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Exploring antibiotic prescribing in acute respiratory infection

Submission date
09/07/2025

Recruitment status
Recruiting

Registration date
10/07/2025

Overall study status
Ongoing

Last Edited
10/07/2025

Condition category
Infections and Infestations

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

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Additional identifiers

Clinical Trials Information System (CTIS)
Nil known

Integrated Research Application System (IRAS)
359861

ClinicalTrials.gov (NCT)
Nil known

Protocol serial number
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

Study type(s)
Other

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(s)
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.

Key secondary outcome(s))
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.

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 ≥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

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
18 years

Upper age limit
100 years

Sex
All

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
United Kingdom

England

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
Basingstoke
United Kingdom
RG24 9NA

Study participating centre
Portsmouth Hospitals University NHS Trust
Queen Alexandra Hospital
Southwick Hill Road
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PO6 3LY

Sponsor information

Organisation
University Hospital Southampton NHS Foundation Trust

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

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?
Participant information sheet	version 1.1	26/06/2025	10/07/2025	No	Yes
Participant information sheet	version 1.1	26/06/2025	10/07/2025	No	Yes
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes
Protocol file	version 1.0	17/06/2025	10/07/2025	No	No