

# NHS public health functions agreement 2016-17

Service specification No.10

Measles, mumps and rubella (MMR)  
immunisation programme

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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](http://www.gov.uk) (search for 'commissioning public health').

All current service specifications are available at [www.england.nhs.uk](http://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](#).

# 1. Purpose of measles, mumps and rubella (MMR) immunisation programme

- 1.1. This document relates to the MMR vaccine, a combined live attenuated vaccine which protects against measles, mumps and rubella, which are all highly infectious viral infections. MMR vaccine was introduced as a single dose schedule in 1988 and a two-dose schedule in 1996 with the aim of eliminating measles and rubella (and congenital rubella) from the UK population. The purpose of the service specification is to enable NHS England to commission MMR immunisation services to a standard that will continue to minimise the number of infections and outbreaks caused by these viruses. This means maintaining high coverage rates across England 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 MMR vaccine 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 designated areas can develop and innovate to better meet the needs of their local population and work towards improving outcomes. This specification will also promote a consistent and equitable approach for the commissioning and delivery of the MMR vaccination programme across England. It is important to note that this programme can change and evolve in the light of emerging best practice and scientific evidence and changing epidemiology. 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 immunisation service specification, the online version of the Green Book, all relevant public health letters and must also be read in conjunction 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 and amended in line with any new recommendations or guidance, and in line with reviews of the Section 7A agreement.

## 2. Population needs

### Background

- 2.1. The MMR vaccine, given as part of the routine childhood vaccination schedule, protects against measles, mumps and rubella. Two doses of MMR vaccine are required to provide satisfactory protection against measles, mumps and rubella. This is supported by the low number of cases reported during periods of high vaccine coverage. Outbreaks of measles and mumps have continued to occur in recent years in previously incomplete or unvaccinated individuals, most notably in older age groups who missed MMR vaccination as a child.
- 2.2. Experts believe the rise in measles cases seen in 2013 can be mostly attributed to the proportion of unprotected 10-16 year olds who missed out on vaccination in the late 1990s and early 2000s when concern around the discredited link between the vaccine and autism was widespread.

### Measles

- 2.3. Measles is a highly infectious viral illness characterised by coryza, cough, conjunctivitis and fever. Koplik spots (small bluish white spots on the buccal mucosa) are present about one to three days before the onset of the rash but, although characteristic of measles, are not found in all cases. After a few days a maculo-papular (red-brown spotty) rash will appear. Measles can be extremely unpleasant and can lead to complications such as meningitis and pneumonia, in rare cases people can die from measles. Statutory reporting of measles began in England and Wales in 1940. Before the introduction of a measles vaccine in 1968, annual notifications varied between 160,000 and 800,000 with peaks every two years, and around 100 deaths from acute measles occurred each year.
- 2.4. Following the introduction of a single dose of MMR vaccine in October 1988, and the achievement of coverage levels in excess of 90%, measles transmission was substantially reduced and notifications fell progressively to low levels. The introduction of a second dose of MMR as a pre-school booster dose was included in 1996 to provide a second opportunity for protecting those individuals who did not respond to the first dose of vaccine. Outbreaks of measles and mumps do still occur in populations with low vaccine coverage.

### Mumps

- 2.5. Mumps is a viral infection that causes an acute illness with swelling of the parotid glands. Mumps is spread in the same way as colds and flu, by infected drops of saliva that can be inhaled or picked up from surfaces and passed into the mouth or nose. Serious complications are rare but it can lead to viral meningitis, orchitis and pancreatitis.



- 2.6. Before the introduction of the MMR vaccine, mumps occurred commonly in school-age children. More than 85% of adults had evidence of previous mumps infection. Mumps was the cause of about 1200 hospital admissions each year prior to the introduction of the vaccine and was the commonest cause of viral meningitis. Like measles, since the introduction of the MMR vaccine, there has been a significant fall in the number of reported cases.

## Rubella

- 2.7. Rubella (also known as German measles) is a viral infection that was common in childhood prior to the introduction of routine immunisation. Rubella is generally a mild infection in children characterised by a maculo-papular rash and lymphadenopathy. Complications can occur and these include thrombocytopenia and, rarely, post infectious encephalitis. In adults, rubella infection can (rarely) result in arthralgia.
- 2.8. Although mild in children, rubella infection during pregnancy can have serious consequences for the foetus. This is because the virus can disrupt foetal development and can cause a wide range of health problems including deafness, heart abnormalities and brain damage. Infection in the first eight to ten weeks of pregnancy results in congenital rubella syndrome (CRS) in up to 90% of surviving infants. CRS is characterised by a number of features including abnormalities of the heart, growth retardation, vision impairment, sensorineural hearing loss and jaundice. The risk of damage declines to 10-20% when infection occurs between 11 and 16 weeks gestation (Miller *et al*, 1982 – cited in Green Book).
- 2.9. Before the introduction of the rubella immunisation, rubella occurred commonly in children, and more than 80% of adults had evidence of previous rubella infection. The two-dose schedule of MMR has been highly successful in achieving elimination of circulating rubella and CRS is now very rare in the UK.

## MMR vaccine – key details

- 2.10. The key details are that:
- the MMR vaccine(s) supplied by PHE and ordered via ImmForm should be used for this programme;
  - the MMR vaccine is given as part of the childhood immunisation schedule and the first dose should be given to children between 12 to 13 months of age;
  - children are given a second dose before they start school at three years and four months of age (or soon after). The second dose can be given sooner in the management of disease outbreaks. At the time of the teenage booster, the MMR vaccination status should be checked and any missing doses offered where needed to ensure that everyone has received both doses;

- between 5 and 10% of children are not fully immune after the first dose. The second dose provides a further opportunity to protect children who did not respond to the first dose of MMR, with less than 1% of children remaining susceptible after receiving the two recommended doses;
- adults who have not received the recommended two doses of MMR vaccine. should be offered two doses of vaccine at least one month apart. MMR is particularly important for women of child-bearing age, for example during consultation for contraceptive services, fertility problems or cervical screening;
- in the event of a measles outbreak, MMR vaccine can be given to protect susceptible individuals who have been in contact with cases of measles. This is because measles antibodies develop more quickly following vaccination than they do after natural infection. There are no negative effects from vaccinating people who are already immune;
- rubella-susceptible women require two doses of MMR vaccine post-partum one month apart. The first dose should be given before the woman leaves hospital after delivery and the second (or both doses if not given in the maternity unit) should be given in primary care.

## 3. Scope

### Aims

- 3.1. The aim of the MMR programme is to protect individuals and the population from measles, mumps and rubella, interrupt the spread of the diseases and reduce the associated morbidity and mortality.

### Objectives

- 3.2. The aim will be achieved by delivering an evidence-based population-wide 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 MMR vaccination 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 across all groups identified.

### Baseline vaccine coverage

- 3.4. Local services must ensure they maintain and improve current immunisation coverage (with reference to vaccine coverage public health outcomes framework indicators) with the aim of 100% of eligible individuals being offered immunisation in accordance with the Green Book and other official DH/PHE guidance. This includes performance indicators and key deliverables that are set out in Annex B of the NHS Public Health Functions Agreement (Section 7A) for 2016-17.

## 4. Service description / care pathway

### Local service delivery

- 4.1. It is essential, in order to promote a nationally aligned high-quality programme focusing on improved outcomes, increasing coverage and local take-up, that the core elements that are set out in the core service specification are included in contracts and specifications.

### Target population

- 4.2. Providers will be required to make the MMR vaccine available to:
- all children both registered and unregistered with a GP, as part of the childhood immunisation programme's primary immunisation course. The first dose should be given to children between 12 to 13 months of age and the second dose at three years and four months of age (or soon after);
  - children starting primary school and those in secondary school receiving other scheduled vaccines (e.g. Td/IPV and MenACWY conjugate vaccine) should have their MMR status checked. Those lacking two documented doses of MMR can either be immunised by the school nursing team or referred to their GP;
  - women of child bearing age who are unvaccinated or partially vaccinated for rubella;
  - other adults and children who have no history of MMR vaccination, or incomplete immunisation status, as indicated in the Green Book;
  - address poor uptake for the services set out in the S7A agreement, where local delivery is lower than the key deliverables set out in the S7A agreement and in accordance with the objective to reduce the variation in local levels of performance.
- 4.3. In addition:
- providers must ensure arrangements must be put in place to ensure that the MMR vaccine can be administered promptly as directed by PHE for unvaccinated contacts of cases or for outbreak control.

### Vaccine schedule

- 4.4. A locally commissioned service should immunise the target population following the national vaccination schedule:
- the first dose should be given to children between 12 to 13 months of age;
  - children are given a second dose before they start school at three years and four months of age, except in specific circumstances set out at the next bullet point;

- when measles is circulating in the community or there is contact with a confirmed case, the first dose of MMR should be given as soon as possible, followed by the second dose after one month. If the second dose is given within three months of the first and the child is under the age of 18 months, the child will still require the pre-school booster dose of MMR. Details of how to manage cases of suspected measles: what patient details to take; who to notify; assessing risk of disease spreading in close contacts, can be found at this link:  
<https://www.gov.uk/government/publications/national-measles-guidelines>;
- women of child-bearing age who are unvaccinated, partially vaccinated or antibody negative to rubella to ensure completion of two doses of measles and rubella containing vaccine. For those identified during pregnancy the first dose of MMR should be delivered post-partum by maternity services (as per the Infectious Disease in Pregnancy Standards), followed by second dose of MMR one month later;
- the vaccination status of every child or young person should be checked and missing doses offered as appropriate to ensure that everyone has completed an age appropriate course  
<https://www.gov.uk/government/publications/vaccination-of-individuals-with-uncertain-or-incomplete-immunisation-status>;
- there is an opportunity to offer unimmunised/partially immunised individuals MMR vaccine with the school leaver boosters at around 13-14 years of age, and this should be considered as routine practice;
- further information on scheduling is available in the relevant chapters of the [Green Book](#);
- in order to provide early protection, providers must aim to complete the schedule at 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.