



## London at risk of **measles outbreaks** with modelling estimating tens of thousands of cases

**UKHSA modelling suggests that, unless MMR vaccination rates improve, London could see a measles outbreak with tens of thousands of cases.**

Outside London the risk of large measles outbreaks is low but we could see smaller outbreaks in specific populations, including teenagers, young people and under vaccinated communities.

Those who have never received a measles vaccine (MMR) are at risk. MMR is part of the NHS Routine Childhood Immunisation Programme. Parents whose infants missed out, or anyone of any age unvaccinated, are urged to come forward.

Susceptibility is particularly high among 19 to 25 year olds, affected by unfounded stories in the early 2000s ('Wakefield cohorts') and some may still not be fully vaccinated.

As part of continued efforts to protect people against getting measles, the NHS is today launching a campaign encouraging people to check their vaccination status, with targeted outreach to groups in London.

Data published by the UK Health Security Agency (UKHSA) (see [weblink 1](#)) shows there has been a steady rise in measles cases this year. A new risk assessment (see [weblink 2](#)) also reveals the potential for a measles resurgence, particularly in London.

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Between 1 January and 30 June this year there have been 128 cases of measles, compared to 54 cases in the whole of 2022, with 66 per cent of the cases detected in London although cases have been seen in all regions.

The UKHSA assessment finds the risk of a measles epidemic across the UK is considered low. However, with lower current levels of coverage in London, a measles outbreak of between 40,000 and 160,000 cases could occur in the capital.

The assessment also concludes that there is a high risk of cases linked to overseas travel leading to outbreaks in specific population groups such as young people and under-vaccinated communities.

The risk in London is primarily due to low vaccination rates over several years, further impacted by the COVID-19 pandemic, particularly in some areas and groups where coverage of the first MMR dose at 2 years of age is as low as 69.5%.

Parents should check their children are fully vaccinated with 2 MMR doses, which gives 99% life-long protection, by checking their red book or with their GP practice, which younger and older adults can also do. Anyone not up-to-date should make an appointment as soon as possible.

Achieving high vaccination coverage across the population, 'herd immunity', is important as it indirectly helps protect very young infants (under one) and other vulnerable groups.

It's vital all children and adults catch up on any missed vaccinations and this is especially important if travelling overseas this summer.



**Dr Vanessa Saliba, UKHSA Consultant Epidemiologist said:**

Measles can be a serious infection that can lead to complications especially in young children and those with weakened immune systems. Due to longstanding sub-optimal vaccine uptake there is now a very real risk of seeing big outbreaks in London.

Measles spreads very easily but is preventable. To help protect ourselves, our families and those around us it is vital we all ensure we are vaccinated with 2 doses of the MMR vaccine, free on the NHS whatever your age. Parents can check their children's red book to see if they are up to date or if you're not sure anyone can call their GP practice. It's important everyone is fully vaccinated before travelling overseas this summer. Nobody wants to see their child or loved ones sick with measles, or put others who are more vulnerable, like babies, at risk. I urge those who have missed their MMR vaccines to catch-up now.

NHS England has launched a targeted national campaign to encourage uptake of the MMR vaccine, including targeted outreach work in London for those identified as at high risk and communities with the lowest uptake of vaccination.

This follows a polio and MMR catch-up campaign (see [weblink 3](#)) already targeting un-or-partially-vaccinated children aged 1 to 11 years in London, rolled out at the end of March through GP practices, primary schools and community vaccination clinics. All children at primary school who have missed one or both doses of the MMR vaccine are being offered the opportunity to get up to date at school. Parents of those children will be contacted by the NHS school immunisation service. Parents of younger children or those who are home-schooled can make an appointment with their GP practice or visit a community clinic.



**Jane Clegg, Regional Chief Nurse for the NHS in London said:**

Measles can easily spread between unvaccinated people and can be serious, but it is preventable, which is why we continue to encourage Londoners to take up the vaccine – with GPs calling over 10,000 parents of unvaccinated children, and hundreds booking appointments to get vaccinated as a result.

Cases of measles in the capital remain low but it's really important that people check that they, and their children, are up to date with their jabs and protected against MMR – and if you have any questions or concerns, please get in touch with your GP practice or local pharmacist for advice. Now's the time to act to protect yourself and loved ones from measles.

Current MMR vaccine coverage in the NHS routine childhood programme is the lowest it has been in a decade. The WHO 95% vaccine coverage target is set to prevent outbreaks among populations. In England coverage of 2 MMR doses at age 5 years is around 85%, with about 10% of children in the country left unprotected from measles by the time they are ready to start school, with the rate in London at about 20%.

## **From WHO: Childhood immunization begins recovery after COVID-19 backslide**

New WHO and UNICEF data show promising signs of immunization services rebounding in some countries, but, particularly in low-income countries, coverage still falls short of pre-pandemic levels putting children at grave risk from disease outbreaks.

Global immunization services reached 4 million more children in 2022 compared to the previous year, as countries stepped up efforts to address the historic backsliding in immunization caused by the COVID-19 pandemic.

According to data published by the World Health Organization (WHO) and UNICEF, in 2022, 20.5 million children missed out on one or more vaccines delivered through routine immunization services, compared to 24.4 million children in 2021. In spite of this improvement, the number remains higher than the 18.4 million children who missed out in 2019 before pandemic-related disruptions, underscoring the need for ongoing catch-up, recovery and system strengthening efforts.

The vaccine against diphtheria, tetanus and pertussis (DTP) is used as the global marker for immunization coverage. Of the 20.5 million children who missed out on one or more doses of their DTP vaccines in 2022, 14.3 million did not receive a single dose, so-called zero-dose children. The figure represents an improvement from the 18.1 million zero-dose children in 2021 but remains higher than the 12.9 million children in 2019.

"These data are encouraging, and a tribute to those who have worked so hard to restore life-saving immunization services after two years of sustained decline in immunization coverage," said Dr Tedros Adhanom Ghebreyesus, WHO Director-General. "But global and regional averages don't tell the whole story and mask severe and persistent inequities. When countries and regions lag, children pay the price."

The early stages of recovery in global immunization have not occurred equally, with the improvement concentrated in a few countries. Progress in well-resourced countries with large infant populations, such as India and Indonesia, masks slower recovery or even continued declines in most low-income countries, especially for measles vaccination.

Of the 73 countries that recorded substantial declines\* in coverage during the pandemic, 15 recovered to pre-pandemic levels, 24 are on route to recovery and, most concerning, 34 have stagnated or continued declining. These concerning trends echo patterns seen in other health metrics. Countries must ensure they are accelerating catch-up, recovery, and strengthening efforts, to reach every child with the vaccines they need and – because routine immunization is a fundamental pillar of primary healthcare – take the opportunity to make progress in other, related health sectors. Vaccination against measles – one of the most infectious pathogens – has not recovered as well as other vaccines, putting an additional 35.2 million children at risk of measles infection.

First dose measles coverage increased to 83 per cent in 2022 from 81 per cent in 2021 but remained lower than the 86 per cent achieved in 2019. As a result, last year, 21.9 million children missed the routine measles vaccination in their first year of life – 2.7 million more than in 2019 – while an additional 13.3 million did not receive their second dose, placing children in under-vaccinated communities at risk of outbreaks.

“Beneath the positive trend lies a grave warning,” said UNICEF Executive Director Catherine Russell. “Until more countries mend the gaps in routine immunization coverage, children everywhere will remain at risk of contracting and dying from diseases we can prevent. Viruses like measles do not recognize borders. Efforts must urgently be strengthened to catch up children who missed their vaccination, while restoring and further improving immunization services from pre-pandemic levels.”

Many stakeholders are working to expedite recovery in all regions and across all vaccine platforms. Earlier in 2023, WHO and UNICEF, along with Gavi, The Bill & Melinda Gates Foundation and other IA2030 partners launched ‘The Big Catch-Up’ (see [weblink 4](#)), a global communications and advocacy push, calling on governments to catch up the children who missed vaccinations during the pandemic, restore immunization services to pre-pandemic levels, and strengthen these going forward by:

- Doubling-down on their commitment to increase financing for immunization and to work with stakeholders to unlock available resources, including COVID-19 funds, to urgently restore disrupted and overstretched services and implement catch-up efforts.
- Developing new policies that enable immunizers to reach children who were born just before or during the pandemic and who are moving past the age when they would be vaccinated by routine immunization services.
- Strengthening immunization and primary health care services -including community health systems – and addressing systemic immunization challenges to correct longer-term stagnation in vaccination and reach the most marginalised children.
- Building and sustaining vaccine confidence and acceptance through engagement with communities and health providers

For more information, please contact:

## UNICEF

Tess Ingram, Tel: +1 934 867 7867, [tingram@unicef.org](mailto:tingram@unicef.org)

## WHO

Media inquiries: [mediainquiries@who.int](mailto:mediainquiries@who.int)

## Links

Access the WHO dataset (data will be updated to reflect the new WUENIC release once embargo lifts): [Global dashboard](#), [Full datasets](#), [information page](#).

Access the UNICEF dataset (data will be updated to reflect the new WUENIC release once embargo lifts): [Overview page](#), [Full datasets](#), [Data visualisation](#), [Regional data visualisation](#), [Country profiles](#).

## Download content

[WHO photo gallery](#) and [social media content](#) and [WUENIC Q&A](#), UNICEF [multimedia](#) and [immunization page](#).

## Notes to editors

\*A substantial decline is considered a decline of 5 percentage points or more in 2020 and/or 2021 compared to 2019. Smaller fluctuations in coverage were not unusual before the pandemic.

	2019	2020	2021	2022
DTP3 coverage	86%	83%	81%	84%
Number of under-vaccinated children	18.4m	22.3m	24.5m	20.5m
DTP1 coverage	90%	88%	86%	89%
No. of 'zero-dose' children	12.9m	16.1m	18.1m	14.3m

The data indicates how many children in the target age group for routine immunization services were reached in 2022. It is not structured to capture catch-up of those who were missed during the pandemic, as many of these children will have 'aged out' of local immunisation services. However, some catch-up may have been recorded as "routine" services and reflected in the data.

WHO and UNICEF are working with Gavi, the Vaccine Alliance and other partners to deliver the global Immunization Agenda 2030 (IA2030), a strategy for all countries and relevant global partners to achieve set goals on preventing diseases through immunization and delivering vaccines to everyone, everywhere, at every age.



## About the data

Based on country-reported data, the WHO and UNICEF estimates of national immunization coverage (WUENIC) provide the world's largest and most comprehensive data-set on immunization trends for vaccinations against 13 diseases given through regular health systems – normally at clinics, community centres, outreach services, or health worker visits. For 2022, data were provided from 183 countries.

## About WHO

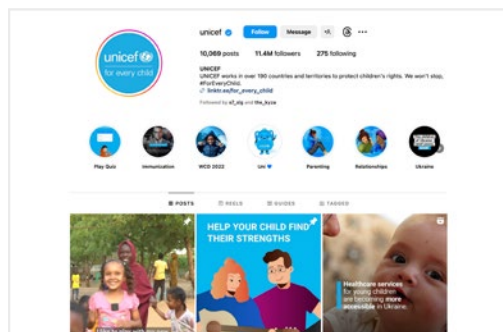
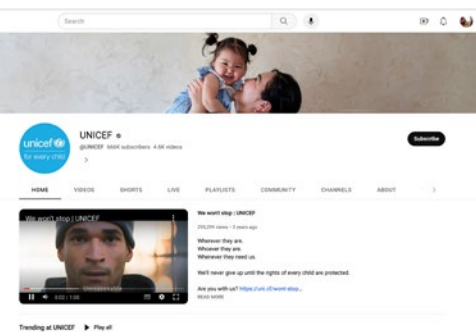
Dedicated to the well-being of all people and guided by science, the World Health Organization leads and champions global efforts to give everyone, everywhere an equal chance at a safe and healthy life. We are the UN agency for health that connects nations, partners and people on the front lines in 150+ locations – leading the world's response to health emergencies, preventing disease, addressing the root causes of health issues and expanding access to medicines and health care. Our mission is to promote health, keep the world safe and serve the vulnerable.

## About UNICEF

UNICEF works in some of the world's toughest places, to reach the world's most disadvantaged children. Across more than 190 countries and territories, we work for every child, everywhere, to build a better world for everyone.

For more information about UNICEF and its work, visit: [www.unicef.org](http://www.unicef.org)

Follow UNICEF on [Twitter](#), [Facebook](#), [Instagram](#) and [YouTube](#).



## Measles resources

### Measles Green Book

Available at [weblink 5](#)

### Measles: don't let your child catch it – flyer for schools

This information is designed for use in schools, healthcare centres, A&E departments, hospital wards, walk-in centres and GP practices. It addresses common questions about measles and the measles, mumps and rubella (MMR) vaccine that protects against the disease. It refers to recent outbreaks and explains why everyone eligible requires 2 doses of MMR vaccine to protect them from measles.

Paper copies of the English flyer are available to order by post, free of charge.

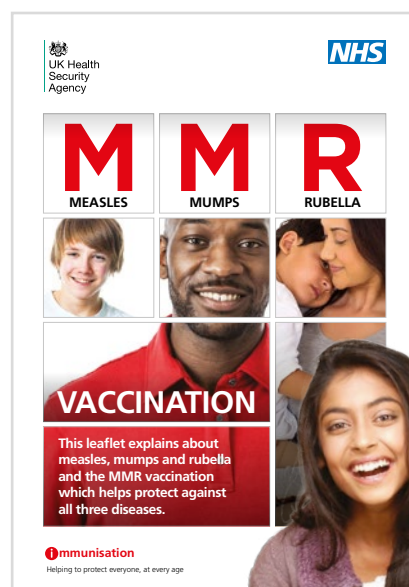
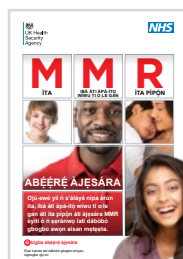
Translated versions of the flyer are available to download in the following languages: Afrikaans, Arabic, Bengali, Cantonese, Chinese, French, Italian, German, Hebrew, Hindi, Lithuanian, Polish, Portuguese, Romani, Romanian, Swahili, Spanish, Turkish, Tagalog, Tamil, Ukrainian and Urdu at [weblink 6](#).



### MMR for all

This leaflet (see [weblink 7](#)) explains: signs and symptoms of measles, mumps and rubella who is eligible for the vaccine the importance of having the correct, complete doses of MMR you can get MMR vaccination at any age, especially if you are not sure if you have had it the importance of calling ahead to the GP or clinic if you suspect you have measles.

The leaflet is available in Bengali, Polish, Romanian, Somali, Ukrainian and Yoruba.



## Measles, Simple text resources

Simple text posters and leaflets for use by health professionals and community engagement groups to raise awareness of measles. These resources include information on vaccination and symptoms of measles. These are available for download only.

The leaflet is available in English, Dari, Farsi, Pashto, Polish, Romanian, and Ukrainian at [weblink 8](#).



## Measles is circulating

- measles is extremely infectious and can be serious
- Make sure your children get two MMR vaccines on time; the first at 1 year of age and the second at 3 years, 4 months
- If you or your children missed these vaccines, it's not too late. Ask for the **free** vaccine from your family doctor (GP) if you or your children aren't up-to-date
- if you have symptoms of measles, stay at home and phone your GP or NHS 111 for advice. **STAY AWAY** from GP surgeries and A&E departments – you could spread the illness to others
- symptoms include: high fever; sore red, watery eyes; coughing; aching and feeling generally unwell; a blotchy red brown rash, which usually appears after the first symptoms
- go to [nhs.uk](https://www.nhs.uk) for more measles information

### Symptoms

Rash

Temperature

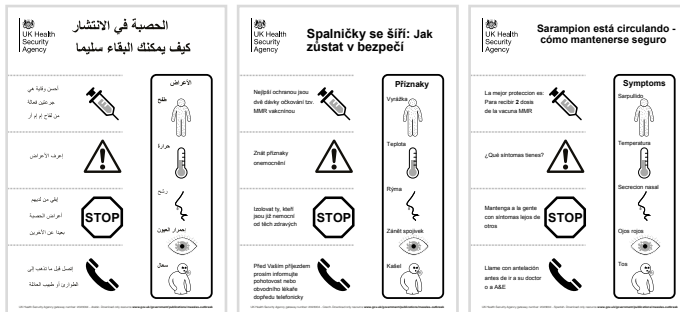
Runny Nose

Red Eyes

Cough

UK Health Security Agency gateway number: 2023004. Download only resource [www.gov.uk/government/publications/measles-outbreak](https://www.gov.uk/government/publications/measles-outbreak)

The poster is available in Arabic, Czech, English, Spanish and Romanian at [weblink 8](#).



## Measles: How to Stay Safe

The best protection is 2 doses of the safe, effective MMR vaccine at 1 year of age, and 3 years, 4 months

If you have not had two doses, you can get them **free** from your GP surgery

Know the symptoms! Keep people with symptoms away from others

Call ahead before going to A&E or your GP

### Symptoms

Rash

Temperature

Runny Nose

Red Eyes

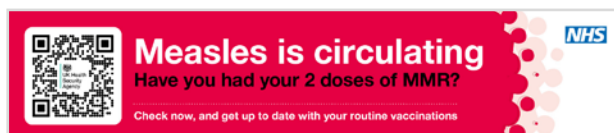
Cough

**STOP**

UK Health Security Agency gateway number: 2023004. Download only resource [www.gov.uk/government/publications/measles-outbreak](https://www.gov.uk/government/publications/measles-outbreak)

## Have you had your 2 doses of MMR? Email banners

Add these (see [weblink 9](#)) to your emails to remind contacts about the importance of having 2 doses of MMR to prevent the spread of measles.



Subscribe to Vaccine update [here](#). Order immunisation publications [here](#).  
For centrally-supplied vaccine enquiries, email: [vaccinesupply@phe.gov.uk](mailto:vaccinesupply@phe.gov.uk)



## Think you have measles? Call ahead.



Poster available at [weblink 10](#)

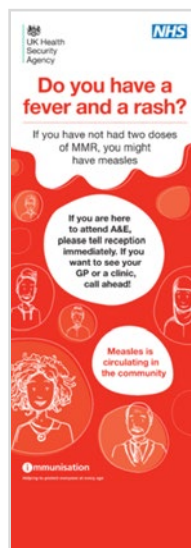
## Have you had your MMR vaccines?

This leaflet (see [weblink 12](#)) is for mums who have just given birth. The 2 doses of MMR vaccine will help protect them and their baby until the baby is old enough to get vaccinated.

The leaflet is suitable for all healthcare settings including maternity units and GP surgeries.



## Do you have a fever and rash? Pull-up banner



Pull-up banner available at [weblink 11](#)

## Rash in Pregnancy Aide memoire

It is accompanied by the main guidance at the download link at [weblink 13](#) which covers rash illnesses caused by parvovirus B19 (B19V), measles, rubella and chickenpox (varicella), where intervention can prevent or reduce the potential for adverse outcomes.

Characteristic features and incidence of the following rash illnesses are also discussed:

- HHV-6/7
- enteroviruses
- Epstein-Barr virus
- cytomegalovirus (CMV)



## World Hepatitis Day, 28 July 2023

World Hepatitis Day is marked annually on 28 July to raise awareness of viral hepatitis. Every year, more than a million lives are lost globally to viral hepatitis and the UK has signed up to the WHO target of eliminating viral hepatitis as a public health threat by 2030. While there are 5 main hepatitis viruses (A-E), elimination efforts focus on hepatitis B, C, and D, because, these viruses can cause chronic hepatitis which can last for decades and if left untreated, can cause life-threatening liver disease, including cancer.



### Measuring progress towards the elimination of viral hepatitis as a public health problem in England

#### Hepatitis B (HBV)



##### Prevalence

**206,000** (0.45% of the population) were estimated to be living with chronic hepatitis B infection in 2021.



##### Elimination of maternal to child transmission

**Impact Target: equal or less than 2%**

In 2020 to 2021, **one in a thousand** children born to a woman with HBV developed chronic hepatitis B infection.



##### Programmatic targets: antenatal screening and infant vaccine coverage over 90%

In 2020 to 2021:

- **99.9%** of pregnant women were screened for HBV
- **99%** of infants born to a woman with HBV received birth dose vaccine within 24 hours
- **92%** of infants received 3 doses of hexavalent vaccine in the universal programme by 12 months of age



##### Mortality

**Impact Target: equal to or less than 4 per 100,000 persons**

HBV-related mortality rate was **0.15 per 100,000** population in 2021. This has remained stable since 2015.

##### Vaccination in higher risk groups

Uptake of at least one dose of HBV vaccine has decreased among people who inject drugs over the past decade with **61%** uptake in 2021 versus **75%** uptake in 2012

Information on data sources and methodologies can be found at: [www.gov.uk/government/publications/hepatitis-b-in-england](http://www.gov.uk/government/publications/hepatitis-b-in-england)

#### Hepatitis C (HCV)



##### Prevalence

**70,649** people (0.15% of the population) were estimated to be living with chronic hepatitis C infection in 2022. This is a **45%** reduction from 2015.



##### Mortality

**Impact Target: equal to or less than 2 per 100,000 persons**

The HCV-related mortality rate was **0.48 per 100,000** population in 2021. This has reduced since 2015.



##### Number of individuals diagnosed with chronic HCV infection who initiated curative HCV treatment

**Programmatic Target: equal to or greater than 80%**

Between 2016 and 2021, **73.0%** of diagnosed patients with chronic HCV initiated treatment.

##### Hepatitis C reinfections

The rate of reinfection with hepatitis C was **7.7 per 100 person years**.

Information on data sources and methodologies can be found at: [www.gov.uk/government/publications/hepatitis-c-in-the-uk](http://www.gov.uk/government/publications/hepatitis-c-in-the-uk)

[www.gov.uk/government/publications/hepatitis-c-in-the-uk](http://www.gov.uk/government/publications/hepatitis-c-in-the-uk)

Hepatitis B is vaccine preventable, and the foundation of hepatitis B elimination is ensuring vaccination for babies and infants, because they are at greatest risk of developing chronic infection if infected. The UK has achieved WHO EURO elimination of mother to child transmission of hepatitis B through universal antenatal screening and selective birth dose vaccination programme for babies born to mothers with hepatitis B, both of which have achieved over 99% coverage. Since 2017 hep B vaccination has been part of the universal infant vaccination schedule where recent vaccine coverage is 92%. However, more work needs to be done to improve the implementation and monitoring of targeted vaccination in high risk groups, and to ensure that individuals at higher risk of chronic hepatitis B infection are tested, diagnosed, engaged and retained in a treatment and care pathway. UKHSA estimates there are 206,000 people living with chronic hepatitis B in England, equivalent to a prevalence estimate of 0.45%, most (>95%) of whom are people who were born in a country where hepatitis B is endemic and acquired their infection in infancy.

Hepatitis C cases in England have fallen by 45% since 2015, thanks to improved access to antivirals that cure the infection. The latest data published by UKHSA show that there were an estimated 70,649 people living in England with Hepatitis C in 2022, with almost 80,000 people treated by NHS E since 2015. While there has been huge progress over recent years in the diagnosis and treatment of hepatitis C with effective and curative treatments, challenges remain. The latest data from UKHSA show that a small but not insignificant number of successfully treated individuals become re-infected. UKHSA is working with partners to prevent, detect and treat the infection.



Treatment for both hepatitis B and C has improved dramatically over recent years, but many people remain undiagnosed, often because they have no symptoms or are unaware that they have ever been at risk. Ramping up of case-finding initiatives, such as the NHSE funded emergency department (ED) opt out blood borne virus testing programme currently taking place in ED across London, Manchester, Brighton, Blackpool and Salford, is a welcomed initiative to ensure people access diagnostic testing and treatment.

## Hepatitis B In Primary Care research study: GP Survey

**Dr Jessica Carter Academic GP, Hospital for Tropical Diseases. The Migrant Health Research Group, St Georges, University of London**

There are more than 300 million individuals globally living with chronic hepatitis B, an infection with severe consequences including cirrhosis and liver cancer and accounting for almost a million deaths a year.<sup>1</sup> This is despite the existence of antiviral treatment and surveillance recommendations which effectively reduce morbidity and mortality.<sup>2</sup> In the UK, marginalised groups including migrant populations, are disproportionately affected by hepatitis B due in part to prevalence in their country of origin.<sup>3</sup> Many will be unaware of their diagnosis or be lost to care following diagnosis, this is compounded by the multiple known barriers this population face in accessing NHS care including primary care.<sup>4</sup>

The WHO has called for the elimination of hepatitis B as a public health threat by 2030 (defined as a 90% reduction in new chronic infections and a 65% reduction in mortality, compared with the 2015 baseline).<sup>2</sup>

However even with these high-profile international goals harnessing momentum in this field in the UK more work is required if we are to meet these ambitious targets. Despite being ideally placed to support delivery of these elimination targets primary care is poorly utilised in the identification and management of hepatitis B in the migrant population.<sup>4</sup> This survey will specifically explore how primary care are currently contributing towards hepatitis B elimination within at-risk migrant groups, what barriers exist to screening and management of hepatitis B within primary care and views on potential solutions to strengthen the delivery of primary care-based hepatitis B screening and management.

Data from this survey will be used to identify effective primary care-based strategies to engage migrant patients, make recommendations to relevant primary care providers and commissioners and contribute towards the hepatitis B elimination goals.

### Are you a GP? We need you!

If you are a GP in the UK and are interested in participating in this short survey and enter a prize draw for £100 shopping voucher please see weblink 13.

Any questions: contact Dr Jessica Carter, clinical research fellow Hospital for Tropical Diseases/St George's University of London ([jcarter@sgul.ac.uk](mailto:jcarter@sgul.ac.uk)).

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[1] World Health Organisation. Hepatitis B Geneva, Switzerland 2021 [updated 27 July 2021]. Available from: <https://www.who.int/news-room/fact-sheets/detail/hepatitis-b>.

[2] Cooke GS, Andrieux-Meyer I, Applegate TL, Atun R, Burry JR, Cheinquer H, et al. Accelerating the elimination of viral hepatitis: a Lancet Gastroenterology & Hepatology Commission. *Lancet Gastroenterol Hepatol*. 2019;4(2):135-84.

[3] O'Hara GA, McNaughton AL, Maponga T, Jooste P, Ocama P, Chilengi R, et al. Hepatitis B virus infection as a neglected tropical disease. *PLoS Negl Trop Dis*. 2017;11(10):e0005842.

[4] Evlampidou I, Hickman M, Irish C, Young N, Oliver I, Gillett S, et al. Low hepatitis B testing among migrants: a cross-sectional study in a UK city. *Br J Gen Pract*. 2016;66(647):e382-91.



## New resources for the teenage 3 in 1 Td/IPV booster programme

This is a guide to the teenage booster given in school Year 9 or at age 14 years. It explains the 3 in 1 teenage booster dose of the vaccine that prevents tetanus, diphtheria and polio, to young people, their parents and carers.

Paper copies of the leaflet are available to order for free at [weblink 17](#).

### What does this vaccine protect me from?



**Tetanus**  
Tetanus is a painful disease affecting the nervous system which can lead to muscle spasms, cause breathing problems, and can kill. It is caused when germs found in the soil and manure get into the body through open cuts or burns. Tetanus cannot be passed from person to person.



**Diphtheria**  
Diphtheria is a serious disease that usually begins with a sore throat and can quickly cause breathing problems. It can damage the heart and nervous system, and in severe cases, it can kill.



**Polio**  
Polio is a virus that attacks the nervous system which can cause permanent paralysis of muscles. If it affects the chest muscles or the brain, polio can kill.

The teenage booster vaccine is called Revaxis, you can read the Patient Information Leaflet at [www.medicines.org.uk/emc/product/5581/pii](http://www.medicines.org.uk/emc/product/5581/pii)

### If I was immunised against tetanus, diphtheria and polio as a child am I still fully protected?

No, you will still need a booster to top up the protection you have previously received.

### How many boosters do I need to have?

You need a total of 5 doses of tetanus, diphtheria and polio vaccines to build up and keep your immunity.

You should have had:



**the first 3 doses**  
as a baby



**dose 4**  
when you were between 3 and 5 years old, this is the pre-school booster



**dose 5**  
is due in year 9 (aged 13 to 14)

### Will I need more boosters in the future?

You will probably not need further boosters of these vaccines. However, you may need extra doses of some vaccines if you are visiting certain countries or if you have an injury, you may need another tetanus injection. Check with your practice nurse at your GP surgery.

### How will I be given the Td/IPV booster?

You will get 1 injection in your upper arm. Nobody likes injections, but it is very quick. The needles used are small and you should feel only a tiny pinprick. If you are a bit nervous about having the injection, tell the nurse or doctor before you have it.

### Are there any other immunisations I need to have now?

When you are having your Td/IPV booster you will also be eligible for your MenACWY vaccine. You should have this before your leave school. Speak to your school nurse if you have missed out and are still at school. If you have left school, you should contact your GP practice to arrange to catch up. It's a good idea to check with your GP practice that all your other immunisations are up to date including HPV and MMR (measles, mumps and rubella).

If you have never had the MMR vaccine, you should have one dose now and another 1 month later to protect you from measles, mumps and rubella.



### Are there any side effects?

It is common to get some swelling, redness or tenderness where you have the injection. Sometimes a small painless lump develops, but this usually disappears in a few weeks. More serious effects are rare but include fever, headache, dizziness or feeling faint, feeling sick and swollen glands.

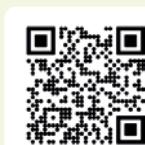
If you feel unwell after the immunisation, take paracetamol. Read the instructions on the bottle or packet carefully and take the correct dose for your age. If necessary, take a second dose 4 to 6 hours later.

If your temperature is still high after the second dose, speak to your GP or call the free NHS helpline 111.

If you experience any suspected side effects to the vaccine, you can report these on the Yellow Card website or by calling 0800 731 6789 (9am to 5pm Monday to Friday) or by downloading the Yellow Card app. [www.mhra.gov.uk/yellowcard](http://www.mhra.gov.uk/yellowcard)

**Now is a good time to check that you are up to date with all your immunisations**

### Immunisations for young people



### NHS vaccinations



For more information about teenage vaccinations visit [www.nhs.uk/vaccinations](http://www.nhs.uk/vaccinations) or read <https://qrco.de/YoungPeopleImms>



**It's not too late to catch up on the doses you may have missed.**

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The leaflet can be ordered or downloaded from: [www.healthpublications.gov.uk](http://www.healthpublications.gov.uk), by calling: 0300 123 1002 (lines are open 8am to 6pm Monday to Friday).  
Paper copies of this leaflet in English are available to order.  
Translated versions of this leaflet are also available to order.



UK Health  
Security  
Agency

## Td/IPV teenage 3 in 1 booster



At 14 years old or during Year 9 of school you become eligible for the 3 in 1 teenage booster dose of the vaccine that prevents tetanus, diphtheria and polio. **The Td/IPV vaccine will boost your body's immunity to these infectious diseases which may have decreased as you have grown up.**

This leaflet is also available in 33 languages, both as paper copies and digital downloads.

Albanian, Arabic, Bengali, Brazilian Portuguese, Bulgarian, Chinese, Estonian, Farsi, Gujarati, Hindi, Hungarian, Kurdish Sorani, Latvian, Lithuanian, Nepali, Panjabi, Pashto, Polish, Romanian, Romany, Russian, Slovak, Somali, Spanish, Tagalog, Tigrinya, Turkish, Twi, Ukrainian, Urdu, Yiddish and Yoruba.



# Vaccine supply

## Routine vaccination programme

### Attention all customers – bank holiday deliveries warning notice

Movianto UK require 1.5 working days to pick and pack routine vaccine orders. Due to the August Bank Holiday, there will be no deliveries or order processing by Movianto UK on Monday 28th August 2023. Please see the table below for revised order cut-off and delivery dates.

For customers with standard delivery days of Monday, please be aware that

- after 21 August, your next available delivery day will be 4 September 2023

You are reminded to be prepared for the break in deliveries and to order accordingly.

For customers with scheduled delivery days of Tuesday or Wednesday, please note that your order cut-off date will be one day earlier ahead of the bank holiday Monday.

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.

### August Bank Holiday orders and deliveries – revised table

August Bank Holiday – MONDAY 28th August 2023		
Delivery date	Order cut-off date	Order cut-off time
Monday 21 August 2023	Thursday 18 August 2023	11:55 AM
Tuesday 22 August 2023	Friday 18 August 2023	11:55 AM
Wednesday 23 August 2023	Monday 21 August 2023	11:55 AM
Thursday 24 August 2023	Tuesday 22 August 2023	11:55 AM
Friday 25 August 2023	Wednesday 23 August 2023	11:55 AM
<b>Monday 28 August 2023</b>	<b>Closed – No deliveries or order processing</b>	
Tuesday 29 August 2023	<b>Thursday 24 August 2023</b>	11:55 AM
Wednesday 30 August 2023	<b>Friday 25 August 2023</b>	11:55 AM
Thursday 31 August 2023	Tuesday 29 August 2023	11:55 AM
Friday 1 September 2023	Wednesday 30 August 2023	11:55 AM

Please be advised that Emergency or “Out of Schedule” deliveries cannot be arranged for failure to place orders in good time.

The ImmForm Team: [helpdesk@immform.org.uk](mailto:helpdesk@immform.org.uk)

## Vaccines for the 2023 to 2024 children's flu programme supplied by UKHSA

All flu vaccines for the 2023/24 children's flu programme will be available to order by NHS providers in England via UKHSA's ImmForm website.

UKHSA does not supply any flu vaccines for patients aged 18 years and over.

Please refer to guidance from your respective health departments for arrangements in Scotland, Wales and Northern Ireland.

### Vaccines and availability

The 2 vaccines available, indicative ordering dates and the groups these vaccines should be ordered for are shown in the table below. At present these timings remain subject to change.

The latest and most accurate information on availability of centrally supplied vaccines for the children's flu programme is available on the ImmForm news (see [weblink 18](#)) page at all times. It is strongly advised that all parties involved in the provision of influenza vaccines to children ensure they remain up to date with this.

Vaccine	Manufacturer	Available to order for	Anticipated order opening for all providers
Fluenz® Tetra (LAIV)	AstraZeneca	All children from 2 years of age to school year 11; and Children in clinical risk groups aged 2 to <18 years*	Week commencing 4 September First deliveries week commencing 11 September
Cell Based Quadrivalent Influenza Vaccine (Surface Antigen, Inactivated) (QIVc)	Seqirus	Children in clinical risk groups aged 6 months to <2 years All other eligible** children aged 2 to <18 years for whom LAIV is unsuitable	Early September

\*unless LAIV clinically contraindicated or otherwise unsuitable.

\*\*Children from 2 years of age to school year 11, and children in clinical risk groups aged 2 to <18 years.

### Editing Fluenz® Tetra (LAIV) orders

Due to the anticipated large volume of orders for Fluenz® Tetra in the first few weeks of ordering, orders for this product will be assembled as soon as they are placed and will not be editable. If you need to make an adjustment to your order after it has been placed, you will need to contact [helpdesk@immform.org.uk](mailto:helpdesk@immform.org.uk) for assistance.

## LAIV ordering information for General Practice

Ordering controls will be in place for general practices, to enable UKHSA to balance supply with demand. These controls work by allocating an amount of LAIV based on the number of registered eligible patients and are tailored to each practice.

UKHSA expects to be able to accommodate the following, however at this time, this information remains subject to change:

- Each GP practice will initially be allocated sufficient LAIV to vaccinate at least 50% of their eligible patients (all 2 and 3 year olds, plus children in clinical risk groups from age 4 to <18 years) when ordering commences.
- Increases to these allocations may be made in response to demand and vaccine availability.
- Requests for extra vaccine will be considered on a case-by-case basis throughout the ordering period. Requests for additional vaccine should be sent to the helpdesk ([helpdesk@immform.org.uk](mailto:helpdesk@immform.org.uk)) and should be sent in good time before your order cut-off. Out of schedule deliveries will be by exception only.

## Multi-Branch Practices and LAIV allocations

Please note that GP practices or groups that operate over multiple sites but are part of the same organisation will have a joint allocation (as in previous years), even where each site has a unique ImmForm account. This means that it is possible for one site to potentially order all of the available vaccine for the group, unless there is local agreement on how the allocated volume is shared. UKHSA recommend that this agreement is in place before ordering opens to reduce the risk of supply interruption. The information above allows practices to estimate the amount of vaccine they will be initially allocated, and how it should be split between all sites.

## LAIV ordering information for school-age providers

A default weekly ordering cap of 450 packs (4,500 doses) per week will be in place for school provider accounts. Where this cap is insufficient and a provider needs a larger weekly volume of vaccine to deliver the programme (for example where a provider covers a large area using a single account), a higher weekly cap should be requested via the UKHSA Flu Vaccine Operations team by emailing [childfluvaccine@ukhsa.gov.uk](mailto:childfluvaccine@ukhsa.gov.uk). Requests should be made by **Friday 25 August** to ensure that accounts are set up correctly before vaccine ordering commences.

For one-off larger orders during the ordering period, requests should be made via [helpdesk@immform.org.uk](mailto:helpdesk@immform.org.uk).

## Inactivated flu vaccine ordering

The Cell Based Quadrivalent Influenza Vaccine (Surface Antigen, Inactivated) (QIVc) will be available to order, in a single dose pack, for:

- Children in clinical risk groups aged from six months to less than 2 years old;
- Children aged from 2 to <18 years old in clinical risk groups for whom LAIV is clinically contraindicated or otherwise unsuitable; and

- Healthy children from 2 years old to those in school year 11, for whom LAIV is unsuitable (for example, due to objection to LAIV on the grounds of its porcine gelatine content)

Order controls will also be in place for this vaccine as follows:

- For GPs, there will be an initial cap of 10 doses/packs per week
- For school-age providers, there will be a cap of 450 doses/packs per week

For one-off larger orders of inactivated vaccines, requests should be made via [helpdesk@immform.org.uk](mailto:helpdesk@immform.org.uk) in good time before your order cut-off.

### **All influenza vaccines for the 2023 to 2024 season**

Information on all influenza vaccines that have been marketed in the UK for the 2023 to 2024 season are available at [weblink 19](#).

### **ImmForm customers should report long-term changes to opening hours for deliveries**

Customers should report long-term changes to the days and times when they can accept deliveries, such as routine training days and closures, by contacting Movianto UK Customer Care ([MoviantoUK.NHSCC@movianto.com](mailto:MoviantoUK.NHSCC@movianto.com); 01234 587207). This should not be used to report short-term changes due to absence or holidays.

Customers are reminded to be prepared for any break in deliveries due to absences or holidays and to order accordingly. Please make sure you have sufficient room in your fridge for any additional vaccine you wish to stock. Deferred orders can also be placed in advance. Out of schedule deliveries cannot be arranged for failure to place orders in good time.

### **DTaP/IPV/Hib/HepB vaccine ordering**

Supplies of DTaP/IPV/Hib/HepB vaccines Infanrix hexa® and Vaxelis® are available for the routine infant primary immunisations programme.

Orders for Infanrix hexa® remain unrestricted. Customers in England and Wales may order up to 20 packs of Vaxelis® per ImmForm account per week – this will vary for customers taking part in the Oxford Vaccine Group trial. Customers in Scotland should refer to their local ordering restrictions. Providers should not order more than two weeks' worth of stock to minimise wastage due to fridge failures. For assistance, please contact the ImmForm Helpdesk at [helpdesk@immform.org.uk](mailto:helpdesk@immform.org.uk).

### **Change in schedule for the routine and eligible gay and bisexual men and other men who have sex with men (GBMSM) under age 25 years**

From 1 September 2023, the HPV vaccine programme will change from a two dose to a one dose HPV vaccine schedule for eligible adolescents and gay and bisexual men and other men who have sex with men (GBMSM) aged less than 25 years; please see the UKHSA and NHSEI bipartite letter for details (see [weblink 20](#)).

Eligible individuals who are known to be immunosuppressed at the time of vaccination and those who are living with HIV, including those on antiretroviral therapy, should continue to be offered a three dose schedule as per the 'HPV' and 'Immunisation of individuals with underlying medical conditions' Green Book chapters.

HPV vaccine will continue to be available to order through ImmForm in the usual way. However, please consider the schedule change when placing orders for HPV vaccine, and do not order more than 2 weeks' worth of stock to minimise wastage due holding excess stock, or fridge failures.

## **Registering for a new or updating your existing ImmForm vaccine ordering account**

When you register for or update an existing ImmForm account, UK Health Security Agency as a wholesaler of vaccines need to verify the requesting customer. Please ensure you have your professional regulatory body registration number or Wholesaler Dealer Licence and an organisation code which can be verified when requesting updates or requesting a new vaccine ordering account.

For more information please see the ImmForm Helpsheet – How to register at [weblink 21](#).

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

The EU Falsified Medicines Directive (see [weblink 22](#)) 2011/62/EU (FMD) and Delegated Regulation ((EU) 2016/161) (see [weblink 23](#)) (The Delegated Regulation) impose legal obligations on the EU medicines supply chain to prevent entry of falsified medicinal products into the supply chain. The Delegated Regulation was implemented in all EU Member States on 9 February 2019. Following the UK's departure from the EU, the Delegated Regulation ceased to apply in Great Britain from 31st December 2020, but continues to apply in Northern Ireland.

### **Information for customers in Northern Ireland**

FMD-barcode packs of routine immunisation programme vaccines that are centrally supplied by UKHSA continue to be supplied with active FMD serialisation, and should be decommissioned by end users in Northern Ireland. Customers in Northern Ireland who access centrally supplied vaccines are encouraged to review local guidance on implementation of the EU Falsified Medicines Directive.

## **MMR vaccine ordering**

To rebalance central supplies of both MMR vaccines please consider ordering M-M-RvaxPRO® as your first choice, which is available without restriction.

Customers in England and Wales who require Priorix®, for example because you serve communities that do not accept vaccines containing porcine gelatine, may order up to 20 packs of Priorix® per ImmForm account per week. For assistance please contact the ImmForm Helpdesk at [helpdesk@immform.org.uk](mailto:helpdesk@immform.org.uk). Customers in Scotland should refer to their local ordering restrictions.



## Shingrix® vaccine ordering information

From 1 September 2023, the shingles programme is changing. Please refer to the UKHSA/NHS letter for full details (see [weblink 24](#)).

### New programme

All newly eligible individuals will be offered two doses of the non-live shingles vaccine Shingrix® instead of one dose of Zostavax®. In addition to this, the eligibility for the immunocompromised and immunocompetent cohorts will change to allow individuals to be protected at an earlier age.

The eligible cohort for **immunocompromised** individuals will expand to those aged 50 years and over (with no upper age limit).

The eligible age for **immunocompetent** individuals will change from 70 to 60 years of age for the routine cohort, in a phased implementation over a 10 year period. Immunocompetent individuals will remain eligible until their 80th birthday.

During stage 1, from 1 September 2023 to 31 August 2028, Shingrix® will be offered to those turning 70 and 65 years on or after 1 September 2023.

During stage 2 (1 September 2028 to 31 August 2033), Shingrix® will be offered to those turning 65 and 60 years of age, after which it will be offered routinely at 60.

### Current programme

Those previously eligible for Zostavax®, i.e. immunocompetent persons age 70 or over prior to 1 Sept 2023, will continue to be offered Zostavax® until those stocks deplete, after which they will be offered Shingrix® (until 80th birthday).

### Ordering via ImmForm

Shingrix® continues to be available via ImmForm for those eligible for shingles vaccination under the current programme, but contraindicated to Zostavax®.

Shingrix® for the new programme is available to order via ImmForm ahead of the 1st September implementation date. There will not be restrictive ordering controls in place, however please do not create local stockpiles; there is sufficient stock to support year round programme implementation of the programme.

Please add Shingrix® to your routine ImmForm order where possible, rather than creating additional orders. To minimise wastage due to fridge failures, please order no more than 2 weeks' worth of stock.

Contact the  
[helpdesk@immform.org.uk](mailto:helpdesk@immform.org.uk)  
for ordering queries.



# Non routine vaccination supply

## HEPATITIS A VACCINE

### Adult

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

### Paediatric

- **GSK:** supply of Havrix Paediatric singles and packs of 10 are currently available
- **MSD:** VAQTA Paediatric is available
- **Sanofi Pasteur:** Avaxim Junior singles are currently available

## HEPATITIS B VACCINE

### Adult

- **GSK:** Engerix B PFS singles and packs of 10 are currently available
- **GSK:** supply of Fendrix is currently available
- **MSD:** HBVAXPRO 10 micrograms is available
- **MSD:** HBVAXPRO 40 micrograms is available
- **Valneva:** PreHevbri is available

### Paediatric

- **GSK:** supply of Engerix B Paediatric singles is currently available
- **MSD:** HBVAXPRO 5 micrograms is available

## COMBINED HEPATITIS A AND B VACCINE

- **GSK:** Twinrix Adult singles and packs of 10 are available
- **GSK:** Twinrix Paediatric is currently available
- **GSK:** Ambirix is available

## COMBINED HEPATITIS A AND TYPHOID VACCINE

- **Sanofi Pasteur:** Viatim is now a discontinued product and no longer available for sale

## TYPHOID VACCINE

- **Sanofi Pasteur:** Typhim singles and packs of 10 are available
- **Patientric:** Vivotif is available

### Rabies vaccine

- **Valneva:** Rabipur is available. Due to high demand, orders are capped to maximum of 6 doses per order, per week (restrictions are anticipated to remain in place until 3rd week of August)
- **Sanofi Pasteur:** Rabies BP is now a discontinued product and no longer available for sale

### Pneumococcal polysaccharide vaccine (PPV)

- **MSD:** supply of Pneumovax 23 (PPV23) PFS is available

### Pneumococcal polysaccharide conjugate vaccine (PCV)

**Pfizer:** Prevenar 13 is currently available.

### Varicella zoster vaccine

- **GSK:** VARILRIX is currently available
- **MSD:** VARIVAX is available
- **MSD:** ZOSTAVAX is now a discontinued product

### Diphtheria, tetanus, pertussis (inactivated) vaccine

- **Sanofi Pasteur:** Revaxis is available

### Diphtheria, tetanus, pertussis (acellular) and poliomyelitis (inactivated) vaccine

- **GSK:** supply of Boostrix-IPV is currently available
- **Sanofi Pasteur:** Repevax is currently available

### MMR

- **MSD:** MMR Vaxpro is currently available
- **GSK:** Priorix is currently available

### Meningitis ACWY vaccine

- **GSK:** Menveo is currently out of stock – expected recovery in November
- **Pfizer:** Nimenrix is currently available
- **Sanofi Pasteur:** MenQuadfi is available

### Yellow fever

- **Sanofi Pasteur:** Stamaril is available

### Human papillomavirus vaccine

- **MSD:** GARDASIL has been discontinued (Please refer to ImmForm for NIP supply status)
- **MSD:** Gardasil 9 is currently available.
- **GSK:** Cervarix has been discontinued

### Cholera vaccine

- **Valneva:** Dukoral is available
- **Patientric:** Vaxchora is available

**Japanese encephalitis vaccine**

- **Valneva:** Ixiaro is available

**Meningococcal group b vaccine**

- **GSK:** Bexsero is currently available

**Diphtheria, tetanus, pertussis, hib vaccine and poliomyelitis**

- **GSK:** Infanrix IPV+Hib is currently available

**Hib + meningococcal group c combined vaccine**

- **GSK:** Menitorix is currently available

**Live attenuated rotavirus vaccine**

- **GSK:** Rotarix is currently available

**Herpes zoster vaccine**

- **GSK:** Shingrix is currently available

**Weblinks**

Weblink 1	<a href="http://www.gov.uk/government/publications/health-protection-report-volume-17-2023/hpr-volume-17-issue-7-news-14-july-2023">www.gov.uk/government/publications/health-protection-report-volume-17-2023/hpr-volume-17-issue-7-news-14-july-2023</a>
Weblink 2	<a href="http://www.gov.uk/government/publications/measles-risk-assessment-for-resurgence-in-the-uk">www.gov.uk/government/publications/measles-risk-assessment-for-resurgence-in-the-uk</a>
Weblink 3	<a href="http://www.gov.uk/government/news/polio-vaccine-catch-up-campaign-for-london-as-sewage-surveillance-findings-suggest-reduced-transmission">www.gov.uk/government/news/polio-vaccine-catch-up-campaign-for-london-as-sewage-surveillance-findings-suggest-reduced-transmission</a>
Weblink 4	<a href="http://www.who.int/campaigns/world-immunization-week/2023">www.who.int/campaigns/world-immunization-week/2023</a>
Weblink 5	<a href="http://www.gov.uk/government/publications/measles-the-green-book-chapter-21">www.gov.uk/government/publications/measles-the-green-book-chapter-21</a>
Weblink 6	<a href="https://www.gov.uk/government/publications/measles-dont-let-your-child-catch-it-flyer-for-schools">https://www.gov.uk/government/publications/measles-dont-let-your-child-catch-it-flyer-for-schools</a>
Weblink 7	<a href="https://www.gov.uk/government/publications/mmr-for-all-general-leaflet">https://www.gov.uk/government/publications/mmr-for-all-general-leaflet</a>
Weblink 8	<a href="https://www.gov.uk/government/publications/measles-outbreak">https://www.gov.uk/government/publications/measles-outbreak</a>
Weblink 9	<a href="https://www.healthpublications.gov.uk/ViewArticle.html?sp=Smeaslesandmmrstopthespreademailssignaturebanners">https://www.healthpublications.gov.uk/ViewArticle.html?sp=Smeaslesandmmrstopthespreademailssignaturebanners</a>
Weblink 10	<a href="https://www.healthpublications.gov.uk/ViewProduct.html?sp=Sthinkmeaslescallaheada3poster-507">https://www.healthpublications.gov.uk/ViewProduct.html?sp=Sthinkmeaslescallaheada3poster-507</a>

## Weblinks

Weblink 11	<a href="https://www.healthpublications.gov.uk/ViewArticle.html?sp=Smeaslespullupbannerartwork">https://www.healthpublications.gov.uk/ViewArticle.html?sp=Smeaslespullupbannerartwork</a>
Weblink 12	<a href="http://www.gov.uk/government/publications/mmr-vaccination-have-you-had-your-mmr">www.gov.uk/government/publications/mmr-vaccination-have-you-had-your-mmr</a>
Weblink 13	<a href="https://www.gov.uk/government/publications/viral-rash-in-pregnancy">https://www.gov.uk/government/publications/viral-rash-in-pregnancy</a>
Weblink 14	<a href="http://www.gov.uk/government/publications/measles-urgent-testing-forms-and-instructions">www.gov.uk/government/publications/measles-urgent-testing-forms-and-instructions</a>
Weblink 15	<a href="http://www.gov.uk/government/publications/measles-mumps-and-rubella-mmr-letter-for-parents-and-form-for-oral-fluid-swab">www.gov.uk/government/publications/measles-mumps-and-rubella-mmr-letter-for-parents-and-form-for-oral-fluid-swab</a>
Weblink 16	<a href="https://youtu.be/zR0dankzUJ4">https://youtu.be/zR0dankzUJ4</a>
Weblink 11	<a href="http://www.gov.uk/health-protection-team">www.gov.uk/health-protection-team</a>
Weblink 13	<a href="https://stgeorges.onlinesurveys.ac.uk/hepatitis-b-survey-for-gps">https://stgeorges.onlinesurveys.ac.uk/hepatitis-b-survey-for-gps</a>
Weblink 16	<a href="http://www.healthpublications.gov.uk/ViewProduct.html?sp=Saguidetothetdipvt eenageboostervaccine">www.healthpublications.gov.uk/ViewProduct.html?sp=Saguidetothetdipvt eenageboostervaccine</a>
Weblink 17	<a href="https://www.healthpublications.gov.uk/ViewProduct.html?sp=Saguidetot hetdipvteenageboostervaccine">https://www.healthpublications.gov.uk/ViewProduct.html?sp=Saguidetot hetdipvteenageboostervaccine</a>
Weblink 18	<a href="https://portal.immform.phe.gov.uk/VaccineSupply/VaccineSupply/Home/Vaccine-Supply-Home.aspx">https://portal.immform.phe.gov.uk/VaccineSupply/VaccineSupply/Home/Vaccine-Supply-Home.aspx</a>
Weblink 19	<a href="https://www.gov.uk/government/publications/influenza-vaccines-marketed-in-the-uk">https://www.gov.uk/government/publications/influenza-vaccines-marketed-in-the-uk</a>
Weblink 20	<a href="http://www.gov.uk/government/publications/hpv-vaccination-programme-changes-from-september-2023-letter">www.gov.uk/government/publications/hpv-vaccination-programme-changes-from-september-2023-letter</a>
Weblink 21	<a href="http://www.gov.uk/government/publications/how-to-register-immform-helpsheet-8">www.gov.uk/government/publications/how-to-register-immform-helpsheet-8</a>
Weblink 22	<a href="https://health.ec.europa.eu/system/files/2016-11/dir_2011_62_en_0.pdf">https://health.ec.europa.eu/system/files/2016-11/dir_2011_62_en_0.pdf</a>
Weblink 23	<a href="https://health.ec.europa.eu/system/files/2016-11/reg_2016_161_en_0.pdf">https://health.ec.europa.eu/system/files/2016-11/reg_2016_161_en_0.pdf</a>
Weblink 24	<a href="https://www.gov.uk/government/publications/shingles-vaccination-programme-changes-from-september-2023-letter">https://www.gov.uk/government/publications/shingles-vaccination-programme-changes-from-september-2023-letter</a>