EVOLUTION

EVOLUTION: EValuating a nOveL UTI dIagnOstic for aNtibiotic stewardship

SUMMARY

We invite you to take part in our study that compares two ways of diagnosing and treating women who have symptoms which could be due to urinary tract infections (UTIs), also known as cystitis, or bladder infections. One is a new test (called the PA-100 test) that gives results in 45 minutes, and the other is receiving usual NHS care through your healthcare provider (GP, nurse or pharmacist).

Taking antibiotics when you don't really need them can lead to side effects and make future infections more difficult to treat because of antibiotic resistance. We want to find out if this new test can help reduce using antibiotics unnecessarily - without making symptoms worse.

What does it involve if you agree to take part?

1. **Complete a short questionnaire** so we can check whether this study is suitable for you.
1. **Fill in a consent form** to give us your agreement to take part.
2. **Answer some short questions** about your health and symptoms.
3. **On the day, to give a urine sample** at your GP Practice or Pharmacy.
4. **You will be randomly placed** into either:

   Group 1: Where you will receive usual NHS care through your healthcare provider.

   OR

   Group 2: Where your healthcare provider will use the new test (**PA-100 test**) and a small sample of your urine to see if you will need treatment with antibiotics or not.

   Both groups, will receive an information leaflet with advice on self-care.

5. **Keep a short online** diary about your symptoms:
   Every day for 2 weeks, and then once a week for 2 more weeks after.

- If you are in the group using the new test (**PA-100 test**), your healthcare provider will use your results to help decide your treatment. They may still prescribe antibiotics if it's necessary.
- **If your symptoms get worse or don't start to improve, please contact your GP surgery or other community healthcare providers as you normally would.**

- Taking part is **completely voluntary**, and you can stop at any time. If you leave the study, we will still use any data and samples you've already given to help with the research.
- Some people might be **invited to take part in an optional interview** to tell us about their experience.
- We may also ask your permission to **observe, video or audio record your consultation** so we can learn more about how the new test (**PA-100 test**) and treatment decisions are explained to patients. This is also optional.
- You will receive **£20 as a thank you for your time**.

Please read the full participant information sheet below for more details

PARTICIPANT INFORMATION SHEET

We would like to invite you to take part in our research study. Before you decide, we want to ensure that you understand why the study is being conducted, and what participation involves. Please take time to read this information, and discuss it with others if you wish. If you have any questions, or if you would like more information, please feel free to ask us.

What is the purpose of the study?

Half of all women will experience at least one urinary tract infection (UTI) during their lifetime. Currently, most women will receive antibiotics for their symptoms. However, not all actually have a bacterial infection, meaning antibiotics may not be necessary. This could cause side effects and increase the risk of antibiotic resistance, making future infections harder to treat.

Even when a UTI is diagnosed, treatment is often based on the healthcare provider's best guess, and treatment may not always be effective and require further care. This happens because healthcare providers lack fast and accurate tests to determine whether antibiotics are needed, or which antibiotic will work best.

A new urine test called the Sysmex PA-100 AST System (PA-100 test) developed by Sysmex Astrego can show bacteria that cause infections in the urine within 15 minutes and identify the most effective antibiotics within 45 minutes. This allows healthcare providers to make faster, more informed decisions during a patient's visit for UTI symptoms.

Before this test is available in the NHS, we need to confirm that it reduces antibiotic prescriptions without negatively affecting patient health outcomes.

The EVOLUTION study will assess whether using the PA-100 test in women with possible UTIs is a better treatment compared to standard care. We will gather feedback from both patients and healthcare staff regarding their experiences receiving or providing UTI care during the study. We will also assess whether the PA-100 test provides good value for money for the NHS.

Why have I been invited to take part?

You have been invited because you have symptoms of a possible UTI and are able to provide a urine sample. We are inviting females (female assigned at birth) aged 18 or older to take part in the study. We aim to recruit approximately 984 participants to this study.

Do I have to take part?

No, participation is entirely voluntary. If you choose to take part, you can withdraw at any time without giving a reason. If you choose not to take part or withdraw, your clinical care will not be affected in any way.

What will happen to me if I decide to take part?

- We may ask for your permission to store your email address so the study team at your GP practice or pharmacy can securely send you the Participant Information Sheet and online forms.
- Before joining the study, you will be asked to complete a brief online questionnaire to check if you are eligible to take part.
- If you are eligible at this stage, you will be asked to compete a consent form and provide your contact details for follow up. A trained member of the study team will confirm your eligibility.
- The study does not include pregnant participants, so if there is any chance you could be pregnant without knowing, your doctor may recommend a pregnancy test. Also, if you are being treated for pyelonephritis, you will not be eligible to take part.
- You will then be asked to complete a short questionnaire (online or paper) about your symptoms, background (such as age and ethnicity), and any relevant past medical history including allergies. This should only take a few minutes.
- **You will be asked to provide a urine sample at your GP surgery, pharmacy or other community healthcare provider on the same day**, **filling a container like the one pictured (30ml or 2 tablespoons).**
- To collect your sample, pass a small amount of urine into the toilet, then collect the next portion in the container.
- You will be randomly assigned to one of two groups:

A: Usual Care Group: Your healthcare provider will diagnose and treat your UTI symptoms as they would normally. You can provide your urine sample any time on the day you join the study.

B: Test-Guided Care Group: Your healthcare provider will use the PA-100 test results alongside usual care to guide treatment for your symptoms. You'll be asked to provide your urine sample at the time of your visit, as it needs to be fresh for the PA-100 test to work properly. Your healthcare provider may still prescribe an antibiotic if they think it's necessary.

There is a 1 in 2 chance you will be in the Test-guided care group. Neither you, your healthcare provider nor the research team can choose which group you are in. The assignment is completely random to ensure fair and unbiased results.

Optional: Study Partner

You may choose someone you trust to help you understand or complete study tasks — such as a friend, family member or carer. We'll ask you to provide their name and contact details but please note that having a study partner is optional, and is not required to participate in the study.

Follow Up:

Your involvement in the study will last for 28 days from the day you join. We will stay in regular contact with you throughout that time. You will be asked to complete an online diary for the first 14 days, then weekly check-ins until day 28. This will help us track your symptoms and any antibiotic use. We will send you daily/weekly text or email reminders for this.

You will also be asked to complete a short survey within the study diary on the day after you join the study and again 28 days later. The survey will ask about your experience of the treatment you received, your views on the PA-100 test, and whether you would seek advice from a healthcare professional again if you experienced similar symptoms in the future.

Even if you no longer have symptoms, it's important to continue completing your diary by answering limited questions. If you haven't completed your diary online, your healthcare provider or the study team will contact you by telephone between days **7-12** and days **28-36** to complete this with you.

Your healthcare provider will also review your medical notes (with your consent) to note any prescriptions, hospital visits or other care related to your UTI for up to 28 days after your participation.

Optional Activities:

The following activities are optional. If you choose to take part in either of them, you will be given separate Participant Information Sheets explaining what each activity involves, and you will be asked to sign a separate consent form. Participation in these optional elements is entirely your choice, and you are not required to take part if you prefer not to.

Optional Interview:

Some participants may be invited for an optional interview, either by telephone, online (e.g. via Microsoft Teams) or in person, to share their experience of taking part in the study. In person interviews will take place in a location that is convenient and comfortable for you. This may be in a university building, a general practice or another community setting such as a café. The interview will take 45-60 minutes depending on what you have to say. You're welcome to take a break at any point if you need to.

With your permission, the interview will be audio recorded and securely sent to a professional transcription company approved by the University. If you agree to be approached about this, we will provide more details and arrange a convenient time to take consent and conduct a short interview. We aim to recruit approximately 25-30 participants to the interview study.

Optional observations or audio/video-recorded consultations:

We may also ask for permission for a researcher to sit in and observe your consultation, or they may set up an audio or video recording device prior to the start of the consultation to record it. The purpose of this is to help us better understand how treatment decisions are discussed between healthcare professionals and patients. If you are potentially happy to do this, we will provide more details. If you or your healthcare provider prefer, your consultation can be recorded using audio only.

Audio recording may also be used if it's not practical to set up a video recorder in the room. Video recordings will be made using a video camera. The camera will either be positioned away from the examination couch, or covered during any part of the examination that involves you having to undress. Audio recordings will be made using an audio recorder. You may ask for the recording device to be switched off at any time without giving a reason. Your participation in this section of the study will last for the duration of your consultation which will be around 15 minutes. We aim to record approximately 20 consultations in total.

Are there any possible disadvantages and risks of taking part?

All participants will receive usual care from their GP. If you are in the Test-Guided Care Group, your antibiotic treatment may be different from standard care. This is because your treatment will be based on the result of the PA-100 test, along with a clinical assessment. The benefit of this approach is that you may avoid taking antibiotics when they aren't needed, which means avoiding possible side effects.

The risk is that no test is perfect — in a small number of cases, the test might miss a bacterial infection. This could mean you aren't offered antibiotics when they might have helped. However, your doctor can still prescribe antibiotics if they believe you need them, even if the test suggests otherwise. Research also shows that many women can recover from a bacterial infection without antibiotics by using self-care. **If your symptoms get worse or don't improve as expected, you should contact your doctor as you normally would.**

What are the possible benefits of taking part?

The study involves minimal time on your part. While you may not benefit directly, your involvement may help improve future diagnosis and treatment for others.

If successful, the PA-100 test could support faster, more accurate UTI care and reduce unnecessary antibiotic use – benefiting patients and helping the NHS save costs without the need for laboratory testing, follow-up appointments and unnecessary antibiotic prescriptions.

Will my general practitioner (GP) be informed of my participation?

If you decide to take part in the study at your local pharmacy, and give your permission, a letter will be sent to your GP to let them know you're participating.

Will my taking part in the study be kept confidential?

Yes, absolutely! Your personal details will remain confidential. A study code and your age, not your name or date of birth, will be used to link your sample, test results and medical information together.

Only the study team at the Primary Care Clinical Trials Unit, University of Oxford will have secure access to your information, for communication and reminder purposes to complete the symptom diary.

The study team will collect your personal contact details to follow up with you about a short daily diary. These details will be stored securely. You can also request that these details are deleted at any time by contacting the study team.

If you take part in the interview sub-study:

An external transcribing company approved by the University of Oxford will type up your interview for the research team. To do this, they will be given the audio-recording of your interview. Once the transcription company has returned the transcript, the researcher will remove any identifying details. The transcription company will securely delete your recording once the transcription is complete.

Further information about how your personal data is used is provided in the “What will happen to my data” section.

Will I be reimbursed for taking part?

Yes. You will receive a £20 voucher for your time. If you also take part in the optional interview, you will receive an additional £40 voucher.

What will happen to the samples I give?

You will be asked to provide a urine sample for the research study. Your urine sample may be used as part of your standard care. Any remaining sample will be used for our research study. If you are in the test-guided group, a **fresh** urine sample is needed for the PA-100 test.

Any leftover sample will be sent to a laboratory at Public Health Wales. Your sample will be assigned a study code and labelled with this code, your age and the date you joined the study. Here your urine sample will be tested for any bacteria and if so to see which antibiotic would be most effective.

The laboratory test results will be compared with those from the study PA-100 test to see how well the new test works. These results won’t be shared with your GP, pharmacist or nurse nor will they be used to guide your treatment — they are for research comparison only.

Optional: Use of samples in future research

If you agree, your urine sample may be stored and used in other ethically approved research studies, in hospitals, universities, or non-profit institutions or commercial labs worldwide.

If not, your urine sample will be destroyed within 12 months after the study ends.

What will happen to my data?

Data protection legislation requires that we, the University of Oxford (whose legal name is The Chancellor Masters and Scholars of the University of Oxford), state the legal basis for processing information about you. In the case of research, this is *a 'task in the public interest*.' The University of Oxford is the sponsor for this study and is responsible for looking after your information and using it properly.

We will need to use information from you, your medical records, your urine sample and any prescription details from your GP/Pharmacy appointment for this research project. We will share your information related to this research project with the following types of organisations: research collaborators and partners, NHS organisations, commercial organisations, third party providing services (web services and transcribers).

We may use third party service providers or subcontractors to help with some of the research activities we carry out (e.g. IT provision, survey provision, transcription services etc.). We may therefore share your personal data with these providers when it is necessary to do so to allow them to carry out the services we require them to provide. However, we require all our third-party providers to have appropriate security measures in place to protect your data and we only allow them to process your data for the specific purposes we have stated in our instructions.

This information will include your:

- NHS number
- Name
- Age
- Postcode
- Contact details

People will use this information to do the research or to check your records to make sure that the research is being done properly. Responsible members of the University of Oxford, regulatory authorities, and the relevant NHS Trust(s) may be given access to data for monitoring and/or audit of the study to ensure that the research is complying with applicable regulations. People who do not need to know who you are will not be able to see your name or contact details. Your data will have a code number instead.

We will keep all information about you safe and secure by:

- Storing data in a secure environment
- Limiting access to essential personnel only
- Deidentifying the data as soon as possible
- Storing paper-based data in locked filing cabinets with access restricted to authorised personnel

International Transfers:

We may share data about you outside the UK for research related purposes to share anonymous test data with Sysmex Astrego, the company that developed the PA-100 test and are based outside of the UK.

If this happens, we will only share the data that is needed. We will also make sure you can't be identified from the data that is shared where possible. This may not be possible under certain circumstances – for instance, if you have a rare illness, it may still be possible to identify you. If your data is shared outside the UK, it will be with the following sorts of organisations: commercial organisation.

We will make sure your data is protected. Anyone who accesses your data outside the UK must do what we tell them so that your data has a similar level of protection as it does under UK law. We will make sure your data is safe outside the UK by doing the following:

- (Some of) the countries your data will be shared with have an adequacy decision in place. This means that we know their laws offer a similar level of protection to data protection laws in the UK
- we use specific contracts approved for use in the UK which give personal data the same level of protection it has in the UK. For further details https://ico.org.uk/for-organisations/uk-gdpr-guidance-and-resources/international-transfers/
- we do not allow those who access your data outside the UK to use it for anything other than what our written contract with them says
- we need other organisations to have appropriate security measures to protect your data which are consistent with the data security and confidentiality obligations we have. This includes having appropriate measures to protect your data against accidental loss and unauthorised access, use, changes or sharing
- We have procedures in place to deal with any suspected personal data breach. We will tell you and applicable regulators when there has been a breach of your personal data when we legally have to. For further details about UK breach reporting rules https://ico.org.uk/for-organisations/report-a-breach.

Once we have finished the study, we will keep some of the data so we can check the results. We will write our reports in a way that no-one can work out that you took part in a study.

After the study ends, the retention period (this means the length of time we keep your data for) will begin and we will keep your data for a minimum of 25 years in line with the Clinical Trials Regulations. Once the retention period has finished, the study data will be kept in a way that does not identify you.

What are your choices about how your information is used?

You can stop being part of the study at any time, without giving a reason, but we will keep information about you that we already have. You have the right to ask us to remove, change or delete data we hold about you for the purposes of the study. We might not always be able to do this if it means we cannot use your data to do the research. If so, we will tell you why we cannot do this.

If you choose to stop taking part in the study, we would like to continue collecting information about your health from your GP. If you do not want this to happen, tell us and we will stop.

You can find out more about how we use your information, including the specific mechanism used by us when transferring your personal data out of the UK by:

- asking one of the research team **[**evolution@phc.ox.ac.uk**]**
- sending an email to **[**evolution@phc.ox.ac.uk**]**
- calling us on **[**01865 289 789**]**
- contacting the University's Data Protection Officer data.protection@admin.ox.ac.uk
- looking at the University's privacy notice available at: https://compliance.admin.ox.ac.uk/research-data.

If you would like to find out more about the use of confidential data in research, the HRA has developed a general information leaflet which is available at: https://www.hra.nhs.uk/planning-and-improving-research/policies-standards-legislation/data-protection-and-information-governance/gdpr-guidance/templates/template-wording-for-generic-information-document/.

What will happen if I don't want to carry on with the study?

You can stop taking part at any time without giving a reason. This won't affect your care. If you wish to withdraw, please contact the study team immediately using the details below. You do not have to explain why you want to stop. However, we would appreciate hearing why you no longer wish to take part as this will help us to improve for future research.

If you were to lose your capacity (ability to give permission) during the study, we will use information and samples you have already provided but we will not collect anything further.

What will happen to the results of this study?

A report of the study results will be completed for the funding body (see below for details). Results will also be published in scientific journals, presented at scientific conferences, and published on the Oxford University departmental website: https://www.phc.ox.ac.uk/ It will not be possible to identify you in any report, publication or presentation.

If you would like to receive copies of any publications that arise from this study, please contact the study team.

What if there is a problem?

If you wish to complain about any aspect of the way in which you have been approached or treated, or how your information is handled during the course of this study, you should contact the study team on evolution@phc.ox.ac.uk or 01865 289 789. You may contact the University of Oxford Research Governance Ethics and Assurance (RGEA) office email rgea.complaints@admin.ox.ac.uk.

The investigators recognise the important contribution that volunteers make to medical research, and will make every effort to ensure your safety and wellbeing. The University of Oxford, as the research sponsor, has appropriate insurance in place in the unlikely event that you suffer any harm as a direct consequence of your taking part in this study.

If something goes wrong, you are harmed during the research, and this is due to someone's negligence, then you may have grounds for a legal action for compensation. While the Sponsor will cooperate with any claim, you may wish to seek independent legal advice to ensure that you are properly represented in pursuing any complaint. The study doctor can advise you of further clinical action and refer you to a doctor within the NHS for treatment, if necessary. NHS indemnity operates in respect of the clinical treatment provided.

The Patient Advisory Liaison Service (PALS) is a confidential NHS service that can provide you with support for any complaints or queries you may have regarding the care you receive as an NHS patient. PALS is unable to provide information about this research study. If you wish to contact the PALS team please contact your local PALS service.

How have patients and the public been involved in this study?

Patients helped shape this study by contributing to research discussions and providing feedback on the study design and this information sheet. For more general information about taking part in research, visit:

https://www.nihr.ac.uk/patients-carers-and-the-public/i-want-to-take-part-in-a-study.htm

Who is organising and funding the study?

The study is being funded by the National Institute for Health and Care Research Health Technology Assessment Programme. The trial is being run by the Primary Care Clinical Trials Unit, Nuffield Department of Primary Care Health Sciences, University of Oxford.

Who has reviewed the study?

All research in the NHS is looked at by an independent group of people, called a Research Ethics Committee, to protect participants' interests. This study has been reviewed and given favourable opinion by West Midlands – Solihull, Research Ethics Committee.

Further information and contact details:

Please contact the study team using the following contact details:

Email: evolution@phc.ox.ac.uk

Telephone: 01865 289 789

Thank you for considering taking part.