ISRCTN32355507 https://doi.org/10.1186/ISRCTN32355507

Clinical performance evaluation of a quantitative Randox STI-fleX qPCR device for sexually transmitted infections

Submission date
17/06/2025

Recruitment status
No longer recruiting

Registration date
30/07/2025

Overall study status
Completed

Last Edited
30/06/2026

Condition category
Infections and Infestations

[_] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

Plain English summary of protocol

Background and Study Aims
Sexually transmitted infections (STIs) are a considerable threat to public health worldwide. They can cause acute urogenital conditions such as cervicitis, urethritis, vaginitis and genital ulceration, with some of the etiological agents also infecting the rectum and pharynx. Many STIs are generally asymptomatic in the early stages of infection, which increases the potential for undetected transmission. If left undiagnosed and untreated, common STIs may cause complications and long-term health problems. Randox has developed a sensitive, multitarget approach for detecting nine common STIs with the STI-fleX qPCR device family, which comprises four diagnostic assays. The study aims to assess the performance of the Randox STI-fleX qPCR device family for potential use in routine STI testing.

Who can participate?
Persons aged ≥18 years who are suspected of having an STI infection, at increased risk of STI, have a known exposure to any STI, or contact tracing.

What does the study involve?
The study is confined to de-identified leftover/archived residual samples received at Randox Clinical Laboratory Services (RCLS) during routine diagnostic testing of STI samples. All samples have informed consent for research use. Results obtained using the STI-fleX qPCR device will be compared to results obtained using a reference method. Results will be used to demonstrate the clinical performance of the STI-fleX qPCR device.

What are the possible benefits and risks of participating?
Although no clinical decisions will be made from the results of this study, participants will be contributing to the wider scientific community through their participation in the assessment of a new diagnostic test that aims to improve sensitivity, accuracy, and time-to-result of STI testing, thereby improving clinical practice. As the study involves testing of pre-characterised leftover clinical samples, there are no risks to participating.

Where is the study run from?
Randox Clinical Laboratory Services (RCLS), Northern Ireland.

When is the study starting and how long is it expected to run for?
The study started on 14th May 2025. Testing is expected to commence on 14th July 2025 and should be complete within 60 working days.

Who is funding the study?
Randox Laboratories Ltd, Northern Ireland

Who is the main contact?
Dr Helena Murray, Molecular R&D Manager, Randox Laboratories Ltd
helena.murray@randox.com

Contact information

Type(s)
Principal investigator

Contact name
Mr Kristopher Pentland

Contact details
Randox Science Park
30 Randalstown Road
Antrim
United Kingdom
BT41 4LP
+44 (0)2894422413
kristopher.pentland@randox.com

Type(s)
Public, Scientific

Contact name
Dr Helena Murray

Contact details
Randox Laboratories Limited
55 Diamond Road
Crumlin
United Kingdom
BT29 4QY
+44 (0)2894422413
helena.murray@randox.com

Additional identifiers

Integrated Research Application System (IRAS)
359709

Protocol serial number
169RDIM Clinical Performance Study

Study information

Scientific Title
Clinical performance evaluation of the Randox STI-fleX qPCR

Acronym
STI-fleX qPCR CPS

Study objectives
The Randox STI-fleX qPCR device family is designed for the qualitative detection and differentiation of DNA from nine common STIs in urine or swab samples. Quantitative polymerase chain reaction (qPCR) is a sensitive and specific technology that allows for the selective amplification and detection of target nucleic acid from a sample using fluorescent dyes. The fluorescent signal generated during PCR amplification increases exponentially with each PCR cycle and can be measured, enabling simultaneous detection of all targets. The study aims to assess the performance of the Randox STI-fleX qPCR device family for potential use in routine STI testing.

Ethics approval required
Ethics approval required

Ethics approval(s)
Approved 07/07/2025, North East - York Research Ethics Committee (2 Redman Place, Stratford, London, E20 1JQ, United Kingdom; +44 (0)2071048052; york.rec@hra.nhs.uk), ref: 25/NE/0125

Primary study design
Observational

Study design
Single-centre observational study

Study type(s)
Diagnostic

Health condition(s) or problem(s) studied
Detection of sexually transmitted infections

Interventions
A retrospective clinical performance study will be conducted to demonstrate that, under the anticipated conditions of use, the STI-fleX qPCR device family will meet the intended use and labelling claims. The study will be observational in design. The STI-fleX qPCR device family assays are designed for the qualitative detection and differentiation of DNA from CT, NG, HSV1, HSV2, TP, TV, MG, MH and UU in urine or swab samples using real-time PCR technology.

Specimens used for this clinical performance study will be remnants of specimens taken for purposes of routine STI diagnostic testing (leftover or archived) through a swab or urine from male and female subjects. Specimens may come from persons suspected of having an STI

infection, but also from those who need a diagnostic test due to other reasons, such as persons at increased risk of STI, have a known exposure to any STI, or contact tracing.

Study endpoints will include the correlation of results with a reference method (Randox Sexually Transmitted Infection Multiplex Array II) presented as a percentage difference, diagnostic sensitivity, diagnostic specificity, Positive Predictive Value (PPV), Negative Predictive Value (NPV) and Likelihood Ratios (positive and negative).

Intervention Type
Other

Primary outcome(s)
The following primary outcome variables will be used to correlate STI-fleX qPCR device results with the reference method measured using the Randox STI Multiplex Array II at one timepoint:
1. Percentage difference
2. Diagnostic sensitivity
3. Diagnostic specificity
4. Positive Predictive Value (PPV)
5. Negative Predictive Value (NPV)
6. Positive Likelihood Ratio
7. Negative Likelihood Ratio

Clinical Performance Study acceptance criteria will be as follows:
Sensitivity ≥90%
Specificity ≥95%

Key secondary outcome(s)
There are no secondary outcome measures.

Completion date
31/10/2025

Eligibility

Key inclusion criteria
1. Persons aged ≥18 years
2. Persons who are suspected of having an STI infection, at increased risk of STI, have a known exposure to any STI, contact tracing.

Participant type(s)
Service user

Healthy volunteers allowed
No

Age group
Mixed

Lower age limit
18 Years

Upper age limit
120 Years

Sex
All

Total final enrolment
0

Key exclusion criteria
1. Subjects under the age of 18
2. Contamination and/or deterioration of the specimen that, in the investigator’s opinion, may impact its handling and/or analysis.

Date of first enrolment
29/07/2025

Date of final enrolment
31/10/2025

Locations

Countries of recruitment
United Kingdom

Northern Ireland

Study participating centre
Randox Clinical Laboratory Services
30 Randalstown Road
Antrim
Northern Ireland
BT41 4LP

Sponsor information

Organisation
Randox (United Kingdom)

ROR
https://ror.org/04cte7x29

Funder(s)

Funder type
Industry

Funder Name
Randox Laboratories Limited

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not expected to be made available

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article			30/06/2026	Yes	No
Basic results			30/06/2026	No	No