

NHS public health functions agreement 2016-17

Service specification No.4

Immunisation against diphtheria, tetanus,
poliomyelitis, pertussis and Hib programme

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Document Status

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Promoting equality and addressing health inequalities are at the heart of NHS England's values. Throughout the development of the policies and processes cited in this document, we have:

- Given due regard to the need to eliminate discrimination, harassment and victimisation, to advance equality of opportunity, and to foster good relations between people who share a relevant protected characteristic (as cited under the Equality Act 2010) and those who do not share it; and
- Given regard to the need to reduce inequalities between patients in access to, and outcomes from healthcare services and to ensure services are provided in an integrated way where this might reduce health inequalities

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Prepared by Public Health England

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This is a service specification to accompany the 'NHS public health functions agreement 2016-17 (the '2016-17 agreement') published in December 2015.

This service specification is to be applied by NHS England in accordance with the 2016-17 agreement. This service specification is not intended to replicate, duplicate or supersede any other legislative provisions that may apply.

Where a specification refers to any other published document or standard, it refers to the document or standard as it existed at the date when the 2016-17 agreement was made between the Secretary of State and NHS England Board, unless otherwise specified. Any changes in other published documents or standards may have effect for the purposes of the 2016-17 agreement in accordance with the procedures described in Chapter 3 of the 2016-17 agreement

Service specifications should be downloaded in order to ensure that commissioners and providers refer to the latest document that is in effect.

The 2016-17 agreement is available at www.gov.uk (search for 'commissioning public health').

All current service specifications are available at www.england.nhs.uk (search for 'commissioning public health').

This service specification is not intended to replicate, duplicate or supersede any other legislative provisions that may apply. It must always be read in conjunction with the core service specification [] and the online version of the Green Book:

<https://www.gov.uk/government/collections/immunisation-against-infectious-disease-the-green-book>

1. Purpose of the immunisation programme

- 1.1. This document relates to the DTaP/IPV/Hib vaccine which is given to children to help protect them from developing the following preventable childhood diseases; diphtheria, tetanus, poliomyelitis, pertussis (whooping cough) and *Haemophilus influenzae* type B (Hib). This vaccine forms part of the national childhood immunisation programme, which aims to prevent children from catching vaccine preventable childhood diseases that are associated with significant mortality and morbidity. The purpose of the service specification is to enable NHS England to commission DTaP/IPV/Hib immunisation services to a standard that will continue to minimise the number of infections and outbreaks caused by these organisms. This means high levels of coverage across England as well as within upper tier local government areas and within the context of populations with protected characteristics as defined by the Equality Act 2010.
- 1.2. This specification provides a brief overview of the vaccines including the diseases they protect against, the context, evidence base, and wider health outcomes, and should be read alongside the core service specification which underpins national and local commissioning practices and service delivery.
- 1.3. The existing programme provides a firm platform on which local services meet the needs of their local population and work towards improving health outcomes. This specification is intended to inform a consistent and equitable approach to the provision of the commissioning and delivery of the DTaP/IPV/Hib vaccines across England. It is important to note that this programme can change in the light of emerging best practice and scientific evidence. NHS England and providers will be required to reflect these changes accordingly in a timely way as directed by the national schedule.
- 1.4. [Immunisation against infectious disease](#) (known as 'The Green Book'), issued by Public Health England provides guidance and the main evidence base for all immunisation programmes. This service specification must be read in conjunction with the core service specification, the online version of the Green Book, all current official public health letters and with additional evidence, advice and recommendations issued by the [Joint Committee on Vaccination and Immunisation](#) (JCVI).
- 1.5. This service specification is not designed to replicate, duplicate or supersede any relevant legislative provisions that may apply e.g. the Health and Social Care Act 2012. The specification will be reviewed annually and amended in line with any new recommendations or guidance, and in line with wider reviews of the Section 7A agreement.

2. Population needs

Background

- 2.1. The DTaP/IPV/Hib vaccine is routinely used to protect against diphtheria, tetanus, pertussis (whooping cough), polio and Hib related infections. This vaccine was introduced in 2004 and replaced a similar combination vaccine. Current immunisation rates for England are at an all-time high.

Diphtheria

- 2.2. Diphtheria is a serious disease that usually starts with infection of the upper respiratory tract or the skin. The organism releases diphtheria toxin which can quickly cause cardiac, respiratory and neurological complications. In severe cases, it can be fatal and the case-fatality ratio remains high despite modern treatments. Prior to the 1940s, diphtheria was a common disease in the UK with more than 61,000 cases notified in 1940. The introduction of immunisation in the 1940s resulted in a dramatic fall in incidence and less than thirty cases have been reported in the last ten years. Most recently, reported cases have been imported from the Indian subcontinent or Africa, where diphtheria remains endemic, emphasising the importance of the vaccination.

Tetanus

- 2.3. Tetanus is a painful disease that causes muscle spasm and respiratory paralysis. It is caused when tetanus spores that are found in soil and manure get into the body through open cuts or burns. Tetanus affects the nervous system and can be fatal. The vaccine was nationally introduced in 1961 and the disease had almost disappeared in children under the age of 15 by the 1970s. Between 1984 and 2004, there were around 200 reported cases of tetanus, largely in the over-45 year old population, with the highest incidence in adults aged over 65 years. There have also been reported cases of tetanus in injecting drug users. Tetanus can never be eradicated because the spores are commonly present in the environment, including soil. Tetanus is not spread from person to person.

Poliomyelitis (polio)

- 2.4. Polio is a virus that attacks the nervous system and can lead to permanent paralysis, usually of the lower limbs. If the respiratory muscles are affected then it can be fatal. Before the polio vaccine was introduced, as many as 8000 cases of polio occurred in the UK in epidemic years (the early 1950s). The last case of natural polio acquired in the UK was in 1984. By 2014, polio remained endemic in only a small number of countries. Although the risk of importation to the UK is low, vaccination continues to be important.

Pertussis (whooping cough)

- 2.5. Whooping cough is a respiratory disease that causes paroxysms of coughing which may be followed by the characteristic whoop. It is not usually serious in older children, but leads to a prolonged and irritating cough. In babies under one year old the infection can be very serious and sometimes fatal. Before the introduction of immunisation in the 1950s, the average annual number of notifications exceeded 120,000 in the UK. Since the mid 1990s, vaccine coverage has been consistently over 90% by the second birthday, with fewer than 6000 notifications per year. Since the final quarter of 2011, a major increase in cases has been observed, resulting in an increase in deaths and hospitalisations in infants too young to be vaccinated. In response to this outbreak a programme to protect infants, by vaccinating women in pregnancy was launched in October 2012. This has resulted in a fall in cases and deaths in infancy but the numbers of cases in older children and young adults remains high, confirming the continuing need to maintain coverage of infant vaccination.

Haemophilus influenzae type b (Hib)

- 2.6. Hib is an infection that can cause invasive infections such as septicaemia, septic arthritis, pneumonia and meningitis. All of these illnesses can be fatal. Individuals can carry Hib bacteria in their nose and throat without showing signs of the disease. Hib is spread through coughing, sneezing or close contact with a carrier. Since the introduction of the Hib immunisation in the UK, disease incidence has fallen. In 2010, there were only 30 reported cases of confirmed invasive Hib infection in the England and Wales.

DTaP/IPV/Hib vaccine – key details

- 2.7. The key details are that:
- DTaP/IPV/Hib was introduced in 2004 replacing a combination of similar vaccines.
 - DTaP/IPV/Hib has a strong evidence base, an excellent safety profile and is highly effective.
 - DTaP/IPV/Hib vaccine coverage in England at 12 months of age stood at 94.0% (regional variation 89.1% – 96.6% (Cover data Q4 2014)).
 - three doses of the vaccine are needed to provide maximum protection for infants against these diseases. Booster doses are required for longer-term protection.
 - continued high vaccine coverage is required in order to provide both individual and herd immunity.
- 2.8. DTaP/IPV/Hib immunisation forms part of the childhood immunisation programme – a key part of the Healthy Child Programme (HCP) as described in the core service specification.

3. Scope

Aims

- 3.1. The aim of the DTaP/IPV/Hib vaccine is to protect all children from five preventable childhood infections that are associated with significant mortality and morbidity.

Objectives

- 3.2. The aim will be achieved by delivering a population-wide, evidence-based, immunisation programme that:
- identifies the eligible population and ensures effective timely delivery with optimal coverage based on the target population set out in paragraph 4.2
 - is safe, effective, of a high quality and is independently monitored
 - is delivered and supported by suitably trained, competent healthcare professionals who participate in recognised ongoing training and development in line with national standards
 - delivers, manages and stores vaccine in accordance with national guidance
 - is supported by regular and accurate data collection using the appropriate returns.

Direct health outcomes

- 3.3. In the context of health outcomes, the DTaP/IPV/Hib vaccine programme aims to:
- protect the health of individuals and the wider population
 - reduce the number of preventable infections and their onward transmission
 - achieve high coverage in the target cohort
 - minimise adverse physical/psychological/clinical aspects of immunisation (e.g. anxiety, adverse reactions).

Baseline vaccine coverage

- 3.4. Local services must ensure that they maintain and improve current immunisation coverage (with reference to vaccine coverage public health outcomes framework indicators) with the aim of 100% of relevant individuals being offered immunisation in accordance with the Green Book and other official DH/PHE guidance. This is in addition to performance indicators and key deliverables that are set out in annex B of the NHS Public Health Functions Agreement (Section 7A) for 2016-2017.

4. Service description / care pathway

Local service delivery

- 4.1. The delivery of immunisation services at the local level is based on evolving best practice. This section of the document specifies the high-level operational elements of the DTaP/IPV/Hib vaccine programme, based on that best practice that NHS England must use to inform local commissioning, contracts and service delivery. There is also scope to enable NHS England and providers to enhance and build on specifications to incorporate national or local service aspirations that may include increasing local innovation in service delivery. It is essential, in order to promote a nationally aligned, high-quality programme focusing on improved outcomes, increasing coverage and local take-up that all the following core elements are included in contracts and specifications.

Target population

- 4.2. Providers will be required to make the DTaP/IPV/Hib vaccine available to:
- all children as part of the childhood immunisation programme's primary immunisation course. Further guidance can be obtained from the Green Book regarding recommendations for use of the vaccine and specific circumstances.

Vaccine schedule

Dose 1	Two months old
Dose 2	Three months old
Dose 3	Four months old

- 4.3. The vaccination status of every child or young person must be checked and missing doses offered as appropriate to ensure that everyone has completed an age-appropriate course. Further information on scheduling is available in the relevant chapters of the Green Book <https://www.gov.uk/government/organisations/public-health-england/series/immunisation-against-infectious-disease-the-green-book>
- 4.4. In order to provide early protection, providers should aim to complete the schedule as near as possible to the recommended ages. Sufficient immunisation appointments must be available so that individuals can receive vaccinations on time – waiting lists are not acceptable.

Vaccine ordering

- 4.5. All centrally procured vaccines must be ordered via the ImmForm online ordering system details of which are given in the core immunisation specification.