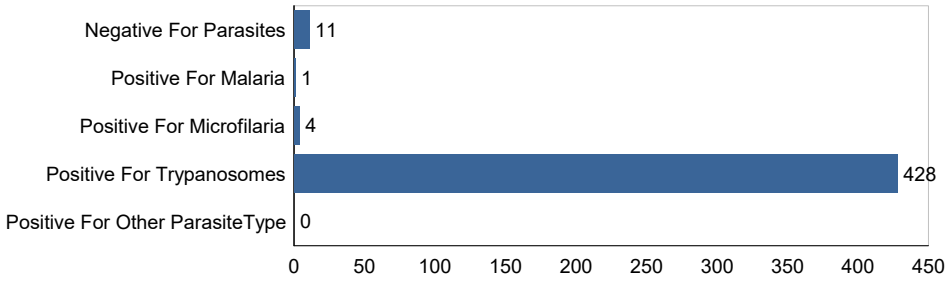
This distribution contained the following specimens:
Film 2304PA1 Giemsa stained thin blood film.
Traveller presenting with fever after holiday in Mexico.
Film 2304PA2 Giemsa stained thin blood film.
Backpacker returning from India. Presenting with fever.

445 out of 471 sets of results were returned (94% return rate).

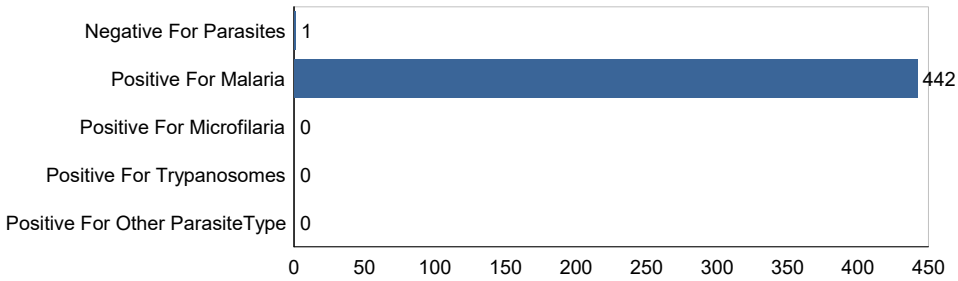
2304PA1	**2304PA2**
Sample Quality	Sample Quality
You reported: Satisfactory	You reported: Satisfactory
Overall	**Overall**
Satisfactory %: 100.00	Satisfactory %: 99.78
Unsatisfactory %: 0.00	Unsatisfactory %: 0.22

2304PA1 : Parasite types reported



You Reported
Positive For Trypanosomes

2304PA2 : Parasite types reported

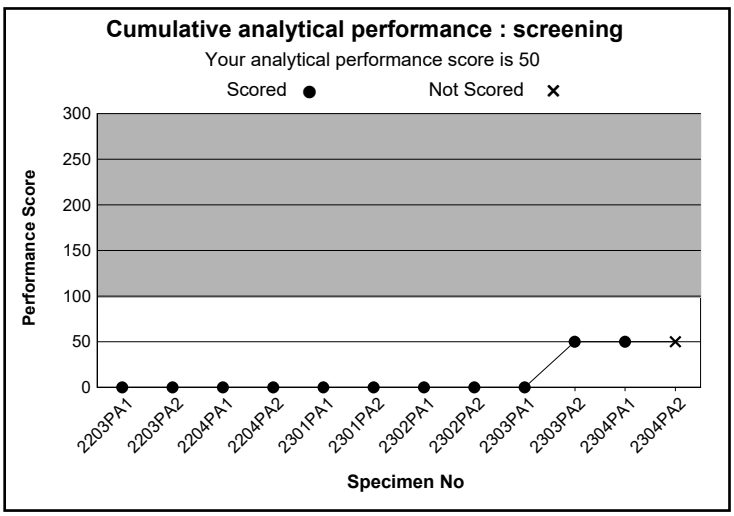


You Reported
Positive For Malaria

Parasite Screening Performance Score:

2304PA1	2304PA2	Total for this Survey	Cumulative for 6 specimens
0	Not Scored	0	50

Cumulative analytical performance : screening



You are registered for:

Parasite Screening and Identification – the remainder of this report contains the analysis of the identification data.

For information on data analysis and performance assessment see the UK NEQAS Haematology Participants' Manual (www.ukneqash.org)
Scheme Director: Barbara De la Salle
UK NEQAS (H), PO Box 14, WATFORD WD18 0FJ
email: haem@ukneqas.org.uk Phone: +44 (0) 1923 587 111
Authorised by: Yvonne Hector (Service Manager)

This distribution contained the following specimens:
Film 2304PA1
Pink. Giemsa stained thin blood film.
Traveller presenting with fever after holiday in Mexico.
Film 2304PA2
Pink.Giemsa stained thin blood film.
Backpacker returning from India. Presenting with fever.

307 out of 323 sets of results were returned (95% return rate).
2304PA1
Sample Quality
You reported: Satisfactory
Overall
Satisfactory %: 100.00
Unsatisfactory %: 0.00

2304PA1: Parasite species identification reported by participants

Malaria species	Number	You Reported
Plasmodium vivax	0	
Plasmodium ovale	0	
Plasmodium falciparum	2	
Plasmodium malariae	0	
Plasmodium knowlesi	0	
Plasmodium malariae / Plasmodium knowlesi	0	

Non-malaria species	Number	You Reported
Loa loa	1	
Wuchereria bancrofti	0	
Brugia malayi	0	
Trypanosoma Rhodessiense / Gambiense	5	
Trypanosoma cruzi	292	x
Babesia	0	

2304PA1: Participants' additional comments

Comment	Number
All stages of parasite present	0
Trophozoites only	3
Gametocytes only	0
Maurer's clefts	1
Accole forms	0
Fimbriation	0
Two or more stages present	2

For information on data analysis and performance assessment see the UK NEQAS Haematology Participants' Manual (www.ukneqash.org)
Scheme Director: Barbara De la Salle
UK NEQAS (H), PO Box 14, WATFORD WD18 0FJ
email: haem@ukneqas.org.uk Phone: +44 (0) 1923 587 111
Authorised by: Yvonne Hector (Service Manager)

West Herts Teaching Hospitals NHS Trust operating UK NEQAS Haematology and Transfusion

Parasite Identification : Specimen 2304PA2

Non Participation Penalty: 0

This distribution contained the following specimens:
Film 2304PA1
Pink. Giemsa stained thin blood film.
Traveller presenting with fever after holiday in Mexico.
Film 2304PA2 :
Pink.Giemsa stained thin blood film.
Backpacker returning from India. Presenting with fever.

307 out of 323 sets of results were returned (95% return rate).
2304PA2
Sample Quality
You reported: Satisfactory
Overall
Satisfactory %: 99.78
Unsatisfactory %: 0.22

2304PA2: Parasite species identification reported by participants

Malaria species	Number	You Reported
Plasmodium vivax	104	
Plasmodium ovale	12	
Plasmodium falciparum	205	x
Plasmodium malariae	6	
Plasmodium knowlesi	6	
Plasmodium malariae / Plasmodium knowlesi	4	

Non-malaria species	Number	You Reported
Loa loa	0	
Wuchereria bancrofti	0	
Brugia malayi	0	
Trypanosoma Rhodessiense / Gambiense	0	
Trypanosoma cruzi	1	
Babesia	0	

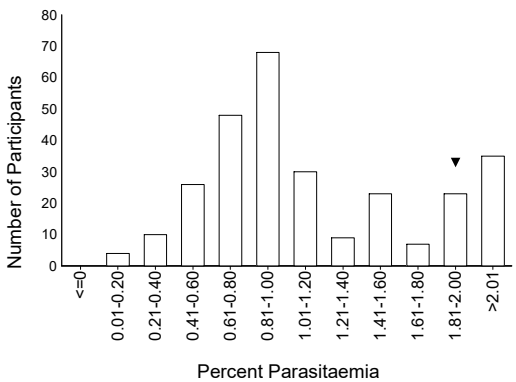
2304PA2: Participants' additional comments

Comment	Number
All stages of parasite present	0
Trophozoites only	79
Gametocytes only	0
Maurer's clefts	28
Accole forms	14
Fimbriation	1
Two or more stages present	27

2304PA2: % Parasitaemia

	n	Median	CV	SD
Non-UK	98	1.0	88.95	0.89
UK	183	1.0	51.89	0.52
All	281	1.0	51.89	0.52

Reference value: 0.7%
(UK NEQAS Parasitology)



Your Result : 2.0

Uncertainty of Method Median : 0.13

Reported Range (Overall)
Minimum : 0.10
Maximum : 85.00

For information on data analysis and performance assessment see the UK NEQAS Haematology Participants' Manual (www.ukneqash.org)
Scheme Director: Barbara De la Salle
UK NEQAS (H), PO Box 14, WATFORD WD18 0FJ
email: haem@ukneqas.org.uk Phone: +44 (0) 1923 587 111
Authorised by: Yvonne Hector (Service Manager)

UKAS PROFICIENCY TESTING
7805

2304PA1

Expert comment: *Dr Chris McNamara*

Diagnosis: *Trypanosoma cruzi*

This Giemsa-stained thin blood film demonstrates trypomastigotes of *Trypanosoma cruzi* in someone presenting with a fever after holidaying in Mexico. The majority of respondents reported features consistent with this diagnosis. *Trypanosoma cruzi* is an extracellular parasite that usually has a curved or 'c-shaped' appearance, rather than a serpentine or cork-screw appearance seen with African haemoflagellates. The organ responsible for the parasite's movement, the kinetoplast, is relatively prominent and usually easily discernible on microscopy. Several participants commented on the pointed nature of both ends of the parasite, which is often noted to be different to other haemoflagellates which may show one or more blunted or rounded-over ends.

2304PA2

Expert comment: *Dr Chris McNamara*

Diagnosis: *Plasmodium falciparum*

This Giemsa stained blood film was also prepared from an individual presenting with fever, following travel, this time to India. This film shows trophozoites of *Plasmodium falciparum* with an estimated parasitaemia of approximately 0.7%. Ninety-four per cent of respondents correctly identified the presence of malarial trophozoites in the film and the majority correctly identified *Plasmodium falciparum* species. Several features were reported that allowed for the detection of this species: the presence of relatively small, delicate rings in a red cell that is not enlarged, and which frequently demonstrated accolé forms (parasites which appear to embrace the surface of the red cell) and occasionally there was more than one parasite per red cell. Maurer's dots or clefts (this refers to a red or mauve-coloured stippling of the cytoplasm of the infected red cell) were also noted by many respondents. Others commented on the *absence* of significant change in of red cell size and shape being helpful when considering the identity of the malaria species.

Supplementary comment on 2304PA2

Slide 2304PA2 was from a patient with a *Plasmodium falciparum* infection, which had been confirmed by PCR. Although the majority of participants reported the expected species, a significant proportion reported *Plasmodium vivax* present. 2304PA2 has been withdrawn from performance assessment for parasite identification because the consensus of participants' results with the PCR result fell below our acceptance limits.

UK NEQAS Blood Films for Parasitology slide batches are prepared, stained and labelled in a manner that maintains the separation of batches, and the batches undergo pre-acceptance review before distribution.

Professor Peter Chiodini, the Director of UK NEQAS Parasitology, was asked to review three slides from 2304PA2 as part of our post acceptance review and his comments on the case are:

"In each slide there are a few ring forms of Plasmodium falciparum and many late trophozoites of P. falciparum with prominent Maurer's clefts. The trophozoites are not amoeboid like P. vivax and the Maurer's clefts do not have the appearances of Schuffner's dots, so there is no evidence for P. vivax infection and the appearances are fully in agreement with a diagnosis of Plasmodium falciparum only".

For information, we have included 3 images (Figures 1,2, and 3) in this report.

This is an interesting case and, although it has been withdrawn from performance assessment, we suggest that participants re-examine the slide for its educational opportunity. For information, we suggest that you consult the teaching sheets available on the UK NEQAS Parasitology website (https://www.ukneqasmicro.org.uk/parasitology/index.php/blood-parasitology).

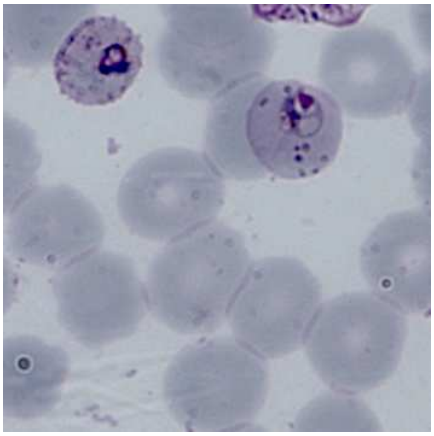


Figure 1

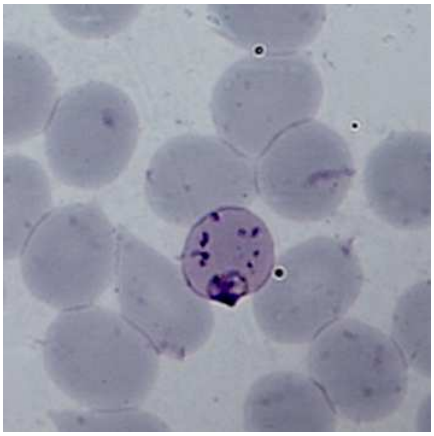


Figure 2

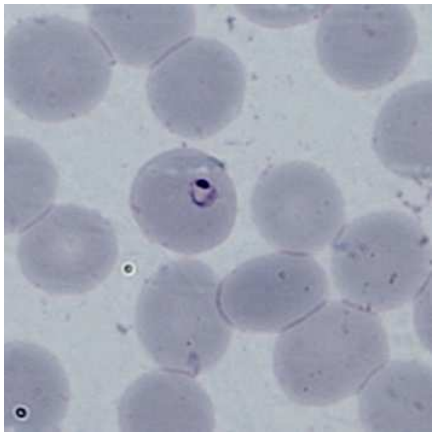


Figure 3