

# Exploring antibiotic prescribing in acute respiratory infection

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<b>Registration date</b> 10/07/2025	<b>Overall study status</b> Ongoing	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
<b>Last Edited</b> 10/07/2025	<b>Condition category</b> Infections and Infestations	<input type="checkbox"/> Individual participant data <input checked="" type="checkbox"/> Record updated in last year

## Plain English summary of protocol

### Background and study aims

Many patients come to the hospital with infections of their respiratory tract. Although most are caused by viruses, patients are often given antibiotics. Antibiotics do not work to treat viruses, and overuse of antibiotics can be harmful to patients and can also lead to antimicrobial resistance (where antibiotics stop being effective). Antimicrobial resistance is a serious threat to public health, and measures to prevent it are now a priority for the UK government and the NIHR. Understanding why prescribers choose to give antibiotics and what features would help new tests tell the difference between viral and bacterial infections can help design better trials in the future.

This study will evaluate prescribers' views on what influences their decisions to prescribe antibiotics or not in patients presenting to the hospital with suspected respiratory infection. Additionally, this study will explore which characteristics of a theoretical new diagnostic test that could differentiate between viral and bacterial infection would be of greatest value in assisting with antibiotic prescribing decisions.

### Who can participate?

Adult secondary care prescribers working in the Emergency Department (ED)/Acute Medical Unit (AMU)/Respiratory Medicine/Infectious Diseases/Elderly Care/General Medicine at University Hospital Southampton/Queen Alexander Hospital/Hampshire Hospitals Foundation Trust.

### What does the study involve?

The research team will undertake focus groups with Doctors and prescribing Nurse practitioners and prescribing Advanced Care Practitioners from a range of different specialities across and levels of experience at University Hospital Southampton. This is to better understand what factors they believe influence their antibiotic prescribing decisions. They will also investigate which characteristic of a new diagnostic test to distinguish bacterial from viral infection they would consider important. Subsequently, these data will be used to create a questionnaire to survey, in detail, a large number of NHS Doctors and prescribing Nurse Practitioners and Advanced Care Practitioners across the UK. Responses will be sought from any clinician who assesses adults who present to the hospital with suspected respiratory tract infection. This

survey aims to further characterise the factors that influence their prescribing decisions, and which characteristics are important to them in new diagnostic tests.

What are the possible benefits and risks of participating?

The benefits of taking part in this study would include helping to generate new knowledge, which will influence the design of future clinical trials and hopefully limit the impact of antimicrobial resistance.

Although this is considered a very low-risk study to be a part of, no research is without risks. One risk would include the impact it will have on your clinical working day through the time taken to participate in the focus group or complete the questionnaire.

Where is the study run from?

University Hospital Southampton, UK

Who is funding the study?

University Hospital Southampton NHS Trust, UK

Who is the main contact?

Dr Alex Tanner, alex.tanner@uhs.nhs.uk

## Contact information

### Type(s)

Public, Scientific, Principal Investigator

### Contact name

Dr Alex Tanner

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## Additional identifiers

### EudraCT/CTIS number

Nil known

### IRAS number

359861

### ClinicalTrials.gov number

Nil known

### Secondary identifying numbers

RHM MED 2107

# Study information

## Scientific Title

Exploring factors associated with antimicrobial prescribing in adults with acute respiratory infection (ARI) amongst UK secondary care prescribers and the potential utility of host response testing to improve use: a questionnaire-based survey

## Study objectives

1. Explore factors associated with prescribing antibiotics in adult patients presenting to the ED with ARI where viruses are detected
2. Explore the opinions of secondary care prescribers on the importance of different characteristics of a theoretical host response in vitro diagnostic test
3. Explore the potential utility of host response testing to influence antibiotic prescribing decisions in adults presenting to the ED with ARI, where viruses are detected

## Ethics approval required

Ethics approval required

## Ethics approval(s)

1. Approved 30/06/2025, Health Research Authority (2 Redman Place, London, E20 1JQ, United Kingdom; +44 (0)2071048000; approvals@hra.nhs.uk), ref: 25/HRA/2717
2. Approved 30/06/2025, Research Integrity and Governance team (Southampton University, University Road, Southampton, SO16 1BJ, United Kingdom; +44(0)2380595000; ergo2@soton.ac.uk), ref: 106697

## Study design

Mixed methods cross-sectional questionnaire-based survey

## Primary study design

Observational

## Secondary study design

Cross sectional study

## Study setting(s)

Hospital, Internet/virtual

## Study type(s)

Other

## Participant information sheet

Not available in web format, please use contact details to request a participant information sheet

## Health condition(s) or problem(s) studied

Acute respiratory infection, antibiotic prescribing

## Interventions

This study aims to explore factors associated with antibiotic prescribing by secondary care prescribers in adult patients with acute respiratory illness (ARI), in whom viruses are detected. Also, to investigate the potential of novel host response test results to influence prescribing. This will be achieved through a mixed-methods model. To help inform the design of the cross-sectional questionnaire, focus group interviews will be conducted with key stake holder groups (Medical Consultants, Registrars, Resident Doctors and prescribing Nurse Practitioners and Advanced Care Practitioners) at UHS who work in Acute medicine, Emergency medicine, Infectious diseases, Elderly care, General medicine and Respiratory medicine, to understand what factors they consider important when making antibiotics prescribing decisions in a patient with ARI who have a viral pathogen detected. The study will also determine which characteristics of new host response tests they would consider most important in assisting with these decisions. The focus groups, of a maximum size of four, will be led by one of the study team, and participants will be invited through a group email sent through the trust's HR department. Purposive sampling will be performed by screening basic demographic data (seniority, ethnicity and speciality) of those who express interest. The focus group will be performed, and audio recorded virtually on MS Teams. Within the transcript, participants' identities will be kept confidential, but their seniority, ethnicity and medical speciality will be noted. Analysis will take place using reflective thematic analysis, and will include: reading and familiarisation of the transcripts, noting and recording initial themes and then conducting systematic and detailed open coding using ethnographic research software. Focus group data collection will stop once the information power has been reached.

After thematic analysis from the focus groups, a detailed literature search will inform the options participants can select when answering the questionnaire on factors which influence antibiotic prescribing habits in ARI and desirable characteristics of host response tests. The questionnaire will be designed on an easy-to-use and accessible online platform called SurveyMonkey™. The questionnaire will be piloted at UHS after development to ensure usability and validity, and may be potentially modified depending on feedback. The method for piloting will include sending out 5-20 questionnaires locally at UHS to the relevant departments of interest, with the answers being reviewed to ensure usability, and participants will be invited to email their feedback on the survey to the study team. Once it has been finalised after piloting, it will then be emailed to Doctors and prescribing Nurse Practitioners and Advanced Care Practitioners working in the Emergency department, Acute medicine, Respiratory medicine, Infectious diseases, Geriatric medicine, General medicine through HR departments of trusts locally (UHS, Hampshire Hospital NHS Foundation Trust, Queen Alexander Hospital).

## **Intervention Type**

Not Specified

## **Primary outcome measure**

Factors associated with antibiotic use in adults presenting to the ED with ARI where viruses are detected will be measured using data collected during focus groups and from questionnaires. The factors will be described and ranked. The detailed reasons underpinning these factors will be explored through thematic analysis.

## **Secondary outcome measures**

1. A list of the desirable characteristics of a new theoretical host response diagnostic test will be described and ranked, measured using data collected during focus groups and from questionnaires. Additionally, the detailed reasons underpinning these factors will be explored through thematic analysis.
2. The impact on antibiotic use of a theoretical host response test in adults presenting to

hospitals with ARI, who have tested positive for viral respiratory pathogens, will be described using data collected from a questionnaire containing case vignettes covering a range of clinical scenarios. The detailed reasons underpinning any change in prescribing behaviours following host-response testing being available will be identified using thematic analysis.

**Overall study start date**

03/03/2025

**Completion date**

01/07/2027

## Eligibility

**Key inclusion criteria**

Qualified prescribing Medical Doctor, Nurse practitioner or Advanced Care Practitioner, working within secondary care in the NHS, whose primary patients are  $\geq 18$  years of age

1. Participants must regularly assess patients presenting to the hospital with ARI
2. Participants must work in the following specialities: Emergency medicine, Acute medicine, Respiratory medicine, Geriatric medicine, Infectious diseases, General medicine

**Participant type(s)**

Health professional

**Age group**

Adult

**Lower age limit**

18 Years

**Upper age limit**

100 Years

**Sex**

Both

**Target number of participants**

100-200

**Key exclusion criteria**

Not meeting the inclusion criteria

**Date of first enrolment**

02/07/2025

**Date of final enrolment**

01/07/2026

## Locations

**Countries of recruitment**

England

United Kingdom

**Study participating centre**

**University Hospital Southampton NHS Foundation Trust**

Southampton General Hospital

Tremona Road

Southampton

United Kingdom

SO16 6YD

**Study participating centre**

**Hampshire Hospitals NHS Foundation Trust**

Basingstoke and North Hampshire Hos

Aldermaston Road

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**Study participating centre**

**Portsmouth Hospitals University NHS Trust**

Queen Alexandra Hospital

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## **Sponsor information**

**Organisation**

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**Sponsor type**

Hospital/treatment centre

**Website**

<https://www.uhs.nhs.uk/>

**ROR**

<https://ror.org/0485axj58>

## Funder(s)

**Funder type**

Hospital/treatment centre

**Funder Name**

University Hospital Southampton NHS Foundation Trust

**Alternative Name(s)****Funding Body Type**

Government organisation

**Funding Body Subtype**

Local government

**Location**

United Kingdom

## Results and Publications

**Publication and dissemination plan**

Planned publication in a peer-reviewed journal

**Intention to publish date**

01/07/2028

**Individual participant data (IPD) sharing plan**

The datasets generated during and/or analysed during the current study are not expected to be made available

**IPD sharing plan summary**

Not expected to be made available

**Study outputs**

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
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<a href="#">Participant information sheet</a>	version 1.1	26/06/2025	10/07/2025	No	Yes
<a href="#">Participant information sheet</a>	version 1.1	26/06/2025	10/07/2025	No	Yes
<a href="#">Protocol file</a>	version 1.0	17/06/2025	10/07/2025	No	No