



Vaccine update

National Immunisation Network conference 21 – 22 May 2019, London



The NIN2019 last month was our most successful conference to date with over 400 delegates. We have received excellent feedback from the delegates and speakers, 99% saying they thought it was good or very good. The conference was themed back to the future of vaccines looking back at what has been achieved and looking forward to developments on the horizon and their implications.

Day one focused on the scientific issues including hot topics such as the evaluation of the current shingles programme and the potential role of Shingrix (HZ/SU) in the UK, Respiratory Syncytial Virus (RSV) vaccines, seasonal flu vaccines and the importance of high uptake. The day was punctuated by one of our keynote speakers, Noel Brewer, professor of health behaviors and psychology from the University of North Carolina, Announcement approach training exercise which gave us insight into what works to persuade parents to make the decision to vaccinate their child, and how we can use his approach to connect, clarify any concerns and counsel to address them. We learned about Tuberculosis vaccine development from Helen Fletcher and David Brown took us through rapid tests for measles and the implications for global surveillance. Shamez Ladhani updated us on meningococcal disease in England and Colin Brown presented on diphtheria. Our second keynote speak professor Helen Marshall, Senior Medical Practitioner and Director, Vaccinology and Immunology Research Trials Unit, Women's and Children's Hospital, presented on the Impact of MenB vaccine on meningococcal carriage and disease in adolescents and introduction of an infant, child and adolescent Men B vaccine program in South Australia.

Day 2 of the conference is the implementation day, attendees commented that this was the most valuable day 2 we have had with varied presentations which were felt to be immediately relevant and applicable to the delegates involved in implementing programmes.

CONTENTS

Thinking of going away this summer?

Identifying patients eligible for the shingles vaccine in GP IT systems

Issuing varicella-zoster immunoglobulin (VZIG)

Vaccination checks for holidaymakers

New tool to support the recording of vaccines given abroad!

Publication of PHE reports on the 2018/19 flu season

Resources for children's flu vaccination programme

Have you improved your flu uptake?

The EU Falsified Medicines Directive (FMD) and Delegated Regulation as applicable to PHE supplied vaccines for the national immunisation programme

Further information for ImmForm customers

BCG vaccine (AJ Vaccines) for the national BCG programme

Tuberculin Purified Protein Derivative (AJ Vaccines)

Update on MMR vaccine ordering restriction

Vaccine supply for the non routine programme



Louise Letley unpacked 'using attitudinal tracking survey data to inform planning and implementation of the national immunisation programme with the reassuring message that healthcare professionals are still the most trusted source of information on vaccination. Confidence in the immunisation programmes is high with 95% very confident or confident. Michael Edlestein took vaccination data collection into the future outlining how data tells a valuable story. **He outlined the current issues** with vaccine coverage data flows and how PHE are working closely with NHS digital to look at ways in which GP data can be used more effectively in the monitoring of immunisation and vaccination uptake. Presentations on vaccinating underserved populations by Sadie Bell and Ash Banerjee, introduced us to an exploration of the vaccination beliefs, attitudes and behaviours amongst Polish and Romanian communities in England and the interventions to improve vaccine uptake in their communities in Birmingham. Beth Graham's EU Falsified medicines Directive (FMD) showed us what to do if we suspect falsification and decommissioning.

The vaccination in pregnancy programme included presentations from Public health registrar at Imperial, Ana Llamas and midwife Katie Harrison showed us the implementation challenges to community and maternal immunisation.

Sharon Webb gave a great presentation on the hepatitis B antenatal screening and neonatal immunisation enhanced pathway for infants born to hepatitis B infected mothers. She outlined the challenges that this pathway brings, recognizing the progress that has been made and the fantastic resources available to support this programme at [weblink 21](#).

The event finished with Noel Brewer's presentation on health behavior communication equipping us with new insights into the way thoughts and feelings influence vaccination. Delegates commented that they felt reinvigorated and enthused and ready to go back to their regions to implement new methods and ideas. The perfect end to the two-day event. We would like to extend our gratitude to everyone who took time out of their busy calendars to present and be part of NIN2019 and to invite you all to save the date:

@NoelTBrewer tweeted

#NIN2019 is a wrap. Thanks **@chersvacca @YarwoodJoanne** and others at Public Health England for the stellar vaccine conference. High level epidemiology and implementation research. Amazing to see a unit manage vaccination in such a comprehensive and integrated way.

SAVE the dates NIN 2020 – 21 -22 April 2020, see you then!

Thinking of going away this summer?

As the warmer weather and summer holiday period approach, it is important for people to be aware of the risks from rabies if they come into contact with animals and bats. PHE and the National Travel Health Network and Centre (NaTHNaC) have just published a new information leaflet about rabies for travellers.



**Product code to order
free copies of the leaflet:
400322RT**

It is important that all travellers check whether rabies is present in the place they are visiting. This information can be found on the TravelHealthPro country [information pages](#). Pre-exposure vaccination may be appropriate for some travellers depending on where they are travelling to and what activities they will be doing there. Further information is available in the Green Book ([weblink 1](#)).

Travellers should be reminded to avoid contact with animals while they are aboard. They should be advised not to touch, feed or pat wild or domestic animals, even within temples, zoos or sanctuaries. Children are at greatest risk of rabies as they are more likely to touch animals and may not then tell their parents or guardians.

If someone is bitten, scratched or licked by an animal abroad, they should immediately wash and thoroughly flush the area with soap and lots of water. Medical attention should be sought locally and travellers should not wait until they return to the UK to start a course of rabies post-exposure treatment if required. Travellers should always then contact their GP surgery on return to the UK to ensure that a course of treatment can be continued. Occasionally advice given in other countries may be not the same as that given in the UK, so post-exposure treatment may need to be started once someone is back in the UK even if it wasn't given abroad.

Copies of this leaflet can be ordered for GP surgeries, hospitals, travel clinics or other locations through the Health and Social Care Publications Orderline ([weblink 2](#)).

Rabies in bats in the UK

While we don't have rabies in terrestrial animals in the UK, risks do exist from contact with bats in this country. Rabies-like viruses (bat lyssaviruses) can be found in many countries around the world, including in the UK. Rabies can be passed on to people through a bat bite, scratch or contact with the bat's saliva.

It is therefore important that all bat bites, scratches or other exposures, whether in the UK or abroad, should be assessed promptly by a health professional so that they can arrange rabies post-exposure treatment if needed.

During the summer months, bat activity increases and, particularly in hot dry weather, the bats may get exhausted or dehydrated, be found on the ground and then picked up by people. Bat bites can occur if someone handles a bat without wearing appropriate protective gloves, so never pick up a bat with bare hands. Bat bites in the UK are felt rather than seen and may not always bleed or leave an obvious mark on the skin.

PHE has developed a leaflet for the public and health professionals explaining the rabies risks from bat contact. This covers what people should do if they find an injured or grounded bat as well as what to do if they come into contact with a bat. Further information is available here ([weblink 3](#)) and copies of the leaflet can be ordered through the Health and Social Care Publications Orderline ([weblink 2](#)).

Rabies guidelines

Updated guidelines on managing rabies post-exposure treatment were published by PHE in April 2019 ([weblink 4](#)). The Rabies and Immunoglobulin Service (RIgS) team is based in PHE's National Infection Service at Colindale and are available to assist health professionals with enquiries and rabies post-exposure risk assessments. They can be contacted Monday-Friday 09:00-17:00 on 020 8327 6204. Contact details for the provision of specialist advice on the assessment of the risk and appropriate management of potential rabies exposures in Northern Ireland, Scotland and Wales can be found in the Green Book ([weblink 1](#)).



#BeRabiesAware

Identifying patients eligible for the shingles vaccine in GP IT systems

MSD has created several video tutorials to support implementation of the national shingles immunisation programme; they are focussed on helping general practices set up their IT system to identify and invite eligible patients for their shingles vaccination. The videos are aimed at practices that use EMIS and System One.

The videos are available on MSD Connect, which is MSD's website for UK Healthcare professionals. This website contains non-promotional and promotional content, and HCPs will need to register with the MSD Connect website to gain access to these videos.

They are available via the following weblinks:

- EMIS shingles search videos are available at [weblink 5](#)
- SystmOne TPP shingles search video is available here [weblink 6](#)

Issuing varicella-zoster immunoglobulin (VZIG)

Guidance for issuing varicella-zoster immunoglobulin (VZIG) Post exposure prophylaxis (PEP) is offered to individuals at high risk of severe chickenpox following an exposure ([weblink 17](#)). This includes immunosuppressed individuals, young babies in their first week of life and pregnant women.

In response to a significant shortage of varicella zoster immunoglobulin (VZIG) in 2018 and a review by a Public Health England (PHE) convened expert working group, updated interim guidelines on PEP for high risk contacts have been published in June 2019. VZIG is recommended for susceptible women exposed in the first 20 weeks of pregnancy and neonates.

For women exposed from 20 weeks, antiviral agents or VZIG can be used. Antiviral agents are recommended for post-exposure prophylaxis for immunosuppressed individuals. See the detailed guide "Updated guidelines on post exposure prophylaxis (PEP) for varicella/shingles" for the latest information.

Vaccination checks for holidaymakers

PHE data published at the end of May ([weblink 18](#)) showed that measles remains a threat to the UK population, with 231 cases confirmed in England in the first quarter of 2019. The number of cases confirmed in England has been rising since 2018, with many linked to importations from Europe.

Young people and adults aged 15 and over who missed out on the measles, mumps and rubella (MMR) vaccine when they were young and some under-vaccinated communities have been particularly affected.

Holidaymakers and other travellers should therefore be reminded to check their MMR vaccinations are up-to-date ahead of summer travel. In the UK, MMR is usually given to infants at around 12 months of age, with a second dose given before school, to ensure best protection.

In some cases, MMR can be offered to babies from 6 months of age (for example, for travel to countries where measles is common, or during an outbreak situation).

Ask your health professional for advice on the best option for your children before you travel. Two doses of MMR in a lifetime are needed for a person to be considered fully protected.

People should also check [weblink 17](#) before they are due to travel to make sure they are aware of any health requirements such as vaccinations needed for travel.

PHE has produced digital assets to promote MMR checks ahead of travel as part of the Value of Vaccines campaign that can be accessed [here](#).

Written Instruction for the administration of seasonal flu vaccination to staff

During the 2018/19 flu season the NHS Specialist Pharmacy Service (SPS) became aware of issues being encountered by health and social care organisations in offering employees the seasonal flu vaccine, including peer to peer vaccination, within the Patient Group Direction (PGD) legislation for occupational health purposes.

SPS has been working with all the relevant stakeholders to identify a way that organisations can offer employee seasonal flu vaccinations within the legislation.

The outcome of this work has been to produce a written instruction for seasonal influenza vaccination. The written instruction can be adopted by organisations following the signed authorisation by an appropriate doctor.

This medical signatory must be the doctor assuming responsibility for the delivery of the influenza vaccination programme to staff within an organisation (for example an Occupational Health Physician employed by the organisation, the organisation's Medical Director or a GP partner).

Once adopted and medically authorised the written instruction allows named registered nurses to administer the seasonal influenza vaccination to the organisation's staff, including as a peer to peer vaccinator. Immunisers must be trained and competent to work in accordance with the written instruction.

The written instruction template along with a factsheet to support the use of the written instruction by organisations is available at [weblink 7](#). Further advice on the use of PGDs in Occupational Health Services is available at [weblink 8](#). Any queries please contact Jo Jenkins, Specialist Pharmacist for Patient Group Directions at SPS jo.jenkins@gstt.nhs.uk.

New tool to support the recording of vaccines given abroad!

UK and international immunisation schedules comparison tool

PHE has released a new tool to support the recording of vaccines given abroad. This tool, in Excel format, is intended to help staff in general practice ascertain what vaccines individuals moving to England from abroad have received and record those vaccines in their IT system. It contains, for each of the 20 countries individuals most commonly immigrate to the UK from, the vaccinations schedule, the name of the diseases/vaccines in the local language and, where available the vaccines used in the countries of origin. The tool can be accessed at [weblink 19](#).

Publication of PHE reports on the 2018/19 flu season

Surveillance of flu and other respiratory viruses in the UK is undertaken throughout the year by PHE using a variety of data sources, and is published annually. **The following official statistics for the 2018/19 flu season were published on 30 May:**

- Surveillance of influenza and other respiratory viruses in the United Kingdom: winter season 2018/19 ([weblink 10](#))
- Seasonal flu vaccine uptake in GP patients in England: winter season 2018/19 ([weblink 9](#))
- Seasonal flu vaccine uptake in healthcare workers in England: winter season 2018/19 ([weblink 11](#))
- Seasonal flu uptake in children of primary school age: winter season 2018/19 ([weblink 12](#))

In the 2018/19, low to moderate levels of flu activity were observed in the community with circulation of influenza A(H1N1)pdm09 followed by influenza A(H3N2) in the latter part of the season.

Flu transmission resulted in high impact on secondary care in terms of hospitalisations and ICU admissions. The impact of A(H1N1)pdm09 was predominantly seen in the younger age groups (15-44 and 45-64 years) in both GP consultations and hospital and ICU/HDU admissions.

Influenza vaccine uptake in 2018/19 in England for the 65+ year olds and at risk groups was slightly lower than that seen in 2017/18.

Flu vaccine uptake for health care workers increased to 70.3% compared to 68.7% in 2017/18. This is the highest level achieved in the programme and one of the best in Europe.

Vaccine uptake in children was at the highest level achieved in the programme, both for school-aged children and two and three year olds offered flu vaccine in general practice.

Resources for children's flu vaccination programme

Leaflets and posters for the children's programme, including those in schools and all children aged two and three years old (on 31 August 2019) who will be offered flu vaccine in general practice, are also available to order ([weblink 13](#)). **These include:**

Protecting your child against flu

This leaflet explains which children are eligible for flu vaccination, as well as describing the disease and vaccine. Hard copies can be ordered.



Five reasons to vaccinate your child against flu

An information poster aimed at parents outlining the benefits of vaccinating children against flu. Hard copies can be ordered.



Flu vaccination invitation letter

This letter template can be downloaded and adapted to suit the needs of local healthcare teams. It should be sent to parents of eligible children in schools, along with the consent form and information leaflet.

Flu immunisation consent form

This consent form template can be downloaded and adapted to suit the needs of local healthcare teams. It should be sent to parents of eligible children in schools, along with an information leaflet.

Immunising primary school children against flu: information for schools

In 2019/20 children all primary school aged children will be offered flu vaccination. This briefing for schools, which includes Q&As, sets out details about the programme in 2019/20. Hard copies can be ordered ([weblink 14](#)).



Flu eLearning programme

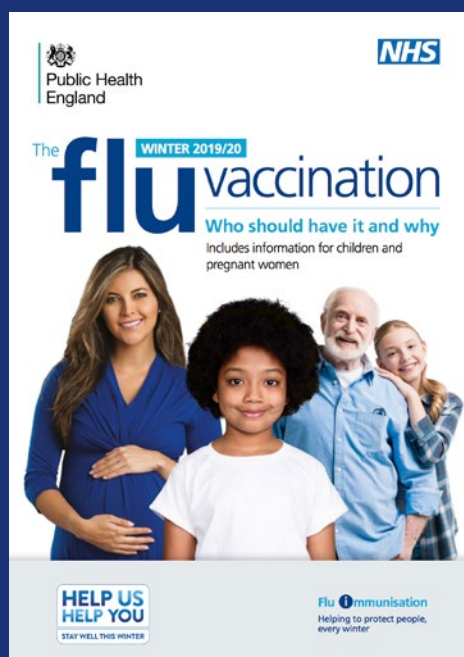
This has been updated for the 2019/20 flu season. The updated version should be available from the beginning of July at ([weblink 15](#)).

A training slide set for the 2019/20 childhood flu programme is available at [weblink 20](#). The **“National childhood flu immunisation programme 2019 to 2020 information for healthcare practitioners”** document has also been updated and will be available shortly at [weblink 13](#).

Resources for those offered flu vaccination in general practice and pharmacy

Flu vaccination: who should have it and why?

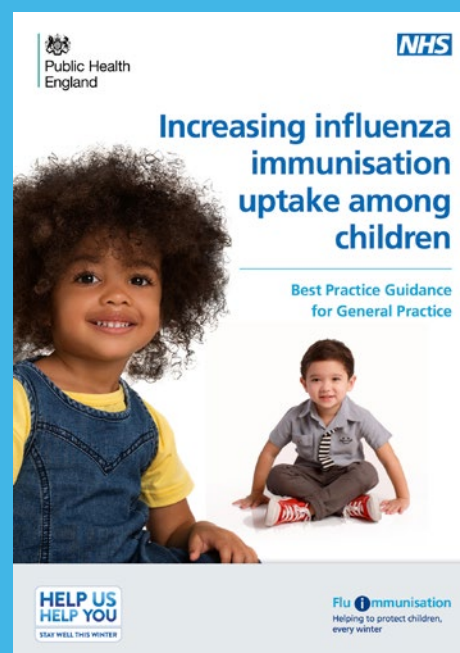
This leaflet explains to patients how they can help protect themselves and their children against flu this coming winter. It includes information for children, eligible adults and pregnant women, and explains why it's very important that people at increased risk from flu have their free vaccination every year. Hard copies can be ordered.



Increasing flu immunisation uptake among children: best practice guidance for general practice

This leaflet is intended for GPs and practice staff.

It provides best practice guidance on how to prepare and deliver the programme for children aged two and three years old.



Have you improved your flu uptake?

We are looking for case studies to feature in our regular How we did it section? If you think what you have done locally would be of interest, then please get in touch, email immunisation@phe.gov.uk.

Vaccine Supply (centrally supplied)

Centrally supplied vaccines can be used for the purposes defined in [chapter 3 of the Green Book](#), and in the 'Vaccines available on ImmForm' helpsheet.

The EU Falsified Medicines Directive (FMD) and Delegated Regulation as applicable to PHE supplied vaccines for the national immunisation programme

The [Falsified Medicine Directive](#) (FMD) and Delegated Regulation requires that prescription only medicines, including vaccines, that entered the supply chain after 9 February 2019 carry safety features including an anti-tampering device (a seal) and a unique identifier (contained in a 2D barcode), and have their product data uploaded onto a central database. In addition, certain parts of the supply chain are required to perform authenticity checks, and at the end of the supply chain 'verify' and 'decommission' products before they are supplied or administered to patients. Information on FMD as it applies to centrally supplied vaccines for the National Immunisation Programme can be found in the [April 2019 edition of Vaccine update](#).

Further information for ImmForm customers

Vaccines in FMD-compliant packs that require verification and decommissioning are starting to be distributed for some products.

Further products in FMD-compliant packs will start to be issued throughout the summer. The exact start dates will be different for different products (the month is indicated in the table below for each product). We will continue to update this information as forecasts become more accurate so please check for updates via the [ImmForm news pages](#) regularly.

Please note that both vaccines supplied by PHE for the 2019/20 children's flu programme will be issued in FMD-compliant packs that will require verification and decommissioning.

PHE are already issuing many of the products listed below in FMD-barcode packs that were manufactured before the legislation came into force. These packs are not required to be verified and decommissioned, but this can be done so optionally.

Product	Brand name	Month that packs requiring verification and decommissioning will be issued
Pneumococcal conjugate vaccine (PCV)	Prevenar13	June 2019
DTaP/IPV vaccine for pregnant women	Boostrix-IPV	June 2019
Meningococcal Group ACWY vaccine	Nimenrix	July 2019
Measles-Mumps-Rubella (MMR) vaccine	MMR VaxPRO	July 2019
DTaP/IPV/Hib/HepB vaccine	Infanrix Hexa	July 2019
Tuberculosis vaccine (BCG)	BCG Vaccine AJV	August 2019
Meningococcal Group B vaccine	Bexsero	August 2019
Shingles (Herpes zoster) vaccine	Zostavax	Beyond August 2019
Measles-Mumps-Rubella (MMR) vaccine	Priorix	Beyond August 2019
DTaP/IPV vaccine for infants	Repevax	Beyond August 2019
Hib/MenC vaccine	Menitorix	Beyond August 2019
Rotavirus vaccine	Rotarix	Beyond August 2019
Td/IPV vaccine	Revaxis	Beyond August 2019
Human papillomavirus (HPV) vaccine	Gardasil	Beyond August 2019
Live Attenuated Influenza Vaccine	Fluenz Tetra	When available
Quadrivalent Inactivated Influenza Vaccine	Quadrivalent Influenza Vaccine (split virion, inactivated)	When available
Purified protein derivative (Mantoux test)	Tuberculin PPD-2TU	Will not be in FMD-packaging as product is unlicensed in UK

If you have identified yourself to PHE as being within Article 23 and this has been agreed, then you will be supplied with decommissioned vaccine

Please see our guidance for more information on the roles and responsibilities in relation to FMD and the Delegated Regulation, regarding vaccines and other medicines centrally supplied by PHE, which is currently accessible via the [ImmForm help guide page](#).

BCG vaccine (AJ Vaccines) for the national BCG programme

The BCG vaccine currently being issued **expires 31 August 2019**. We will be issuing this stock until the end of July 2019, therefore please do not over order for your requirements. Each pack is sufficient for 100 adult or 200 infant doses. It is advised not to create locally held stockpiles.

Tuberculin Purified Protein Derivative (AJ Vaccines)

The Tuberculin Purified Protein Derivative (Mantoux test; PPD-2TU) that we are currently issuing expires on **31 July 2019**. We will be issuing this stock until the end of June 2019. Each pack of PPD-2TU contains a maximum of 100 adult doses, therefore please do not over order for your requirements. It is advised not to create locally held stockpiles.

Update on MMR vaccine ordering restriction

There are currently two different vaccines available to order for the MMR programme, MMRvaxPRO® and Priorix®. Orders for Priorix® are capped at **20 packs** per order per week for accounts in England and Wales. Controls are also in place for Scottish customers. This is needed to rebalance central supplies.

The alternative MMR vaccine, MMRvaxPRO®, remains available to order without restriction. If you specifically require additional Priorix® stock, for example because you serve communities that do not accept vaccines that contain porcine gelatine then please contact the ImmForm Helpdesk for assistance at helpdesk@immform.org.uk or 0844 376 0040.

Vaccine supply (non-centrally supplied)

Vaccine supply for the non routine programme

HEPATITIS A VACCINE

Adult

- **GSK:** Havrix Adult PFS singles and packs of 10 are available
- **Sanofi Pasteur:** Avaxim is available
- **MSD:** VAQTA Adult is available

Paediatric

- **GSK:** Havrix Paediatric PFS singles and packs of 10 are currently available
- **MSD:** VAQTA Paediatric is available

HEPATITIS B VACCINE

Adult

- **GSK:** Engerix B PFS singles and packs of 10 are available
- **GSK:** Engerix B vials singles are available
- **GSK:** Engerix B vial packs of 10 are unavailable
- **GSK:** Fendrix is available
- **MSD:** HBVAXPRO 10 µg is unavailable until further notice
- **MSD:** HBVAXPRO 40 µg is unavailable until further notice. Please see MSD statement for further information on supply of HBVAXPRO vaccines at [weblink 16](#)

Paediatric

- **GSK:** Engerix B Paediatric singles are available
- **MSD:** HBVAXPRO 5µg are available

COMBINED HEPATITIS A & B VACCINE

- **GSK:** Twinrix Adult singles are unavailable. Resupply expected from October 2019
- **GSK:** Twinrix Adult packs of 10 are available
- **GSK:** Twinrix Paediatric is available
- **GSK:** Ambirix is available

COMBINED HEPATITIS A & TYPHOID VACCINE

- **Sanofi Pasteur:** Viatim is available

TYPHOID VACCINE

- **Sanofi Pasteur:** Typhim is available
- **PaxVax:** Vivotif is available

RABIES VACCINE

- **GSK:** Limited supply of Rabipur is currently available. Supply issues resulting from manufacturing constraints have now resolved, however, GSK do not expect the situation to fully normalise until late 2019
- **Sanofi Pasteur:** Rabies BP is currently out of stock. An alternative vaccine is available, please contact Sanofi Pasteur directly for more information

PPV (Pneumococcal Polysaccharide Vaccine)

- **MSD:** Pneumococcal Polysaccharide Vaccine vials are currently available
- **MSD:** PNEUMOVAX 23 PFS are currently available. Please see [weblink 16](#) for further information

PPV (Pneumococcal Polysaccharide Conjugate Vaccine)

- **Pfizer:** Prevenar 13 is available

VARICELLA ZOSTER VACCINE

- **GSK:** VARILRIX is currently available
- **MSD:** VARIVAX is currently available
- **MSD:** ZOSTAVAX is currently available

DIPHTHERIA, TETANUS AND POLIOMYELITIS (inactivated) VACCINE

- **Sanofi Pasteur:** Revaxis is available

MMR

- **MSD:** MMRvaxPro is available

HUMAN PAPILLOMAVIRUS VACCINE

- **MSD:** GARDASIL is currently available

MENINGITIS ACWY VACCINE

- **GSK:** Limited supply of Menveo is available
- **Pfizer:** Nimenrix is currently available

YELLOW FEVER

- **Sanofi Pasteur:** Stamaril is available

CHOLERA VACCINE

- **Valneva:** Dukoral is available

JAPANESE ENCEPHALYTIS VACCINE

- **Valneva:** Ixiaro is available

For centrally-supplied vaccine enquiries, email: vaccinesupply@phe.gov.uk

Weblinks

- Weblink 1 <https://www.gov.uk/government/publications/rabies-the-green-book-chapter-27>
- Weblink 2 https://www.orderline.dh.gov.uk/ecom_dh/public/home.jsf
- Weblink 3 <https://www.gov.uk/government/publications/rabies-risks-from-bat-bites>
- Weblink 4 <https://www.gov.uk/government/publications/rabies-post-exposure-prophylaxis-management-guidelines>
- Weblink 5 https://www.msconnect.co.uk/therapy-areas/vaccines/emis-for-shingles.xhtml?utm_source=PHE&utm_medium=Email&utm_campaign=%E2%80%98How%20to%E2%80%99%20Videos
- Weblink 6 https://www.msconnect.co.uk/training-resources/shingles/find-patients.xhtml?utm_source=PHE&utm_medium=Email&utm_campaign=%E2%80%98How%20to%E2%80%99%20Videos
- Weblink 7 <https://www.sps.nhs.uk/articles/written-instruction-for-the-administration-of-seasonal-flu-vaccination/>
- Weblink 8 <https://www.sps.nhs.uk/articles/pgds-and-occupational-health-schemes/>
- Weblink 9 <http://www.gov.uk/government/statistics/seasonal-flu-vaccine-uptake-in-gp-patients-winter-2018-to-2019>
- Weblink 10 <http://www.gov.uk/government/statistics/annual-flu-reports>
- Weblink 11 <https://www.gov.uk/government/statistics/seasonal-flu-vaccine-uptake-in-healthcare-workers-winter-2018-to-2019>
- Weblink 12 <https://www.gov.uk/government/statistics/seasonal-flu-vaccine-uptake-in-children-of-primary-school-age-winter-2018-to-2019>
- Weblink 13 <https://www.gov.uk/government/collections/annual-flu-programme>
- Weblink 14 <https://www.gov.uk/government/publications/flu-vaccination-in-schools>
- Weblink 15 <https://www.e-lfh.org.uk/programmes/flu-immunisation/>
- Weblink 16 <https://www.msd-uk.com/products/vaccines.xhtml>
- Weblink 17 <https://www.gov.uk/government/publications/varicella-zoster-immunoglobulin>
- Weblink 18 <https://www.gov.uk/government/news/mmr-vaccination-call-following-high-numbers-of-measles-cases>
- Weblink 19 <https://www.gov.uk/government/publications/uk-and-international-immunisation-schedules-comparison-tool>
- Weblink 20 <https://publichealthengland-immunisati.app.box.com/s/48xi8ezl0lmifo09qiebpsmzsqc0sib6>
- Weblink 21 <https://www.gov.uk/government/collections/hepatitis-b-guidance-data-and-analysis>