

2.7 Immunisation

The purpose of immunisation is to protect individuals and communities from the risks of infectious diseases by individual and 'herd immunity' through the use of inactivated or live attenuated vaccines, that create a response in the recipient that renders them unsusceptible to serious infection. The whole community is protected (herd immunity) when levels of vaccination coverage for a specific disease are achieved, as enough people in the community are protected to stop the spread of that disease.

The general targets for immunisation uptake rates are based on the World Health Organisation (WHO) approach. In the UK, these are 95% uptake for routine childhood immunisations. This level is sufficiently high to prevent any sustained circulation of the infectious agent, which then protects everyone in the population whether they have been immunised or not. Preventing infectious disease spread through immunisation is known to be one of the most effective, safe and cost-effective of all health interventions.

Table 2.7.1: Routine childhood immunisation programme for the UK, Summer 2016

Routine childhood immunisations		from Summer 2016		
When	Diseases protected against	Vaccine given and trade name		Usual site ¹
Eight weeks old	Diphtheria, tetanus, pertussis (whooping cough), polio and <i>Haemophilus influenzae</i> type b (Hib)	DTaMPV/Hib	Pediacel or Infanrix IPV Hib	Thigh
	Pneumococcal (13 serotypes)	Pneumococcal conjugate vaccination (PCV)	Prevenar 13	Thigh
	Meningococcal group B (MenB) ²	MenB ²	Bexsero	Left thigh
	Rotavirus gastroenteritis	Rotavirus	Rotarix	By mouth
Twelve weeks old	Diphtheria, tetanus, pertussis, polio and Hib	DTaMPV/Hib	Pediacel or Infanrix IPV Hib	Thigh
	Rotavirus	Rotavirus	Rotarix	By mouth
Sixteen weeks old	Diphtheria, tetanus, pertussis, polio and Hib	DTaMPV/Hib	Pediacel or Infanrix IPV Hib	Thigh
	Pneumococcal (13 serotypes)	PCV	Prevenar 13	Thigh
	MenB ²	MenB ²	Bexsero	Left thigh
One year old	Hib and MenC	Hib/MenC	Menitorix	Upper arm/thigh
	Pneumococcal	PCV	Prevenar 13	Upper arm/thigh
	Measles, mumps and rubella (German measles)	MMR	MMR VaxPRO ³ or Priorix	Upper arm/thigh
	MenB ²	MenB booster ²	Bexsero	Left thigh
Two to seven years old (including children in school years 1, 2 and 3) ²	Influenza (each year from September)	Live attenuated influenza vaccine LAIV ⁴	Fluenz Tetra ³	Both nostrils
Three years four months old or soon after	Diphtheria, tetanus, pertussis and polio	DTaMPV	Infanrix IPV or Repevax	Upper arm
	Measles, mumps and rubella	MMR (check first dose given)	MMR VaxPRO ³ or Priorix	Upper arm
Girls aged 12 to 13 years	Cervical cancer caused by human papillomavirus (HPV) types 16 and 18 (and genital warts caused by types 6 and 11)	HPV (two doses 6-24 months apart)	Gardasil	Upper arm
Fourteen years old (school year 9)	Tetanus, diphtheria and polio	Td/IPV (check MMR status)	Revaxis	Upper arm
	Meningococcal groups A, C, W and Y disease	MenACWY	Nimenrix or Menveo	Upper arm

¹ Where two or more injections are required at once, these should ideally be given in different limbs. Where this is not possible, injections in the same limb should be given 2.5cm apart. For more details see Chapters 4 and 11 in the Green Book. All injected vaccines are given intramuscularly unless otherwise stated.

² Only for infants born on or after 1 May 2015

³ Contains porcine gelatine

⁴ If LAIV (live attenuated influenza vaccine) is contraindicated and child is in a clinical risk group, use inactivated flu vaccine

⁵ Age on 31 August 2016

Selective childhood immunisation programmes

Target group	Age and schedule	Disease	Vaccines required
Babies born to hepatitis B infected mothers	At birth, four weeks, eight weeks and at one year ¹	Hepatitis B	Hepatitis B vaccines (Engerix B / HBVaxPRO)
Infants in areas of the country with TB incidence $\geq 40/100,000$	At birth	Tuberculosis	BCG
Infants with a parent or grandparent born in a high incidence country ²	At birth	Tuberculosis	BCG

¹ Take blood for HBsAg to exclude infection.

² Where the annual incidence of TB is $\geq 40/100,000$ see https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/393840/Worldwide_TB_Surveillance_2013_Data_High_and_Low_Incidence_Tables__2_.pdf

Source: <https://www.gov.uk/government/publications/routine-childhood-immunisation-schedule>

2.7.1 Newborn immunisation

Immunisation to protect against Rotavirus was introduced in July 2015; this is delivered through General Practice as part of routine immunisations.

The Community Health Immunisation Team is responsible for the implementation of a universal BCG programme (for infants and children up to the age of 5 years) which protects children from their earliest years from tuberculosis, the potentially life threatening complications and the risk of spread of infection. Universal programmes are normally implemented in areas where infection rates in the community are more than 40 per 100,000 population (In 2013 the rate for London was 35.5 per 100,000¹, the rate for Barking and Dagenham was 39.9²). Children under 16 years of age whose parents were born in or come from a country where the yearly rate of new cases is more than 40 per 100,000 population, and new immigrants under 16 years of age from countries with a yearly rate of new infections over 40 per 100,000 population are also offered the vaccine. Immunisation is given shortly after birth or for children who move into the borough as soon as they are identified.

The other immunisation which happens in the early weeks and months of life is neonatal Hepatitis B. This is a targeted immunisation offered to the babies of women who are identified as having Hepatitis B through the antenatal screening programme. Four immunisations are needed in the first 12 months of life, and considerable effort is put into ensuring that the full course is given to each at risk infant, to avoid risk of chronic hepatitis in the child. Perinatal transmission is thought to occur in 90% of babies, and the first immunisation must be given within 24 hours at birth.

Nationally reported data for quarter one 2014/15 shows that all 11 children at risk within the most recent 12 month period were fully immunised³.

2.7.2 Routine childhood immunisation

Immunisation uptake in Barking and Dagenham remains lower than the England average, although uptake is at or above the London average. This increases the risk of outbreaks of preventable diseases such as measles, mumps and rubella, which can be serious and in some cases life threatening.

Progress towards the target uptake has been consistently good in recent years, with increase in uptake of between 6 and 13 percentage points for each immunisation (Table 2.7.2).

This improvement reflects the substantial work undertaken with primary care and community services to understand how immunisations are most acceptably delivered and how best to encourage parents and carers to have their children immunised.

¹https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/360335/TB_Annual_report__4_0_300914.pdf (accessed 21 October 2014)

² <http://moderngov.barking-dagenham.gov.uk/documents/s80237/Annual%20Health%20Protection%20Profiles%202013%20-%20North%20East%20and%20North%20Central%20London.pdf> (accessed 26 June 2015)

³ <https://www.gov.uk/government/statistics/cover-of-vaccination-evaluated-rapidly-cover-programme-2014-to-2015-quarterly-data> (accessed 21 October 2014)

In addition, a focus on overall improvement in review and redesign of administration pathways, data flow processes, reporting requirements and intensive support for practices furthest from the target has been implemented.

Responsibility for commissioning childhood immunisation was passed to NHS England on 1 April 2013. Actions to improve uptake are in place and are being implemented with partners across the borough.

Table 2.7.2: Annual trends in uptake of childhood immunisation schedule, London Borough of Barking and Dagenham, 2010/11 to 2014/15 and uptake for London and England, 2014/15⁴

	Barking and Dagenham				2014/15 Uptake %		
	2010/11 Uptake %	2011/12 Uptake %	2012/13 Uptake %	2013/14 Uptake %	LBB	London	England
DTaP/IPV/Hib (by age 12 months)	86.3	91.5	92.1	89.2	92.3	90.6	94.2
PCV booster (by age 24 months)	78.2	82.9	87.7	86.2	88.8	86.4	92.2
MMR (1st dose by age 5)	81.4	85.7	92.7	90.8	92.2	90.7	94.4
Hib/MenC (booster age 5)	N/A	81.0	89.5	88.2	88.7	87.3	92.4
MMR (2nd dose by age 5)	69.4	77.9	85.0	82.3	82.7	81.1	88.6

2.7.3 School aged immunisation

Vaccination UK is responsible for the implementation of the Human Papillomavirus (HPV) vaccination programme to young women aged 12 -13 years old, and the diphtheria, tetanus and polio booster, and the Meningococcal vaccine for groups A, C, W and Y at age 14. All are delivered through school-based programmes, working collaboratively with the school-based nursing team.

National data on the uptake of the school leaver booster is no longer published following a review of data collection in 2013.

The Human Papillomavirus (HPV) vaccination programme focuses on young women aged 12 -13 years old in the Year 8 cohort, with immunisation available to older girls on request if they missed the programme. HPV causes the majority of cancers of the cervix, and genital warts; the vaccine is protective against these conditions. HPV vaccine has been given as a three dose programme, but from September 2014 a two dose programme was introduced as this has been found to be just as effective for girls under 15 years. For any girls aged 15 years and over who have not previously been immunised, three doses will still be given as the immunisation is slightly less effective if only two doses are given to older girls⁵.

Changing to a two dose programme should help to improve uptake, which dropped between the first and third doses. For the 2014/15 school year, uptake in Barking

⁴ <https://www.gov.uk/government/statistics/cover-of-vaccination-evaluated-rapidly-cover-programme-2014-to-2015-quarterly-data>

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https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/310958/HPV_Joint_Letter_14_May.pdf (accessed 21 October 2014)

and Dagenham increased from the previous year's figures, with 89.0% uptake for one dose (compared to 81.3% in 2013/14) and 83.5% for two doses (compared to 79.2% in 2013/14). This compares well with uptake for London (83.8% for one dose; 79.2% for two doses) and is similar to national levels for one dose (89.4%). Nationally, only 86 LAs offer a two dose programme, with all others only offering one dose.

Recommendations to Commissioners

Childhood immunisation remains a crucially important aspect of protecting public health. Barking and Dagenham and partners across the borough should work with NHS England to improve uptake and ensure that children are protected from risk of infection.

The Director of Public Health should champion the importance of immunisation with local primary and community services, and promote opportunities to increase uptake. NHS Barking and Dagenham CCG should support practices to achieve high levels of childhood immunisation.