



Season's greetings and congratulations to the pioneers!

To round the year off, this is a bumper issue of Vaccine update which contains all of the updated resources as well as your usual vaccine news and supply details.

It has been an incredible year full of firsts. I was recently at the Meningitis Research Foundation conference on our Immunisation stand talking about the Meningitis B infant programme with delegates from all over the world, when I was reminded that our national programme is a first. That makes all of the staff involved in the development and implementation of the new programmes pioneers.

Now the life of a pioneer is not easy but having spoken with teams all over the country throughout this year it is clear to me the fantastic level of commitment, energy and drive evident in the field. So from everyone here in the Immunisation team, we send our greatest thanks and gratitude for all of your hard work and dedication, we wish you all the very best of Christmas cheer and look forward to working with you in the New Year.

Immunisation News

It's all change for paracetamol – end of the line for the sachet Infant paracetamol for the MenB programme

Temporary supplies of infant liquid paracetamol sachets are expected to have been fully distributed to immunisers by mid-December 2015. The central supply of paracetamol is therefore being phased out.

Immunisers should therefore remind parents who do not have their own supply of liquid infant paracetamol (120mg/5ml) at the time their baby is given the MenB immunisation, to purchase some on the way home (ideally giving the first dose within an hour of the immunisation). Parents should be given the leaflet "Using paracetamol to prevent and treat fever after MenB vaccination" (see [weblink 1](#)) at the 2 month immunisation appointment. This leaflet provides detailed instructions on the use of paracetamol to prevent post immunisation fever based on both JCVI and CHM advice, which may still differ from the Patient Information Leaflet (PIL) supplied with infant paracetamol bought over the counter.

Meningococcal B updated resources

Using paracetamol
to prevent and treat fever after MenB vaccination

NHS

My baby has just had the MenB vaccine, what should I expect next?
There can be a fever after any vaccination but more commonly with the MenB vaccine because it is given with the other routine vaccine at the age of two months.

Without paracetamol, more than half of babies will have a fever. The fever can be treated with paracetamol. Always give paracetamol when the baby is awake. Although the heat of a fever will disappear on its own and does not show how well the vaccine will protect your baby.

How can't reduce the risk of fever?
Giving paracetamol after vaccination – and not waiting for a fever to develop – will reduce the risk of your child having a fever. Without paracetamol, more than half of babies will get a fever and nearly all of these will last longer than 24 hours. The paracetamol will also reduce the chance of your baby having a fever at all.

Design and timing of infant paracetamol suspension (D08mg/5ml) for use after primary MenB vaccination (usually at two and four months of age)

Age of baby	Up to 6 months (usually at 2 and 4 months)
Day 1	One 5ml (D08mg) dose 4 hours after the vaccination
Day 2	One 5ml (D08mg) dose 4 hours after the first dose
Day 3	One 5ml (D08mg) dose 4 hours after the second dose

immunisation
The best way to protect the health of your baby

Protecting your baby against meningitis and septicaemia
caused by meningococcal B bacteria

NHS

Which paracetamol product should I use?
You should use our product paracetamol suspension. This kind of paracetamol is given to young children. It has a strength of 0.08g/5ml.

How much paracetamol?
A single dose of 5ml (0.08g) of paracetamol 2.5ml (0.04g) under the MenB vaccination. You should give the same dose of the dose of paracetamol as soon as possible. You should give the second dose of paracetamol 4 hours after the first dose. You should give the third dose 4 hours after the second dose. This is usually the end of the period that covers the fever.

For very premature babies (born before 32 weeks gestation), you should give the paracetamol by your doctor for advice on the dose of vaccination. You should check with your doctor and follow the instructions on the paracetamol.

MenB vaccine now available!
Information about the MenB vaccine and recommended paracetamol use

immunisation
The best way to protect the health of your baby

Public Health England
Protecting and improving the nation's health

Immunisation against meningococcal B disease for infants aged from two months

Information for healthcare professionals

An update for healthcare professionals
December 2015 v3
PHE Publications gateway number: 2015185

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Training slides for healthcare professionals

Using paracetamol to prevent and treat fever after MenB vaccination leaflet

Guide for parents to Meningitis B vaccination booklet

Immunisation for infants aged from 2 months, information for healthcare professionals

The existing PHE communication materials for both parents and healthcare workers that refer to the supply of liquid infant paracetamol sachets by immunisers have been updated and are available to order from the DH orderline in paper copy and in electronic format now. These make clear that parents need to make arrangements to have infant paracetamol at home in time for their baby's first immunisation appointment. In order to allow the continued supply of any remaining stock of sachets, however, the paracetamol protocol (expiry date August 2017) will remain in place until further notice. This is available via [weblink 2](#).

The main guide for parents to Meningitis B vaccination has also been updated to reflect the changes in paracetamol supply. See [weblink 3](#).

In addition, the MenB training resources have also been updated to reflect changes in provision of paracetamol. See [weblink 4](#) and [weblink 5](#).

Going home for Christmas? MenACWY – last academic year's (2014/15) year 13 leavers and university starters

Many students across the country will have finished their term and be returning home with their washing and looking forward to Christmas lunch. Where students are still registered with a family GP, in between shopping and going out, we ask that they contact their GP and make an appointment to have their MenACWY vaccine before returning to their studies. GPs are reminded that last academic year's year 13 leavers in 2014/15 (i.e. those who were 18 years of age on 31 August 2015) who have not yet taken up the offer of MenACWY vaccination remain eligible under the MenACWY enhanced service until 31 March 2016. These teenagers should be actively recalled by general practice.

Additionally, any university freshers up to 25 years of age who have not yet received the MenACWY vaccine remain eligible under the meningococcal fresher's enhanced service.

Remember that previous seasons have shown an increase in meningococcal disease cases during the winter months!

Vaccine Supply

Stocks of FluMist® Quadrivalent are being provided as well as Fluenz Tetra® this season

In agreement with the Medicines and Healthcare Products Regulatory Agency (MHRA), AstraZeneca is supplying two batches of the US labelled FluMist® Quadrivalent to the UK market in addition to the usual UK labelled Fluenz Tetra® stock. FluMist® Quadrivalent is fully licensed for use in the UK (in accordance with the Fluenz Tetra® licence). This action has been taken due to a shortage of Fluenz Tetra® supply to meet the timelines for the 2015/2016 vaccination programme in the UK. There will be sufficient FluMist® Quadrivalent stock to fulfil the requirements of the vaccination programme.

An explanatory letter from AstraZeneca is available from [weblink 6](#).

Fluenz Tetra® and FluMist® Quadrivalent are pharmaceutically identical live attenuated influenza vaccines (LAIV) and are therefore interchangeable. Some differences exist between the packaging of Fluenz Tetra® and FluMist® Quadrivalent. In addition, there are differences between the US Prescribing Information (USPI) and the UK Patient Information Leaflet (PIL) and Summary of Product Characteristics (SmPC). In agreement with the MHRA, all FluMist® Quadrivalent packs will be therefore supplied with a UK Patient Information Leaflet (PIL) for Fluenz Tetra®, the USPI should not be used. The Summary of Product Characteristics (SmPC) and PIL are also available electronically at [weblink 8](#). As these are the same vaccine, both are indicated for the prophylaxis of influenza in children and adolescents from 24 months to less than 18 years of age. In the US LAIV is licensed up to the age of 49 years. In the UK LAIV is only licensed for those aged from 24 months to less than 18 years of age.

Children already consented to receive Fluenz Tetra® do not need to be re-consented to receive FluMist® Quadrivalent

Fluenz Tetra® shelf life

Fluenz Tetra® for 2015/16 has been supplied with expiry dates ranging from 28 December 2015 and 18 January 2016. The table below shows the batch numbers for Fluenz Tetra® and corresponding expiry dates. Please ensure that the expiry date is always checked before use and that any expired stock is disposed of in line with local policies. Please record any stock that is disposed of due to expiry through the ImmForm website via [weblink 7](#).

Batch	Expiry date
FJ2021	28 Dec 2015
FJ2022	29 Dec 2015
FJ2023	30 Dec 2015
FJ2072	31 Dec 2015
FJ2098	05 Jan 2016
FJ2188	18 Jan 2016

Expiry date for FluMist® Quadrivalent

To ensure timely supply of vaccine to the UK, changes in the planned supply schedule of FluMist® Quadrivalent were required. This has resulted in a mismatch between the actual expiry date and that printed on the packaging and labelling. The two batches of FluMist® Quadrivalent that have been supplied in the UK (FL2113 & FL2118) must not be used after the 24 February 2016. **This does not affect the safety, quality or efficacy of the batches.**

In agreement with the MHRA, a pre-planned withdrawal of any unused stock of FluMist® Quadrivalent will begin on the 25 January 2016. This will help ensure that no time-expired vaccine remains in circulation by 24 February 2016. AstraZeneca's logistics provider Movianto, will contact you to arrange collection.

Batches of UK labelled Fluenz Tetra® are not subject to the withdrawal and may be used up to the expiry date stated on the carton and nasal applicator.

Providing a second dose of flu vaccine after the FluMist® Quadrivalent expiry date

If you need to give a second dose of flu vaccine four weeks after the first dose (for example, for children in clinical risk groups aged two to under nine years who have not received influenza vaccine before) but this date falls after the 24 February 2016 when all FluMist® Quadrivalent expires, then it is safe and effective to give inactivated vaccine as a second dose.

Primary infant vaccine

Ordering for Pediacel is currently restricted to 9 doses per order, per week. Infanrix IPV Hib is available to order, with no restriction on volume.

Where possible and if local stock allows, it is preferable that the same DTaP/ IPV-Hib containing vaccine be used for all three doses of the primary course. However, vaccination should never be delayed because the vaccine used for previous doses is not known or unavailable.

Infant paracetamol for the MenB programme

Sachets of infant paracetamol oral suspension are no longer available to order through the ImmForm website.

Please refer to the advice published in the October edition of Vaccine Update available at [weblink 9](#) for information about what to do when parents do not have paracetamol available.

If required, the leaflet "Using paracetamol to prevent and treat fever after MenB vaccination" can be ordered in hard copy from the DH Order line, available at [weblink 10](#), in the usual way (product code: 3083756). You can also print the leaflet locally as required and it can be downloaded as a PDF from the same web link.

BCG vaccine availability

Due to anticipated delays in receipt of vaccine from the manufacturer, SSI, BCG vaccine orders through ImmForm are restricted to 2 packs of BCG vaccine, per account, per week. Please note that the batch currently being distributed has an expiry of 28th February 2016 and should therefore not be stockpiled.

More detailed information about prioritisation and administration of the vaccine can be found in the Vaccine Update special edition published in September (see [weblink 11](#)).

Vaccine update – MenACWY vaccine

School Year 11 catch-up – ordering open

In England, MenACWY vaccines are available to order through the ImmForm website for the current school year 11 catch up programme, for the routine adolescent programme (current school year 9 and 10), and older university entrants.

Further details on the availability of ACWY vaccine for each phase of the programme is below.

When to order MenACWY vaccine

When ordering these vaccines it's important to only order sufficient for your immediate needs. Over-ordering may lead to shortages and potentially deprive others of a supply.

From when is the vaccine expected to be available?	Which school year of pupils is the vaccine for?	Dates of birth of pupils/students who will receive the vaccine (inclusive)	In which academic year will the vaccine start to be given?
Available now for those that missed vaccination	2014/15 school year 13s	1/9/1996 to 31/8/1997	2014/15
Available now	Older university entrants (freshers' programme)	1/9/1990 to 31/8/1996	2014/15
Available now	Routine adolescent programme (school year 9 or 10)	1/9/2000 to 31/8/2002	2015/16
Available now	Current school year 11 catch-up programme	1/9/1999 to 31/8/2000	2015/16
April 2016	Current school year 13	1/9/1997 to 31/8/1998	2015/16
April 2017	Current school year 12s (who will be school year 13 at the time)	1/9/1998 to 31/8/1999	2016/17

MenC vaccines

With ordering now open for MenACWY vaccine for the routine adolescent programme (years 9 and 10), it is possible that providers will have stocks of Men C vaccine (NeisVac-C) remaining. This stock should continue to be held locally and can be used to vaccinate those who require it in line with the Green Book chapter on meningococcal (see weblink). If stock expires, it should be disposed of in line with local policies and recorded on ImmForm as a vaccine wastage incident using the category “MenC vaccine disposed of due to switch to MenACWY”.

Please note that when ordering NeisVac-C on ImmForm for the infant programme, the name has now changed to “MEN C – NeisVac-C”.

PPD2TU (Mantoux) tests

PHE is currently distributing batch 1619A of tuberculin purified protein derivative (PPD) 2TU (Mantoux test) with an expiry of 31 Jan 2016. Please note the short expiry of this batch and ensure you do not stockpile the PPD2TU so that it can be used in good time prior to expiry.

Vaccine deliveries over the Christmas and New Year holidays

Due to the Christmas holidays, there will be no deliveries or order processing by Movianto UK on:

- Friday 25 December 2015
- Monday 28 December 2015
- Friday 1 January 2016

Please bear in mind when placing orders, deliveries which would fall on these days will instead be made on the next regularly scheduled delivery day, for example if your delivery day is Friday, the cut off for placing an order for vaccine for use over the holiday period is 11:55am on Wednesday 16 December. If you miss this date, the next Friday delivery will not be until Friday 8 January.

Please see the table below for revised order cut off and delivery dates. The normal ordering and delivery cycle resumes on Monday 4 January.

You are reminded to be prepared for the break in deliveries and to order accordingly. Please make sure you have sufficient room in your fridge for any additional vaccine you wish to stock over this holiday period, bearing in mind the recommendation that only two to four weeks of vaccine stock be held at any one time.

Christmas Bank holidays		
Delivery date	Order cut-off date	Order cut-off time
Monday 21 December	Thursday 17 December	11:55 AM
Tuesday 22 December	Friday 18 December	11:55 AM
Wednesday 23 December	Monday 21 December	11:55 AM
Thursday 24 December	Tuesday 22 December	11:55 AM
Friday 25 December	CLOSED – NO DELIVERIES	
Monday 28 December	CLOSED – NO DELIVERIES	
Tuesday 29 December	Wednesday 23 December	11:55 AM
Wednesday 30 December	Thursday 24 December	11:55 AM
Thursday 31 December	Tuesday 29 December	11:55 AM
Friday 1 January	CLOSED – NO DELIVERIES	
Monday 4 January	Wednesday 30 December	11:55 AM
Tuesday 5 January	Thursday 31 December	11:55 AM
Wednesday 6 January	Monday 4 January	11:55 AM
Thursday 7 January	Tuesday 5 January	11:55 AM
Friday 8 January	Wednesday 6 January	11:55 AM

Good practice when ordering vaccines – reminder

Please ensure that when placing orders via ImmForm you include all required products for the next 2-4 weeks in the same order (except Fluenz Tetra or FluMist Quadrivalent). In particular the shingles vaccine, Zostavax, and the newly introduced vaccines Nimenrix, Menveo and Bexsero should be requested in the same order as your routine childhood vaccines and not ordered separately. Creating separate orders rather than amending existing orders where possible, increases the picking and packing time at this exceptionally busy period in the year, and can cause delays to deliveries.

Orders for routine childhood vaccines, other than influenza vaccines, can be amended until two days prior to dispatch, by either adding, editing or removing items in the ImmForm order and then reconfirming.

It's time to consider PHE national free dried blood spot testing service for infants born to hepatitis B positive mothers

Public Health England (PHE) Colindale provides a testing service for infants born to hepatitis B positive mothers. The service is free of charge and has been designed to improve the coverage of vaccination and follow up testing in primary care of all infants born to hepatitis B positive mothers.

Infants born to hepatitis B positive mothers are at risk of infection and are routinely offered four doses of hepatitis B vaccine, which are administered at birth and at one, two and twelve months. Testing infants for hepatitis B surface antigen at the age of 12 months, (whilst administering the fourth dose of the hepatitis B vaccine at the same visit) will identify any infants for whom hepatitis B vaccination has not been successful and who have become chronically infected. Testing at risk infants at this age will allow early referral for specialist management of those who have developed persistent hepatitis B infection.

To improve ease and uptake of testing, particularly in primary care, PHE has developed a dried blood spot (DBS) test that has been validated for detecting hepatitis B surface antigen.

The DBS test uses a single-use safety lancet to prick the heel of the infant allowing healthcare professionals in GP surgeries, community hospitals and clinics to obtain several drops of blood, which is then applied to a filter paper with speed and little discomfort. Simple standard infection control precautions prevent any risk of cross-infection and allowing the blood to air dry onto the filter paper renders it safe for posting to the laboratory at Public Health England- Colindale.

Screening and Immunisation leads and managers in local area teams who feel this free of charge service could help to increase the uptake of testing of at risk infants at 12 months of age are encouraged to express their interest in the service. This two page handout gives you all the information you will need to explore this readily available easy to use service and express your interest.

To download more copies of the hand out shown here please go to [weblink 18](#).

The image shows two pages of a fact sheet. The left page is the front cover, featuring the Public Health England logo and the title 'PHE national free dried blood spot testing service for infants born to hepatitis B positive mothers'. The right page is the back cover, containing a list of key messages and contact information. The text on the right page includes:

- 3. How to take a good quality blood spot sample - PowerPoint presentation for healthcare professionals
- 4. How to take a dried blood spot sample - demonstration video
- 5. Introducing parents to dried blood spot testing - a Q&A for parents

DBS testing kit

Joining the service

- Ask your local area team if the DBS testing service could help increase infant testing in your local area and also information on joining the service, you should:
 - Visit the Public Health England's dedicated website pages on hepatitis B DBS testing for infants at: www.phe.gov.uk/hepatitis-b-dbs-testing for infants
 - Read the document entitled National Dried Blood Spot Testing Service for Infants of Hepatitis B Positive Mothers and check that your organisation is able to meet the essential criteria and responsibilities of the service.
 - To express your interest in joining this DBS service, please email the hepatitis B at risk infants surveillance team at PHE Colindale at: hepatitisbteam@phe.gov.uk
- Note: the DBS service aims to increase testing in primary care of all at risk infants aged 12 months who are born to hepatitis B infected mothers. It is not intended to replace specialist testing services that are already established within the local area teams and who continue to offer already validated blood spot testing services.

For more information, please contact the National Dried Blood Spot Testing Service at: hepatitisbteam@phe.gov.uk

Service documents

PHE has developed a range of documents to support Screening and Immunisation teams to implement the DBS service locally. These include:

- 1. The National DBS testing service for infants born to hepatitis B positive mothers - a guide to the service
- 2. Response to not requiring high anti-HBc levels in infants born to HBsAg positive mothers

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Page 2

Two page fact sheet ready for download. See [weblink 18](#).

If you believe the DBS testing service could help increase infant testing in your local area and are interested in joining the service, you should:

- Visit the Public Health England's dedicated website pages on hepatitis B DBS testing for infants at [weblink 18](#).
- Read the document entitled *National Dried Blood Spot Testing Service for Infants of Hepatitis B Positive Mothers* and check that your organisation is able to meet the essential roles and responsibilities of the service.
- To express your interest in joining this DBS service, please email the hepatitis B at-risk infants surveillance team at PHE Colindale at hepatitisbbabies@phe.gov.uk

Vaccine uptake monitoring and reporting

Shingles – are you running a one stop shop? A call for arms.

We know that GP surgeries are offering the shingles vaccine to eligible patients when they visit for their flu jab. Whilst this works very well, as you can see below, early indications are that coverage has fallen this year compared with previous years. Please remember to check the eligibility of patients for shingles vaccine when they attend for their flu jab as every patient counts.

Shingles coverage down 3% – vaccine available for 70 and 78 year olds

Vaccine coverage data for the second year of the shingles vaccination programme were recently published (see [weblink 12](#)) and indicated that coverage in the routine, 70 year old cohort was down by almost 3% on the previous year.

Early provisional figures from the first three months of the 2015/16 programme show that coverage at this point in the programme is lower than at the same time last year.

We urge practices to continue to offer the shingles vaccine to eligible patients (i.e. those aged 70 years and 78 years as of the 1st September 2015) to protect against this severe disease. Although some patients may be contraindicated to receive the vaccine (further details available at [web link 13](#) – Green Book – and [web link 14](#) – Q&A) it is important to ensure that all eligible adults who can benefit from the vaccine do not miss out, particularly over the coming weeks while immunisation opportunities coincide with the continued delivery of the influenza vaccination programme.

More information and advice about the vaccine are available at [weblink 15](#).

First report of UK rotavirus vaccine coverage shows 89.3% coverage

The quarterly COVER data for July – September 2015 shows that vaccine coverage remains high across the UK for all routine vaccinations in children aged up to 5 years. In particular, we're pleased that UK rotavirus vaccine coverage data, available for the first time this quarter, is high (89.3%) for this recently introduced vaccine. (See [web link 16](#)).

Coverage at one year for the primary course of the five-in-one (DTaP/IPV/Hib) and pneumococcal (PCV) vaccines were both slightly down at 94%. MMR1 coverage at five years remains close to the WHO target at 94.9%, however, a small decline was observed in MMR1 coverage at two years (92.1%, down 0.5% on the last quarter).

The UK has a world class national immunisation programme which is constantly reviewed and updated to reflect the changing nature of infectious diseases. Vaccination figures for the UK are still close to the WHO target of 95%. High coverage provides herd protection for those who aren't vaccinated and prevents diseases that are no longer common from resurgence in the population. We urge all parents to check that their children are up to date with their vaccinations and to contact their GP surgery to make sure their child is protected.

HPV vaccine priming dose coverage remains high after switch to two-dose schedule

In March 2014, the Joint Committee on Vaccination and Immunisation (JCVI) advised changing the routine programme from a three to a two-dose schedule and this was implemented in September 2014. During the academic year 2014/15, 12 to 13 year old girls were offered either one or two doses of HPV vaccine, depending on the local delivery model. Those offered only one dose will receive their second dose in 2015/16. Consequently, vaccine coverage data for this year are not directly comparable to previous years. A report published this week shows that in England, HPV vaccine coverage for the first dose remains high at 89.4% (see [weblink 19](#)). The first comparable national data for the completed (two-dose) HPV schedule for this birth cohort will be available in Autumn 2016.

PHE continues to encourage all females aged 12 to 13 to have the HPV vaccine when offered as part of the NHS childhood vaccination programme. The vaccine protects against cervical cancer, the most common cancer among women aged 15 to 34 years. In 2012, the latest available data, there were over 3000 new cervical cancer diagnoses and over 900 cervical cancer deaths.

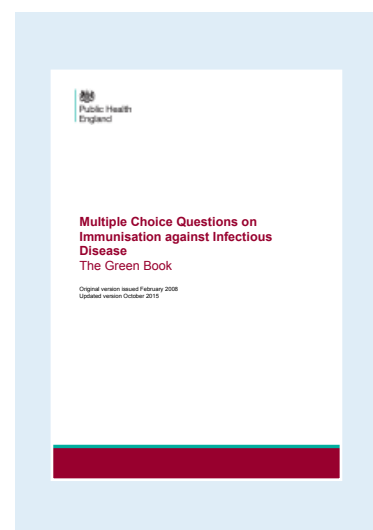
Time to test yourself? Updated resources – The Green Book multiple choice questions

This has been revised to reflect updates to some of the Green Book chapters. These multiple-choice questions will help health professionals test their knowledge of each chapter of Immunisation against infectious disease (the Green Book). You will need to read each chapter in detail before trying to answer the relevant questions.

To receive the answer key email essexhpt@phe.gov.uk, put "MCQs Green Book" in the subject line and state:

*your professional group (paediatrician, CCDC, GP, practice nurse, health visitor, school nurse, other)
the organisation you work for the region or country
in which you are working*

The PDF is available at [weblink 17](#).



Save the days! National Immunisation Network (NIN) Meeting incorporating Scientific Issues

Tuesday 26th-Wednesday 27th April 2016 (London Venue TBC)

Following on from the success of this year's NIN conference in June 2015 we are already looking forward to our next conference, which is being held during European Immunisation Week (25th-30th April 2016).

We will be sending around full details including our keynote speakers shortly. It is an opportunity to join us to explore all the most current scientific issues facing immunisation development, surveillance and implementation. This is a chance to share best practice, to connect with other practitioners in the field and gain valuable insights into the programmes currently being implemented.

Please keep these dates free in your diary, we look forward to welcoming you. In addition we are keen to include presentations from Immunisation teams who have important experiences to share regarding the implementation of the Meningitis B infant programme and the Meningitis ACWY teenage programme as well as the extension of the Childhood programme.

You can express your interest in attending and or presenting by emailing me at: Cherstyn.hurley@phe.gov.uk

Web links

- web link 1 <https://www.gov.uk/government/publications/menb-vaccine-and-paracetamol>
- web link 2 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/453782/20150811PHEParacetamolProtocolFinalv01_00.pdf
- web link 3 <https://www.gov.uk/government/publications/menb-guidance-for-parents-on-meningitis-and-septicaemia>
- web link 4 <https://www.gov.uk/government/publications/meningococcal-b-vaccine-information-for-healthcare-professionals>
- web link 5 <https://www.gov.uk/government/publications/meningococcal-b-training-slideset>
- web link 6 <http://www.fluenztetra.co.uk/declaration>
- web link 7 <https://portal.immform.dh.gov.uk/VaccineSupply/VaccineSupply/Stock-Incident/Add-Stock-incident.aspx>
- web link 8 <https://www.medicines.org.uk/emc/medicine/29112>
- web link 9 <https://www.gov.uk/government/publications/vaccine-update-issue-234-october-2015>
- web link 10 https://www.orderline.dh.gov.uk/ecom_dh/public/home.jsf
- web link 11 <https://www.gov.uk/government/publications/vaccine-update-issue-233-september-2015>
- web link 12 <https://www.gov.uk/government/publications/herpes-zoster-shingles-immunisation-programme-2014-to-2015-evaluation-report>
- web link 13 <https://www.gov.uk/government/publications/shingles-herpes-zoster-the-green-book-chapter-28a>
- web link 14 <https://www.gov.uk/government/publications/vaccination-against-shingles-for-adults-qas-for-healthcare-professionals>
- web link 15 <https://www.gov.uk/government/collections/shingles-vaccination-programme#vaccination-programme>
- web link 16 <https://www.gov.uk/government/statistics/cover-of-vaccination-evaluated-rapidly-cover-programme-2015-to-2016-quarterly-data>
- web link 17 <https://www.gov.uk/government/publications/immunisation-knowledge-test-for-professionals>
- web link 18 <https://www.gov.uk/hepatitis-b-dried-blood-spot-dbs-testing-for-infants>
- web link 19 <https://www.gov.uk/government/statistics/annual-hpv-vaccine-coverage-2014-to-2015-by-local-authority-and-area-team>