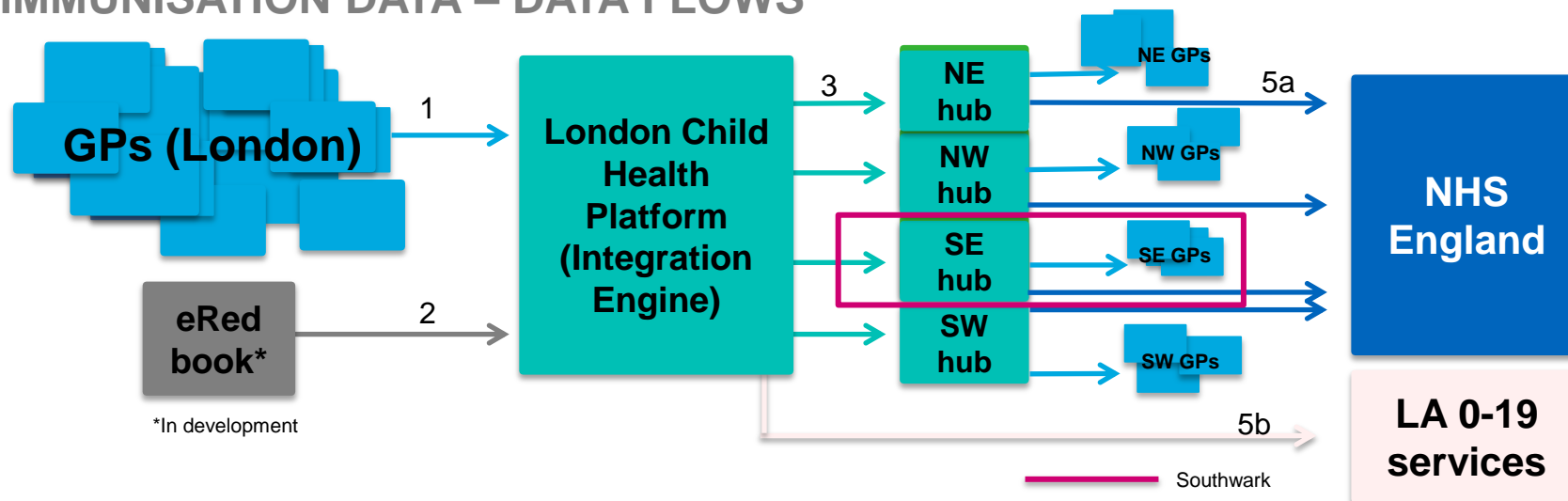
- The CHIS service specification³ includes requirements to: identify all children eligible for the national immunisation programme; trace children who are not currently registered with a GP, record any factors which place a child at risk of having missing immunisations, e.g. looked after children.
- CHIS holds data which would permit analysis of uptake of immunisations in different geographical areas in Southwark, and by demographic characteristics, such as ethnicity.
- It is not currently commissioned to provide a recall service for missed immunisations

References

1. Child Health Information Services (CHIS) Provider Service Specification 2015 NHS England

London immunisation data is extracted from individual GP practices and collated by the SE CHIS hub

IMMUNISATION DATA – DATA FLOWS



- Immunisations data is extracted from GP practices and imported into the London Child Health Platform (1).
- Immunisation information from Personal Child Health Records (red book) is imported into the London Child Health Platform (2).
- The 4 London CHIS hubs receive immunisation data for their geographies (3).
- No immunisation data currently flows from CHIS to GP Practice systems. However, as part of the digital child health strategy, there are plans to have data flowing between provider systems - so from CHIS to GP Practice, for example.
- The CHIS hubs:
 - send immunisation coverage data to NHS England, where it informs national COVER data (5a)
 - send coverage data to individual Local Authority 0-19 services (5b)

Coverage data limitations – migration and data quality may reduce the reliability of coverage data

FACTORS AFFECTING COVERAGE DATA RELIABILITY IN SOUTHWARK

Migration

- Movement into and out of the borough may affect the reliability of the denominator (population size) and the numerator (number of children that are vaccinated)
- NHS England estimate that 1/3 of children in London move at least once by age 1, with turnover of children reaching 40-50% by age 5². [Southwark figures not known].
- Delays in families changing GP registration – GP practices will not remove a child from their register until notified that they have moved, thus inflating the denominator¹
- Children from abroad – accuracy of immunisation history can be harder to assure²

Data quality

- Incomplete data – accuracy of coding and data entry is difficult to assess at practice level¹.
- COVER is the main source of immunisation data: data is extracted from GP systems, which is collated by the CHIS system to produce the COVER reports. COVER data does not capture immunisations given off-schedule, e.g. catch-ups, thus underreporting the numerator.
- BCG – vaccine administered by hospital - risk of incomplete data transfer from hospital to GP.
- Hepatitis B – risk of incomplete information transfer from hospital (mother's blood results) to GP. These patients are often mobile, and more likely to move across GP/LA boundaries.
- Recent national data reports (COVER) acknowledge that the four London CHIS hubs are still in transition and data migration between GPs and hub may be incomplete

References

1. Stakeholder interviews – Community Paediatrician, Immunisations Clinical Coordinator
2. Stakeholder interviews – Principal Advisor for Commissioning Immunisations and Vaccination Services NHS England, data from CHIS audit of movers / removals.

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There are particular groups identified as having lower rates of vaccination than the population as whole

NICE GUIDANCE – GROUPS AT HIGHER RISK

NICE Immunisations: reducing difference in uptake in under 19s states the following groups are at higher risk of incomplete vaccination:

- Those who have missed previous vaccinations (whether as a result of parental choice or otherwise)
- Looked after children
- Those with physical or learning disabilities
- Children of teenage or lone parents
- Those not registered with a GP
- Younger children from large families
- Children who are hospitalised or have a chronic illness
- Those from some minority ethnic groups
- Those from non-English speaking families
- Vulnerable children, such as those whose families are travellers, asylum seekers or are homeless.

References

1. NICE Immunisations: reducing difference in uptake in the under 19s, Public health guideline [PH21] Updated 2017
2. DH 2005; Hill et al. 2003; Peckham et al. 1989; Samad et al. 2006

NICE Guidance makes a number of recommendations that seek to reduce inequalities in vaccine uptake

NICE GUIDANCE – REDUCING INEQUALITIES

NICE published public health guidelines in 2009 that aim to reduce differences in vaccine uptake in under 19s. Six recommendations include:

- 1. Local immunisation programmes:** Monitor vaccination status, improve access to services, improve accountability for vaccinations.
- 2. Information systems:** Individual and population level records are accurate and complete, and recognise risk factors for vaccine absence.
- 3. Training:** Staff are up to date and can give information about risks and benefits.
- 4. Schools, nurseries and colleges:** Schools, nurseries and colleges take on a role in checking vaccination records and signposting parents and young people to information.
- 5. Targeting groups at risk of not being fully immunised:** Ensure immunisations are accessible to those at risk of not being fully immunised – accommodating language, transport, learning, or physical needs, and making particular considerations towards Looked After Children, young offenders, and new migrants.
- 6. Hepatitis B immunisation for infants:** Babies born to Hep B positive mothers should receive immunisation promptly, and mothers' and children's records should be accurate and up to date.

References

1. NICE Immunisations: reducing difference in uptake in the under 19s, Public health guideline [PH21] Updated 2017

Decision making of parents depend on many factors, underpinned by emotions, trust and practicalities

FACTORS AFFECTING VACCINE UPTAKE – EVIDENCE REVIEW 1

Forster et al (2016)¹ performed a qualitative systematic review of 34 studies investigating the factors which influence parental vaccination decision-making. Nine themes were identified:

Compliance	Parents describe being guided into vaccination by ‘the system’ but generally did not object to this
Don’t have a choice	Parents felt pressured to vaccinate, at times incorrectly believing it to be mandatory
Social norms	Decision often based on what they perceived as ‘normal’ culture among their peers
Weighing risks and benefits	Some parents felt that any level of risk was unacceptable. Some parents questioned whether their child would ever be exposed to the disease in question
Others experience/advice	Positive experience of vaccine or negative experiences of the disease led to desire to vaccinate. Converse also true, eg parents who knew an autistic child were dissuaded from MMR
Social judgement	Desire to ‘be a good parent’. Herd immunity was generally seen as secondary to decisions about their own child - the wellbeing of their own child was more important than that of society as a whole
Emotions	Emotions (often via the media) including fear, worry and guilt led to decisions either to vaccinate, to avoid vaccinations or to defer the decision. Parents worried they may regret the decision they made.
Trust	Distrust of government eg MMR controversy, or of research and pharmaceuticals manifested as feeling their children were ‘guinea pigs. Distrust due to GPs being paid for each child vaccinated.
Practicalities	Some parents who wanted to obtain a vaccine failed due to difficulties with travel, childcare, inability to take time off work, missing GP appointments, or being unable to get an appointment.

References

1. Forster, AS et al 2016 A qualitative systematic review of factors influencing parents’ vaccination decision-making in the United Kingdom

Fear of adverse outcomes and perceptions of biased information can contribute to vaccine refusal

FACTORS AFFECTING VACCINE UPTAKE – EVIDENCE REVIEW 2

A systematic review¹ of factors affecting vaccine uptake found:

- A strong association between perception of adverse effects (eg side-effects, allergic reactions, trauma, and becoming ill from the vaccine) and refusal to vaccinate.
- Also between perception that a child was not susceptible to the illness and vaccine refusal. Such an association did not exist with perceptions of the *severity* of the illness. This evidence suggests that communication to encourage vaccination should focus on reducing a child's susceptibility to an illness, rather than the severity of the illness.
- The information parents received about vaccines was found to influence take up, with parental satisfaction with vaccine information associated with increased take-up, but information-seeking behaviour associated with vaccine refusal.
- Other factors associated with increased uptake included: recommendation from health professional, friend or family member; knowledge about the vaccine; & normative beliefs about vaccination.

A second review² focused specifically on parents' and care-givers' views and experiences of communication:

- Parents wanted balanced information about benefits and harms, presented clearly and simply, in good time before their immunisation appointment.
- Parents reported difficulties in finding balanced and unbiased information. Healthcare workers were deemed an important source of information, and poor or negative communication sometimes impacted on vaccination decisions.

References

1. Smith, LE et al 2017 A systematic review of factors affecting vaccine uptake in young children.
2. Ames HM, Glenton C, Lewin S. Parents' and informal caregivers' views and experiences of communication about routine childhood vaccination: a synthesis of qualitative evidence. *The Cochrane Database of Systematic Reviews*. 2017;(2):CD011787. doi:10.1002/14651858.CD011787.pub2

Complex, locally designed schemes to improve uptake are most effective

FACTORS AFFECTING VACCINE UPTAKE – EVIDENCE REVIEW 3

A paper looking at provider communication behaviours¹ found:

- Presumptive communication ('your child is due their vaccine') is associated with greater vaccine acceptance than participatory communication ('would you like your child to have their vaccine?')¹

A systematic review² of interventions to reduce inequalities:

- Found that the interventions with the best evidence for effectiveness were complex, locally designed schemes.
- This included a range of different components; e.g. promotional materials, education, reminders and recalls, outreach (e.g. home visits) and allied health professional training.
- There was some evidence that postal and telephone reminders are effective, particularly those that escalate in intensity.
- There was no evidence computer-based systems were effective. Text messaging produced mixed results, but may be more effective in adolescents.

References

1. Opel, DJ et al 2015 The influence of provider communication behaviours on parental vaccine acceptance and visit experience.
2. Crocker-Buque et al (2016) Interventions to reduce inequalities in vaccine uptake in children and adolescents aged <19 years. A systematic review

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Numerous population factors are affecting the uptake of vaccinations in London and Southwark

STAKEHOLDER VIEWS: FACTORS AFFECTING UPTAKE

Local Stakeholders involved in immunisation commissioning and delivery were also interviewed to identify factors affecting uptake:

Population movement	In and out of London; between boroughs; from abroad; within Southwark. High number of temporarily housed families and individuals not registered with a GP.
Movement of staff	Higher turnover of staff in GP practices and community roles.
Parents' knowledge and understanding	Lack of awareness of changing immunisation pathways and availability.
Accessibility of GPs	Large families face a logistical challenge of attending GP, shortage of trained immunisation workforce.
Trust in the information they receive	Inconsistent messages and information patients suspect may not be accurate, being denied detail may create vaccine hesitancy.
Incomplete data	Accuracy of coding and data entry is difficult to assess and assure at both practice level and in settings other than GPs where immunisations are given.
Financial Incentivisation	Current contracts may not adequately incentivise practices to prioritise immunisation uptake other than for flu.

1. Stakeholder interviews – Principal Advisor of Commissioning Immunisations and Vaccination Services
2. Stakeholder Interview – Immunisations Clinical Coordinator, Guy's and St Thomas' NHS Foundation Trust
3. Stakeholder interviews – NHS England

Stakeholders also identified key population groups less likely to be vaccinated

STAKEHOLDER INTERVIEWS - FINDINGS

The stakeholders interviewed identified a number of population groups that are less likely to be immunised:

- **Underserved population groups in Southwark:** Gypsy and traveller population – mobility; Somali population – vaccine hesitancy; Orthodox Jewish population – practicalities of mobilising large families.
- **New arrivals to Southwark:** either international or domestic
- **Children with additional health needs:** immunisations may not be prioritised
- **Children with safeguarding needs:** more mobile; immunisations may not be prioritised.
- **Looked after children:** more mobile; immunisations may not be prioritised
- **Later-born children:** in larger families, younger children may be less likely to receive vaccinations than their older siblings.
- **Older children:** take-up of immunisations reduces as children get older.

Vaccine hesitancy: is NOT generally thought to be a cause of lower uptake rates – immunisation service colleagues cited system issues, including use of call/recall, as having a much greater impact.

References

1. Stakeholder interviews – Community Paediatrician, Immunisations Clinical Coordinator
2. Stakeholder interviews – NHS England

Stakeholders identified that service structure might affect take up as well as access to accurate data

STAKEHOLDER INTERVIEWS - FINDINGS

The stakeholders interviewed felt that service restructure and access to accurate data might also affect uptake:

- **Service restructure:** until spring 2017, Guy's and St Thomas' NHS Foundation Trust (GSTT) had a role in assuring immunisation rates and in following up non-attenders by phone. This responsibility now rests with GP practices.
- **GP Practice systems:** GP practices may vary in their prioritisation of immunisations, given limited resources. Call/recall systems vary (in design and rigour of application) between GP practices. Lack of assurance that GPs are catching-up all children that move into Southwark.
- **The interface between Health Visiting and GP systems:** GP and Health Visiting systems do not necessarily align – Health Visitors have opportunities to investigate whether vaccinations up to date – opportunities may not always be taken.
- **Resources and contracts:** shortage of trained vaccination nurses in London – a nurse may be employed across several practices - insufficient time to check records, invite and carry out appointments. Current contracts do not incentivise practices to increase uptake.

References

1. Stakeholder interviews – Community Paediatrician, Immunisations Clinical Coordinator
2. Stakeholder interviews – NHS England

Most front line staff practice staff expressed confidence in their systems of call and recall

QUESTIONNAIRE DATA

In addition to stakeholder interviews, questionnaires were distributed to Practice Nurses and Practice Managers in order to gain additional insight regarding the delivery of childhood immunisations. Questionnaires were distributed to:

- Practice Nurses attending annual immunisations update training (58 responses received)
- Practice Managers attending Practice Managers' Forum (12 responses received)

Invite (call) systems:

- 72% of practice nurses stated that “all” or “most” families are contacted and invited for immunisations.
- The majority of practice managers indicated that for all immunisation age points, they contact all of those eligible.
- Most practices reported using a combination of telephone calls, text messages (SMS) and letters to communicate with parents about immunisations.

Quality of recall systems:

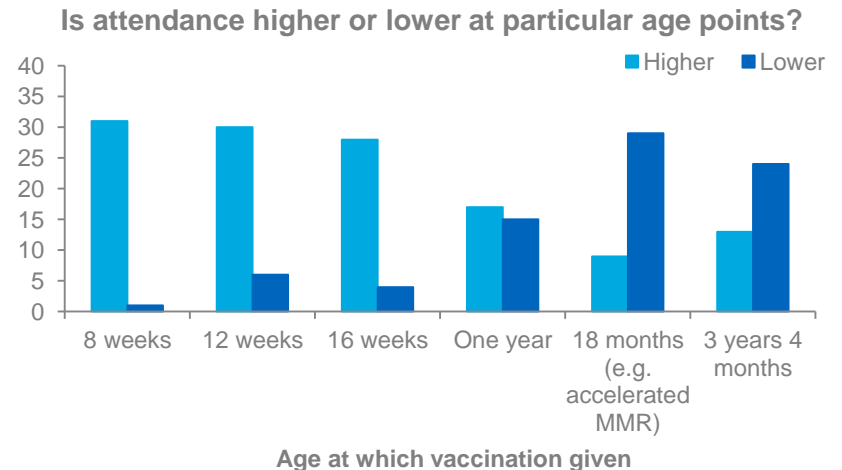
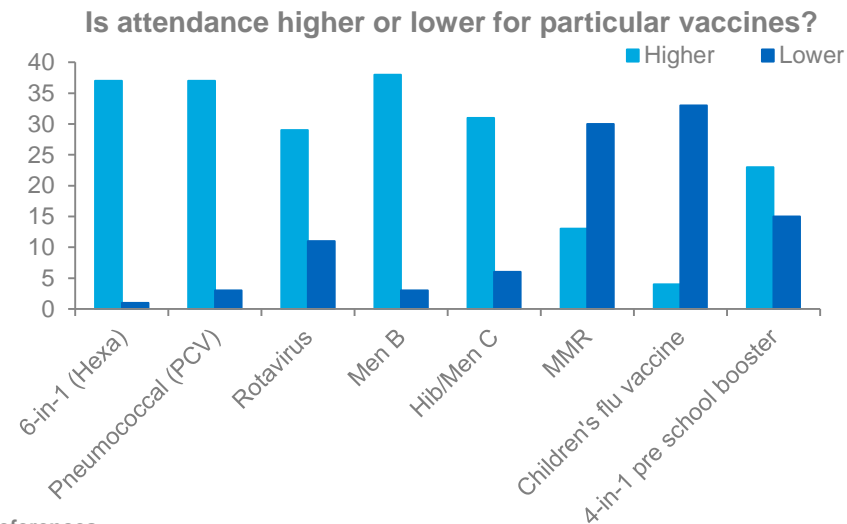
- 73% of practice nurses and managers said they either “agree” or “strongly agree” that they have good systems in place to identify and contact families that do not attend when first invited
- 18 (26%) respondents stated that they did not believe their practice had good systems, or that they did not know, which suggests variation in the practices' prioritisation of immunisations

Practice nurses reported that attendance is higher for early immunisations

QUESTIONNAIRE DATA

Practice Nurses were asked about differences in attendance for particular vaccines and at key age points.

- They reported higher take up of vaccines at 8, 12 and 16 weeks than at one year, 18 months and 3 years 4 months, and commensurate higher take up of vaccines given at these age points.
- Further work is required to improve our understanding of the reasons for this – migration; higher levels of contact with health services in the first weeks; more effective promotion of first immunisations – in order to maintain the higher levels of attendance observed for first immunisations.



References

1. Practice nurse and manager questionnaires, 2018 data.

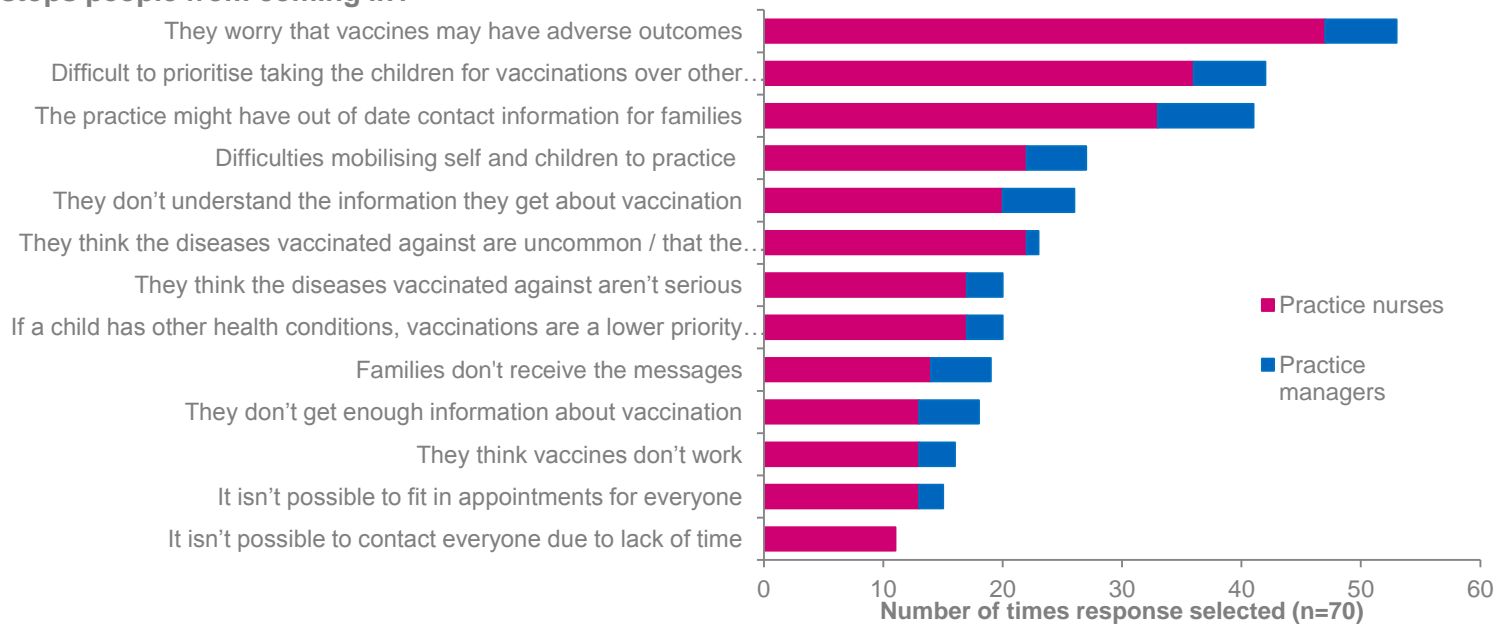
Parental understanding, appointment accessibility and practice systems might be reasons for non attendance

QUESTIONNAIRE DATA

Practice staff were asked what they thought the main reasons for non attendance might be. The main areas of focus included:

- Addressing parental understanding around adverse outcomes and diseases
- Accessibility of appointments / clinics
- Ensuring robust practice invite systems and up to date contact information

We know that sometimes children are not brought in for vaccinations - what do you think stops people from coming in?



References

1. Practice nurse questionnaire data – June 2018, Southwark Council

Suggestions for improving uptake focused on reminders and access to information

QUESTIONNAIRE DATA

Practice nurses and managers were also asked to consider opportunities to improve uptake of vaccinations in Southwark. Five areas were identified, including:

- **More reminders and chasing of missed appointments with parents** was the most common suggestion to improve vaccine uptake.
- **Opportunistic reminding about immunisations** when parents attend the GP for other reasons, and improving the visibility of missed immunisations through records-system alerts.
- **Increasing and diversifying the points at which parents receive information** about immunisations was suggested, eg birthday cards, more information about vaccines and the schedule, Health Visitors promoting immunisations, advice given during the perinatal period, emphasising parents' role in ensuring immunisations take place.
- **Increasing access to immunisations**, either through dedicated clinics or walk-in centres.
- **Centralising the call / recall system**, sharing best practice and increasing administrative or nursing capacity in practices.

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Population factors are affecting coverage and data accuracy, and inequalities in coverage remain

SUMMARY AND KEY FINDINGS

Uptake of childhood vaccinations in Southwark is generally consistent with that in the rest of London, although fall below target levels. Inequalities remain and improvements could be made locally to improve access and uptake. Many factors affect uptake:

Population, migration and data systems

- **Population density** and various forms of **migration** make it particularly challenging for London to achieve the national immunisation coverage targets.
- As well as having the potential to reduce coverage rates, these factors make **accurate data capture** more challenging.
- Public Health do not currently have access to **practice-level data**, and to realise the full potential of the CHIS system.

Inequalities and groups at risk

- Whilst efforts have been made to reduce the risk of under-immunisation in some vulnerable groups, **inequalities may remain**: children with additional health, social or safeguarding needs; new migrants to Southwark, and later-born children of large families are thought to be at risk of going unimmunised.
- Coverage data and practice nurse / manager questionnaire responses indicate that **take-up of vaccines given at older age-points is lower** than those given at 8, 12 and 16 weeks.

Both the call / recall system and the ways parents receive information can influence immunisation decisions

SUMMARY AND KEY FINDINGS

Call/recall

- The decentralisation of the immunisation service – previously held by GSTT, now devolved to individual practices – may have resulted in **inconsistent practices** around call / recall, and the provision of information to parents.
- It is possible that when the call / recall system was operated by GSTT, the immunisation co-ordinator was able to **resolve parental concerns effectively**, hence not thinking such concerns present a barrier to take-up. This may contribute to the strong opinion of these stakeholders that reductions in take-up are more likely attributable to system factors, specifically the decentralisation of call / recall, and subsequent variation in GP practice processes.
- Frontline staff advocate a **MECC approach** to immunisations, with opportunistic reminding by all healthcare staff, and when attending GP for other reasons.

Parental views

- **Worries about adverse outcomes** of vaccines may contribute to non-attendance, as well as information provided, practicalities and emotions (often via the media)
- Parents' default position towards healthcare workers is one of trust. However, if they receive information they perceive as imbalanced or incorrect – even if it is well-intentioned – **they may lose this trust and seek information elsewhere.**
- They wish to receive *unbiased* information and this may present a challenge as healthcare workers **might be perceived as biased in favour of immunisations.** In pursuing simplicity in our messaging about immunisations – which may include decisions not to give 'air time' to those who oppose vaccination, we risk arousing suspicion in some parents.

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A Southwark strategy should target data quality, parental information, call/recall systems and those at risk

RECOMMENDATIONS

Recommendation	Details	Suggested Owner
STRATEGIC APPROACH		
Immunisation strategy	<ul style="list-style-type: none"> ▪ Set up a steering group to drive forward the recommendations ▪ Develop a robust action plan to address areas for improvement and with the aim to increase uptake over two years 	Public Health, CCG, SL Health Protection Team, NHSE
INTELLIGENCE		
Data flows and capabilities	<ul style="list-style-type: none"> ▪ Improve our understanding of data flows and capabilities of CHIS ▪ Map data flows and further develop understanding of data quality ▪ Develop data sharing agreements and work with Health Intelligence (CHIS) to receive data 	Public Health, CHIS
Data quality and sharing of information	<ul style="list-style-type: none"> ▪ Identify data required for borough-level monitoring and influencing of uptake, and more detailed data regarding the groups that do and do not get vaccinated eg by ethnicity, geography. ▪ Work with practices to improve data quality 	Public Health, CCG, GP practices

A Southwark strategy should target data quality, parental information, call/recall systems and those at risk

RECOMMENDATIONS

Recommendation	Details	Suggested Owner
PRACTICE SYSTEMS		
Improve call / recall systems	<ul style="list-style-type: none"> ▪ Assess options for quality-assurance systems for call / recall, including: <ul style="list-style-type: none"> ○ centralisation of call / recall; ○ regular audits of practice call/recall system ▪ Assess options for fortifying reminder systems, e.g. increasing frequency; more opportunistic reminding (MECC); better chasing up of missed appointments. 	Public Health, CCG, GP practices
UNDERSERVED POPULATIONS		
Targeted approach to particular groups	<ul style="list-style-type: none"> ▪ Develop our understanding of the prevalence of factors that place children at higher risk of missing immunisations. ▪ Map who and where our underserved populations are ▪ Assess options for improving access, e.g. the feasibility of walk in clinics, increasing clinic hours and home visits. 	Public Health, CCG, GSTT Community
Targeted approach for particular immunisations	<ul style="list-style-type: none"> ▪ Explore options for improving coverage: <ul style="list-style-type: none"> ○ MMR ○ Hepatitis B for babies born to Hepatitis B positive mothers / who are otherwise at high risk ○ Gain understanding about uptake at scheduled vaccination ages or of particular vaccines and identify opportunities for improvement 	Public Health, CCG, NHSE, GP practices

A Southwark strategy should target data quality, parental information, call/recall systems and those at risk

RECOMMENDATIONS

Recommendation	Details	Suggested Owner
INFORMATION & REMINDERS		
Information and reminders to parents and carers	<ul style="list-style-type: none"> ▪ Look into the information provided by hospitals, health visitors and GP practices. ▪ Develop ways of providing information about vaccinations to parents at specific age points, for example to parents of children about to start school 	Public Health, CCG
MECC approach	<ul style="list-style-type: none"> ▪ Consider opportunities to include immunisation in the new Health Visitor specification ▪ Consider opportunities to include immunisation in the new School Nurse specification 	Public Health, GSTT Community

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