

**YELLOW FEVER VACCINE USAGE BY YELLOW FEVER
VACCINATION CENTRES IN ENGLAND, WALES, AND
NORTHERN IRELAND 2016**

CONTENTS

Executive Summary.....	3
Aims	4
Methods.....	4
Results.....	4

EXECUTIVE SUMMARY

IMPLEMENTATION

1. The total number of centres contacted for the annual online survey was 3,410 and the response rate was 86%.

THE YELLOW FEVER VACCINATION CENTRES

2. The most common organisation types were NHS GP practices (70%), followed by pharmacies (15.7%), travel clinics (6%), private GP practices (5.5%), and occupational health departments (2.8%).
3. The average number of staff giving yellow fever vaccines per centre was 2.40 (median: 2).
4. The average number of staff per centre, who had received training was 1.49 (median: 1).

YELLOW FEVER VACCINE DOSES

5. The average number of yellow fever vaccine doses given per centre in 2016 was 43.2 (median: 20).
6. The total number of doses given was 120,845. If non-responding centres had the same prescribing patterns as responding centres, the number would be 139,831.
7. The 20-29 year olds accounted for the largest proportion of vaccinated individuals (25.1%).
8. The total number of booster doses was 8,157, which was equivalent to 6.8% of all doses given.
9. The reasons for giving boosters were compliance with the International Health Regulations (IHR) (94.3%), continued protection (35%), and at patient insistence (6.3%).

SERIOUS ADVERSE EVENTS

10. The types of Serious Adverse Events (SAE) reported were Anaphylaxis (N=1), YEL-AND (1), YEL-AVD (1), and other (4).

YELLOW FEVER VACCINE WASTAGE

11. The total number of wasted doses was 1,968. The most commonly mentioned reasons for wastage were 'out of date' (45.9%), followed by cold chain breakdown (40.2%), procedure fault (7.3%), other (6.3%), and product fault (0.4%).

VACCINATION ERRORS

12. Individuals were given a vaccine in error in 102 instances. The most common reasons were 'diluent only' (n=43), followed by 'out of date' (31), contraindication (22), and other (6).

COMPLIANCE WITH CONDITIONS OF DESIGNATION

13. A total of 230 centres answered 'No' to whether aware of the updated Conditions of Designation and Code of Practice.
14. A total of 648 answered 'No' to whether the centre had informed NaTHNaC about unsatisfactory ratings in an audit and 84, 'Yes'.
15. A total of 657 answered, 'No', and 169, 'Yes', to a question about whether the centre had informed NaTHNaC about changes to how they were running the centre in compliance with the updated Conditions of Designation.

AIMS

This information request concerns the 2016 Annual Returns Survey of yellow fever vaccination centres in England, Wales, and Northern Ireland.

METHODS

Two identical questionnaires were created in SurveyMonkey online survey software (SurveyMonkey, San Mateo, California, US). One was “closed” with a unique link sent by email to the named administration lead of each yellow fever vaccination centre and another, “open”, with a generic weblink. Non-responders to the closed questionnaire was sent email reminders at Week 2, 3, and 4. Both questionnaires were open for responses between 16 January and 15 April 2017. The survey was announced in a news item on NaTHNaC’s website, on social media, and in an email to centre administrative leads the week before. The intention with the open questionnaire was to collect responses from centres that for any reason could not respond to the closed questionnaire, e.g. due to staff rotation, multiple centres administered by a single contact, or in case of technical problems. Weekly progress reports were circulated to the working group and a meeting was planned at Week 3 to evaluate progress. Due to slow progress in terms of the overall number of responses and unopened email links, it was decided to extend the deadline and to promote the open questionnaire route through the website, social media, the yellow fever vaccination newsletter mailing list, and in an email directed to administration leads (further details of the campaign can be found in the progress reports).

The response from a single centre contained extreme outliers on doses and was removed from the analyses of doses and boosters. Data were missing in error from a small number of centres apart from page 1 of the questionnaire (N=31). A small proportion of centres gave invalid responses on boosters, i.e. the numbers exceeded the total number of doses given (N=21). Data from centres with missing or invalid data were omitted from the analyses of doses and boosters (N=52; 1.8%).

RESULTS

A total of 1,108 unique responses in terms of self-reported yellow fever vaccination centre ID were received through the open survey. The total number of responses was 1,349 and only the latest response was kept for centres with multiple entries. For the closed survey, the same numbers were 1,989 and 1,997, respectively. In the combined dataset, there was 2,946 unique responses consisting of 1,989 unique “closed” responses and 957 unique “open” responses (“closed” questionnaire responses were used over “open” in case of duplication across the two data collections). The total number of centres contacted was 3,410 and the response rate was 86%. Of the responding centres, 2,905 (98.6%) returned a full response. Responses from military centres (N=118) were excluded due to confidentiality and the subsequent analyses were based on 2,828 responses.

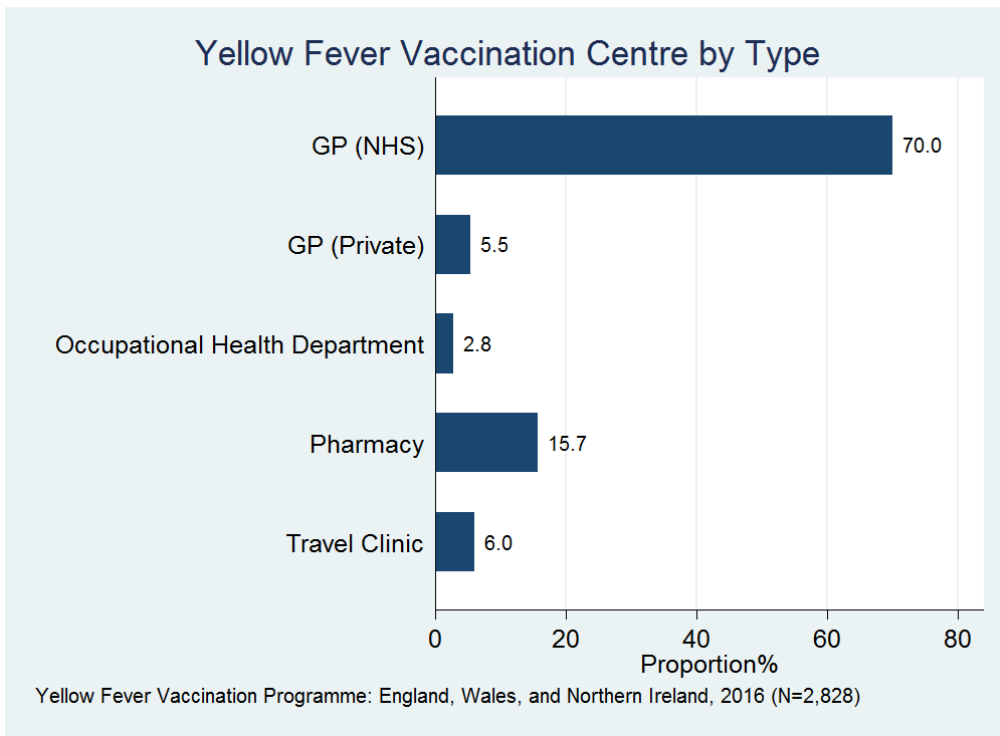


Figure 1 Yellow fever vaccination centre organisation type.

The most common organisation types were NHS GP practices (70%), followed by pharmacies (15.7%), travel clinics (6%), private GP practices (5.5%), and occupational health departments (2.8%) (Figure 1). A small proportion of centres (5.8%) had been registered for less than a year (Figure 2).

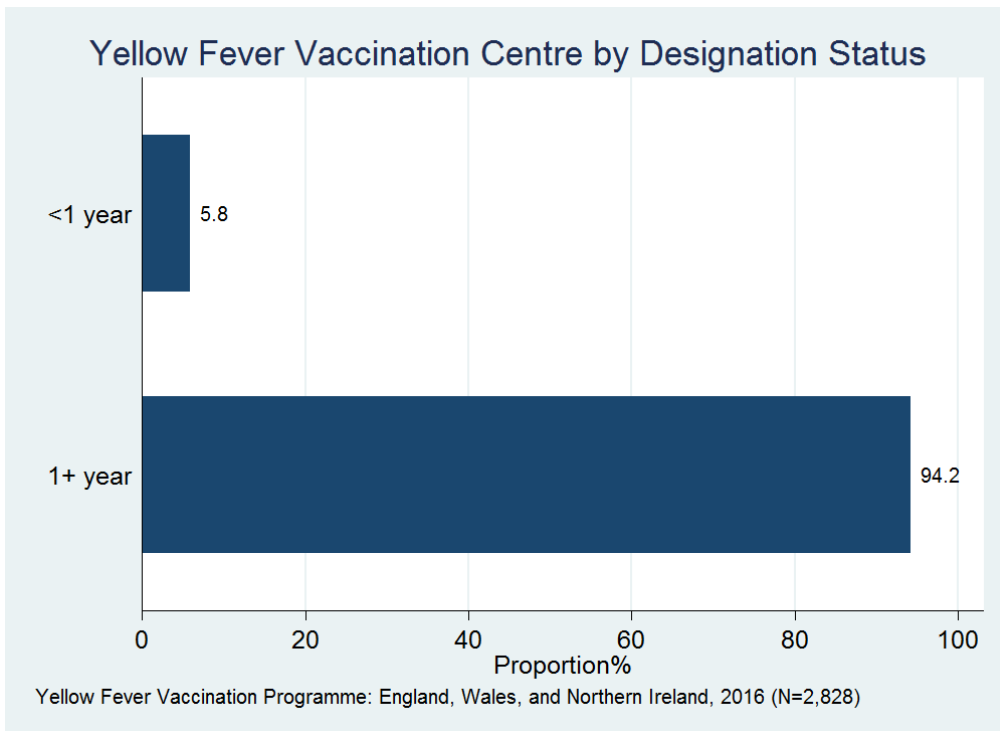


Figure 2 Yellow fever vaccination centre designation status.

The average number of staff giving yellow fever vaccines per centre was 2.40 (median: 2) (Figure 3).

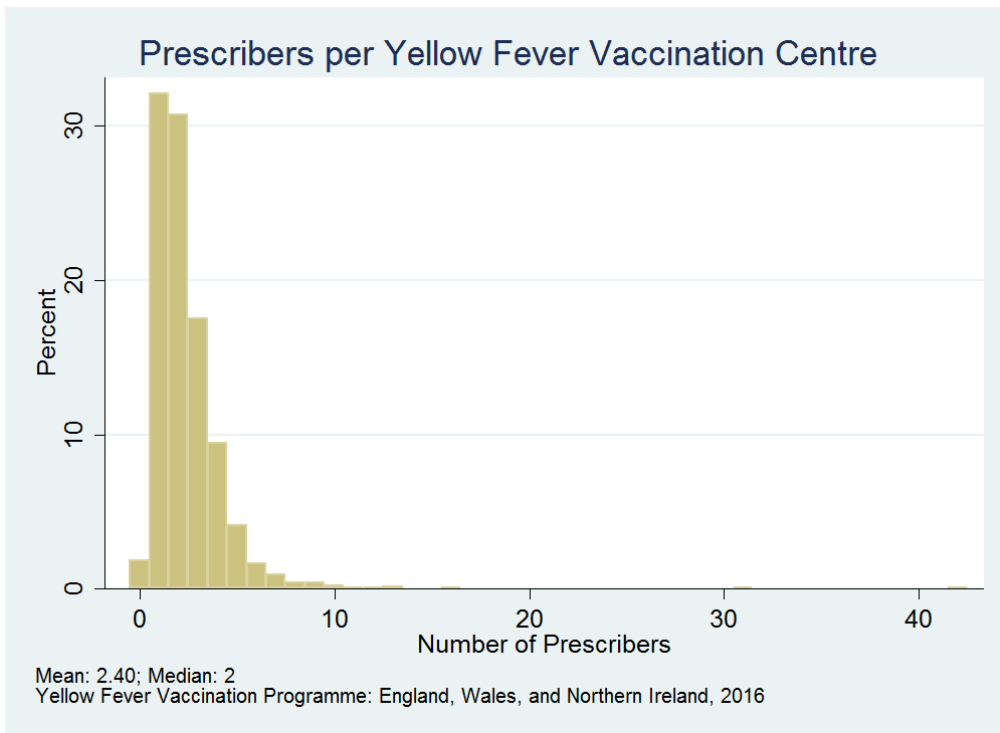


Figure 3 Prescribers per yellow fever vaccination centre.

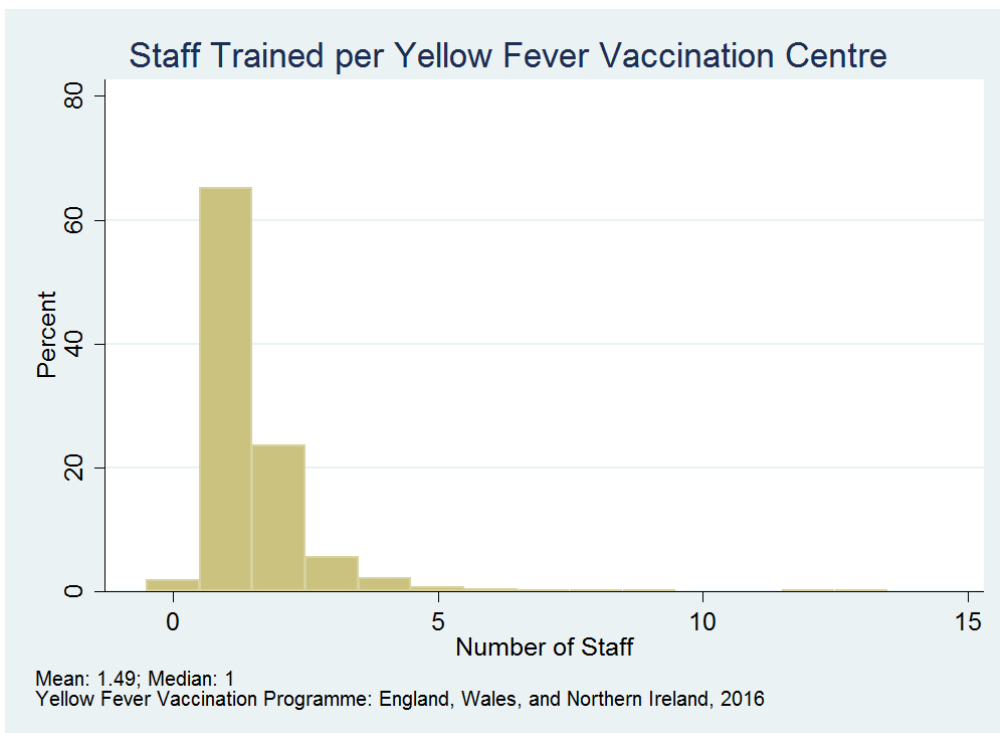


Figure 4 Staff trained per yellow fever vaccination centre.

The average number of staff per centre, who had received training was 1.49 (median: 1) (Figure 4).

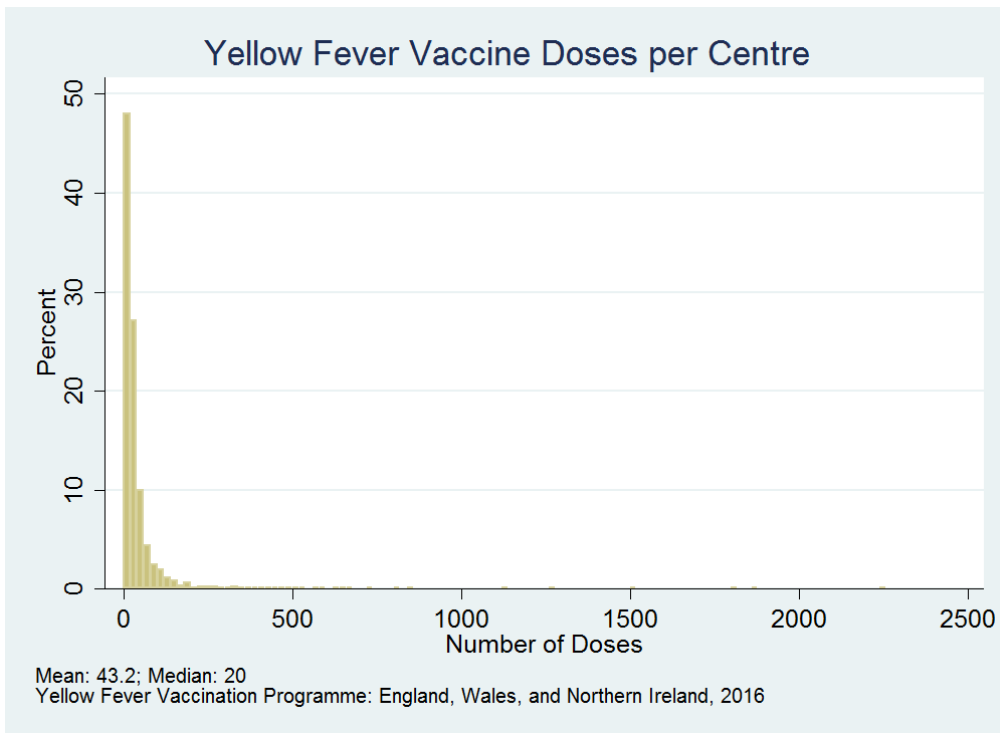


Figure 5 Yellow fever vaccination doses per centre.

The average number of yellow fever vaccine doses given per centre was 43.2 (median: 20) (Figure 5). The total number of doses given was 120,845. If non-responding centres had the same prescribing patterns as responding centres, the total number of doses would be 139,831.

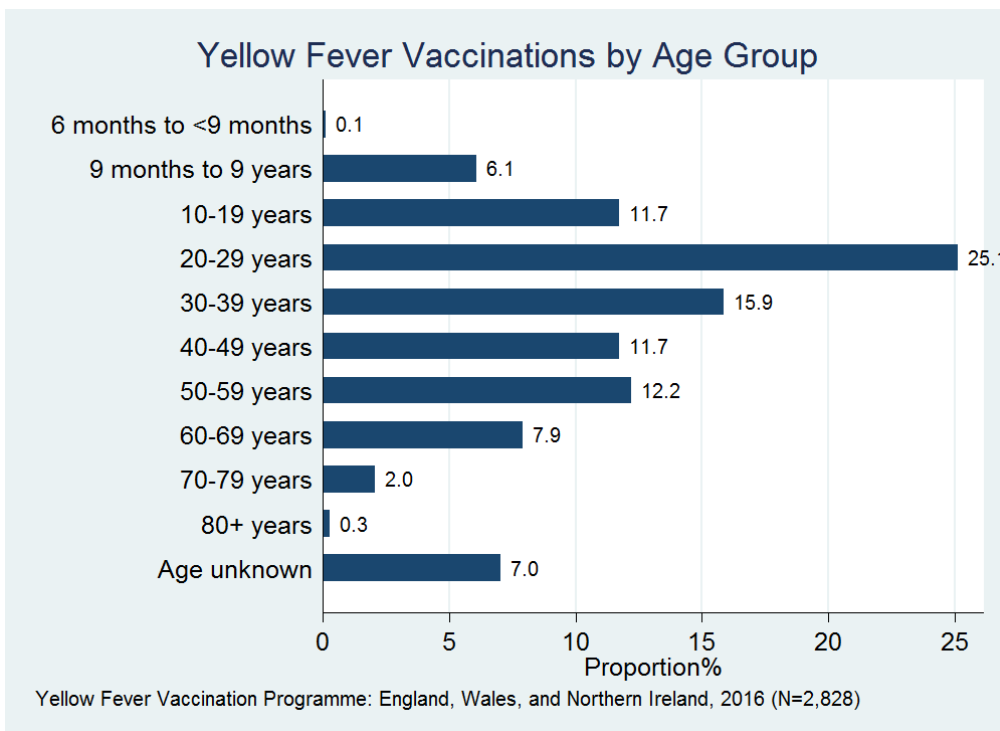


Figure 6 Yellow fever vaccinations by age group.

The age distribution of individuals given yellow fever vaccines was bell-shaped and skewed towards younger adults (Figure 7). The 20-29 year olds accounted for the largest proportion (25.1%). For 7%, the age was unknown.

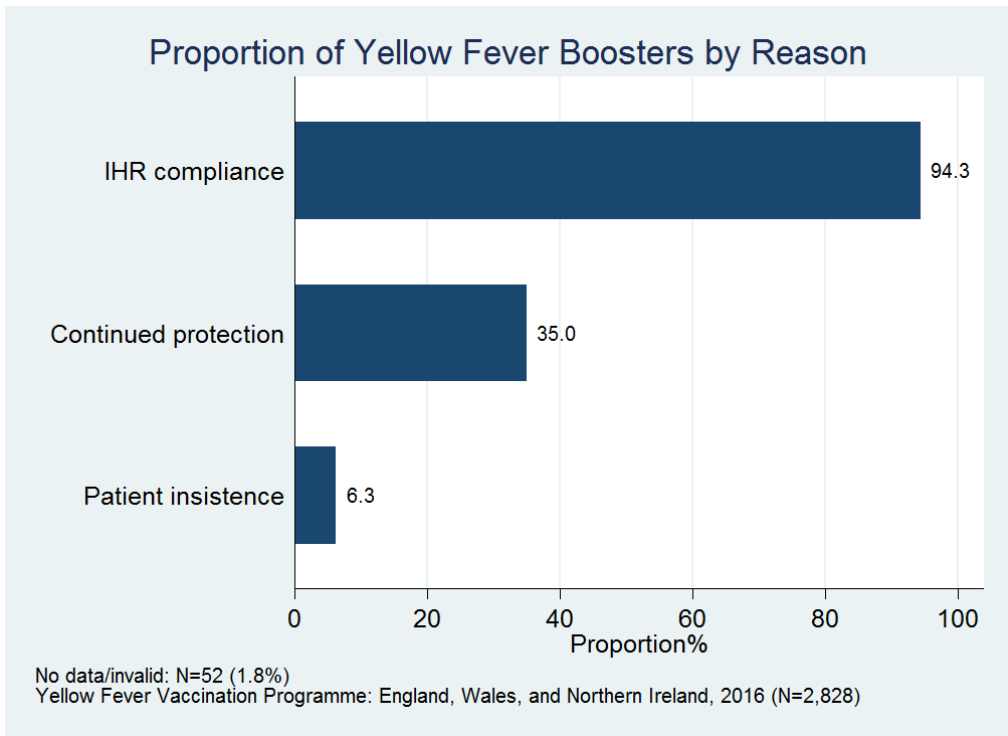


Figure 7 Proportion of yellow fever boosters by reason.

The total number of booster doses was 8,157, which was equivalent to 6.8% of all doses given. The reasons for giving boosters were compliance with the International Health Regulations (IHR) (94.3%), continued protection (35%), and at patient insistence (6.3%) (Figure 7).

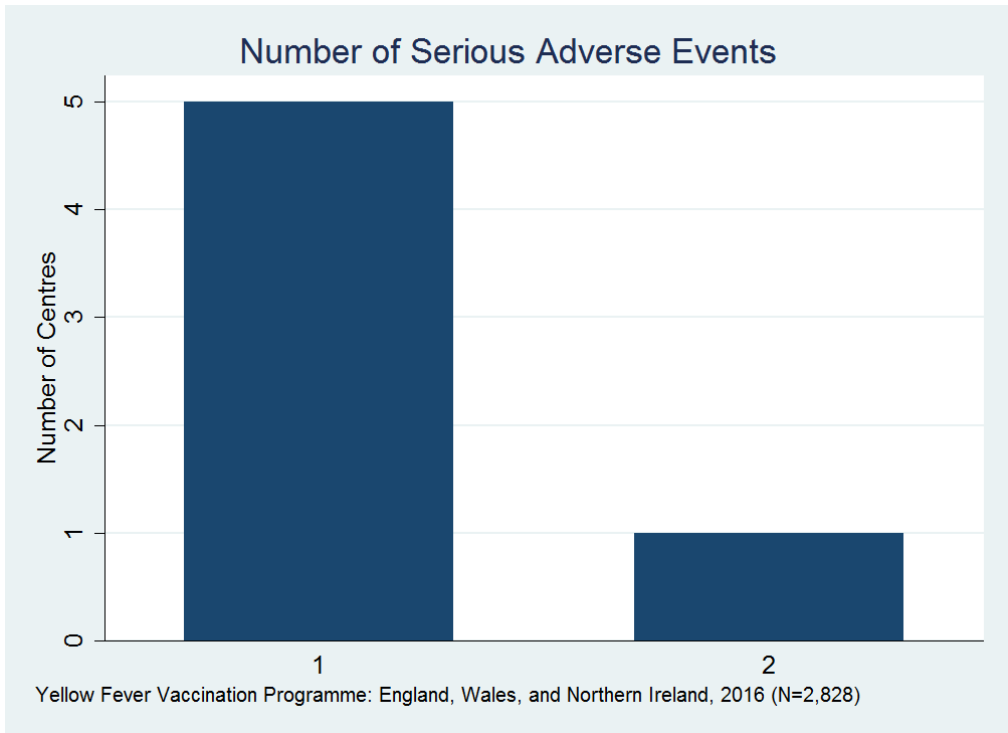


Figure 8 Number of Serious Adverse Events per centre.

A total of seven serious adverse events (SAE) were reported (Figure 8).

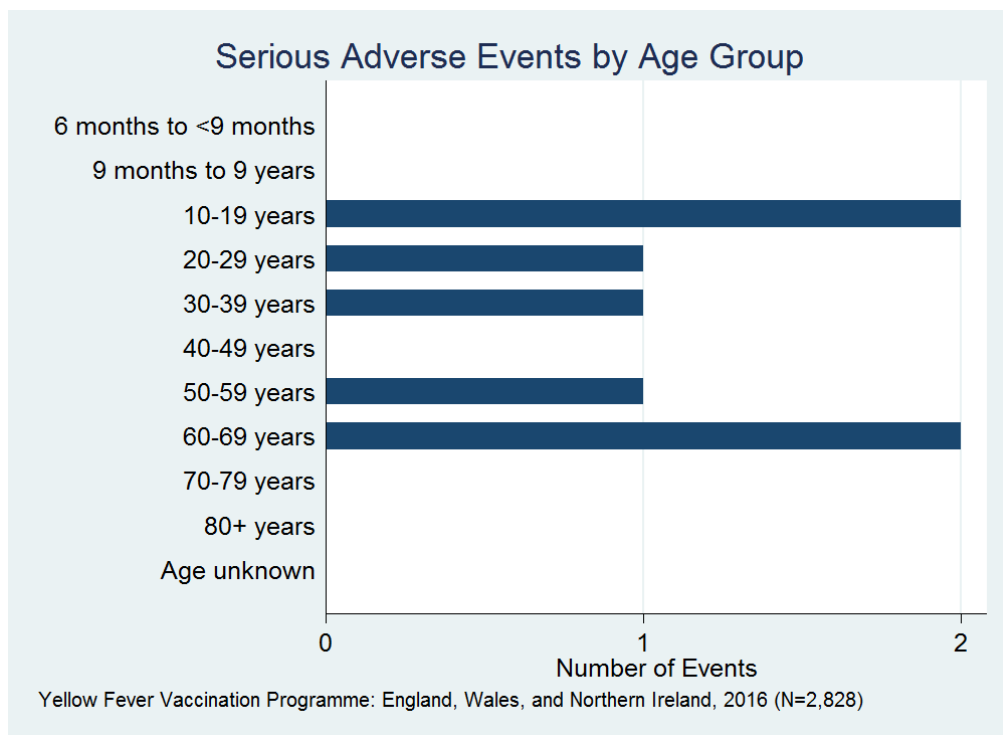


Figure 9 Serious Adverse Events by age group.

The seven SAE were reported across the age range (10-69 years) (Figure 9).

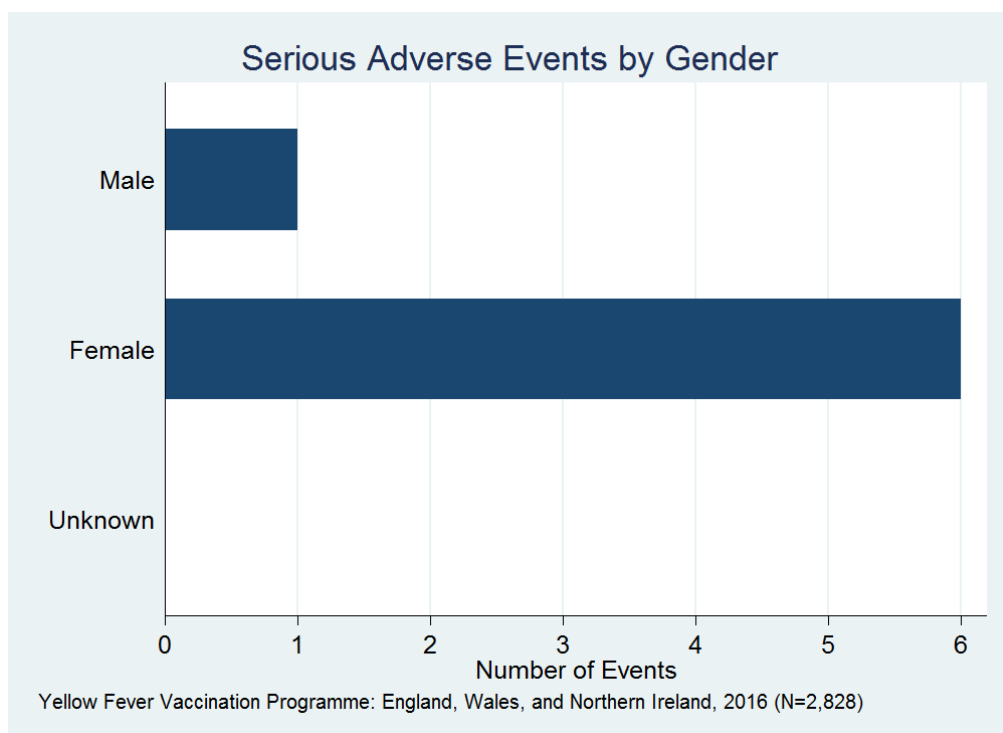


Figure 10 Serious Adverse Events by gender.

Most SAE were reported in women (6 out of 7) (Figure 11).

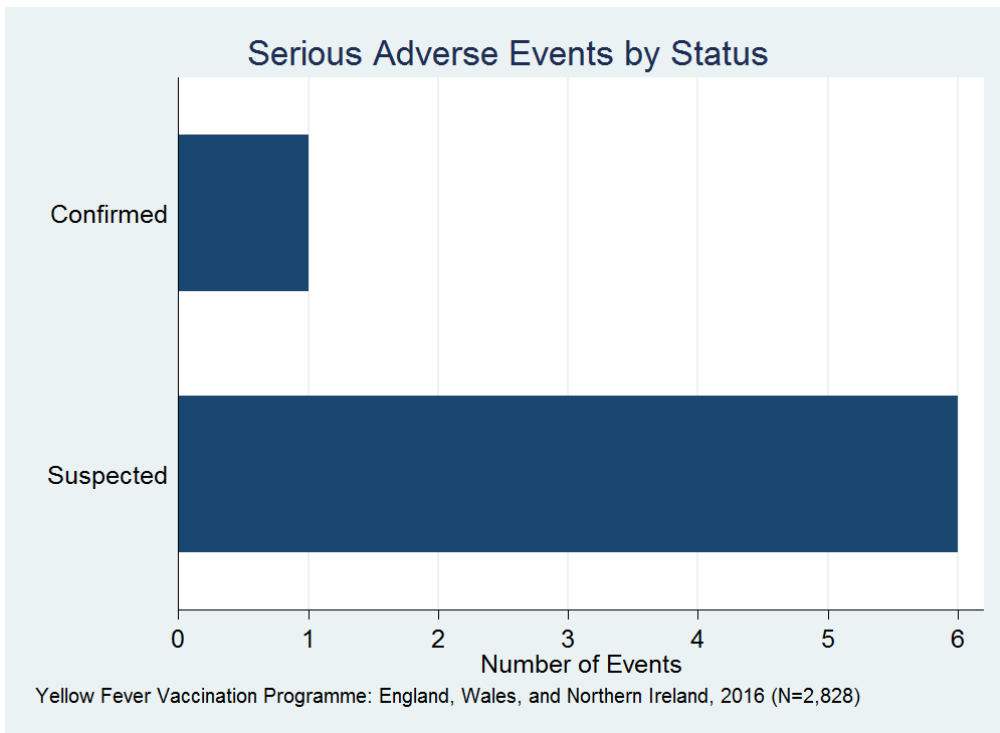


Figure 11 Serious Adverse Events by status.

Only one of the seven SAE was known to be confirmed by the Medicines and Healthcare product Regulatory Agency (MHRA) (Figure 12).

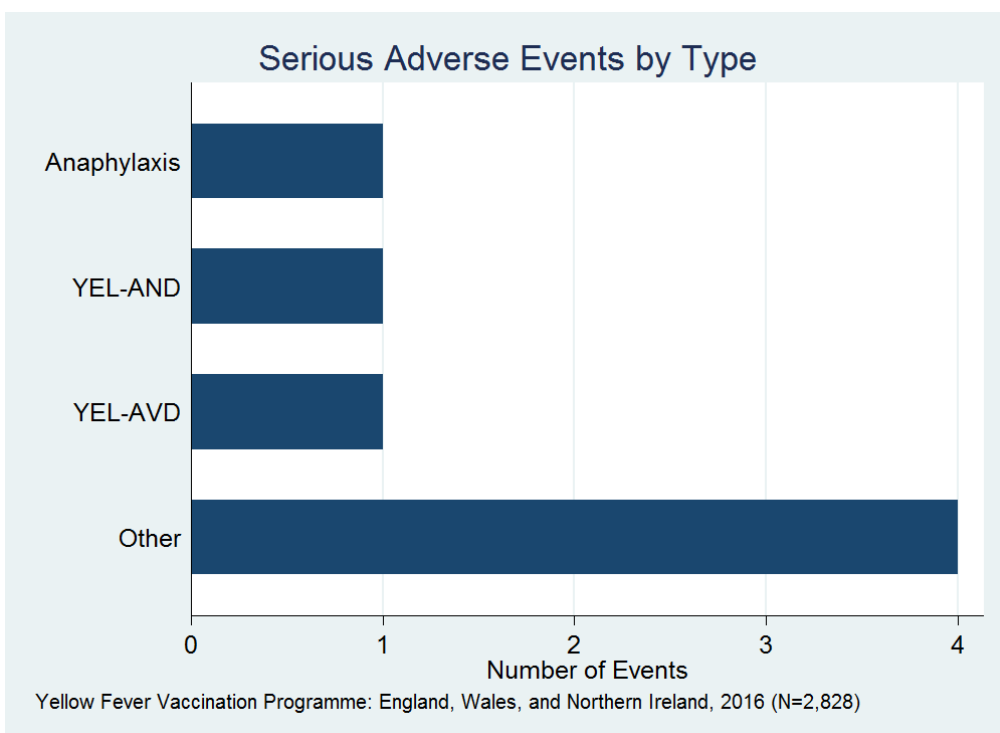


Figure 12 Serious Adverse Events by type.

The types of SAE reported were anaphylaxis (N=1), YEL-AND (1), YEL-AVD (1), and other (4) (Figure 12).

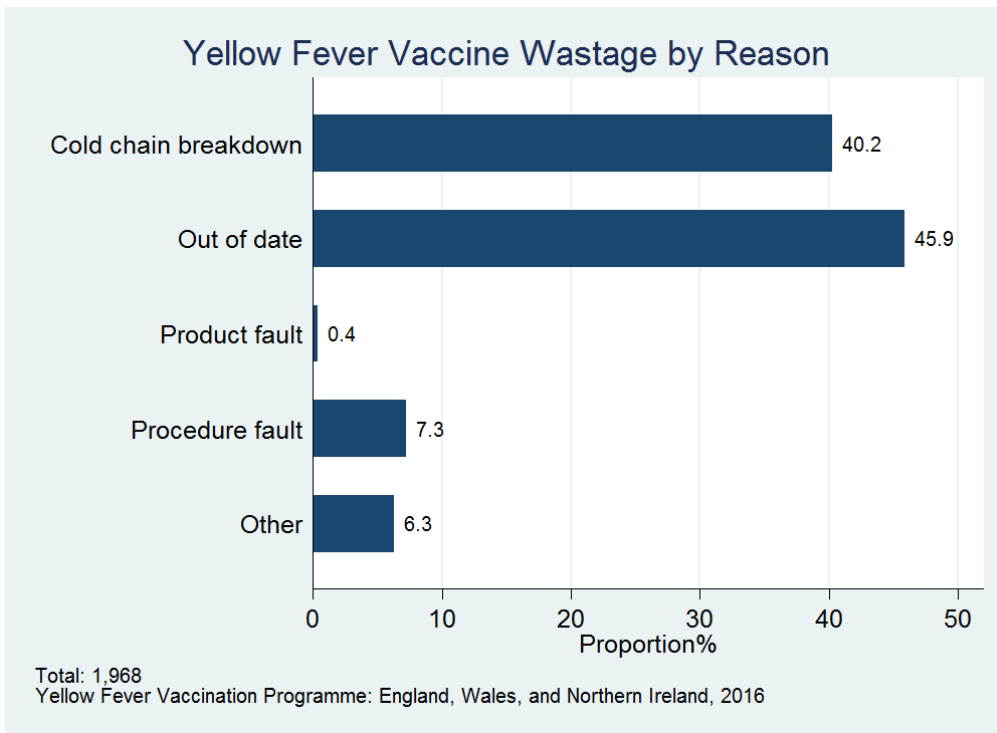


Figure 13 Yellow fever vaccine wastage by reason.

The total number of wasted doses was 1,968. The most commonly mentioned reasons for wastage were ‘out of date’ (45.9%), cold chain breakdown (40.2%), procedure fault (7.3%), other (6.3%), and product fault (0.4%) (Figure 13).

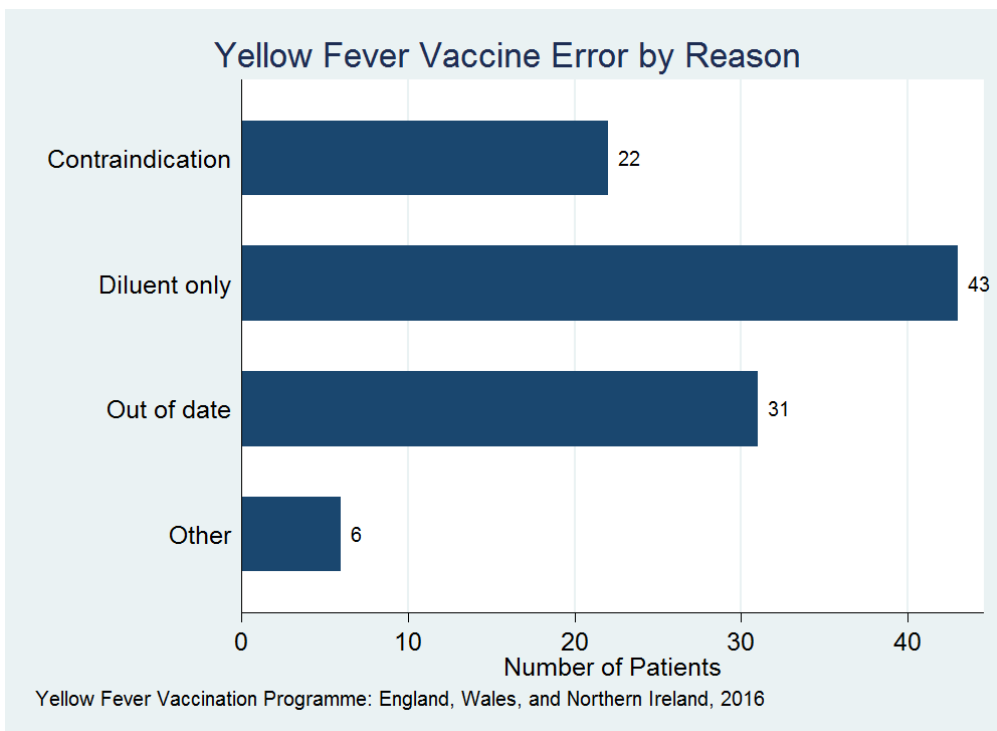


Figure 14 Yellow fever vaccine error by reason.

Individuals were given a vaccine in error in 102 instances. The most common reasons were ‘diluent only’ (N=43), followed by ‘out of date’ (31), contraindication (22), and other (6) (Figure 14).

Table 1 Are you aware of the updated Conditions of Designation and Code of Practice?

Response category	Freq.	Percent
Missing	40	1.41
No	230	8.13
Yes	2,558	90.45
Total	2,828	100

Table 2 Have you informed us about any unsatisfactory ratings?

Response category	Freq.	Percent
Missing	40	1.41
No	648	22.91
Not applicable	2,056	72.7
Yes	84	2.97
Total	2,828	100

Table 3 Have you informed us about any changes to how you run your centre?

Response category	Freq.	Percent
Missing	40	1.41
No	657	23.23
Not applicable	1,962	69.38
Yes	169	5.98
Total	2,828	100

A total of 230 centres answered 'No' to whether aware of the updated Conditions of Designation and Code of Practice (Table 1). A total of 648 answered 'No' to whether the centre had informed NaTHNaC about unsatisfactory ratings from a healthcare regulator and 84, 'Yes' (Table 2). For a question about whether the centre had informed NaTHNaC about changes to how they were running the centre in compliance with the updated Conditions of Designation, 657 answered 'No' and 169, 'Yes' (Table 3).

National Travel Health Network and Centre
(NaTHNaC)
UCLH NHS Foundation Trust
3rd Floor Central
250 Euston Road
London NW1 2PG
travelhealthpro.org.uk nathnac.net