

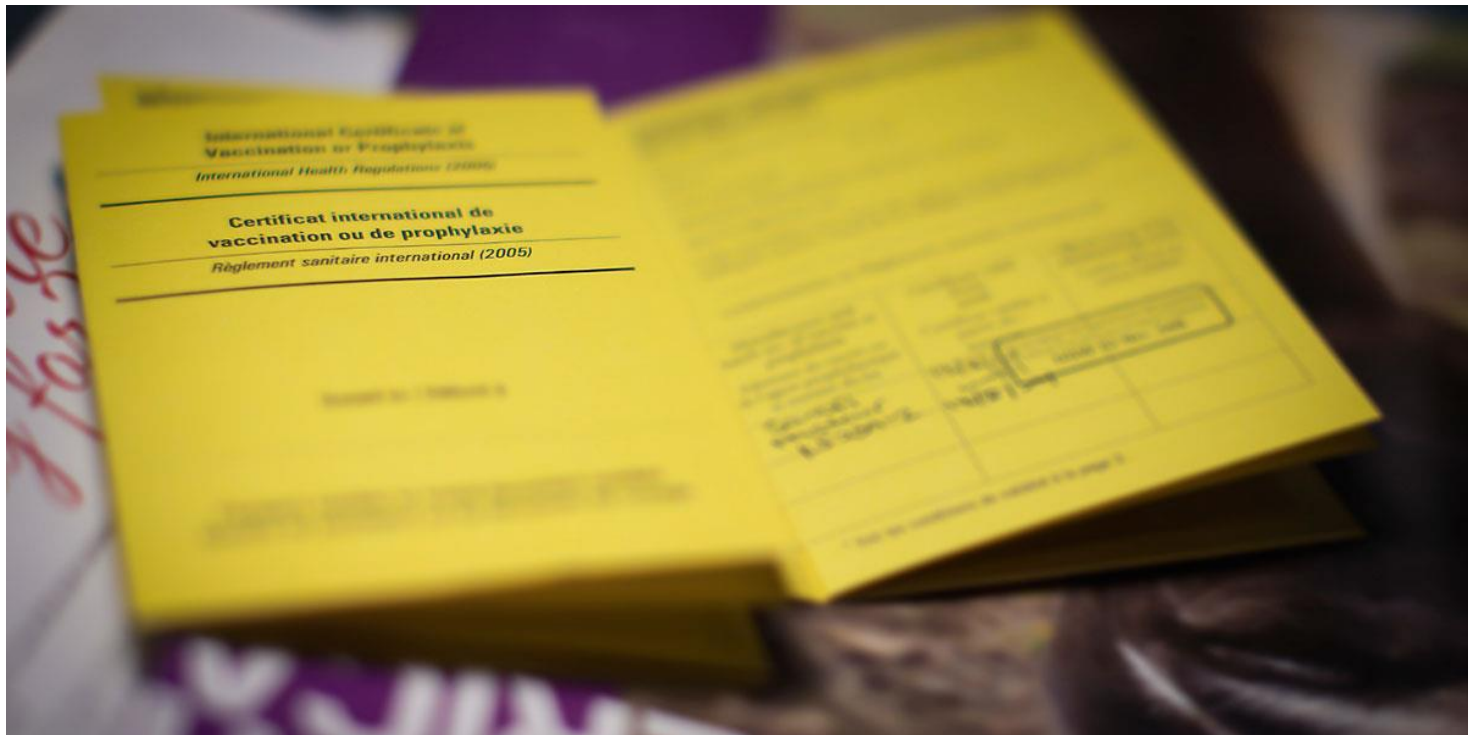
Yellow fever training programme England, Wales and Northern Ireland



Lynda Bramham Specialist Nurse
National Travel Health Network and Centre



No conflicts of interest



Talk outline

- About NaTHNaC
- Administration of yellow fever vaccination centres (**YFVC**) in England, Wales and Northern Ireland (**EW&NI**)
- Why we have mandatory yellow fever training
- How the current training was developed and how it is delivered
- Assessment process
- Evaluation and updates to the training
- Summary points





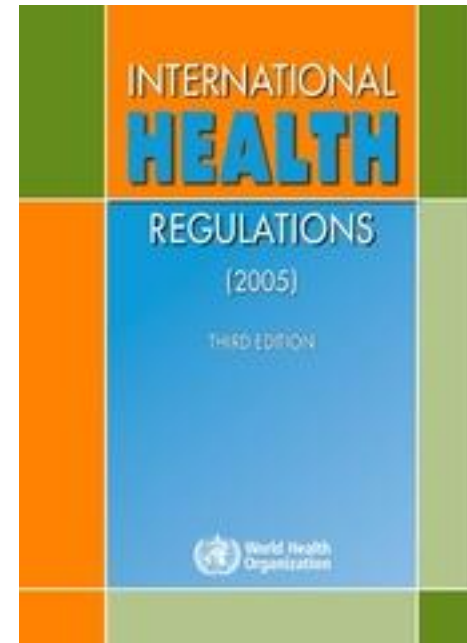
NaTHNaC

NATIONAL TRAVEL HEALTH NETWORK AND CENTRE

- Set up by the UK Department of Health in 2002 with the broad aim of Protecting the Health of British Travellers.
- Commissioned by UK Health Security Agency and hosted by University College London Hospitals NHS Foundation Trust (UCLH)
- Work in partnership with our other network founders Liverpool School of Tropical Medicine, London School of Hygiene and Tropical Medicine and the Hospital for Tropical Diseases.

Administration of YFVCs

- NaTHNaC designate YFVCs in EW&NI on behalf of the UK Department of Health
- Providing a programme of registration, training, standards and audit.



State parties shall designate specific YFVC within their territories in order to ensure the quality and safety of the procedures and materials employed



YFVCs in EW&NI

- 1,760 centres as of Jan 2024 (excluding armed forces)
- Scotland YFVCs not shown here – administered by Public Health Scotland

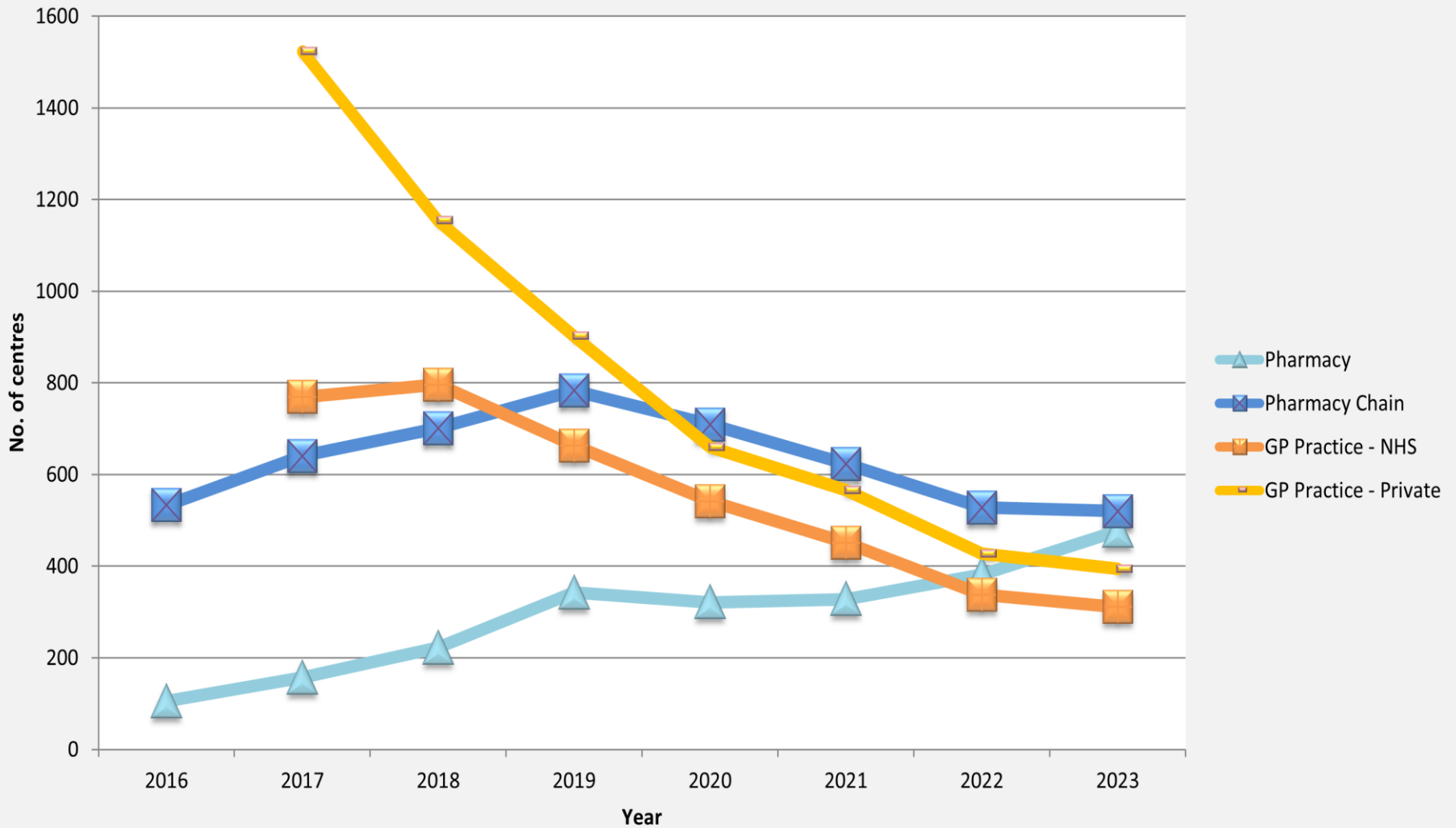


Location of designated YFVCs in England, Wales and Northern Ireland, April 2024



YFVC centres in EW&NI types and trends

No. of pharmacies & GP practices by year



Standards for YFVC in EW&NI

- Responsible Supervising Clinician
- Conditions of Designation
- Code of Practice
- Training requirement every 2 years
- Annual Return



Mandatory yellow fever training

- “Initial training in yellow fever vaccination should be mandatory for all HCPs administering the vaccines and a refresher should be carried on a regular basis (e.g. every 2 years).”
- Recommended that a standardised mandatory assessment is carried out after the training



Commission
on Human
Medicines

YELLOW FEVER VACCINE - REPORT OF THE COMMISSION ON HUMAN MEDICINE'S EXPERT WORKING GROUP ON BENEFIT-RISK AND RISK MINIMISATION MEASURES

Following two fatal adverse reactions to yellow fever vaccine in the UK in 2018 and 2019, the UK Commission on Human Medicines (CHM) established an Expert Working Group to advise on measures that should be taken to optimise the balance of benefits and risks of the vaccine.

The Expert Working Group's Terms of Reference were:

- To advise on the balance of benefits and risks of yellow fever vaccines
- To advise on measures to minimise risks, and optimise benefit-risk balance to individual vaccinees, including any new precautions or restrictions on use
- To advise on any communications to health professionals and potential vaccinees
- To advise on measures to monitor impact/effectiveness of any additional risk minimisation
- To report its conclusions and recommendations to the Commission on Human Medicines

The Expert Working Group was chaired by Professor Sir Munir Pirmohamed, and its full membership is at Annex A.

Report of the Commission on Human Medicine's Expert Working Group on benefit-risk and risk minimisation measures of the yellow fever vaccine Nov 2019

Training requirements for new centres

One health professional is required to:

- undertake YF **e-learning and successfully complete the exit test** and **join a virtual classroom** which supports the e-learning

All Health Professionals responsible for governance and all those who will be administering the vaccine must undertake YF e-learning and successfully complete the exit test.

- For those who are new to YF vaccination, joining the virtual classroom is recommended.
- E-Learning should be repeated every 2 years.

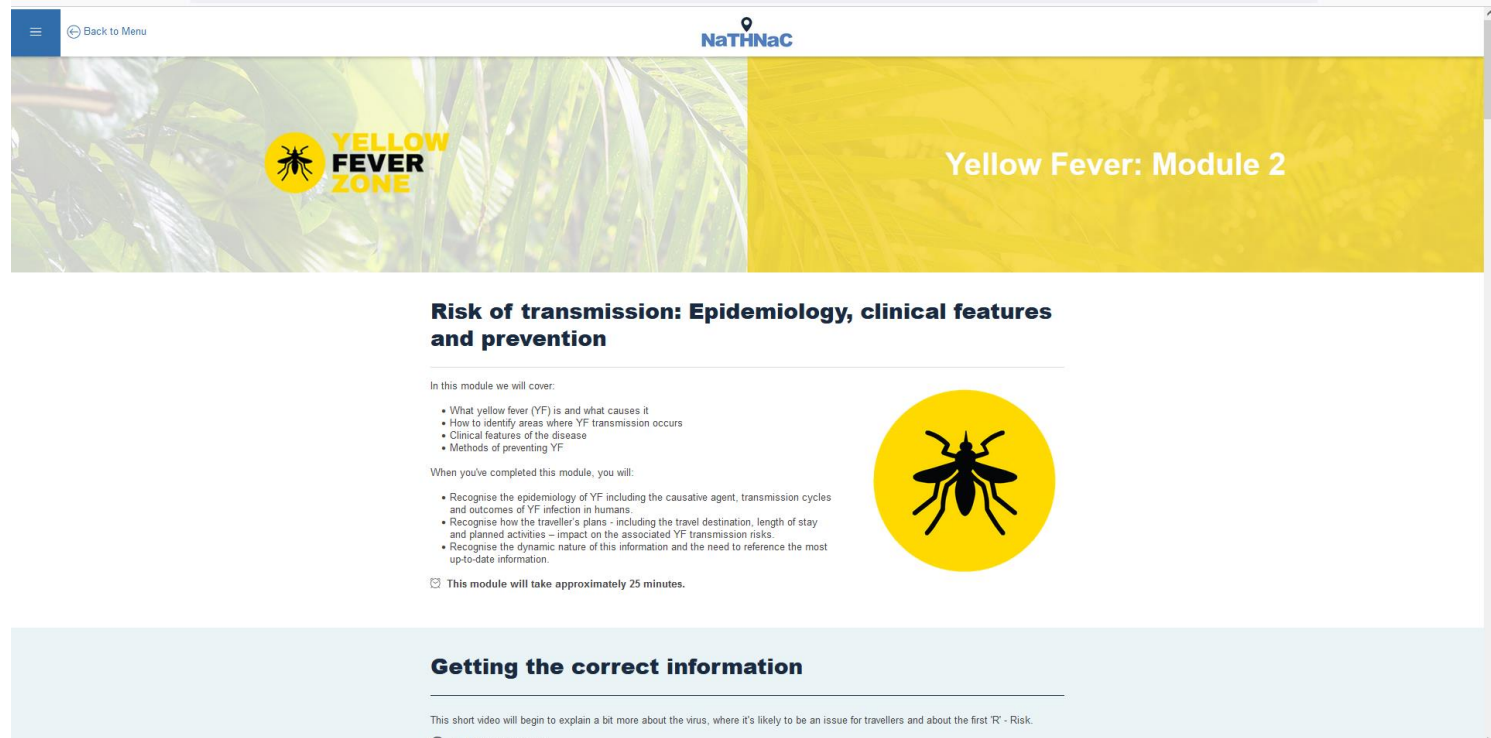


Training requirements for existing centres

- For YFVC designated status to be continuous, at the time of re-registration, one HP must have undertaken YF **e-learning (or classroom training) and successfully completed the exit test** within the preceding two years.
- Recommended that all staff have updated their NaTHNaC training in the last 2 years



E-learning



The screenshot shows the NaTHNaC e-learning interface for 'Yellow Fever: Module 2'. The header includes a 'Back to Menu' button and the NaTHNaC logo. The main content area features a 'YELLOW FEVER ZONE' logo on the left and the title 'Yellow Fever: Module 2' on the right. Below the title, the section is titled 'Risk of transmission: Epidemiology, clinical features and prevention'. The text describes the module's content, including a list of topics covered and learning objectives. A large yellow circle with a black mosquito icon is positioned to the right of the text. At the bottom, a light blue banner contains the heading 'Getting the correct information' and a short introductory paragraph.

Back to Menu

NaTHNaC

YELLOW FEVER ZONE

Yellow Fever: Module 2

Risk of transmission: Epidemiology, clinical features and prevention

In this module we will cover:

- What yellow fever (YF) is and what causes it
- How to identify areas where YF transmission occurs
- Clinical features of the disease
- Methods of preventing YF

When you've completed this module, you will:

- Recognise the epidemiology of YF including the causative agent, transmission cycles and outcomes of YF infection in humans.
- Recognise how the traveller's plans - including the travel destination, length of stay and planned activities - impact on the associated YF transmission risks
- Recognise the dynamic nature of this information and the need to reference the most up-to-date information.

This module will take approximately 25 minutes.

Getting the correct information

This short video will begin to explain a bit more about the virus, where it's likely to be an issue for travellers and about the first 'R' - Risk.

5 modules – estimated time required ~90mins

Includes videos, knowledge checkers, case studies, scenarios and resources

Course content developed to cover:



Frequently asked questions on the advice line for health professionals



Commission
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Medicines

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The Expert Working Group was chaired by Professor Sir Munir Pirmohamed, and its full membership is at Annex A.

Current UK guidance from a safety review in 2019



Course content developed to cover:

Chapter 35: Yellow fever

March 2024

35

Yellow fever

NOTIFIABLE

The disease

Yellow fever is an acute flavivirus infection spread by the bite of an infected mosquito. The disease occurs in parts of the tropical and sub-tropical regions of Africa and South and Central America (including Trinidad) (see maps on the Yellow Fever Zone website of the National Travel Health Network and Centre (NaTHNaC), <https://nathnacvfzone.org.uk/factsheet/60/yellow-fever-vaccine-recommendation-maps>). Locally acquired cases have never been reported in Asia despite the presence of the vector.

Three epidemiological patterns of yellow fever are recognised – urban, savannah and jungle – although the disease is clinically and aetiologically identical. In urban yellow fever, the viral reservoir is man and the disease is spread between humans primarily by the *Aedes aegypti* mosquitoes that live and breed in close association with humans. In Africa, an intermediate (savannah) cycle exists that involves transmission of virus from mosquitoes to humans living or working in jungle border areas. In this cycle, the virus can be transmitted from monkey to human or from human to human via mosquitoes.

Current guidance from UK Health Security Agency



Older travellers

4. What advice would you give James?

Now think about the advice you would give to James regarding YF for this trip.

Select all that apply then select Submit.



Zambia is designated as having low potential for exposure to YF virus in parts of the country and WHO do not generally recommend the vaccine for most travellers visiting this area within the country.

As you cannot have the YF vaccine you should carefully consider your plans to visit Zambia: it is impossible to avoid all mosquito bites.

YF vaccine should not be recommended for you as you are over 60 and at higher risk of life-threatening side effects from the vaccination. The risk from vaccination for you outweighs the risk of YF transmission where you're going.

You should do everything you can to avoid mosquito bites day and night and monitor the website for any travel health updates on Zambia and South Africa.

Submit



Pregnancy

Scenario 2: Charlie and Anita

Charlie and Anita have come to ask your advice about YF vaccinations as they booked to go on a 10-day trip to Africa some time ago and are due to begin their trip soon. Neither of them have had the YF vaccine in the past.

Follow the instructions below



You ask them to complete a checklist about their medical history in the waiting room and explain you will go through it together with their travel plans during the consultation to determine if the YF vaccine is recommended and right for them.

Let's consider a few key questions you might ask them.


Select one option for now. You will be able to ask the other questions later.

- What is your travel itinerary for this trip, please tell me which countries will you visit, where you plan to go and for how long?
- Can I confirm what you've written on this checklist about your medical history?
- When do you start your trip?



Infants and breastfeeding






History of thymus gland removal (or myasthenia gravis, thymoma)



Aged 60 and over



KENYA
Yellow Fever Vaccination Recommendations

- Yellow** Vaccination is recommended for all travellers aged 9 months or over (including those travelling to Tsavo East, Tsavo West, and Masai Mara game reserves, and Lake Nakuru national park), except as mentioned below.
- Green** Vaccination is generally not recommended for travel only to the entire North Eastern province, the states of Kilifi, Kwale (including Shimba Hills National Reserve), Lamu, Malindi and Tana river in Coastal province and the cities of Nairobi and Mombasa.
- Grey** Other countries

This map is intended as a guide. It should be used with the wording on the TravelHealthPro country information page in the vaccine recommendations section.

○ Capital
● City
▼ Point of interest

© NaTHNaC. Adapted from WHO



First-degree family history of YEL-AND or YEL-AVD

Checklist: yellow fever vaccine

This pre-vaccination checklist assists your healthcare professional to assess the risk of giving you yellow fever vaccine, **they must review the checklist** to ensure the vaccine is safe for you.

If you have any questions, concerns or do not understand anything please ask your healthcare professional to explain during your consultation.

If you answer 'yes' to any questions, you need to give more details during your consultation.
To read more about why these questions are important, please see page 3 and page 4 of this form.

Q1 How old are you?

Q2 Are you feeling unwell today? Yes No

Q3 Do you have any allergies, particularly to eggs or chicken protein? Yes No

Q4 Have you ever reacted to a previous yellow fever vaccine? Yes No

Q5 Do you have cancer or have you had cancer in the past (even if it was a long time ago)? Yes No

Q6 Do you have any illness that might affect your immune system?
For example, leukaemias, lymphoma, cellular immune deficiencies, chronic lymphoproliferative conditions, or if you have ever received a stem cell transplant. Yes No

Q7 Are you living with HIV? Yes No

Q8 Are you taking any medicines (now or within the last year) that affect



Package leaflet: Information for the user

STAMARIL®

Powder and solvent for suspension for injection in pre-filled syringe

Yellow fever vaccine (Live)

Read all of this leaflet carefully before you or your child are vaccinated because it contains important information for you.

- Keep this leaflet. You may need to read it again.
- If you have any further questions, ask your healthcare professional.
- This vaccine has been prescribed for you or your child only. Do not pass it on to others.
- If you get any side effects talk to your healthcare professional and tell them that you received yellow fever vaccine. This includes any possible side effects not listed in this leaflet. See Section 4.

What is in this leaflet

1. What STAMARIL is and what it is used for
2. What you need to know before you or your child use STAMARIL
3. How to use STAMARIL
4. Possible side effects
5. How to store STAMARIL
6. Contents of the pack and other information

1. What STAMARIL is and what it is used for

STAMARIL is a vaccine that provides protection against a serious infectious disease called yellow fever. Yellow fever occurs in certain areas of the world and is spread to man through the bites of infected mosquitoes.

- STAMARIL is given to people who:
 - are travelling to, passing through or living in an area where yellow fever occurs,
 - are travelling to any country that requires an International Certificate of Vaccination for entry (this may depend on the countries previously visited during the same trip).
 - may handle infectious materials such as laboratory workers.
- To obtain a valid vaccination certificate against yellow fever, it is necessary to be vaccinated in an approved vaccination centre by a qualified and trained

healthcare professional so that an International Certificate of Vaccination can be issued. This certificate is valid for 10 days after the first dose of vaccine. In some circumstances, when a booster is needed, the certificate (see Section 3) is valid immediately after the injection.

2. What you need to know before you or your child use STAMARIL

It is important to tell your healthcare professional if any of the points below apply to you or your child. If there is anything you do not understand, ask your healthcare professional to explain.

Do not use STAMARIL if you or your child:

- are allergic to:
 - the active substance, or
 - any of the other ingredients of this vaccine (listed in Section 6), or
 - eggs or chicken proteins.
- have experienced a severe allergic reaction after a previous dose of any yellow fever vaccine,
- is less than 6 months old,
- have a poor or weakened immune system for any reason, such as illness or medical treatments (for example high-dose steroids, or any other medicines that affect the immune system, or chemotherapy). If you are unsure whether the medication may affect your or your child's immune system, discuss with your healthcare professional before the vaccine is administered.
- have a weakened immune system due to HIV infection. Your healthcare professional will advise you if you or your child can still receive STAMARIL based on the results of your blood tests,
- are infected with HIV and have active symptoms due to the infection,
- have a history of problems with your or your child's thymus gland or have had the thymus gland removed for any reason,
- have an illness with a high or moderate fever or an acute illness. The vaccination will be postponed until you or your child have recovered.

Warning and precautions

Before using Stamaril. It is important that you complete a risk assessment with a trained healthcare professional, to determine whether you should receive the vaccine.

- If you are over 60 years old or if your child is less than 9 months as you have an increased risk of certain types of severe but rare reactions to the vaccine (including serious reactions that affect the brain and nerves, and vital organs, see Section 4). You will only be given the vaccine if the risk of infection with the virus is well established in countries where you are going to stay.





Assessment

Welcome to the assessment

In order to successfully complete this course, the assessment must first be passed. You must select your answer(s) and select the 'Submit' button.

You will not receive feedback on your answers, but will be given your score at the end.

You can have multiple attempts within the enrolment period of 28 days and review the training and supporting materials again. However, if you are struggling to pass the test after five attempts, please seek support in the first instance from your responsible supervising clinician or colleagues.

There are 16, multiple-choice questions and the pass mark is 80%.

Good luck!

Question 1

Following the 2019 Commission on Human Medicines (CHM) review of serious and fatal reactions following YF vaccine:

Select one.

Only healthcare professionals specifically trained in benefit-risk evaluation of YF vaccine should administer the vaccine

Health care professionals can only administer the YF vaccine if they have at least two years clinical practice after qualifying as a doctor, nurse or pharmacist

The Responsible Supervising Clinician (RSC) must undertake YF training every year

Health care professionals can administer the YF vaccine if the traveller confirms they are visiting a risk area

16 Multiple choice questions,
Does not give feedback,
Questions shuffled from a bank of questions

E-learning exit test

- Self-assessment and 'knowledge checkers' throughout the course
- Followed by exit test
- 80% pass required
- Requires up to date knowledge





Virtual classroom training

- Follows eLearning and successful test for
 - new centres applying to be a YFVC
 - recommended for those new to yellow fever
- 2 hrs 45 mins on Zoom
- Up to 40 delegates

- Quick recap / cover any questions outstanding from e-learning
- Challenging scenarios, breakout rooms and group discussions
- Optional website tour to locate key resources



Virtual classroom challenging scenarios

Colin and his daughter Jo

- 80 year old male, travelling with his daughter Jo (50 years old) on a 17 day cruise from Cape town, South Africa to the Canary islands.
- Both are well. Colin takes atorvastatin and perindopril for high blood pressure.
- They travel in 6 weeks time



Day 1: UK to Cape Town flight
Day 3: Luderitz, Namibia 08.00-17.00
Day 4-5: Walvis Bay, Namibia
Day 8: Jamestown, St Helena 08.00-16.00
Day 13 Banjul, The Gambia 08.00 – 20.00
Day 14 Dakar, Senegal 07.30 – 18.00
Day 17 Las Palmas, Canary Islands

All days not listed above are at sea





NaTHNaC ONLINE Yellow Fever Training Course Evaluation Form 2020

Welcome

About this evaluation form

The following questions are about your NaTHNaC Yellow Fever training experience. The form will only take a few minutes to complete. Your responses are very important in helping us assess the quality of the training and highlight areas for future improvements.

Thank you for your contribution

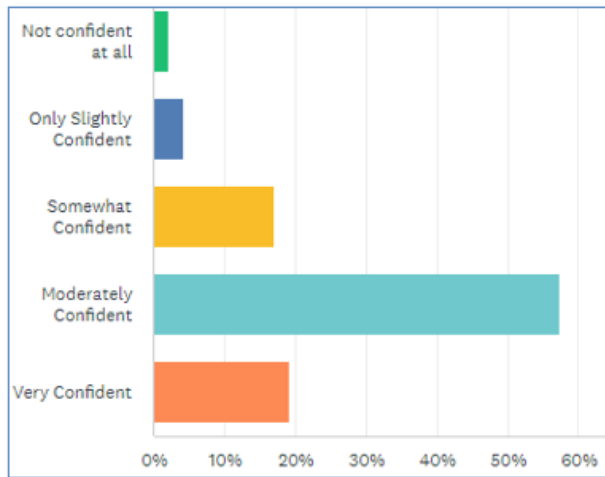
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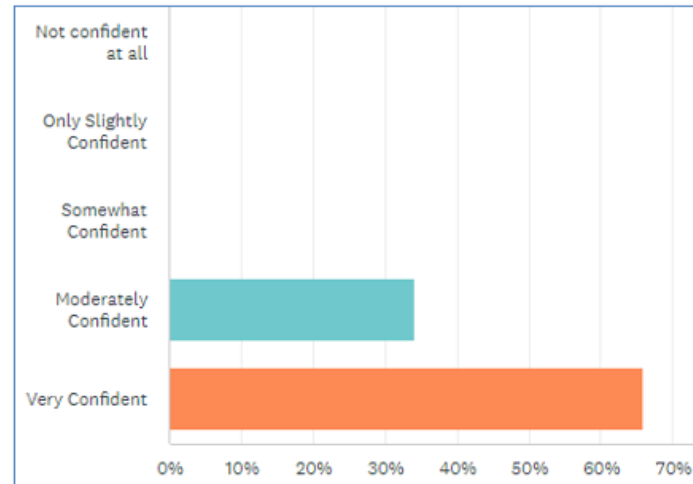


See how easy it is to [create surveys and forms](#).

Fig.1 Confidence levels for YF Disease and Risk Assessment knowledge before and after e-Learning Alone:



Before the course



After the course

Fig 2. Ratings of the following statements regarding your learning experience

Overall, **59% - 80%** participants 'Completely Agree' to the following:

Please rate how you agree with the following statements regarding your learning experience	Completely Disagree	Disagree	Neither Agree or Disagree	Agree	Completely Agree	Total
Epidemiology: Able to describe areas with risk of transmission, mode of transmission & prevention measures				19	28	47
IHR: Can identify & interpret the YF cert reqs for individual countries				14	33	47
YF vaccine: I'm aware & understand the importance of safe use of YF vaccine				13	34	47
YF vaccine: Comfortable discussing benefit-risk evaluation of YF vaccine in the travel health consultation			1	16	30	47
Scenarios were helpful			2	16	29	47
Knowledge gained will be applied in my clinical practice				9	38	47
Found the course content was helpful				13	34	47

- The scenarios. I still think I need a lot of practice but feel a lot more confident
- Great refresher. Scenarios are most useful.
- Very good, however would have like to see what the correct answers for those I got wrong. I could then have learned from the quiz better.

Typical training attendees

	11 April 2024
Nurse	14
Doctor	7
Pharmacist	17
Other	-
Total	38



Updating the training

35

Yellow fever

NOTIFIABLE

The disease

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COLOMBIA

Yellow Fever Vaccination Recommendations

- Vaccination is recommended for travellers aged 9 months or over travelling to areas below 2,300m.
- Vaccination is generally not recommended for travel only to the cities of Barranquilla, Cal, Cartagena, and Medellín.
- Vaccination is not recommended for travel only to areas above 2,300m, the department of San Andrés y Providencia (these are islands in the Caribbean Sea) and the capital city of Bogotá.

Other countries

This map is intended as a guide. It should be used in conjunction with the latest country count report.

06 February 2024

- Capital
- City
- ▼ Point

Take extra precautions [Share](#)

Updated yellow fever 'green book' chapter published

The yellow fever chapter in the 'green book' (Immunisation against infectious disease) has been updated



UK Health Security Agency has published updated guidance on yellow fever vaccination in the 'green book' (Immunisation against infectious disease: Yellow fever. Chapter 35).



Additional Support for YFVCs

- Advice line for health professionals
- Newsletters, news alerts
- Webinars and other educational events
- Website resources dedicated YF Zone
- Research / audit
- Admin support with designation process and training bookings



Yellow fever training program EW&NI

Summary points

- Yellow fever training is mandatory requirement for YFVC in EW&NI
- Recommended that all health professionals responsible for risk assessment, administration of the vaccine or governance for the clinic are trained- 83.8% of all centres reported they had all their HP trained in 2023
- Update training is required every 2 years to remain designated as a YFVC
- Training is regularly evaluated and updated to reflect new guidance

