



Department
of Health

NHS
England

Public health functions to be exercised by NHS England

Service specification No.13

Seasonal influenza immunisation programme

April 2013

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Public health functions to be exercised by NHS England

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Seasonal influenza immunisation programme

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Service specification No.13

This is a service specification within Part C of the agreement ‘Public health functions to be exercised by the NHS Commissioning Board’ dated November 2012 and amended by variation dated April 2013 (the ‘2013-14 agreement’). This service specification thereby comes into effect and supersedes service specification No.13 dated November 2012.

The 2013-14 agreement is made between the Secretary of State for Health and the National Health Service Commissioning Board (“NHS CB” or “NHS England”) under section 7A of the National Health Service Act 2006 (“the 2006 Act”) as amended by the Health and Social Care Act 2012. The 2013-14 agreement may refer interchangeably to NHS CB or NHS England.

This service specification is to be applied by the NHS CB in accordance with the 2013-14 agreement. An update to this service specification may take effect on an agreed date as a variation made in accordance with the 2013-14 agreement.

This service specification is not intended to replicate, duplicate or supersede any other legislative provisions that may apply.

The 2013-14 agreement including all service specifications within Part C is available at www.gov.uk (search for “commissioning public health”).

1. Purpose of the influenza immunisation programme

1.1 This document relates to the influenza vaccine which currently provides protection against three strains of seasonal influenza that the World Health Organization (WHO) specifies as the most likely to cause disease each year. This vaccine forms part of the national immunisation programme which aims to protect those who are most at risk of serious illness or death should they develop influenza. The purpose of the service specification is to enable the NHS Commissioning Board (NHS CB) to commission influenza immunisation services of sufficient quantity and quality to prevent the infections and outbreaks caused by flu viruses. This means achieving high coverage rates 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. This specification should be used alongside specification 13A (Seasonal influenza immunisation programme for children - implementation of the extended programme for children aged 2) which covers the partial implementation of the Seasonal Influenza Immunisation Programme for children.

1.2 This specification forms two distinct parts. Part one (sections 1 and 2) provides a brief overview of the vaccines including the disease they protect against, the context, evidence base, and wider health outcomes.

Part 2 (sections 3, 4 and 5) sets out the arrangements for:

- front-line delivery
- the expected service and quality indicators, and
- the standards associated with the programme.

These underpin 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 to the provision of the commissioning and delivery of the influenza vaccine across England. It is important to note that this programme will change and evolve in the light of emerging best practice and scientific evidence. Guidance is issued annually through the Flu Plan and related 'flu letter' from DH/PHE/NHSCB. NHS CB 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’), a UK document, as 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 electronic version of the Green Book, Director of Immunisation letters and any official correspondence or guidance issued by DH and PHE, and reflected in the commissioning of immunisation programmes. This specification must also be read in conjunction with additional evidence, guidance and literature issued by the Joint Committee on Vaccination and Immunisation (JCVI).

(www.dh.gov.uk/greenbook)

(www.dh.gov.uk/ab/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 Immunisation is one of the most successful and cost effective public health interventions and a cornerstone of public health. Maintaining high vaccine coverage is essential to prevent the spread of infectious disease, complications and deaths among individuals and protecting the population's health. Influenza vaccine is routinely used to protect those most at risk of serious illness or death should they develop influenza.

Influenza

2.2 Influenza is an acute viral infection of the respiratory tract. There are three types of influenza virus: A, B and C. Influenza A and influenza B are responsible for most clinical illness.

2.3 The disease is characterised by the sudden onset of fever, chills, headache, myalgia and extreme fatigue. Other common symptoms include a dry cough, sore throat and stuffy nose.

2.4 The risk of serious illness from influenza is higher amongst children under six months of age, older people and those with underlying health conditions such as respiratory disease, or cardiac disease or immunosuppression and pregnant women.

2.5 Estimates of excess winter deaths potentially attributable to influenza in recent years in England and Wales range from no deaths (ND) in 2005-6 and 2006-7 to 10,351 in 2008-9. The highest estimate in the past two decades was 21,497 for the 1999-2000 influenza season (HPA).

Influenza vaccine – key details

2.6 The key details are that:

- vaccination is required annually

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- current influenza vaccines are trivalent, containing two subtypes of influenza A and one type B virus with the specific strains as recommended by WHO
- the genetic make-up of the flu virus is unstable and new variations (strains) often emerge
- All authorised influenza vaccines need to meet immunogenicity, safety and quality criteria set by the European Medicines Agency (EMA), with the assessment of efficacy based on meeting or exceeding indicated requirements in serological assessments of immunogenicity
- influenza vaccine is offered to those in the target populations as outlined in section 4.8 and detailed in the Green Book.

3. Scope

Aims

3.1 The aim of the influenza immunisation programme is to protect those who are most at risk of serious illness or death should they develop influenza and reducing transmission of the infection, thereby contributing to the protection of vulnerable individuals who may have a suboptimal response to their own immunisation.

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 4.8
- 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 on-going 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 influenza vaccine programme aims to:

- protect the health of individuals and the wider population
- protect those who are most at risk of serious infection or death should they develop influenza
- reduce the transmission of infection, and thereby contribute to the protection of vulnerable individuals who may have suboptimal response to their own immunisation

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- achieve high coverage across all groups identified
- minimise adverse physical/psychological/clinical aspects of immunisation (e.g. anxiety, adverse reactions).

Baseline vaccine coverage

3.4 Local services should ensure they maintain and improve current immunisation coverage (with reference to vaccine coverage public health outcomes framework indicators) with the aspiration of 100% of relevant individuals being offered immunisation in accordance with the Green Book and other official DH/PHE guidance.

3.5 The CMO has established an aspiration of 75% in those >65 years of age in 2012/13 and 75% in those <65 years in clinical risk groups by 2013/14.

Wider health outcomes

3.6 The national immunisation programme supports the commitment made in the *NHS Constitution* that everyone in England has ‘the right to receive the vaccinations that the Joint Committee on Vaccination and Immunisation (JCVI) recommends that you should receive under an NHS provided national immunisation programme.

3.7 This right is set out in the *NHS Constitution* that was originally published in 2009, and renewed in 2012. The right is underpinned by law (regulations and directions), the regulations require the Secretary of State for Health to fund and implement any cost-effective recommendation made by JCVI where the Secretary of State has asked JCVI to look at a vaccine. Where JCVI makes a recommendation that the vaccine should be offered as part of a national immunisation programme, the DH will fund and implement the programme.

3.8 The programme can be universal like men C or a targeted programme like hep B, and those who fit the JCVI criteria (for example, HPV criteria include age and gender) will have a right to receive the vaccine. To balance this right, the *NHS Constitution* introduced a new patient responsibility that states ‘You should participate in important public health programmes such as vaccination’. This does not mean that vaccination is compulsory. It simply reminds people that being vaccinated is a responsible way to protect their own health, as well as that of their family and community.

3.9 The NHS Health and Social Care Act 2012, is wholly consistent with the principles of the *NHS Constitution* and places new legal duties which require the NHS CB and clinical commissioning groups (CCGs) to actively promote it.

3.10 WHO have set a target of achieving 75% coverage in people aged 65 years and older.

3.11 The programme also works towards achieving the WHO *Global immunisation vision and strategy* (2006) which is a ten-year framework aimed at controlling morbidity and mortality from vaccine preventable diseases.

4. Service description / care pathway

Roles

4.1 The NHS CB will be responsible for commissioning the local provision of immunisation services and the implementation of new programmes through general practice and all other providers. It will be accountable to the Secretary of State for Health for delivery of those services. Other bodies in the new comprehensive health system will also have key roles to play and it will be vital to ensure strong working relationships.

4.2 Supplies of flu vaccine are currently procured by primary care or pharmacists. The option of central procurement of flu vaccine, with PHE directly procuring all flu vaccine required by primary care and distributing it free of charge to GPs will be reviewed.

4.3 Directors of Public Health based in local Authorities play a key role in providing independent scrutiny and challenge and will publish reports on the health of the population in their areas, which could include information on local immunisation services and views on how immunisation services might be improved. The NHS CB should expect to support directors of public health in their role as far as practicable with detailed local information, such as analysis including vaccine coverage amongst their communities (in particular social, geographical, equality and diversity characteristics).

Local service delivery

4.4 The delivery of immunisation services at the local level is based on evolving best practice that has been built since vaccinations were first introduced more than a hundred years ago. This section of the document specifies the high-level operational elements of the seasonal influenza vaccine programme, based on that best practice that the NHS CB must use to inform local commissioning, contracts and service delivery. There is also scope to enable NHS CB and providers to enhance and build on specifications to incorporate national or local service aspirations that may include increasing local innovation in service delivery. However, 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.

4.5 The following elements must be covered:

- target population

- vaccine schedule
- consent
- assessment prior to immunisation
- vaccine administration
- vaccine storage and wastage
- vaccine ordering
- documentation
- recording and reporting requirements (including adverse events and vaccine preventable diseases)
- staffing and training
- premises and equipment
- patient involvement
- governance
- service improvement
- interdependencies
- local communication strategies.

4.6 Most of these elements are covered in the Green Book, which must be read in conjunction with this service specification (<http://immunisation.dh.gov.uk/category/the-green-book/>)

4.7 More detailed information on at risk groups is available in chapter 19 of the Green Book (www.dh.gov.uk/greenbook).

Target population

4.8 Providers will be required to make seasonal influenza vaccine available to:

- all those aged 65 years or older
- all those aged six months or older in a clinical risk group.
 - chronic respiratory disease
 - chronic obstructive pulmonary disease (COPD)
 - chronic heart disease
 - chronic kidney disease

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- chronic liver disease
- chronic neurological disease
- diabetes
- immunosuppression, and also
- pregnant women
- people living in long-stay residential care homes or other long-stay care facilities, and carers.

In an extension to this programme all children aged two years but not three on 1 September 2013 will also be offered a flu vaccine (see service specification 13A).

4.9 Medical practitioners should apply clinical judgement to take into account the risk of influenza exacerbating any underlying disease that a patient may have, as well as the risk of serious illness from influenza itself. Influenza vaccine should be offered in such cases even if the individual is not in the clinical risk groups specified above.

4.10 Consideration should also be given to the vaccination of household contacts of immunocompromised individuals, i.e. individuals who expect to share living accommodation on most days over the winter and therefore for whom continuing close contact is unavoidable. This may include carers.

4.11 In addition:

- health and social care workers should be offered vaccination, organised through occupational health routes.

Vaccine schedule

4.12 A locally commissioned service should immunise the target population following the guidance in the Green Book.

- Information on scheduling, including dosage for each brand of vaccine available in the UK is available in chapter 19 of *Immunisation against infectious disease 2006* (www.dh.gov.uk/greenbook).
- In order to provide early protection, providers should aim to complete the vaccination as early as possible in the third quarter of the year.

- Sufficient immunisation appointments must be available so that individuals can receive vaccinations on time. Vaccinating individuals as soon as the vaccine is available will provide them with protection should the flu season prove to be early.

Consent

4.13 Chapter 2 in the Green Book provides up-to-date and comprehensive guidance on consent, which relates to both adults and the immunisation of younger children. There is no legal requirement for consent to be in writing but sufficient information should be available to make an informed decision.

4.14 Therefore, providers will be required to ensure that:

- consent is obtained prior to giving any immunisation
- consent is given voluntarily and freely
- individuals giving consent on behalf of infants and young children must be capable of consenting to the immunisation in question
- relevant resources (leaflets / factsheets, etc) are used as part of the consent process to ensure that all parties (both parents/and where appropriate individuals) have all the available information about the vaccine and the protection it offers
- professionals should be sufficiently knowledgeable about the disease and vaccine and to be able to answer any questions with confidence
- the patient has access to the patient information leaflet (PIL)
- for infants and young children not competent to give or withhold consent, such consent can be given by a person with parental responsibility, provided that person is capable of consenting to the immunisation in question and is able to communicate their decision. Although a person may not abdicate or transfer parental responsibility, they may arrange for some or all of it to be met by one or more persons acting on their behalf.

Requirements prior to immunisation

4.15 As part of the commissioning arrangements, NHS CB is required to ensure that providers adhere to the following, i.e. that providers have:

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- systems in place to assess eligible individuals for suitability by a competent individual prior to each immunisation
- assessed each patient to ensure they are suitable for immunisation
- assessed the immunisation record of each patient to ensure that all vaccinations are up to date
- systems in place to identify, follow-up and offer immunisation to eligible individuals.
- arrangements in place that enable them to identify and recall under or unimmunised individuals and to ensure that such individuals are immunised in a timely manner
- systems in place to optimise access for those in hard to reach groups (e.g. traveller communities, looked after children)
- arrangements in place to access specialist clinical advice so that immunisation is only withheld or deferred where a valid contraindication exists.

Vaccine administration

4.16 As part of the commissioning arrangements, NHS CB is required to ensure the provider adheres to the following:

- professionals involved in administering the vaccine, have the necessary skills, competencies and annually updated training with regard to vaccine administration and the recognition and initial treatment of anaphylaxis
- regular training and development (taking account of national standards – see section 5) is routinely available. Training is likely to include diseases, vaccines, delivery issues, consent, cold chain, vaccine management and anaphylaxis.
- the professional lead should ensure that all staff are legally able to supply and/or administer the vaccine by:
 - working under an appropriate patient group direction (PGD)
 - working from a patient specific direction (PSD)/prescriptions, or
 - working as a nurse prescriber (if appropriate).

Vaccine storage and wastage

4.17 Effective management of vaccines is essential to ensure patient safety and reduce vaccine wastage. NHS CB should ensure that providers will:

- have effective cold chain and administrative protocols that reduce vaccine wastage to a minimum which reflect DH national protocols (Ch 3 of the Green Book and the *Guidelines for maintaining the vaccine cold chain*) and includes:
 - how to maintain accurate records of vaccine stock
 - how to record vaccine fridge temperatures
 - what to do if the temperature falls outside the recommended range
 - http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digital_asset/dh_130276.pdf
 - the ImmForm helpsheet - <http://immunisation.dh.gov.uk/files/2012/01/ImmForm-Helpsheets-18-v1.1-Jan-2012.pdf>
- ensure all vaccines are delivered to an appointed place
- ensure that at least one named individual is responsible for the receipt and safe storage of vaccines in each general practice or other appropriate location
- ensure that an approved vaccine fridge is available for the storage of all vaccines
- ensure that approved pharmaceutical grade cold boxes are used for transporting vaccines
- ensure that only minimum stock levels (two to four weeks maximum) of vaccine will be held in local fridges, to reduce the risk of wastage caused by power cuts or inadvertent disconnection of fridges from power supplies
- report any cold chain failures to the local coordinator and PHE and NHS CB.

Vaccine ordering

4.18 NHS CB should be assured that general practices will have placed orders with suppliers that are sufficient to offer vaccination to all eligible individuals on their practice list.

Documentation

4.19 Accurate recording of all vaccines given and good management of all associated documentation is essential. Providers should ensure that:

- the patient's medical records are updated with key information that includes:
 - any contraindications to the vaccine and any alternative offered
 - any refusal of an offer of vaccination
 - details of consent and the person who gave the consent. The batch number, expiry date and the title of the vaccination
 - the date of administration of the vaccine
 - the site and route of administration
 - any adverse reactions to the vaccine
 - name of immuniser.

Recording & Reporting requirements

4.20 The collection of data is essential. It has several key purposes including monitoring the local delivery of the programme and the coverage at national and local levels, and for outbreak investigations and response. In- depth analysis of coverage underpins any necessary changes to the programme, which might include the development of targeted programmes or campaigns to improve general coverage of the vaccination

PHE will monitor and publish:

(i) cumulative national flu vaccine uptake by GP registered patients aged 65 years and older, aged six months to less than 65 years in clinical risk groups (excluding pregnant women) and who are pregnant on a weekly basis from the beginning of October to around end of January via ImmForm through the automatic extraction of data from a large national sample of GP practices (e.g. 50% practices);

(ii) cumulative flu vaccine uptake at the 'PCT/CCG', Area Team and national levels by GP registered patients aged 65 years and older, aged six months to less than 65 years in clinical risk groups (excluding pregnant women) and who are pregnant in four monthly collections from all GP practices on vaccinations up to the end of October, November, December and January via ImmForm through the automatic extraction and manual submission of data;

(iii) cumulative flu vaccine uptake by front line healthcare workers with direct patient contact working in Acute, Care, Foundation, Mental Health and Ambulance Trusts and, for primary care staff, by Area Team in four monthly collections on vaccinations up to the end of October, November, December and January via ImmForm through the manual submission of data..

The accuracy of the data collected are dependent on good and up to date clinical recording of vaccinations.

Staffing including training

4.21 To deliver a national immunisation programme it is essential that all staff are appropriately trained. NHS CB must ensure that providers:

- have an adequate number of trained, qualified and competent staff to deliver a high quality immunisation programme in line with best practice and national policy
- are covered by appropriate occupational health policies to ensure adequate protection against vaccine preventable diseases (e.g. measles, flu and hepatitis B)
- meet the HPA *National minimum standards in immunisation training 2005* either through training or professional competence ensuring that annual training is offered to all staff
- have had training (and annual updates) with regard to the recognition and initial treatment of anaphylaxis
- ensure that all staff are familiar with and have online access to the latest edition of the Green Book, noting the clinical guidance may change and that the Green Book is frequently updated.
- ensure that all staff are registered to receive *Vaccine Update*, which includes notifications of updates to the Green Book. (<http://immunisation.dh.gov.uk/vu-190-jun-12/>)
- ensure that all staff are aware of the importance of and can access Public Health letters that announce changes to or new programmes, the Director of Immunisation letters, and additional guidance on the (PHE) website.

Premises and equipment

4.22 Appropriate equipment and suitable premises are needed to deliver a successful immunisation programme. NHS CB must ensure that providers have:

- suitable premises and equipment provided for the immunisation programme
- disposable equipment meeting approved quality standards
- appropriate disposal arrangements in place (e.g. approved sharps bins, etc.)
- appropriate policies and contracts in place for equipment calibration, maintenance and replacement

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- anaphylaxis equipment accessible at all times during an immunisation session and all staff should have appropriate training in resuscitation
- premises that are suitable and welcoming for young children, and their carers and all individuals coming for immunisation including those for whom access may be difficult.

Governance

4.23 It will be essential to ensure that there are clear lines of accountability and reporting to assure the ongoing quality and success of the national programme. Commissioning arrangements will ensure that:

- there is a clear line of accountability from local providers to NHS CB
- at the provider level there is appropriate internal clinical oversight of the programme's management and a nominated lead for immunisation
- provider governance is overseen by a clinical lead (for example the local immunisation co-ordinator) and immunisation system leader
- there is regular monitoring and audit of the immunisation programme, including the establishment and review of a risk register as a routine part of clinical governance arrangements, in order to assure the NHS CB of the quality and integrity of the service
- for providers to supply evidence of clinical governance and effectiveness arrangements on request for the NHS CB or its local offices
- PHE will alert NHS CB to any issues that need further investigations
- the provision of high quality, accurate and timely data to relevant parties including PHE, NHS CB and local authorities (Las) is a requirement for payment
- data will be analysed and interpreted by PHE and any issues that arise will be shared quickly with NHS CB and others
- local co-ordinators will document, manage and report on programmatic or vaccine administration errors, including serious untoward incidents (SUIs), and escalate as needed. This may include involving the NHS CB and relevant partners and where appropriate for the NHS CB to inform DH
- That NHS CB press office will liaise closely with DH, PHE, and MHRA press offices regarding the management of all press enquiries
- have a sound governance framework in place covering the following:
 - information governance/records management
 - equality and diversity

- user involvement, experience and complaints
- failsafe procedures
- communications
- ongoing risk management
- health and safety
- insurance and liability.

Service improvement

4.24 NHS CB and providers will wish to identify areas of challenge within local vaccination programmes and develop comprehensive, workable and measurable plans for improvement. These may be locally or nationally driven and are likely to be directed around increased coverage and may well be focused on particular hard to reach groups. Suggestions for improving service and uptake include:

- NICE guidelines (NICE 2009 *Reducing differences in the uptake of vaccines*) highlight evidence to show that there are particular interventions, which can increase immunisation rates.
- Research funded by the Policy Research Programme in the DH has identified seven key strategies that, if widely implemented by general practice, could increase average vaccination rates by 7-8% (*Strategies to increase influenza vaccination rates: outcomes of a nationwide cross sectional survey of general practice*. Dexter LJ, Teare MD, Dexter M et al). <http://bmjopen.bmj.com/content/2/3/e000851.full>

4.25 Providers should also consider the following suggestions:

- up-to-date patient reminder and recall systems
- well-informed healthcare professionals who can provide accurate and consistent advice
- high-quality patient education and information resources in a variety of formats (leaflets, internet forums and discussion groups)
- effective performance management of the commissioned service to ensure it meets requirements
- local co-ordinators or experts based in PHE to provide expert advice and information for specific clinical queries
- for NHS CB and providers to have clear expectations to improve and build upon existing immunisation rates.

Interdependencies

4.26 The immunisation programme is dependent upon systematic relationships between stakeholders, which include vaccine suppliers, primary care providers, NHS CB, etc. The immunisation co-ordinator, based in the Area Team (AT) of the NHS CB, will be expected to take the lead in ensuring that inter-organisational systems are in place to maintain the quality and the immunisation pathway. This will include, but is not limited to:

- ensuring all those involved in pathways are sure of their roles and responsibilities
- developing joint audit and monitoring processes
- agreeing joint failsafe mechanisms, where required, to ensure safe and timely processes along the whole pathway
- contributing to any initiatives led by the NHS CB/PHE to develop/improve the childhood immunisation programme
- maintaining an up-to-date population based immunisation register to provide accurate and timely coverage data and for outbreak investigation and response
- maintaining robust electronic links with IT systems and relevant organisations along the pathway
- local feedback and review of coverage and disease surveillance data.

Communication strategies

4.27 It will be important to develop and implement communication strategies to support both the introduction of new vaccines and the maintenance of existing programmes. Such strategies may be developed on a national basis. Local strategies may also be developed to further support national programmes or address specific issues.

5. Service standards and guidance

5.1 To support the delivery of an effective and high quality childhood immunisation programme, NHS CB and providers must refer to and make comprehensive use of the following key resources:

- Green Book – *Immunisation against infectious disease* (DH 2006)
www.dh.gov.uk/publichealth.immunisation.greenbook
- *Quality criteria for an effective immunisation programme* (HPA, 2012)
<http://www.hpa.org.uk/Publications/InfectiousDiseases/Immunisation/1207Qualitycriteriaforimmprogramme>
- *National minimum standards for immunisation training* (HPA June 2005)
<http://www.hpa.org.uk/Publications/InfectiousDiseases/0506NationalMinimumStandardsforImmunisationTraining>
- *Protocol for ordering, storing and handling vaccines* (DH Sept 2010)
http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_120010
- National Patient Safety Agency – *Advice on vaccine cold storage*
<http://www.nrls.npsa.nhs.uk/EasySiteWeb/getresource.axd?AssetID=66112&type=full&servicetype>
- Official immunisation letters (DH)
<http://immunisation.dh.gov.uk/category/letters/>
- ImmForm information
<http://immunisation.dh.gov.uk/immform-helpsheets/>
- British National Formulary
<http://www.bnf.org/bnf/index.htm>

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- JCVI (Joint Committee on Vaccinations and Immunisations)

<http://www.dh.gov.uk/ab/JCVI/index.htm?ssSourceSiteId=en>

- NICE guidance 21 Sept 2009 – *Reducing differences in the uptake of immunisations (including targeted vaccines) among children and young people aged under 19.*

<http://www.nice.org.uk/PH21>

- WHO - World Health Organization – *Immunisations*

<http://www.who.int/topics/immunization/en/>

- NICE – Shared learning resources

<http://www.nice.org.uk/usingguidance/sharedlearningimplementingniceguidance/examplesofimplementation/eximpresults.jsp?o=575>