

Grin

General Practice Research on Infections Network

Dublin 2026



ABSTRACTS



Camden Court Hotel



25 - 26 Sept, 2026



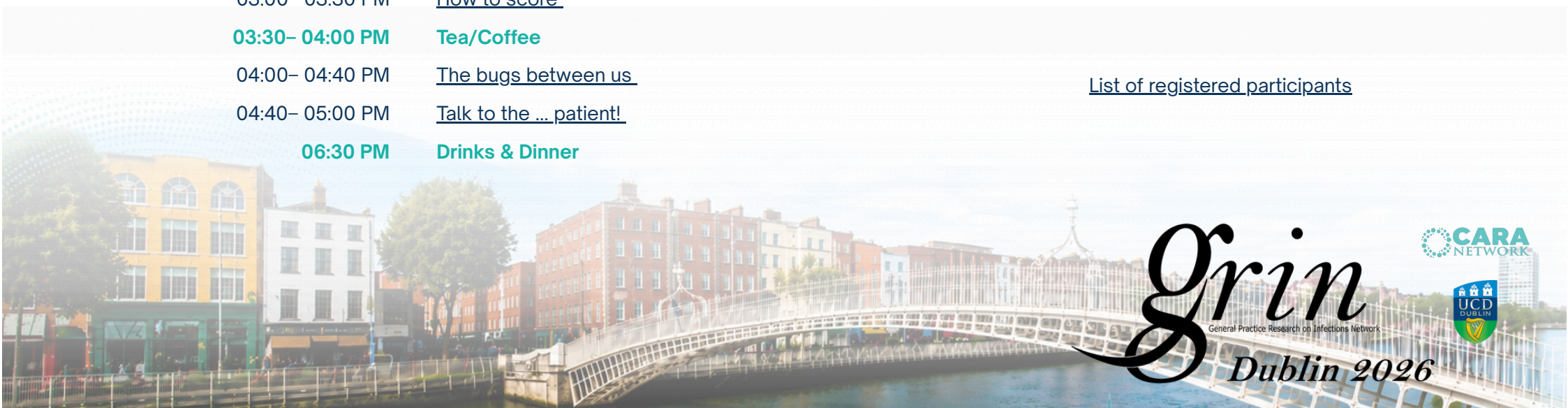
PROGRAMME

Friday 25th

08:30 – 09:00 AM	Registration & Coffee/Tea
09:00– 09:15 AM	Welcome & Introduction
09:15 – 10:20 AM	<u>About Children</u>
10:20 – 10:50 AM	<u>Allsorts</u>
10:50 – 11:25 AM	Tea/Coffee
11:25 AM – 12:15 PM	<u>Register me</u>
12:20 – 01:00 PM	<u>Proper trials</u>
01:00 – 02:00 PM	Lunch
02:00 – 03:00 PM	<u>Keynote - From Data to Difference</u>
03:00– 03:30 PM	<u>How to score</u>
03:30– 04:00 PM	Tea/Coffee
04:00– 04:40 PM	<u>The bugs between us</u>
04:40– 05:00 PM	<u>Talk to the ...patient!</u>
06:30 PM	Drinks & Dinner

Saturday 26th

08:45– 09:00 AM	Tea/Coffee
09:00– 09:55 AM	<u>Will we ever learn?</u>
10:00 – 10:40 AM	<u>Much ado about POCT</u>
10:40 – 11:10 AM	Tea/Coffee
11:10 AM – 11:55 PM	<u>In search of stewardship</u>
11:55 AM – 12:00 PM	<u>Research Idea</u>
12:00 – 12:30 PM	Closing
12:30 – 01:00 PM	Lunch (Take away)
	<u>Workshop be ready</u>
	<u>List of registered participants</u>



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25 - 26 Sept, 2026



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About Children

Chair: Alastair Hay, University of Bristol

9:15 AM

The relationship between a doctor's sick certificate and antibiotic prescribing in children presenting with acute infection in Flemish general practice (2018-2024): an observational cohort study

Oliver Van Hecke, Ghent University, Belgium

9:25 AM

Development of a CLinical tool to Aid identification of Serious Infections in Children in primary care: CLASSIC

Nicola Reeve, Cardiff University, United Kingdom

9:35 AM

Exploring shared decision making for acute cough management in children: Qualitative study informing the development of an intervention to support management discussions with parents

Ming Xuan Lee, UK Health Security Agency, United Kingdom

9:45 AM

Immediate antibiotic switches in children

Olof Cronberg, Lund University, Sweden

9:50 AM

Association Between Antibiotic Prescribing and Follow-Up Visits in Children: A Secondary Analysis of the ARON trial

Ruben Burvenich, KU Leuven, Belgium

10:00 AM

Predicting the impact of RSV immunisation on antibiotic use and resistance: a modelling and cost-effectiveness analysis for England

Ceire Costelloe, Imperial College London, United Kingdom

10:10 AM

Patient characteristics and healthcare contacts prior to invasive Group A streptococcal infection (iGAS) – a nationwide retrospective study

Marcus Lagebrant, Linköping University, Sweden

09:15 AM

The relationship between a doctor's sick certificate and antibiotic prescribing in children presenting with acute infection in Flemish general practice (2018-2024): an observational cohort study

Authors: Oliver Van Hecke; Elizaveta Fomenko; Veerle Piessens; Stefan Heytens; Jan Verbakel; Bert Vaes

Oral Presentation

Presenter:
Oliver Van Hecke, Ghent University, Belgium

Rationale

General practitioners (GPs) play a key role in sickness certification, but evidence in school-aged children is limited. Across Europe, requirements vary from parental self-certification to mandatory medical certificates for acute illness. In Flanders (Belgium), strict criteria apply requiring caregivers to present early to the GP after three days of illness. However, most childhood infections are mild and self-limiting. Mandatory certification may thus increase antibiotic prescribing in this subpopulation.

Objective

To assess whether issuing a doctor's sick certificate for an acute infection in school-aged children is associated with increased antibiotic prescribing

Design

Observational cohort study using Intego database data. Included children aged 4–12 years consulting for acute infections (ICD-10 defined) during 2018-2024. Exposure is the issuance of a sick certificate related to an acute infection consultation. Outcome is the proportion of antibiotic prescriptions associated with an acute infection episode. Adjusted odds ratios (95% CI) will be estimated using multilevel mixed-effects logistic regression, correcting for covariates (age, sex, rurality, season, school holidays, illness type, comorbidity, vaccination status, reimbursement status, and baseline consultation rate).

Results

Analyses are ongoing and expected by September 2026.

Discussion

Requiring a sick certificate after three days of illness may contribute to increased antibiotic prescribing in Belgian primary care. If confirmed, this would suggest the current legal requirements for sick certification in school-going children influence prescribing behaviour and may drive unnecessary antibiotic use. However, if the hypothesis is not proven, it would indicate that certification rules do not affect prescribing practices in this paediatric population.



09:25 AM

Development of a CLinical tool to Aid identification of SeriouS Infections in Children in primary care: CLASSIC

Authors: Nicola F. Reeve; Rebecca Cannings-John; Kate Lifford; Kathryn Hughes

Oral Presentation

Presenter:
Nicola Reeve, Cardiff University, UK

Rationale

Identifying which acutely unwell children attending General Practice have serious infections needing hospital assessment, and which can be safely managed at home can be difficult. Our previous work has found that clinical tools recommended in UK national guidance (NICE Traffic Light System; National PEWS) are not fit for use in UK General Practice. A tool developed from within the General Practice setting is urgently needed.

Objective

This study aims to identify or develop an accurate clinical tool to help primary care clinicians to identify which ill children (<5 years old) have serious infections and need to go to hospital.

Design

We are using an existing dataset of 6,703 acutely unwell children aged <5 years recruited from General Practices in England and Wales with symptoms, examination findings, urinalysis and hospital admission data. We will firstly validate an existing clinical tool – a decision tree developed by Ann Van den Bruel (PMID: 17727746). Secondly, we will develop and explore performance of a new tool.

Results

Results for the validation work will be completed by the time of the conference. Early work on development of the new tool will also be presented.

Discussion

In addition to discussing results from the validation work, we would like to discuss key issues around the development of the new tool including outcome definitions (diagnostic codes, timing of hospital admission, length of hospital admission); handling of key variables (e.g. heart rate, respiratory rate, temperature and age); and addition of urinalysis.



09:35 AM

Exploring shared decision making for acute cough management in children: Qualitative study informing the development of an intervention to support management discussions with parents

Authors: Ming Xuan Lee; Catherine V Hayes; Alexandra Bettell; Emily Cooper; Monsey McLeod; Sanjay Patel; Fiona Marshall; Conor Jamieson; Gillian Damant; Kieran Hand; Donna M Lecky

Background:

High rates of antibiotic prescribing for children in primary care in England are concerning due to increased risk of antimicrobial resistance and adverse outcomes. Antibiotics dispensed in primary care are commonly prescribed for acute respiratory tract infections, with 22.7% attributed to acute cough.

Objectives:

To explore management of acute coughs in children under 10 years, examine perceptions toward shared decision-making in primary care, and develop an intervention to support discussions with parents.

Methods:

Three rounds of semi-structured focus groups were conducted with 36 parents and 21 healthcare professionals (HCPs). An intervention was iteratively developed with participant feedback. Data were analysed thematically.

Results:

Parents consulted general practice when symptoms worsened despite self-care. They found the intervention helpful in enabling participation during discussions. However, some parents felt antibiotic decisions should be made by HCPs. HCPs agreed the prescribing decision is not fully “shared”, but information, symptom interpretation, and discussions encourage parent support of recommendations. Consequently, the tool was framed to facilitate informed discussions, not prompt parental decision on antibiotics. HCPs reflected that clinical uncertainty, perceived patient expectations, prior experience, and time constraints influenced prescribing. They identified areas where the tool could enhance communication. Safety netting strategies like back-up antibiotic prescriptions and follow-up appointments were used to manage uncertainty and address parental concerns. A final four-page tool, in paper and digital formats, was developed.

Conclusion:

Management of acute cough highlights opportunities to empower parents and support antimicrobial stewardship. The developed intervention may improve communication between parents and HCPs and optimise antibiotic use.

Oral Presentation

Presenter:

Ming Xuan Lee, UK Health Security Agency, UK



09:45 AM

Immediate antibiotic switches in children

Authors: Olof Cronberg; Louise Arntsberg

Pitch Presentation

Presenter:
Olof Cronberg, Lund University, Sweden

Rationale

When studying antibiotic treatment failure in children, antibiotic switch is a common outcome. These switches could have reasons other than strict antibiotic treatment failure; for example, the child may refuse medication due to taste, dosage form or side effects. Examining the proportion of switches in dosage form or antibiotic during the first three days could indicate how common these immediate switches are.

Objective

The aim is to study the proportion of switches in dosage form and antibiotic group among children < 5 years and to compare antibiotic groups for differences.

Design

Dispensed antibiotic prescriptions during 2018-2024 in four regions in Sweden, with an average population of 131,000 children, were studied. The proportion of switches in dosage form or antibiotic groups on days 0-2 was analysed. Adjusted odds ratios for switches by antibiotic group were estimated using logistic regression.

Preliminary results

During the seven years, 272,457 antibiotic prescriptions were dispensed. Oral mixture was dominant (93% of antibiotic prescriptions). Switch within three days in dosage form or antibiotic occurred in 10,078 cases (3.7%). Switch of dosage form occurred in 3,113 cases (1.1%). Switches were more common with tablets than with oral mixtures. Comparison between antibiotic groups will be presented.

Discussion

Generally, a low frequency of immediate antibiotic switches during the first days of antibiotic treatment in children. Still, if there is a difference between antibiotics early during the treatment course, it may be explained by patient preferences or side effects rather than treatment failures due to a lack of antibiotic effect.



09:50 AM

Association Between Antibiotic Prescribing and Follow-Up Visits in Children: A Secondary Analysis of the ARON trial

Authors: Ruben Burvenich; Maud Lenaerts; Tine De Burghgraeve; Jan Yvan Verbakel

Rationale:

Antibiotic overuse in primary care contributes to antimicrobial resistance. However, its relationship with subsequent healthcare use remains less clear.

Objective:

To examine whether index antibiotic prescribing is associated with reduced follow-up visits or improved clinical outcomes in acutely ill children.

Design:

Secondary observational analysis of prospectively collected data from the control group of the Belgian ARON trial. Acutely ill children aged 6 months to 12 years were compared according to index antibiotic prescribing (immediate or delayed) versus no prescription. The primary outcome: follow-up visit within 30 days. Secondary outcomes: number/timing of follow-up visits, illness duration, full clinical recovery, additional diagnostic investigations, antibiotic prescribing during follow-up, hospital referral, hospital admission, and death. Analyses used mixed-effects regression models adjusted for age and clustering within practices.

Results:

Of 3,762 children, 817 (22%) received an antibiotic prescription. Follow-up within 30 days occurred in 27% of children prescribed antibiotics and 25% of those not prescribed antibiotics (aOR 1.03, 95% CI 0.85–1.24). There were no significant differences in follow-up frequency, time to follow-up, or other clinical outcomes. Subgroup analyses were consistent, although delayed prescribing was associated with higher odds of antibiotic prescribing during follow-up (aOR 1.57, 95% CI 1.09–2.25).

Discussion:

Antibiotic prescribing at the index visit did not reduce healthcare utilisation or improve clinical outcomes. These findings challenge the assumption that antibiotics prevent reconsultations and reinforce that routine prescribing offers no measurable clinical or healthcare-utilisation benefit in this population. Reducing unnecessary antibiotic use should therefore remain a priority in primary care antimicrobial stewardship.

Oral Presentation

Presenter:

Ruben Burvenich, KU Leuven, Belgium



10:00 AM**Predicting the impact of RSV immunisation on antibiotic use and resistance: a modelling and cost-effectiveness analysis for England****Authors:** Ceire Costelloe, Lucy Miller, Koen Powells, Julie Robotham

Antimicrobial resistance (AMR) is a major threat to public health and the economy, associated with substantial morbidity, mortality, and costs. Reducing antibiotic use is central to national AMR strategies. In England, the national action plan has set a 2029 target to reduce human antibiotic use by 5% from a 2019 baseline.

Respiratory syncytial virus (RSV) is a prominent cause of viral respiratory tract infection, as well as causing secondary bacterial infections. In England, RSV is estimated to account for around 2·1% of primary care antibiotic use, with the greatest burden among older adults. There is also emerging evidence that a substantial proportion of RSV secondary care attendances are associated with antibiotic prescribing.

In this study, we evaluated the population-level impact of seven hypothetical RSV immunisation strategies in England on antibiotic use, AMR, and cost-effectiveness. We combined a dynamic transmission model with a cost-effectiveness analysis incorporating a clinical pathway linking reductions in extended-spectrum penicillin use in primary care to resistant urinary tract infections (UTIs) in the community. We estimated the impact of RSV immunisation programmes on antibiotic use and AMR at the population level and assessed whether including these effects materially changes their cost-effectiveness.

Oral Presentation**Presenter:**
Ceire Costelloe, Imperial College London, UK

10:10 AM

Patient characteristics and healthcare contacts prior to invasive Group A streptococcal infection (iGAS) – a nationwide retrospective study

Authors: Marcus Lagebrant; Olov Aspevall; Eva Melander; Anna Moberg; Barbro Mäkitalo; Jon Pallon; Magnus Rasmussen; Mia Tyrstrup; Thomas Tängdén; Katarina Hedin

Rationale:

The incidence of invasive Group A streptococcal infections (iGAS) has increased in European countries following the Covid-19 pandemic. The reasons for the surge are not sufficiently understood. The number of patients presenting with infectious symptoms at healthcare facilities as well as the proportion treated with antibiotics prior to hospitalisation due to iGAS is scarcely described.

Objective:

To describe infectious symptoms, healthcare contacts, and antibiotic use in children and adults two weeks prior to hospital admission due to iGAS.

Design:

A nationwide retrospective cohort study including cases of iGAS, in both children and adults, reported to the Public Health Agency of Sweden during 2023–2024. Clinical data including comorbidities, immunosuppressive and antibiotic treatments, symptoms, and healthcare contacts prior to iGAS, will be extracted from patient medical records and linked to the reported cases in the cohort.

Results:

2023–2024, 2690 cases of iGAS were reported and 2051 met the case definition. For children the median age was 5 years and for adults 65 years. The mortality rate was 4 % in children and 10 % in adults. Data extraction from the Swedish health care regions is ongoing and preliminary results regarding comorbidities, antibiotic treatment, symptoms etc. will be presented during the GRIN-conference.

Discussion:

The study is crucial for the understanding of symptoms and health care seeking behaviour that precedes iGAS. This national cohort will provide more robust findings than earlier smaller studies. This knowledge may facilitate earlier recognition of iGAS in primary care settings and contribute to valuable evidence for the development of clinical guidelines.

Oral Presentation

Presenter:

Marcus Lagebrant, Linköping University, Sweden



Allsorts

Chair: Nick Francis, University of Southampton

10:20 AM

The global prevalence and experiences of antibiotic access from private primary care services: a mixed-method systematic review

Hao Huang, University of Oxford, United Kingdom

10:25 AM

International air travellers' importation of antibiotics

Anna Moberg, Linköping University, Sweden

10:35 AM

Knowing When We Do Not Know: Uncertainty Recognition as a Missing Dimension in AI-Assisted Antimicrobial Stewardship

Carl Wikberg, University of Gothenburg, Sweden

10:40 AM

Home-Based Management of Hypoxemic Patients with Community-Acquired Acute Respiratory Tract Infections: A Complex Intervention Study with an Embedded Randomised Controlled Trial (HOME-ART trial)

Thomas van Vliet, University Medical Center Utrecht, Netherlands

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10:20 AM

The global prevalence and experiences of antibiotic access from private primary care services: a mixed-method systematic review

Pitch Presentation

Presenter:
Hao Huang, University of Oxford, UK

Authors: Hao Huang, Nuffield Department of Primary Care Health Sciences, University of Oxford, UK; Colin Brown, UK Health Security Agency, London, UK; Diane Ashiru-Oredope, UK Health Security Agency, London, UK; Gail Hayward, Nuffield Department of Primary Care Health Sciences, University of Oxford, UK; Sarah Tonkin-Crine, Nuffield Department of Primary Care Health Sciences, University of Oxford, UK

Rationale

Antibiotic use in primary care accounts for the majority of global antibiotic consumption, 57.6% of which being inappropriate, contributing to antimicrobial resistance (AMR). Continuous antimicrobial stewardship efforts are needed. Private-sector primary care plays an important but highly heterogeneous role in antibiotic prescription worldwide; antibiotic prescribing patterns and patient and prescriber experiences vary across nations. Currently, no review has synthesised global evidence on antibiotic access through private primary care.

Objective

To synthesise quantitative and qualitative evidence on antibiotic access in private primary care globally, including rates of antibiotic prescribing and use, factors influencing access, and the experiences of patients and prescribers.

Design

We are conducting a mixed-methods systematic review. The population includes individuals consulting for infections listed in the WHO AWaRe Antibiotic Book that may result in antibiotic treatment, and the prescribers providing care for them. The setting is private primary care services, excluding hospital-affiliated emergency departments. Where available, outcomes will be compared with public-sector primary care. Quantitative outcomes include antibiotic prescribing and use in the private sector; qualitative outcomes include patient and prescriber experiences of private healthcare services and antibiotic treatment. We searched MEDLINE, Embase, Global Health, Scopus, and CINAHL, identifying 2,663 records for title and abstract screening. Quantitative and qualitative findings will be synthesised separately and integrated where appropriate.

Discussion:

This review is part of a DPhil project examining antibiotic access through private healthcare in England. The findings will identify evidence gaps, improve understanding of private-sector antibiotic access globally, and inform future antimicrobial stewardship policy and research.

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10:25 AM

International air travellers' importation of antibiotics

Authors: Cecilia Lenander; Amelie Persson; Hajer Al Hassani; Katarina Hedin; Sigurd Høye; Siri Jensen; Pär-Daniel Sundvall; Sofia Sundvall; Anna Moberg

Rationale

Antimicrobial resistance is a major concern, driven by antibiotic use. Surveillance of antibiotic prescriptions is an important component of antibiotic stewardship. Within defined limits it is permitted to bring medicines, including antibiotics, for personal use into Sweden and Norway. However, antibiotics imported by air travellers are not captured in routine surveillance, and both their volume and AWaRe (Access, Watch, Reserve) classification remain unknown.

Objective:

To quantify antibiotics detected during routine customs inspections among international air travellers at three international airports over five days, and to describe their AWaRe classification.

Design:

This descriptive observational study was conducted over five weekdays in October 2025. Study personnel recorded antibiotic findings identified in international air travellers selected for routine customs inspections at Arlanda, Landvetter and Gardermoen airports. Oral antibiotics were converted to defined daily doses (DDDs) and categorized according to the AWaRe classification.

Results:

A total of, 137,519 international air travellers arrived during the study period, of whom 0.3% (n=406) were inspected. Antibiotics were found in 14% (n=57) of inspected travellers, corresponding to 643 DDDs. Of these, 61% were classified as "Access", 36% as "Watch" and 2.8% as "Reserve", according to the AWaRe classification.

Discussion:

Antibiotics were detected relatively frequently among inspected air travellers, and a substantial proportion belonged to the "Watch" category. Use of antibiotics without medical guidance may pose health risks and contribute to antimicrobial resistance. These findings suggest a need for public education and possibly stronger regulatory measures.

Oral Presentation

Presenter:

Anna Moberg, Linköping University, Sweden

ALLSORTS

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10:35 AM**Knowing When We Do Not Know: Uncertainty Recognition as a Missing Dimension in AI-Assisted Antimicrobial Stewardship****Authors:** Carl Wikberg**Rationale:**

Antimicrobial resistance (AMR) is often described as a slow-moving pandemic, driven partly by diagnostic uncertainty. In primary care, distinguishing between viral illness, bacterial infection, and emerging severe disease is inherently challenging. Artificial intelligence (AI) is increasingly promoted to improve diagnostic precision and optimise antibiotic prescribing. However, its greatest contribution may not be identifying the correct diagnosis, but recognising situations where neither the clinician nor the AI can be sufficiently certain. Failure to acknowledge uncertainty may contribute to both antibiotic overuse and missed serious infections.

Objective:

To explore how recognition and communication of uncertainty by clinicians and AI systems could strengthen antimicrobial stewardship while maintaining patient safety in primary care.

Design:

Conceptual paper drawing on evidence from antimicrobial stewardship, diagnostic reasoning, cognitive psychology, and artificial intelligence. We propose a framework positioning uncertainty recognition as a core component of safe AI-assisted infectious disease management.

Results:

Current discussions largely focus on whether AI can improve diagnostic accuracy. We argue that an equally important question is whether AI can recognise when available information is insufficient for reliable decision-making. Similar limitations exist in human clinical reasoning, where overconfidence may contribute to both unnecessary antibiotic prescribing and missed serious infections. AI systems capable of recognising uncertainty may support clinicians by identifying atypical presentations, information gaps, and cases requiring reassessment or escalation.

Discussion:

The future value of AI in infectious disease diagnostics may lie less in knowing the answer and more in recognising when nobody yet knows the answer. In an era of increasing AMR, trustworthy AI should help clinicians navigate uncertainty, supporting safer prescribing and earlier detection of severe infections.

Pitch Presentation**Presenter:**

Carl Wikberg, Univeristy of Gothenburg, Sweden



10:40 AM

Home-Based Management of Hypoxemic Patients with Community-Acquired Acute Respiratory Tract Infections: A Complex Intervention Study with an Embedded Randomised Controlled Trial (HOME-ART trial)

Authors: T.M. van Vliet, F.M. de Ruijter, M.J.M. Breteler, F.J. Loots, A. Ahmad, A.C. vd Pol, R.P. Venekamp, F.H. Rutten, L. Schoonhoven, A. Verbon, D. Dekker, B. Sallevelt, G.W.J. Frederix, J.B. Reitsema, D.L.M. Zwart

Rationale

Community-acquired acute respiratory tract infections (CA-ARTI) are a major cause of hospital admission and healthcare utilisation. Population ageing and healthcare workforce shortages challenge the sustainability of hospital-based care. Hospital-at-Home (HaH) models may offer a safe alternative by delivering hospital-level treatment within the patient's home through integrated collaboration between physicians and community care providers.

Objective

To evaluate the feasibility, safety, clinical effectiveness, and cost-effectiveness of the HOME-ART intervention compared with standard hospital care.

Design

HOME-ART is a complex intervention study embedded within a regional healthcare network in the Netherlands. The study has two phases. First, a feasibility study among 10–15 patients from three hospitals will optimise intervention delivery and implementation. Subsequently, a multicentre randomised controlled trial will enrol 252 adults requiring hospital-level treatment for CA-ARTI. The intervention includes oxygen therapy and (intravenous) antibiotics when indicated, and remote monitoring of vital signs. The primary endpoint is days alive and out of hospital within 30 days after randomisation. Secondary outcomes include safety, healthcare utilization, patient autonomy, informal caregiver burden, and cost-effectiveness.

Discussion

HOME-ART will provide evidence on the feasibility of implementing HaH care for CA-ARTI and evaluate its safety and effectiveness compared with hospital treatment. If successful, HOME-ART may provide a scalable HaH program for patients with CA-ARTI, reducing hospital admissions while maintaining safe and effective care. Preliminary results from the feasibility study are anticipated to be available at the time of the conference.

Oral Presentation

Presenter:

Thomas van Vliet, University Medical Center
Utrecht, Netherlands

Register Me

Chair: Haroon Ahmed, Cardiff University

11:25 AM

Personalised REcommenDations for preventIng reCurrent Urinary tract infections and esTimation of pharmacological option effectiveness (PREDICT-rUTI)

Leigh Sanyaolu, Cardiff University, United Kingdom

11:30 AM

The impact of Primary Care on syphilis management in Germany: A mixed-methods study

Alexander Schwager, University Hospital Würzburg, Bavaria, Germany

11:40 AM

Examination of Trends in Scabies Diagnosis, Prescribing and Pharmacy Sales in England

Julia Levy, University of Oxford, United Kingdom

11:50 AM

A descriptive analysis of urinary tract infection-sourced community-onset Escherichia coli bloodstream infection (E. coli UTI-CO-BSI) incidence and antimicrobial resistance (AMR) in England between 2017-2025

Kate Ellis, UK Health Security Agency, United Kingdom

12:00 PM

Variation in outpatient antibiotic prescribing beyond case mix: a nationwide multilevel analysis in Swiss primary care

Andreas Plate, University of Zurich, Switzerland

12:05 PM

Penicillin V as first-line treatment of pneumonia in primary care

Olof Cronberg, Lund University, Sweden

12:10 PM

Antibiotic Treatment Failure as a Stewardship Outcome: Epidemiology, Risk Factors, and Policy Impact in UK Primary Care

Fade Alkhlaileh, KU Leuven, Belgium

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11:25 AM

Personalised REcommenDations for preventing reCurrent Urinary tract infections and esTimation of pharmacological option effectiveness (PREDICT-rUTI)

Authors: Leigh Sanyaolu; Rebecca Cannings-John; Gail Hayward; Haroon Ahmed

Rationale

Recurrent urinary tract infections (rUTIs) affect millions of women globally and are a major driver of repeated antibiotic use, healthcare burden, and antimicrobial resistance. Current management remains largely reactive, with limited tools to support personalised prevention. There is a critical gap in clinically applicable prediction models that identify women at risk of recurrence and guide targeted prevention strategies, particularly those validated across diverse international settings.

Objective

This project (PREDICT-rUTI) aims to develop and externally validate prediction models to support personalised prevention of rUTIs and inform clinical decision-making.

Design

Using linked electronic health records and trial data, three prediction models will be developed to estimate: (1) transition from acute UTI to rUTIs, (2) risk and severity of recurrent infections, and (3) individual response to preventive treatments, including antibiotics, methenamine hippurate, and vaginal oestrogen. Model development will follow best-practice methods, integrating causal inference approaches to estimate treatment effects. External validation is planned using independent datasets, assessing discrimination, calibration, and clinical utility, with subgroup analyses to ensure fairness across populations.

Discussion

This research applies novel methods to enable personalised rUTI prevention and provides a platform for international collaboration. We are seeking international partners with access to comparable datasets to externally validate these models across healthcare systems and different populations, to evaluate generalisability and assess transportability. This collaborative effort aims to advance personalised infection management, reduce unnecessary antibiotic use, and support global antimicrobial stewardship.

Pitch Presentation

Presenter:
Leigh Sanyaolu, Cardiff University, UK

REGISTER ME

11:30 AM**The impact of Primary Care on syphilis management in Germany: A mixed-methods study**

Authors: Alexander Nicolas Schwager; Janina Zirkel; Peter Konstantin Kurotschka; Martin Koch; Philip Oeser; Wolfram Herrmann; Leonore Bovy; Ildikó Gágyor

Rationale

Syphilis incidence has surged in Europe, with annual cases in Germany rising from 6,722 in 2015 to 9,706 in 2025. Unlike other countries with clear STI care pathways like the Netherlands, Germany's STI care is fragmented, lacking standardised structures and clear responsibilities.

Objective

To explore Primary Care's role in syphilis care in Germany.

Design

A mixed-methods approach was used, including (1) a nationwide routine claims data analysis (2015-2023) on syphilis care patterns in Germany, and (2) a questionnaire-based survey of GPs on their experiences with STI care in Lower Franconia and Berlin/Brandenburg.

Routine data analysis used pseudonymized claims data from the Central Institute for Ambulatory Health Care (Zi), identifying outpatient syphilis cases with ICD-10 codes A51 and A53. The 56-item survey assessed GPs' STI care experiences, with qualitative insights from open-ended responses.

Results

Routine claims data showed that GPs diagnose most outpatient syphilis cases, handling 60% of early-stage (A51) cases in 2023, up from 46.5% in 2015. Survey responses revealed GPs' hesitation about STI care, citing (1) perceived patient shame and stigma, (2) feeling unprepared, and (3) assuming patients seek care elsewhere. Quantitative data showed STI consultations are infrequent for most practitioners, with only few cases per year, thus remaining outside routine practice.

Discussion

Despite GPs delivering significant outpatient syphilis care, knowledge gaps and clinical uncertainty persist, indicating that STI care fragmentation is not just structural but also due to deficits in education and training. As these consultations remain infrequent despite increasing incidence, clinicians may not develop sufficient clinical routine with STI management.

Oral Presentation**Presenter:**

Alexander Schwager, University Hospital Würzburg, Germany



11:40 AM

Examination of Trends in Scabies Diagnosis, Prescribing and Pharmacy Sales in England

Oral Presentation

Presenter:
Julia Levy, University of Oxford, UK

Authors: Julia Levy; Amelia Green; Alex Walker; Tess McPherson; Sarah Tonkin-Crine; Gail Hayward

Rationale:

Scabies cases in England have more than doubled since 2021, yet diagnosis and treatment patterns during this rise remain poorly characterised.

Objective:

To contextualise the rise of scabies in England using publicly available General Practice (GP) diagnosis and prescribing data alongside privately sourced pharmacy sales data, to identify trends that inform future research and policy.

Design:

Time series analysis of GP diagnosis codes, NHS prescribing data, and pharmacy sales data (2018-2026).

Results:

GP diagnoses rose from 71,410 in 2021 to 185,110 in 2025. GP prescriptions for scabicides (permethrin, malathion, ivermectin) have also risen. Notably, permethrin prescribing has plateaued whilst ivermectin prescribing - often given as a second-line treatment - has risen since its introduction for scabies in 2023 to account for a quarter of all scabicide prescriptions in 2026. NHS spending on scabicides has quintupled since 2022 with Ivermectin accounting for 90% of spending in 2026. Analysis of pharmacy sales is underway and will be presented at the conference.

Discussion:

Increasing rates of ivermectin prescribing relative to permethrin suggests changing prescribing practices and possibly increasing rates of perceived treatment failure, as ivermectin is often prescribed only following a failed permethrin treatment. This shift is substantially increasing treatment costs, given ivermectin's higher unit cost relative to permethrin.

Pharmacy data will contextualise community treatment of scabies without GP intervention, which represents a previously unexamined population. These findings highlight the need for urgent investigation into treatment failure rates, prescribing practices, and community-managed scabies to inform a coordinated national response.



11:50 AM

A descriptive analysis of urinary tract infection-sourced community-onset Escherichia coli bloodstream infection (E. coli UTI-CO-BSI) incidence and antimicrobial resistance (AMR) in England between 2017-2025

Authors: Kate B. Ellis; Michael Lawton; Colin S. Brown; Russel Hope; Berit Muller-Pebody; Alastair Hay; Ashley Hammond

Bloodstream infections (BSIs) are life-threatening infections that often originate from urinary tract infections (UTIs) with community-onset. Antimicrobial-resistant (AMR) UTIs are associated with an increased risk of progression to BSI due to treatment failure, and AMR-BSIs with higher mortality. However, there is a paucity of evidence of their epidemiology.

To describe how UTI-sourced community-onset E. coli BSI (E. coli UTI-CO-BSI) incidence and AMR vary across time, geography, and patient characteristics, including age, sex, ethnicity, deprivation, and rurality.

Analysis of English diagnostic microbiology data covering 2017-2025. UTI-CO-BSIs are identified using clinician reports, urinary isolate data, and hospital admission diagnostic codes.

Between 2017-2025 there were 362,759 E. coli BSI episodes reported for 324,435 adults in England. 150,974 (41.6%) were identified as UTI-CO-BSIs. Of which, 82,887 (54.9%) were in women and 112,422 (74.5%) in patients aged 65+. Incidence has been increasing since a fall following the COVID-19 pandemic (17,550 in 2017, 14,824 in 2021, 17,771 in 2025). 65,255 (43.2%) episodes had a E. coli urinary isolate recorded in the microbiology data within 2 weeks prior to the BSI, where E. coli UTI resistance tended to be higher than national levels (38.3% vs 29.6% trimethoprim, 3.1% vs 2.2% nitrofurantoin, 10.8% vs 8.4% pivmecillinam, 2.5% vs 2.7% fosfomycin). E. coli UTI-CO-BSI resistance to co-amoxiclav was 42.0%, ciprofloxacin 19.3%, gentamicin 11.8%, ceftazidime or cefotaxime 13.5%, piperacillin with tazobactam 9.8%, and meropenem 0.1%.

Our findings will provide clinicians and policymakers with a comprehensive overview of E. coli UTI-CO-BSIs, identifying populations where antimicrobial stewardship interventions should be prioritised.

Oral Presentation

Presenter:
Kate Ellis, UK Health Security
Agency, UK



12:00 PM

Variation in outpatient antibiotic prescribing beyond case mix: a nationwide multilevel analysis in Swiss primary care

Pitch Presentation

Presenter:
Andreas Plate, University of Zurich, Switzerland

Authors: Andreas Plate; Sereina M. Graber; Sabrina M. Stollberg; Carola A. Huber; Oliver Senn

Rationale:

Variation in outpatient antibiotic prescribing between general practitioners has been reported across healthcare systems, but evidence quantifying residual prescriber-level heterogeneity beyond patient case mix and encounter context remains limited, particularly at national level.

Objective:

To quantify prescriber-level variation in outpatient antibiotic prescribing in Swiss primary care and assess its persistence after adjustment for measurable patient-, encounter-, and provider-level characteristics.

Methods:

We conducted a nationwide retrospective claims-based study of adult outpatient encounters in Swiss general practice in 2023. Multilevel logistic regression models were used to assess antibiotic prescribing while accounting for clustering of encounters within prescribers and adjusting for patient-, encounter-, and provider-level characteristics. Prescribers were primarily defined at practice level, with sensitivity analyses at individual physician level. Residual prescriber-level heterogeneity was quantified using the intraclass correlation coefficient (ICC) and median odds ratio (MOR).

Results:

The final analytic sample included 2.63 million outpatient encounters from 558'751 patients and 3,375 prescribers; 6.4% resulted in an antibiotic prescription. Adjustment for measured patient-, encounter-, and provider-level characteristics reduced between-prescriber variation by approximately one third; however, meaningful residual heterogeneity persisted. In the fully adjusted models, the ICC and MOR were 4.4% and 1.4 at practice level, and 5.2% and 1.5 at physician level.

Discussion:

Adjustment for measurable patient-, encounter-, and provider-level characteristics explained part of the observed prescribing variation; however, meaningful residual heterogeneity persisted across both practice- and physician-level models. These findings suggest that differences in antibiotic prescribing are not solely explained by case mix or practice structure.

REGISTER ME

12:05 PM**Penicillin V as first-line treatment of pneumonia in primary care**

Authors: Olof Cronberg ; Mia Tyrstrup; Anders Beckman; Sara Carlsson; Kim Ekblom; Anna Moberg; Katarina Hedin

Rationale

Penicillin V (PcV) is considered the first-line treatment for community-acquired pneumonia in Scandinavian countries, although data supporting this recommendation are scarce.

Objective

The present study aimed to compare PcV and amoxicillin regarding the risk of treatment failure in children aged >5 years and adults with pneumonia in primary care.

Design

Using data from healthcare registry of four regions in Sweden with 2.3 million inhabitants, we included 34,306 primary care cases of pneumonia from 12 February 2018 to 3 December 2021. Adjusted odds ratios (aORs) and 95% confidence intervals (CIs) for treatment failure days 1–28 (primary composite endpoint: hospitalisation for lower respiratory tract infections [LRTI] or all-cause mortality; secondary endpoint: antibiotic switch) were calculated using logistic regression analysis. A propensity score matched analysis was conducted.

Results

PcV was prescribed in 19,761 cases, amoxicillin in 2363 cases, doxycycline in 9830 cases, and other antibiotics in 2352 cases. Hospitalisation for LRTI or all-cause mortality occurred in 4.9% of cases treated with amoxicillin vs 3.8% of cases treated with PcV (aOR, 1.07; 95% CI, 0.87–1.32). Antibiotic switch occurred in 8.9% cases treated with amoxicillin vs. 14% cases treated with PcV (aOR 0.58; 95% CI, 0.50–0.67). Similar results were seen in the propensity score-matched analyses.

Discussion

No difference was observed in the risk of hospitalisation for LRTI or all-cause mortality when comparing PcV to amoxicillin as pneumonia treatment. Therefore, PcV can continue to be a first-line treatment option in primary care settings with resistance patterns similar to those in Sweden.

Pitch Presentation**Presenter:**

Olof Cronberg, Lund University, Sweden



12:10 PM

Antibiotic Treatment Failure as a Stewardship Outcome: Epidemiology, Risk Factors, and Policy Impact in UK Primary Care

Authors: Fade Alkhlaileh, Annelien Dankaerts, Xinran Wang, Wenxi Peng, Gunther Van der Heijden, Geert Molenberghs, Geert Verbeke, Jan Y Verbakel

Rationale

Antibiotic treatment failure (ATF) is a clinically meaningful antimicrobial stewardship outcome, particularly in primary care where pathogen and antimicrobial susceptibility testing are rarely performed. However, research on ATF on a population-level remain limited. Consequently, the epidemiology of ATF and its key patient-level determinants across infection types in primary care remain poorly understood.

Objective

To describe the epidemiology of ATF across seven infection groups in UK primary care, identify the patient characteristics associated with a higher risk of failure, and examine whether national antimicrobial stewardship policies have influenced ATF over time.

Design

We analyzed 18.6 million antibiotic-treated infection episodes using the CPRD database between 2003 and 2024. We examined variations by patient characteristics, time trends, and shifts following the UK national antimicrobial resistance (AMR) strategy.

Results

Around 1 in 5 antibiotic treatments failed. ATF rate increased from 15% in 2003 to 23% in 2024. Urinary tract infections (UTIs), lower respiratory tract infections (LRTIs), and skin and soft tissue infections had the highest failure rates. Recent antibiotic exposure and multiple comorbidities were one of the strongest predictors of ATF. Risk was highest in infants and adults older than 65 years. The introduction of the UK AMR strategy was associated with improvements in UTI ATF trends.

Discussion

Rising ATF rates highlight an increasing challenge for UK primary care. While UTIs present the highest risk to individual patients, LRTIs impose the greatest healthcare systemic burden. Stewardship initiatives should prioritize patients with recent antibiotic exposure, multiple comorbidities, and those at the extremes of age.

Pitch Presentation

Presenter:
Fade Alkhlaileh, KU Leuven, Belgium

REGISTER ME

4

Proper Trials

Chair: Gail Hayward, University of Oxford

12:20 PM

Is 5 days of antibiotics no worse than 7 days for cellulitis of the leg? The COAT RCT

Nick Francis, University of Southampton, United Kingdom

12:30 PM

Clinical effectiveness and bacteriological eradication of four first-line antibiotic regimens for uncomplicated urinary tract infections in adult women.

Carl Llor, University Institute in Primary Care Research Jordi Gol, Barcelona

12:40 PM

The optimal antibiotic treatment duration for community-acquired pneumonia in adults diagnosed in general practice in Denmark (CAP-D).

Eskild Johansen, Aalborg University, Denmark

12:50 PM

European Clinical Research Alliance on Infectious Diseases - PRIMary care adaptive platform trial for pandemics and Epidemics (ECRAID-Prime).

Alike van der Velden, University Medical Center Utrecht, Netherlands

12:20 PM

Is 5 days of antibiotics no worse than 7 days for cellulitis of the leg? The COAT RCT

Oral Presentation

Presenter:
Nick Francis, University of Southampton, UK

Authors: Nick Francis; Nick Levell; Miriam Santer; Kim Thomas; Ella Bourke; Kerensa Thorne; Taeko Becque; Paul Little; Beth Stuart; Theo Verheij; Robert Read; Richard Stephens; Graham Bartram

Rationale:

Although guidelines recommend 5–7 days of oral antibiotics for outpatient treatment of cellulitis, longer courses are commonly prescribed, partly due to limited high quality evidence from primary care.

Objective:

To assess the effectiveness and safety of 5 versus 7 days of oral antibiotics for lower limb cellulitis in UK primary care.

Design:

Multi centre, placebo controlled randomised trial in adults with unilateral lower limb cellulitis of ≤ 10 days' duration and a pain score ≥ 3 (0–10). Participants received open label flucloxacillin 500 mg QDS for 5 days, followed by 2 days of flucloxacillin or matching placebo QDS. The primary outcome is a non inferiority comparison of pain scores (0–10) over days 6–14 using a linear mixed model (intention to treat). Secondary outcomes include total antibiotic use, patient reported symptoms, quality of life, and healthcare resource use.

Results:

Between 01/09/23 and 01/05/26, 326 patients were recruited. Median (IQR) age was 66 (50–77) years; 56% were female; 95% White; and 34% had previous cellulitis. Median symptom duration was 3 (2–5) days and baseline pain score 5 (4–7). Moderate or worse redness and swelling were reported by 81% and 75%, respectively. Primary outcome data are available for 293 participants, exceeding the target sample. Results will be presented at the conference. Twelve month follow up from electronic medical record review will be reported separately.

Discussion:

This trial will provide robust evidence to guide optimal initial antibiotic duration for leg cellulitis in primary care.

12:30 PM

Clinical effectiveness and bacteriological eradication of four first-line antibiotic regimens for uncomplicated urinary tract infections in adult women.

Authors: Ana García-Sangenís, Ana Moragas, Carl Llor, Ramon Monfà, Rosa Morros, SCOUT Study Group

Rationale.

Most guidelines recommend nitrofurantoin, fosfomycin, and pivmecillinam for uncomplicated lower urinary tract infections (UTI), but direct comparisons between these antibiotics are lacking.

Objectives.

To evaluate the effectiveness and safety of single-dose fosfomycin against three short-course first-line antibiotic regimens in women with UTI symptoms.

Design.

A phase IV, pragmatic, multicentre, parallel-group, open-label, randomised clinical trial was conducted in primary care centres. Women aged 18 or older with UTI symptoms (dysuria, urgency, frequency, and/or suprapubic tenderness) and a positive urine dipstick test for either nitrites or leukocyte esterase were randomly assigned to one of four treatments: a single or double 3-g dose of fosfomycin, nitrofurantoin 100 mg t.i.d. for 5 days, or pivmecillinam 400 mg t.i.d. for 3 days. The primary outcome was clinical effectiveness at day seven.

Results.

A total of 768 patients were randomised, with a median age of 48 years. Of the 720 women included in the primary analysis, clinical response differed significantly between the treatment groups. Nitrofurantoin showed the highest efficacy, whereas single dose fosfomycin had the lowest response rate (74.4% vs 58.9%, difference of 15.5%). Among women with a microbiologically confirmed UTI, the difference in clinical resolution between nitrofurantoin and single-dose fosfomycin was even greater, reaching 34.9%. Adverse events occurred in approximately one fifth of the participants and were predominantly mild, self-limiting gastrointestinal symptoms.

Discussion.

Nitrofurantoin was the most effective, while single dose fosfomycin was the least effective for UTIs. Considering these results, the role of fosfomycin as a first-line antibiotic for uncomplicated UTI should be reconsidered.

Oral Presentation

Presenter:

Carl Llor, University Institute in Primary Care Research Jordi Gol, Barcelona



12:40 PM

The optimal antibiotic treatment duration for community-acquired pneumonia in adults diagnosed in general practice in Denmark (CAP-D)

Authors: Eskild Johansen; David Gillespie; Rune Aabenhus; Henrik Nielsen; Malene Plejdrup Hansen

Introduction:

Antibiotic exposure is a key driver of antimicrobial resistance, a major threat to global health. In Denmark, most antibiotics are prescribed in general practice, where acute lower respiratory tract infections, including community-acquired pneumonia (CAP), are among the most common indications. Phoxymethylpenicillin is the recommended first-line treatment for CAP in Danish general practice. However, the recommended treatment duration is not supported by robust evidence and largely reflects longstanding clinical practice. Danish guidelines recommend both five and seven days of treatment, and prescribing practice varies. Trials indicate that short-course (<7 days) treatment for CAP is non-inferior to longer (≥ 7 days) regimens, but neither phoxymethylpenicillin nor treatment in general practice has been evaluated.

Aim:

The CAP-D trial aims to determine the optimal treatment duration with phoxymethylpenicillin for CAP in adults in Danish general practice.

Methods:

The CAP-D trial is an open-label, pragmatic, randomised controlled, five arm DURATIONS trial. Participants are recruited from 27 general practices across Denmark. Consenting participants are randomised to one of five treatment arms—three, four, five, six, or seven days—of phoxymethylpenicillin 1.2 MIE q.i.d.

Results:

Recruitment was closed on 31st of March 2026. A total of 307 participants have been included. Data analysis is ongoing and results will be ready for presentation at the GRIN 2026.

Discussion:

Implications of the findings and experiences from conducting a trial within the general practice setting will be discussed.

Oral Presentation

Presenter:
Eskild Johansen, Aalborg University, Denmark



12:50 PM

European Clinical Research Alliance on Infectious Diseases - PRIMary care adaptive platform trial for pandemics and Epidemics (ECRAID-Prime)

Authors: Alike W. van der Velden; Christopher C. Butler; on behalf of the ECRAID-Prime consortium

Rationale

Evaluation of therapeutic agents for respiratory tract infections (RTIs) is particularly important in the primary care and community setting, where early treatment could achieve greatest health gain. Virucidal intranasal treatments could be beneficial by decreasing viral load and thereby illness duration, complications and viral spread. Nitric oxide is expected to have direct antiviral properties and has a favourable safety profile when administered intranasally.

Objective

To test the efficacy of Nitric Oxide Nasal Spray (NONS) and isotonic Saline nasal spray for patients with RTI.

Design

ECRAID-Prime is a multi-country (UK, Belgium, Ireland, Germany, France, Spain, Georgia, Poland) randomised controlled phase II/III platform trial to test the safety and efficacy of therapeutic agents for patients with RTI. In this phase IIb/III evaluation, participants were randomised to either NONS, Saline nasal spray (double-blind) or usual care, within 3 days since RTI symptom onset. The primary outcome is time to first self-report of feeling recovered from the RTI.

Results

Trial recruitment has ended with 813 participants being randomised. Analyses (time to feeling recovered, healthcare use, complications, and viral clearance at days 4, 7 and 14) are currently undertaken and will be presented.

Discussion

A platform trial holds promise to efficiently evaluate therapeutic agents by allowing for multiple interventions to be tested under a single master protocol with the potential to rapidly add new treatment arms, also during pandemic circumstances. Running a multi-country trial and engaging participants early in their RTI illness trajectory is challenging, emphasising the need for other recruitment strategies.

Oral Presentation

Presenter:

Alike van der Velden, University Medical Center Utrecht, Netherlands



LUNCH



01:00 PM - 02:00 PM



02:00 PM

FROM DATA TO DIFFERENCE

Connecting data, clinicians, patients and researchers into a primary care systems capable of continuous improvement.

Professor Claire Collins Irish College of General Practice

Professor Claire Collins is the Chief Operating Officer at the Irish College of GPs, leading multi-disciplinary operations units, ensuring that their functions align with the College's overall strategic vision and business plan. In her previous role as the Director of Research & Innovation at the Irish College of GPs, she was responsible for research development and implementation. She has held previous research posts in private consultancy, the Rotunda Hospital, the Economic and Social Research Institute (ESRI), University College Dublin (UCD) and the Royal College of Surgeons in Ireland (RCSI); and has lectured in a number of Irish universities. She edited and co-authored the European General Practice Research Network (EGPRN) Research Strategy for General Practice in Europe 2021 and is a member of the EGPRN Advisory Board.

Claire holds a visiting professorship with the Department of Public Health and Primary Care of Ghent University, Belgium where she undertakes teaching, research and PhD student supervision. Her research publications can be accessed via the following: Publications involving ICGP research staff - ICGP Web Site; [Claire Collins \(researchgate.net\)](https://www.researchgate.net/profile/Claire-Collins); ORCID: <https://orcid.org/0000-0001-8967-5159>.

How to score

Chair: David Gillespie, Cardiff University

03:00 PM

Can patients accurately assess their own Centor score? An inter-rater reliability study comparing self-assessment with in-person examination.

Ronny Gunnarsson, University of Gothenburg, Sweden

03:10 PM

Antibiotics for the uncomplicated acute sore throat to prevent invasive group A Streptococcus (iGAS) - a critical analysis of current evidence

Erik Wiezell, University of Gothenburg, Sweden

03:15 PM

Clinical and cost-effectiveness of implementing a sepsis prediction score in out-of-hours primary care: protocol for a stepped-wedge cluster randomised trial

Meike de Jong, University Medical Center Utrecht, Netherlands

03:20 PM

Meta-analysis of risk scores for strep diagnosis: an analysis using stratum-specific likelihood ratios

Mark Ebell, Michigan State University, United States

5

03:00 PM

Can patients accurately assess their own Centor score? An inter-rater reliability study comparing self-assessment with in-person examination.

Authors: Patrycja Woldan-Gradalska; Ronny K Gunnarsson; Carl Wikberg; Pär-Daniel Sundvall

Rationale:

Self-assessment tools are increasingly used in telemedicine to support remote diagnosis and triage. However, the level of agreement between patient self-assessment and in-person examination of the total Centor score remains unclear in primary care settings.

Objectives:

To assess the inter-rater reliability of Centor score assessments between patient self-assessment and in-person examination.

Design:

A cross-sectional study in which each participant completed a self-assessment form based on Centor criteria, adapted from a tool used in routine clinical practice. Physicians performed standard in-person examinations independently, blinded to the participants' responses. Agreement between these two assessments was measured using Cohen's kappa coefficient.

Results:

During the period 2020-2023, a total of 189 patients were enrolled, with a mean age of 31 years (SD 18). Overall agreement between assessments was low, with kappa values ranging from 0.34 (95% CI 0.25-0.43) to 0.49 (95% CI 0.36-0.61) for lymph node assessment, tonsillar findings, and the total Centor score. In contrast, agreement was potentially acceptable for reported history of fever and absence of cough.

Discussion:

Patient self-assessment showed limited reliability for several Centor criteria and for the total Centor score, indicating that it cannot replace in-person examination in clinical practice.

Oral Presentation

Presenter:

Ronny Gunnarsson, University of Gothenburg, Sweden



03:10 PM

Antibiotics for the uncomplicated acute sore throat to prevent invasive group A Streptococcus (iGAS) - a critical analysis of current evidence

Authors: Ronny Gunnarsson; Erik Wiezell; Carl Wikberg; Pär-Daniel Sundvall; Karin Rystedt

Rational and objective

Group A Streptococcus (GAS) can cause both mild infections and severe invasive GAS (iGAS) disease. This study estimated the extent to which the population incidence of iGAS could be reduced by prescribing antibiotics to patients with uncomplicated acute sore throat.

Design

Relevant evidence linking antibiotic treatment of uncomplicated acute sore throat to iGAS prevention was compiled and combined with epidemiological data from the Swedish population in 2024. The primary outcome was the proportion of iGAS cases preventable by antibiotic treatment. Secondary outcomes were the numbers needed for throat swabbing and antibiotic prescribing to prevent one case of iGAS. Outcomes were analysed for different strategies based on Centor score.

Results

If all patients with uncomplicated acute sore throat seeking care were throat swabbed and GAS-positive patients received antibiotics, up to 6.7% of iGAS cases in children and 2.8% in adults could be prevented. Restricting swabbing to patients with 3–4 Centor criteria would prevent up to 1.6% of cases in children and 1.2% in adults. The number needed to prevent one case of iGAS was 45,000–110,000 for throat swabbing and 12,000–110,000 for antibiotic prescribing.

Discussion

Only a small proportion of iGAS cases appear preventable through antibiotic treatment of uncomplicated acute sore throat, and this would come at the cost of substantial unintended consequences, including side effects and increased workload in primary care. Prevention of iGAS should therefore not be used as a reason to prescribe antibiotics in this setting.

Pitch Presentation

Presenter:
Erik Wiezell, University of Gothenburg, Sweden

HOW TO SCORE

03:15 PM

Clinical and cost-effectiveness of implementing a sepsis prediction score in out-of-hours primary care: protocol for a stepped-wedge cluster randomised trial

Authors: Meike de Jong , Feike Loots, Lonneke van Vught, Johannes Reitsma, Miriam van der Meulen, Idelette Nutma, Karin Kaasjager, Ann van den Bruel, Arthur van Zanten, Sibyl Anthierens, Dorien Zwart, Roderick Venekamp

Rationale

Sepsis is a leading cause of morbidity and mortality. Early recognition is crucial, as sepsis-related organ dysfunction is potentially reversible. A recently validated six-item sepsis score has shown good predictive performance and was deemed feasible and acceptable by GPs. However, its impact on patient outcomes and costs is yet unknown.

Objective

To assess the clinical and cost-effectiveness of an implementation strategy aimed at enhancing sepsis awareness, increasing knowledge, motivating and spurring behavioural change and providing structured, risk-based decision support using a validated six-item score to improve the recognition of sepsis in acutely ill adults visited at home during out-of-hours primary care (OHS-PC) compared to usual care. Secondary objectives are to assess implementation, adoption, and fidelity of the intervention.

Design

A stepped-wedge cluster randomised trial across eight Dutch OHS-PC centres, divided into six clusters, with nested process evaluation. Approximately 40,000 acutely ill adults receiving a home visit will be included over an 18-month period. The intervention comprises an online educational module, the use of a six-item sepsis score, and guidance for GPs about hospital referral decisions based on patient's sepsis risk. The primary outcome is a six-level ordinal composite score reflecting patient's health status 30 days after the OHS-PC home visit. Linked routine electronic health records will be used to assess outcomes and costs. Qualitative data will be collected via complementary semi-structured interviews, focus groups and surveys.

Discussion

By providing real-world evidence, this study will inform whether implementation of a structured sepsis risk assessment in OHS-PC is cost-effective.

Pitch Presentation

Presenter:

Meike de Jong, University Medical Center Utrecht, Netherlands



03:20 PM

Oral Presentation

**Meta-analysis of risk scores for strep diagnosis:
an analysis using stratum-specific likelihood ratios**

Presenter:
Mark Ebell, Michigan State University, USA

Authors: Mark H. Ebell; Kate Rowland; Peter Kurotschka; Jenna Bernson; Charlie Mervak; and Katarina Hedin

Rationale:

Risk scores for strep are widely used, but previous systematic reviews have been limited by using only a single cutoff.

Objective:

To review the accuracy of the Centor, Mclsaac and FeverPAIN scores using summary estimates of stratum-specific likelihood ratios (SSLRs) for diagnosis of Group A strep (GAS) and Group ACG strep.

Design:

We searched PubMed, Embase, and Web of Science for prospective studies reporting the accuracy of at least one risk score in outpatient settings. Stratum specific likelihood ratios with 95% CIs were calculated for each value of each risk score and for commonly used cutoffs using a technique developed by the authors.

Results:

We screened 2901 studies and ultimately included 52 datasets from 48 studies. For Centor scores of 0 to 4, corresponding SSLRs for GAS were 0.41, 0.52, 0.98, 1.39 and 2.44. The score performed better in adults than in children. For Mclsaac scores of 0 to 5, SSLRs for GAS were 0.18, 0.50, 0.61, 0.91, 1.76 and 2.32. For FeverPAIN scores of 0 to 4/5, SSLRs were 0.36, 0.49, 1.09, 1.43 and 3.43 for Groups ACG. The grouping of Mclsaac scores from -1 to 0, 1 to 3, and 4 to 5 appeared most clinically useful with corresponding SSLRs of 0.19, 0.71, and 2.56. With a 20% prevalence, a Mclsaac score of -1 or 0 makes GAS unlikely (10%), while a score of 4 or 5 makes it likely (46%).

Discussion:

Additional results for prevalence in subpopulations and diagnosis of ACG will be presented at GRIN.



The bugs between us

Chair: Ildikó Gágyor, University Hospital Würzburg

6

04:00 PM

European Clinical Research Alliance on Infectious Diseases - PRIMary care adaptive platform trial for pandemics and Epidemics (ECRAID-Prime): microbial aetiology and clearance

Alike van der Velden, University Medical Center Utrecht, Netherlands

04:10 PM

Clinical presentation and management of lower urinary tract infection in men in primary health care; a retrospective review of electronic medical records

Helena Kornfält Isberg, Lund University, Sweden

04:20 PM

Impact of urine culture use and antibiogram findings on antibiotic treatment outcomes in men with localised UTI: a primary care-based cohort study of linked routine care data

Tamara Platteel, University Medical Center Utrecht, Netherlands

04:30 PM

Determining the optimal bacterial load cut-off for antibiotic therapy in women with uncomplicated urinary tract infections

Carl Llor, University Institute in Primary Care Research Jordi Gol, Barcelona

04:35 PM

Improving antibiotic prescribing for urinary tract infections in General Practice: a quasi-experimental natural experiment of interpretive comments in microbiology reports

Emilie Olsson, University of Copenhagen, Denmark

04:00 PM

European Clinical Research Alliance on Infectious Diseases - PRIMary care adaptive platform trial for pandemics and Epidemics (ECRAID-Prime): microbial aetiology and clearance

Authors: Alike W. van der Velden; Lonneke A. van Vught; Margareta Ieven; Katherine Loens; Samuel Coenen; Christopher C. Butler

Rationale

Microbial clearance is an important endpoint in the ECRAID-Prime trial. Quality of throat/nose swabs, carriage, normal clearance kinetics and co-infections can complicate this analysis.

Objective

To obtain insight in the microbial aetiology and clearance per viral and bacterial species over time in participants enrolled in ECRAID-Prime.

Design

A combined throat/nose swab was self-, or clinician-taken from 812 participants at baseline (day 0, 710 analysed), and during follow-up at day 4 (516 analysed), 7 and 14. Swabs were analysed using the TrueMark Respiratory Panel 2.0, TaqMan Array Card (ThermoFisher). Analyses are ongoing.

Results

In 63% of baseline samples ≥ 1 respiratory virus was detected (20% rhino-, 18% influenza-, 13% seasonal coronaviruses, 3.7% RSV, 4.4% SARS-CoV-2 and others). In 5.3% ≥ 2 respiratory viruses were detected. 4.8% of samples that tested negative at baseline, tested positive at day 4. Viral clearance at day 4 was 28%. Comparable positivity rates for respiratory viruses were found for self-swabbing and swabbing by a clinician. In 0.5% of baseline samples *M. pneumoniae* and *C. pneumoniae* were detected. In 76% of samples potentially causative, or commensal bacteria (*H. influenzae*, *K. pneumoniae*, *S. pneumoniae*, *M. catarrhalis*) were found, with similar positivity rates at day 4. Results per species including data from day 7 and 14 will be presented.

Discussion

Interpretation of microbial outcomes is complicated by false negative outcomes caused by quality and timing of swabbing, uncertainty of microorganisms being causative or commensal, and between-country differences in positivity rates for viruses and bacteria.

Oral Presentation

Presenter:

Alike van der Velden, University Medical Center Utrecht, Netherlands



04:10 PM

Clinical presentation and management of lower urinary tract infection in men in primary health care; a retrospective review of electronic medical records

Authors: Mia Tyrstrup; Katarina Hedin; Anna Moberg; Helena Kornfält Isberg

Rationale

Urinary tract infection (UTI) is a common indication for antibiotic prescribing in primary health care (PHC), and approximately 20% of UTIs occur in men, with incidence increasing with age. Despite Swedish guidelines recommending narrow-spectrum antibiotics as first-line treatment for lower UTI (LUTI) in men, broad-spectrum agents are still frequently prescribed. Evidence on guideline adherence and resistance patterns in men treated in PHC is limited.

Objective

To describe the clinical presentation and management of men with LUTI in PHC, assess adherence to guidelines for empirical antibiotic therapy, and characterize microbiological findings in urine cultures.

Design

This retrospective chart review included men aged 18 years or older diagnosed with LUTI at publicly operated PHC centres in Region Skåne, Sweden.

Results

A total of 125 men (median age 71 years) were included. Antibiotics were prescribed in 92% of cases; 69% received first-line narrow spectrum antibiotics and 28% broad spectrum antibiotics. Urine cultures were obtained in 72%, with bacterial growth in 39%. *Escherichia coli* was the most common pathogen, and one third of isolates showed resistance to at least one antibiotic. Overall guideline adherence was 39%. Reconsultations occurred in 30%, most often due to persistent symptoms.

Discussion

Guideline adherence for LUTI in men in PHC was suboptimal, with frequent use of broad-spectrum antibiotics and inconsistent urine culture sampling. Increased use of narrow-spectrum antibiotics, supported by routine urine cultures and improved guideline implementation, may reduce antibiotic pressure and AMR. Further PHC based studies are needed to support safe and effective management of LUTI in men.

Oral Presentation

Presenter:
Helena Kornfält Isberg, Lund University, Sweden



04:20 PM

Impact of urine culture use and antibiogram findings on antibiotic treatment outcomes in men with localised UTI: a primary care-based cohort study of linked routine care data

Authors: Powaga L; Platteel TN; Van der Meulen MP; van de Pol AC; de Graaf MJ; ten Doesschate T; Geerlings SE; de Kort LMO; van de Wijgert JHHM; Venekamp RP

Rationale:

Observational data indicate nitrofurantoin failure in up to 25% of men with localised urinary tract infections (UTI). Whether these failures are attributed to antimicrobial resistance or other factors remains unclear. As prior research showed antibiotic switches often occur around day five of illness, urine culture performance might help prevent treatment failure through early antibiogram-guided treatment adjustment.

Objective:

To explore antimicrobial susceptibility rate in nitrofurantoin failures and assess whether urine culture performance impacted antibiotic treatment failure in men with localised UTI in general practice (GP).

Design:

Retrospective observational cohort study using routine GP electronic health records linked to urine culture and hospital data (2018-2022). Treatment failure included antibiotic switches for persistent or worsening symptoms, acute referral or death >1 and ≤30 days after initial antibiotic prescription. Multivariable logistic regression assessed the impact of urine culture performance on overall treatment failure.

Results:

Of 4697 localised UTI episodes in men, 58% (2719/4679) were treated with nitrofurantoin and 27% (1251/4679) with ciprofloxacin, with failure rates of 18% (95%CI 17-20) and 7% (95%CI 5-8). Urine culture was performed in 36% (1704/4679) overall and in 40% (196/490) of nitrofurantoin-failure episodes. Of these, 54% (106/196) showed susceptible E. coli. Urine culture performance did not impact overall treatment failure (aOR 1.14, 95%CI 0.95-1.39).

Discussion:

High nitrofurantoin failure rates among men with localised UTI, despite susceptible E. coli detection suggests antimicrobial resistance is not the prime cause of failure. Albeit not impacting overall antibiotic treatment failure, urine culture results remain valuable for guiding antibiotic selection when failure occurs.

Oral Presentation

Presenter:

Tamara Platteel, University Medical Center
Utrecht, Netherlands

04:30 PM

Determining the optimal bacterial load cut-off for antibiotic therapy in women with uncomplicated urinary tract infections

Authors: Ramon Monfà; Ana Moragas; Ana Garcia-Sangenís; Carl Llor

Rationale.

The clinical significance of bacterial load in uncomplicated UTIs remains uncertain. Although current evidence supports considering bacterial counts as low as $\geq 10^3$ CFU/mL clinically relevant in symptomatic women, the relationship between bacterial burden and response to antibiotic therapy is poorly understood. It is also unclear whether low-count bacteriuria represents an early stage of infection that may progress to higher bacterial counts or whether these infections can resolve spontaneously without antibiotic treatment.

Objectives.

To determine the bacterial count threshold above which antibiotic treatment provides a clinically meaningful benefit in women with uncomplicated UTIs.

Design.

A prospective study will be conducted in women with recurrent UTIs. Weekly urine cultures will be collected from all participants to establish their baseline bacterial load and to monitor changes over time. This approach will allow the identification of symptomatic UTI episodes and the evaluation of the relationship between bacterial count and the onset of infection. The study will provide valuable insights into the natural history of bacteriuria and whether low bacterial counts represent an early stage of infection. Subsequently, a pragmatic randomised clinical trial will be conducted in women with uncomplicated UTIs. Participants will be stratified according to bacterial load and randomised to receive either nitrofurantoin, selected on the basis of its superior efficacy in our previous trial, or a wait-and-see strategy.

Discussion.

The findings will help determine whether bacterial load should guide antibiotic prescribing in uncomplicated UTIs, supporting more individualised management, reduced antibiotic use, and efforts to combat antimicrobial resistance.

Pitch Presentation

Presenter:

Carl Llor, University Institute in Primary Care Research Jordi Gol, Barcelona, Spain



04:35 PM

Improving antibiotic prescribing for urinary tract infections in General Practice: a quasi-experimental natural experiment of interpretive comments in microbiology reports.

Authors: Emilie Olsson; Barbara Juliane Holzknecht; Valeria Antsupova; Rune Aabenhus; Sif Helene Arnold.

Rationale

Urinary tract infections are common in general practice, and interpretive comments in urine culture reports may influence antibiotic prescribing. However, real-world evidence is limited on whether interpretive comments change prescribing behavior in primary care. In January 2025, interpretive comments were introduced in urine culture reports at one Department of Clinical Microbiology (“intervention department”) serving approximately half of the General Practitioners (GPs) in the Capital Region of Denmark, while another Department of Clinical Microbiology (“control department”), serving the other half of the GPs, continued standard reporting, thus creating a quasi-experimental natural experiment.

Objective

The study aims to evaluate whether interpretive comments in urine culture reports support more targeted antibiotic prescribing in general practice.

Design

The study is a population-based, register-based quasi-experimental study. Antibiotic prescribing will be compared before and after implementation of interpretive comments comparing GPs served by the intervention department versus control department. Linked microbiology and prescription registry data will identify urine cultures from GPs and subsequent antibiotic prescriptions. The outcome is antibiotic prescribing following urine culture reports, classified as potentially appropriate or potentially inappropriate based on microbiological findings.

Discussion

The discussion will address methodological challenges in evaluating antibiotic prescribing using registry data, including outcome classification without clinical information. The study is part of the MicroFort project, in which subsequent qualitative studies will investigate how microbiology reports are interpreted in clinical practice and experimental work will develop optimized interpretive comments for future implementation. If effective, such comments may represent a simple and scalable antimicrobial stewardship intervention in primary care.

Pitch Presentation

Presenter:
Emilie Olsson, University of Copenhagen,
Denmark



Talk to the ... patient!

Chair: Sarah Tonkin-Crine, University of Oxford

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04:40 PM

Recurrent urinary tract infections in primary care: A qualitative study of women's experiences

Caroline Skovsbo Clausen, University of Copenhagen, Denmark

04:45 PM

Co-creating an implementation strategy to promote shared decision making in women with cystitis, including women with limited health literacy: A participatory action research study

Lisa Powaga, University Medical Center Utrecht, Netherlands

04:50 PM

Factors influencing Shared Decision-Making in Urinary Tract Infection Care for Women with Limited Health Literacy in General Practice: A Focus Group Study

Sophie J. M. Thomas, University Medical Center Utrecht, Netherlands

04:55 PM

Adherence to Antibiotic Treatment among Adults in Primary Care – a Cohort Study

Hanna Utas, Region Jönköping County, Sweden

04:40 PM

**Recurrent urinary tract infections in primary care:
A qualitative study of women's experiences**

Authors: Caroline Skovsbo Clausen; Louise Bidstrup Jørgensen; Lars Bjerrum; Anne Holm; Mette Bech Risør

Rationale:

Urinary tract infections (UTIs) affect up to 50% of women, with 20-30% developing recurrent UTIs (rUTIs). Beyond physical symptoms, rUTIs impact quality of life, mental well-being, and social and intimate relationships. However, limited research has explored how women experience primary care encounters and how rUTIs shape self-image and illness perceptions.

Objective:

To explore how premenopausal women experience living with rUTIs, including the impact on their daily lives and their encounters with general practitioners (GPs) in Danish primary care.

Design:

This qualitative study was based on semi-structured interviews with 12 premenopausal women with rUTIs. Data were analysed using reflexive thematic analysis to identify patterns across participants' experiences.

Results:

Three themes were identified. First, clashes between practice routines and women's perceptions highlighted how standardised diagnostic and treatment practices were experienced as insufficient, with a need for clearer management pathways and more patient-centred care. Second, lack of validation from the GP reflected how women often felt dismissed or not taken seriously during consultations. Third, gendered illness perceptions illustrated how these experiences shaped women's understanding of their condition, contributing to self-blame, normalisation of symptoms, or feelings of injustice.

Discussion:

rUTIs were experienced as distressing and burdensome, and primary care encounters often led to frustration and unmet needs. Perceived lack of clarity in care pathways and insufficient validation may compromise the patient-doctor relationship and influence women's self-image. Improving management of rUTIs could benefit from greater attention to women's lived experiences, clearer clinical practices, and strengthened shared decision-making to better align care with patients' needs.

Pitch Presentation

Presenter:
Caroline Skovsbo Clausen, University of
Copenhagen, Denmark



04:45 PM

Co-creating an implementation strategy to promote shared decision making in women with cystitis, including women with limited health literacy: A participatory action research study

Authors: Lisa Powaga; Sophie J.M. Thomas; Tamara N. Platteel; Leo G.M. van Rossum; Tina Mantel; Rosaline Mentink; Roderick P. Venekamp; Dorien L.M. Zwart; Alma C. van de Pol

Rationale:

The Dutch College of General Practitioners guideline for urinary tract infections recommends shared decision-making (SDM) for all healthy, non-pregnant women with cystitis. Despite its importance for patient-centred care, SDM is not yet routinely applied in general practice, partly due to barriers experienced by both patients and healthcare professionals (HCPs).

Objective:

To co-create an implementation strategy to promote SDM in otherwise healthy, non-pregnant women with cystitis, with specific attention to women with limited health literacy (LHL).

Design:

This participatory action research study involved otherwise healthy, non-pregnant women with and without LHL, general practitioners (GP), GP assistants, researchers, and other relevant stakeholders. The implementation strategy was developed in three iterative phases: (i) identifying barriers and facilitators in focus groups, (ii) co-creating the strategy, and (iii) pilot testing.

Results:

Focus groups' findings informed prerequisites for the strategy, including the need for practical knowledge of SDM, clear communication of treatment options, and clarification of the GP assistants role. These insights informed the development of a multifaceted implementation strategy, that aimed to support SDM in UTI care. Supporting materials, including patient-directed information tools and training components for HCPs, were co-created with end-users and adapted based on their feedback.

Discussion:

By involving patients, healthcare professionals, and stakeholders, we developed a multifaceted implementation strategy to support shared decision-making in cystitis care for all healthy, non-pregnant women. Pilot testing of the strategy is ongoing and will provide insight into feasibility and inform further refinement.

Pitch Presentation

Presenter:

Lisa Powaga, University Medical Center Utrecht, Netherlands



04:50 PM

Factors influencing Shared Decision-Making in Urinary Tract Infection Care for Women with Limited Health Literacy in General Practice: A Focus Group Study

Authors: Thomas, Sophie; Powaga, Lisa; Platteel, Tamara; Van Rossum, Leo; Mantel, Tina; Mentink, Rosaline; Venekamp, Roderick; Zwart, Dorien; Anthierens, Sybil; Van de Pol, Alma

Rationale:

The Dutch urinary tract infections (UTIs) guideline for general practitioners (GPs) recommends shared decision-making (SDM) for otherwise healthy, non-pregnant women with cystitis, offering three treatment options: immediate antibiotics, watchful waiting, or a delayed prescription. Yet, SDM is rarely practiced, particularly among women with limited health literacy (LHL). To design a tailored implementation strategy to improve SDM in UTI care, it is essential to identify factors making SDM challenging for women with LHL. This study therefore provides a first step towards the subsequent strategy.

Objective:

To identify factors influencing the implementation of SDM in cystitis management among otherwise healthy, non-pregnant women with LHL in general practice.

Design:

A focus group study was conducted with Dutch healthcare professionals (HCPs: GPs and GP assistants) and women with LHL between April and May 2025. Three focus groups were conducted: two with HCPs and one with women with LHL, each including 5-7 participants. The Consolidated Framework for Implementation Research (CFIR) guided topic list development, and transcripts were analysed using thematic and framework analysis.

Results:

Key factors were identified: (i) use of directive counselling by HCPs; (ii) HCPs' experiences reinforcing assumptions about patient groups; (iii) challenges in recognizing health literacy and adapting language accordingly; (iv) trust between patients and HCPs; (v) willingness to implement SDM within existing UTI care.

Discussion:

These insights represent an important first step towards developing a tailored strategy to integrate SDM into UTI care. GPs and GP assistants can already make a start by using simple language and checking patient understanding.

Pitch Presentation

Presenter:

Sophie J. M. Thomas, University Medical Center
Utrecht, Netherlands



04:55 PM

Adherence to Antibiotic Treatment among Adults in Primary Care – a Cohort Study

Authors: Hanna Utas; Katarina Hedin

Rationale:

Patient adherence to antibiotic treatment varies widely across countries. Few studies have investigated adherence to prescribed antibiotics in Sweden, and to our knowledge, no previous studies have examined both underuse and overuse.

Objective:

To assess adherence to prescribed antibiotic treatment among adults in primary care.

Design:

A prospective cohort study on adults prescribed oral antibiotics for 3–14 days for any infection, at a primary care centre in Sweden. At end of treatment participants responded to a digital questionnaire regarding adherence to the prescribed regimen, reasons for non-adherence and handling of leftover tablets. Adherence was assessed using self-reported data and information extracted from medical records.

Results:

Of the 102 completed questionnaires, 14% of participants were assessed to be non-adherent. 8 participants took fewer tablets whereas 6 took more tablets than prescribed. Forgetfulness was the most common reason for underuse. Among participants given an antibiotic packaging containing more tablets than prescribed, almost 16% (n=3) took more tablets than instructed, solely because the packaging included surplus doses. A significant association was found indicating higher risk of overuse with decreased number of daily doses and number of doses during the treatment course.

Discussion and conclusions:

Adherence to antibiotic treatment was high. However, the findings indicate overuse as a non-negligible cause of non-adherence. Better adopted package sizes may be warranted to minimise the risk of overuse. Continued investigation into non-adherence, especially the underexplored issue of overuse, is essential to guide safe and effective antibiotic use.

Pitch Presentation

Presenter:

Hanna Utas, Region Jönköping
County, Sweden



PROGRAMME



Saturday 26th

08:45– 09:00 AM	Tea/Coffee
09:00– 09:55 AM	<u>Will we ever learn?</u>
10:00 – 10:40 AM	<u>Much ado about POCT</u>
10:40 – 11:10 AM	Tea/Coffee
11:10 AM – 11:55 PM	<u>In search of stewardship</u>
11:55 AM – 12:00 PM	<u>Research Idea</u>
12:00 – 12:30 PM	Closing
12:30 – 01:00 PM	Lunch (Take away)
	<u>Workshop be ready.</u>

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Grin
General Practice Research on Infections Network
Dublin 2026



Will we ever learn?

Chair: Samuel Coenen, University Antwerpen

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09:00 AM

Evaluation of a web-based intervention to support healthcare seeking and improve antibiotic stewardship among Chinese and Indian students in the UK: a mixed-methods exploratory study

Jiexin Zhang, University of Bristol, United Kingdom

09:05 AM

Impact evaluation of a Prescription Search Support (PSS) for antimicrobials: A Stepped-Wedge Cluster Randomised Trial with Nested Process Evaluation in Belgian Primary Care

Hannelore Dillen, KU Leuven, Belgium

09:15 AM

Anticipated barriers and facilitators to implementing e-learning in Danish nursing homes: a qualitative pre-implementation study

Louise Bidstrup Jørgensen, University of Copenhagen, Denmark

09:25 AM

The effect of information sheets supporting patient-centered communication on antibiotic use for acute respiratory tract infections: a pragmatic cluster-randomised trial in Danish general practice (INFO-ARTI).

Lotti Eggers-Kaas, Aalborg University, Denmark

09:35 AM

Acceptability of a small group educational intervention on managing requests for antibiotics in General practice: a qualitative study using the theoretical framework of acceptability

Kevin Roche, University of Galway, Ireland

09:45 AM

Evaluation of a national training roll out implementing a stewardship toolkit in primary care in England: a quasi-experimental analysis using hybrid time series modelling

Jade Meadows, UK Health Security Agency, United Kingdom

09:00 AM

Evaluation of a web-based intervention to support healthcare seeking and improve antibiotic stewardship among Chinese and Indian students in the UK: a mixed-methods exploratory study

Pitch Presentation

Presenter:
Jiexin Zhang, University of Bristol, UK

Authors: Jiexin Zhang; Alastair D Hay; Lucy Yardley

Rationale

Antibiotics are often accessible without a prescription in community pharmacies in China and India, contributing to self-medication and increasing the risk of AMR. Antibiotic importation from home countries is commonly reported among international students in the UK, as a result of their limited familiarity with the UK healthcare system. A website was co-produced with a PPI panel to support international students on navigating the UK healthcare system and managing common infections with or without antibiotics.

Objective

To evaluate feasibility, acceptability, usability, engagement, and user experience of the website.

Design

A mixed-methods exploratory design was employed to quantitatively analyse website usage and before-and-after changes in questionnaire responses, and to qualitatively understand participants' experiences of using the website and their perspectives on its content.

Results

51 students accessed the website over a 2-week period, of whom 47 (92%) completed both pre- and post-intervention questionnaires. The median overall website usage time was 18.3 minutes (IQR: 6.1–44.6). Students spent more time in the healthcare system navigation section (median=5.7 minutes), compared with the management of common infection section (4.1 minutes) and the antibiotics section (4.1 minutes). Students who had stayed in the UK for less than 2 years engaged more with the healthcare system navigation section than those who had stayed for more than 2 years. A sub-sample of 28 participants were interviewed. Analyses of quantitative outcomes and qualitative interview data are in progress and will be available for presentation at the conference.

Discussion

Preliminary findings suggest that the website was feasible and could address healthcare-related needs among international students. Findings from this mixed-methods study will help identify key considerations for the future interventions targeting this population.



09:05 AM

Impact evaluation of a Prescription Search Support (PSS) for antimicrobials: A Stepped-Wedge Cluster Randomised Trial with Nested Process Evaluation in Belgian Primary Care

Authors: Hannelore Dillen; Annelien Dankaerts; Nele Michiels; Bert Vaes; Tine De Burghgraeve; Jan Y Verbakel

Rationale:

Inappropriate antibiotic prescribing in primary care remains a major driver of antimicrobial resistance. Digital stewardship tools may support clinicians in making evidence-based prescribing decisions. The Prescription Search Support (PSS) tool translates guideline recommendations into an interactive decision tree integrated into electronic health records (EHR).

Objective:

To evaluate the impact of the tool on antibiotic prescribing in Belgian general practice and to understand the contextual factors influencing its adoption.

Design:

Stepped-wedge cluster randomised trial across Belgian general practices with four steps over 12 months. A generalised linear mixed model will evaluate the impact of the tool on antibiotic prescribing rates (extracted from the EHR through the national audit and feedback system). The process evaluation combines user log file analysis with semi-structured interviews.

Results:

A total of 125 practices (411 general practitioners) are participating. Baseline antibiotic prescribing rates are 12.6% for sore throat/common cold, 34.1% for acute sinusitis, 49.3% for acute bronchitis, 52.6% for acute otitis media, 63.3% for tonsillitis, 75.4% for pneumonia, and 80.4% for cystitis. During the first step, the tool was mostly used for cystitis, bronchitis, rhinosinusitis, pneumonia, sore throat, and acute otitis media.

Discussion:

The target sample size was achieved, and the distribution of practice characteristics supports its representativeness. For most infections, except cystitis and sore throat/common cold, baseline quality indicator targets are not met, underscoring the continued need for antimicrobial stewardship. Currently, 46 practices have access to the tool; the remaining practices will receive access on 21 June 2026 (n=33) and 21 September 2026 (n=46).

Oral Presentation

Presenter:

Hannelore Dillen, KU Leuven, Belgium



09:15 AM

Anticipated barriers and facilitators to implementing e-learning in Danish nursing homes: a qualitative pre-implementation study

Authors: Louise Bidstrup Jørgensen, Sif Helene Arnold, Caroline Skovsbo Clausen, Jette Nygaard Jensen, Marius Brostrøm Kousgaard

Rationale

Urinary tract infections (UTIs) are a leading cause of antibiotic prescribing in nursing homes, where management is challenged by diagnostic uncertainty and reliance on routine practices. Although educational interventions have improved prescribing, sustaining these effects in everyday practice remains difficult due to organizational constraints and high staff turnover. E-learning may offer a flexible and scalable alternative, but its successful implementation depends on how it aligns with context, workflows, and staff needs.

Objective

To explore potential determinants influencing the implementation of e-learning as part of a digital intervention to improve management of suspected UTIs in nursing home residents.

Design

The present study was designed as a pre-implementation qualitative context analysis to explore potential determinants of implementing e-learning on UTI management in Danish nursing homes. Using an exploratory approach, the study draws on staff reflections on prior e-learning experiences and expectations for future e-learning interventions.

Result

Preliminary findings suggest a perception of e-learning as a relevant, flexible, and time-efficient alternative to traditional teaching. Easy access and potential to support heterogeneous staff groups were highlighted as key facilitators. However, anticipated barriers include limited opportunities for social interaction and feedback, technological challenges, variation in digital competencies, and language diversity. Findings will be presented at the GRIN meeting in Dublin.

Discussion

Findings suggest that implementing e-learning to improve UTIs is shaped by tensions between flexibility and social learning. While e-learning offers clear advantages in terms of accessibility and adaptability, successful implementation will depend on addressing the need for interaction and variation within staff groups.

Oral Presentation

Presenter:
Louise Bidstrup Jørgensen, University of Copenhagen, Denmark



09:25 AM

The effect of information sheets supporting patient-centered communication on antibiotic use for acute respiratory tract infections: a pragmatic cluster-randomised trial in Danish general practice (INFO-ARTI).

Authors: Lotti Eggers-Kaas; Dorte Ejg Jarbøl; Anna Mygind; Alina Zalounina Falborg; Janus Laust Thomsen; Malene Plejdrup Hansen

Clinical area: Respiratory tract infections

Rationale:

Three information sheets have recently been tested in Danish general practice, supporting patient-centered communication, when managing patients with symptoms of acute respiratory tract infections (ARTIs),

Objective:

Evaluate the effect of ARTI information sheets on (1) antibiotic prescribing at the initial general practice consultation, and on (2) patient-centered communication as reported by the patient.

Design:

Two-arm, parallel-group cluster-randomised trial in Danish general practice. Practices were randomised (1:1) to intervention (information sheets) or usual care. Adults (≥ 18 years) presenting with symptoms of either acute pharyngotonsillitis, rhinosinusitis, or bronchitis were included.

Results:

Recruitment is finalised in April 2026. Data collection and analysis are ongoing. Results will be available at the time of presentation at GRIN 2026.

Discussion:

Providing a balanced understanding of benefits and harms of antibiotics for ARTI management – potentially reducing antibiotic prescribing in general practice.

Questions for discussion:

- Experience with alike topic/studies from other GRIN members?
- Suitable types of analysis?

Oral Presentation

Presenter:

Lotti Eggers-Kaas, Aalborg University, Denmark



09:35 AM

Acceptability of a small group educational intervention on managing requests for antibiotics in General practice: a qualitative study using the theoretical framework of acceptability

Authors: Kevin Roche; Oonagh Meade; Julie Cunningham; Scott Walkin; Andrew Murphy; Eimear Morrissey; Gerard Molloy

In 2015 the World Health Organisation designated antimicrobial resistance (AMR) as a threat to global health. More recently it has been projected that if left unchecked AMR will become the leading cause of death worldwide by 2050 with an estimated economic cost of US\$3.5 billion annually. The prescription and consumption of antibiotics has been identified as a key factor in the advance of AMR. The majority of antibiotics prescribed for human consumption originate in Primary Care settings with the main prescribers of antibiotics in these settings being General Practitioners. Small group learning (SGL) in General Practice has long held a key role in postgraduate and continuing General Practice education. The use of SGL to improve appropriate antibiotic prescribing in General Practice is supported by previous findings that the use of more didactic educational interventions were unlikely to improve the antibiotic prescribing of physicians in ambulatory care.

The aim of this exploratory study was to determine the acceptability of the “Consultation skills in Managing Requests for Antibiotics” CME - SGL (Continuing Medical Education – Small Group Learning) meeting in improving the confidence of participating GPs in their ability to manage requests for antibiotics when they are not indicated.

A qualitative study was conducted using semi-structured interviews with GPs informed by the Theoretical Framework of Acceptability. Data were analysed thematically using deductive analysis.

The results will be presented and the findings discussed through the lens of the ability of theory and methods from behavioural science to contribute to addressing the issue of AMR.

Oral Presentation

Presenter:
Kevin Roche, University of Galway, Ireland



09:45 AM

Evaluation of a national training roll out implementing a stewardship toolkit in primary care in England: a quasi-experimental analysis using hybrid time series modelling

Oral Presentation

Presenter:
Jade Meadows, UK Health Security Agency, UK

Authors: Nina Zhu; Ming Xuan Lee; Jade Meadows; Kieran Hand; Raheelah Ahmad; Donna M Lecky

Rationale:

The TARGET (Treat Antibiotics Responsibly: Guidance, Education and Tools) antimicrobial stewardship (AMS) toolkit provides evidence-based resources to support responsible antibiotic prescribing in primary care. In October 2022, the UK Health Security Agency, in collaboration with NHS England (NHSE), initiated a national rollout of the TARGET training programme via NHSE regions, Integrated Care Boards (ICBs), Primary Care Networks, and General Practices.

Objective:

This study assessed the impact of the national rollout on antibiotic dispensing.

Design:

Antibiotic dispensing data (January 2016–September 2025) were obtained from the NHS Business Services Authority for 42 ICBs. Dispensing rates were calculated as items per 1,000 registered patients per month at national and ICB levels. Linear trend analysis with autocorrelation assessment was conducted. Interrupted time-series analysis (ITSA) using generalized linear models quantified changes in dispensing trends in the 30 ICBs that adopted training. A difference-in-differences (DID) analysis using clustered segmented time-series models with fixed effects, pooling all 42 ICBs, estimated pre- and post-intervention changes while accounting for underlying trends, seasonality, and ICB heterogeneity.

Results:

The ITSA showed that all adopting ICBs demonstrated a significantly steeper reducing trend in antibiotic dispensing rate post-rollout. DID analysis showed that, on average, 0.9 fewer antibiotic items, per 1,000 registered patients, were dispensed per month after rollout compared with pre-rollout levels among adopting ICBs ($p = 0.016$).

Longer duration following rollout was associated with further reductions, with dispensing rates decreasing by an additional 0.18 items per month post-rollout ($p < 0.000$).

Discussion:

Using existing infrastructure helped improve antibiotic use, demonstrating its potential for stewardship impact.



Much ado about POCT

Chair: Paul Little, University of Southampton

10:00 AM

Use of the FebriDx® host response point-of-care-test for upper respiratory tract infections in primary care: qualitative interview study and influence on patient and clinician beliefs

Emily Brown, University of Bristol, United Kingdom

10:05 AM

The influence of rapid microbiological point-of-care-testing on patients' and clinicians' beliefs about the necessity of antibiotics for respiratory infections in primary care

Emily Brown, University of Bristol, United Kingdom

10:10 AM

Attitudes towards C-reactive protein point-of-care testing: a qualitative study of general practitioners and community pharmacists in Ireland

Isil Coklar-Okutkan, Trinity College Dublin, Ireland

10:20 AM

Co-designing a new point-of-care antimicrobial susceptibility device for UTI in community settings: insights from the SCiFI project

Matthew Booker, University of Bristol, United Kingdom

10:30 AM

TOUCAN study – Evaluation of new rapid tests for diagnosing urinary tract infections in primary care

Gail Hayward, University of Oxford, United Kingdom

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10:00 AM

Use of the FebriDx® host response point-of-care-test for upper respiratory tract infections in primary care: qualitative interview study and influence on patient and clinician beliefs

Authors: Emily L Brown; Jemima Cooper; Andrew Turner; Nick Francis; Penny Whiting; Nicholas A Feasey; Ashley Hammond; Alastair D Hay; Rebecca Clarke; Emma Pitchforth

Rationale and objective

Combination host response point-of-care tests (POCTHR) may reduce antibiotic overprescribing. However, patient and clinician views on their use for upper respiratory tract infections (URTIs) in primary care, and how they shape the behavioural mechanisms influencing antibiotic prescribing, are poorly understood. We explored these within a study assessing the FebriDx® POCTHR.

Design

Feasibility cohort study with qualitative interviews. Eligible patients were aged ≥ 12 months presenting to GP practices and pharmacies with URTIs. Pre- and post-FebriDx® data included clinician and patient belief in the need for antibiotics, and perceived helpfulness of FebriDx®. Semi-structured interviews with clinicians (n=14) and patients (n=22) were analysed thematically using inductive coding.

Results

Participants (N=252) were recruited December 2024-May 2025 from nine GP practices (82%) and two pharmacies (18%). The test was well received by most patients, who felt it enhanced shared decision-making. Despite accuracy concerns, clinicians felt FebriDx® helped decision-making by providing additional information and enabling shared decision-making. Following FebriDx® use, both patients' and clinicians' belief in the need for antibiotics reduced. However, perceived helpfulness of FebriDx® for supporting antibiotic prescribing decisions also declined.

Discussion

FebriDx® was perceived to aid clinical decision-making and shared decision-making, suggesting a potential role in primary care antimicrobial stewardship. Notably, clinicians questioned FebriDx® accuracy yet still found it clinically useful, suggesting FebriDx® may influence antibiotic prescribing through behavioural mechanisms, rather than solely diagnostic value – including changes in beliefs about antibiotic need, perceived support for shared decision-making, and effects on patient expectations. Further research is needed to explore these mechanisms.

Pitch Presentation

Presenter:

Emily Brown, University of Bristol, UK



10:05 AM

The influence of rapid microbiological point-of-care-testing on patients' and clinicians' beliefs about the necessity of antibiotics for respiratory infections in primary care

Authors: Rebecca Clarke; Mandy Lui; Emily L Brown; Samantha Abbs; Emma Bridgeman; Alastair D Hay; Chris Metcalfe; Lucy Yardley.
RC and ML are joint first authors of this work.

Rationale

Little is known about how point-of-care tests (POCTs) shape the behavioural mechanisms influencing antibiotic prescribing.

Objective

To examine the effect of rapid microbiological POCTs (RM-POCTs) for respiratory infections on patients' and clinicians' beliefs about the necessity of antibiotics, confidence in treatment plans, perceived helpfulness of RM-POCTs and clinician future prescribing intentions.

Design

Quantitative study nested within a multicentre trial. Patients were randomised to receive their RM-POCT result or usual care. Patients and clinicians completed pre- and post-test 5-point Likert scale questionnaires measuring their beliefs.

Results

Patients and clinicians who received a virus-positive RM-POCT result reported significantly lower expectations that antibiotics were necessary than the virus-negative group (patient mean difference (MD) -0.88, 95% CI -1.14, -0.62; clinician MD -1.14, 95% CI -1.70, -0.58). Patients in the intervention group reported a significantly greater belief that RM-POCTs would help make the right treatment decision than the control group (MD 0.27, 95% CI 0.14, 0.39). There was no significant difference ($p=0.155$) in perceived RM-POCT helpfulness between clinicians in virus-positive, virus-negative and control groups. Clinicians receiving a virus-positive result were less likely to prescribe antibiotics for similar future illnesses than the virus-negative group (MD -0.54, 95% CI -0.97 to -0.11).

Discussion

A virus-positive RM-POCT was associated with lower perceptions of antibiotic necessity. However, patients believed RM-POCTs were more helpful in making the right prescribing decision than clinicians. RM-POCTs are unlikely to optimise appropriate prescribing unless implemented alongside further behaviour change strategies, including addressing differences in perceived RM-POCT helpfulness, and guidance on interpreting results.

Pitch Presentation

Presenter:

Emily Brown, University of Bristol, UK

10:10 AM

Attitudes towards C-reactive protein point-of-care testing: a qualitative study of general practitioners and community pharmacists in Ireland

Authors: Isil Coklar-Okutkan; Joseph O'Shea; Carmel Hughes; Gerard J. Molloy; Cathal Cadogan; Tom Fahey; Eimear Morrissey; Akke Vellinga; Cristín Ryan

Rationale:

Antimicrobial resistance is a major global health concern. Lower respiratory tract infections (LRTIs) are a leading reason for antibiotic prescribing, although most are viral or self-limiting. C-reactive protein (CRP) point-of-care testing (POCT) may support accurate diagnosis and promote antibiotic stewardship. General practitioners (GPs) and community pharmacists (CPs) both have stewardship roles but occupy different positions in the prescribing pathway, and their attitudes towards CRP POCT may differ.

Objective:

To explore GP and CP attitudes towards CRP POCT use for LRTIs in primary care in Ireland.

Design:

Eighteen GPs and eighteen CPs (56% female) were recruited from 9 Community Health Organisations (CHOs) in Ireland (mean years in practice: GPs 16.22 ± 7.06 ; CPs 12.72 ± 7.72). Interviews were conducted using a structured topic guide, transcribed verbatim, and barriers and facilitators to CRP POCT use were identified using content analysis.

Results:

Both saw CRP POCT as an objective aid for prescribing and stewardship, but noted that interpreting results requires care and training and identified cost and workflow integration as barriers. For GPs, facilitators included increased diagnostic confidence, easier patient communication, and reassurance when not prescribing antibiotics. CPs viewed CRP POCT positively; regarding its delivery in pharmacies, attitudes centred on improving patient access and reducing GP demand, with expanded prescribing rights and reimbursement seen as enablers of adoption.

Discussion:

GPs and CPs share a commitment to stewardship, and their attitudes towards CRP POCT reflect their distinct roles. Implementation will benefit from clear guidance on using CRP, tailored to each profession's context.

Oral Presentation

Presenter:

Isil Coklar-Okutkan, Trinity College
Dublin, Ireland



10:20 AM**Co-designing a new point-of-care antimicrobial susceptibility device for UTI in community settings: insights from the SCiFI project****Oral Presentation****Presenter:**
Matthew Booker, University of Bristol, UK**Authors:** Matthew Booker; Massimo Antognozzi; Ursula Ankeny; Helen Baxter; Michael O'Donnell; Abigail Needham; Josephine Dohr; Gail Haywood;**Rationale**

Urinary Tract Infection (UTI) is a common condition managed in community healthcare settings. The use of a rapid point-of-care test (POCT) to determine antibiotic susceptibility could reduce reliance on lengthy laboratory processes and empirical prescribing, and improve outcomes. However, the introduction of a POCT suitable for a variety of acute community settings (including GP, Urgent Treatment Centres, pharmacies and nursing/residential care) requires industry, designers, end-users and clinicians to work together.

Objective

The SCiFI Project (Sub-Cellular Fluctuation Imaging) is developing a novel POCT based on a recently discovered nanoscale behaviour of bacteria, enabling rapid differentiation between susceptible and resistant pathogens. It has shown proof-of-principle in laboratory studies, but must be translated into a viable product for use in real-world clinical settings. The project set out to navigate the complex array of product development, validation and implementation hurdles experienced by POCTs.

Design

Co-design is a collaborative process bringing together designers, engineers, industry experts, and people with lived experience. They work in partnership throughout development of a product, democratising design through shared creation to produce innovative solutions. This increases the likelihood the product meets real-world needs of patients with UTI symptoms and the professionals treating them. We created an initial device specification by weighting insights across use contexts to identify user non-negotiables, constraints, and requirements. We developed workbooks, mock-ups and placed-based installations to inform device design.

Discussion

We show how co-design can be efficiently applied across a complex, industry-linked programme, serving as an effective approach to mobilise knowledge alongside laboratory-based technical device developments.



10:30 AM

TOUCAN study – Evaluation of new rapid tests for diagnosing urinary tract infections in primary care.

Oral Presentation

Presenter:
Gail Hayward, University of Oxford, UK

Authors: Gail Hayward, Philip Turner, Thomas Fanshawe, Margaret Glogowska, Mark Lown, Mandy Wootton, Massimo Mentasi, Alastair Hay, Jane Freeman, Mark Wilcox, Rebecca Lowe, Nicola Keneally, Christopher Butler

Rationale

Urinary tract infections are responsible for 6 million antibiotic prescriptions annually in the UK. Diagnosis relies mainly on symptoms, since current diagnostics are either too inaccurate or too slow to guide prescriptions. Novel UTI diagnostics could provide a point of prescription diagnosis, but their accuracy has not been assessed in primary care populations and evaluations are limited by the lack of a high quality reference standard for UTI.

Objective

To evaluate the diagnostic performance of 3 novel UTI point of care tests in community settings, and explore the added value of latent class analysis, and potential impact on prescribing.

Design

Prospective diagnostic accuracy platform study allowing simultaneous evaluation of multiple diagnostics. Women presenting to primary care with suspected UTI and symptoms lasting <8 days were included. Up to 3 novel diagnostic tests (manufactured by Sysmex Astrego, Llusern, and GADx) were performed on their sample in addition to an enhanced central laboratory reference standard.

Results

Primary analysis of detection of bacteriuria against the lab reference standard revealed sensitivity and specificity (sn & sp) estimate pairs of 82% & 74%, 69% & 50%, and 66% & 53% for Sysmex-Astrego, Llusern, and GADx tests respectively. Latent variable model application provided higher estimates of index test sn & sp for 2/3 tests. Of participants tested, 55% (593/1075) received an antibiotic but had a negative lab result.

Discussion

Novel UTI diagnostics offer transformative potential for antibiotic stewardship. Diagnostic performance evidence can guide use case and progression to clinical effectiveness studies.



In search of stewardship

Chairs:

**Roderick Venekamp, University Medical Center Utrecht
and Donna Lecky, UK Health Security Agency**

11:10 AM

Management of acute pyelonephritis: a cross-sectional survey of Canadian emergency and urgent care physicians

William Enlow, Université Laval, Canada

11:15 AM

Antibiotic stewardship strategies implemented in primary care: a survey with physicians in Poland

Aleksandra Borek, SWPS University, Poland

11:20 AM

Rethinking Antibiotic Stewardship for Uncomplicated Urinary Tract Infections in Primary Care: Stakeholders' perspectives in Swiss Primary Care

Andreas Plate, University of Zurich, Switzerland

11:25 AM

Developing recommendations for effective, cost-effective and implementable antibiotic stewardship interventions: towards a national evidence-based multidisciplinary guideline for Germany

Peter Kurotschka, University Hospital Würzburg, Germany

11:30 AM

What should the ideal cellulitis diagnostic look like? A Modified Delphi Consensus Study to develop Preferred Product Characteristics for future cellulitis diagnostics

Rachel Brettell, University of Oxford, United Kingdom

11:35 AM

Association Between Cardiovascular Disease and Antibiotic Prescribing for Respiratory Tract Infections in European General Practice

Sara Yousif, University College Dublin, Ireland

11:40 AM

Panel discussion

10

11:10 AM

Management of acute pyelonephritis: a cross-sectional survey of Canadian emergency and urgent care physicians

Authors: William Enlow; Valérie Boucher; Julie Bestman-Smith; Richard Fleet; Frédérique Fortier-Dumais; Vincent Mainguy; Frédéric Pouliot; Pierre-Gilles Blanchard; Marcel Émond

Rationale:

Acute pyelonephritis is a type of urinary tract infection commonly managed in emergency and primary care settings. Multiple guidelines recommend a single initial intravenous (IV) antibiotic dose for outpatients discharged with oral antibiotics. Despite this, practices vary widely across settings, and oral-only treatment may reduce adverse effects and healthcare resource utilization. The management of acute pyelonephritis by Canadian physicians remains poorly described.

Objectives:

To identify factors influencing disposition and antibiotic treatment decisions among Canadian emergency and urgent care physicians managing suspected acute pyelonephritis, to evaluate their perceptions regarding single-dose IV antibiotics, and to describe current clinical practices and adherence to guidelines.

Design:

A cross-sectional web-based survey of Canadian physicians practicing in emergency or urgent care is being conducted. Resident physicians are excluded. Participants are recruited through professional associations and university departments using a modified Dillman approach. The anonymous questionnaire assesses domains aligned with the study objectives, as well as participant characteristics. The survey instrument underwent expert review and pilot testing to evaluate face, content, and construct validity. Data collection is ongoing using a secure institutional REDCap platform until August 2026. Responses will be summarized using descriptive statistics and cross-tabulations, while internal consistency will be assessed using Cronbach's alpha.

Discussion:

This study will provide a national overview of acute pyelonephritis management practices in Canadian emergency and urgent care settings. Future studies will explore the non-inferiority of oral-only regimens from an antimicrobial stewardship perspective, with the potential to bridge practice differences between primary care and emergency care.

Pitch Presentation

Presenter:
William Enlow, Université Laval,
Canada



11:15 AM**Antibiotic stewardship strategies implemented in primary care: a survey with physicians in Poland**

Authors: Aleksandra Borek; Iga Palacz-Poborczyk; Julia Kuzminska; Aleksandra Luszczynska; Mateusz Babicki; Karolina Kloda

Rationale:

Antibiotic consumption in Poland remains high. Despite the national action plan, it is unclear which antimicrobial stewardship (AMS) strategies to optimise antibiotic prescribing have been and should be implemented in primary care, and how physicians use and view them.

Objective:

Identify physicians' experiences, opinions, and priorities related to various antimicrobial stewardship (AMS) strategies.

Design:

An online survey with physicians working in primary care in Poland. Respondents were recruited by the Polish Society of Family Medicine and through adverts on social media and professional networks. The data were collected (March-June 2026) on respondents' characteristics, perceived importance of AMS, and experiences, views, and priorities related to specific AMS strategies. Preliminary analysis involved descriptive statistics.

Results:

249 physicians consented and were eligible. 67% of respondents were family medicine specialists or during specialisation; 75% practised in publicly funded general practices. Over 87% of respondents agreed with statements that they have an important role in AMS, AMS is important, and resistance is an important risk in primary care. Over 90% knew, used and considered effective the following AMS strategies: guidelines, clinical scales/algorithms, point-of-care tests (POCTs), and communication strategies. Delayed prescriptions were the least used. Main reported barriers to AMS were workload and insufficient awareness of AMS strategies. Priorities for implementation were the prioritisation of AMS, specific action plans for general practices, and POCTs.

Discussion:

While the key evidence-based AMS strategies appear to be regularly used by primary care physicians, a higher prioritisation of prudent antibiotic prescribing, targeted training, and coordinated AMS approaches could further help.

Pitch Presentation**Presenter:**

Aleksandra Borek, SWPS University, Poland

11:20 AM

Rethinking Antibiotic Stewardship for Uncomplicated Urinary Tract Infections in Primary Care: Stakeholders' perspectives in Swiss Primary Care

Authors: Andreas Plate; Andreas Nadig; Anna Saugy; Nathalie Heinz; Thivjan Thiruchelvam; Carla Meyer-Masseti; Stephen P. Jenkinson; Corinne Steinbrüchel; Daniel Drewinak; Stefan Neuner-Jehle; Oliver Senn

Rationale:

Antibiotic-sparing therapies (ASPT) for uncomplicated urinary tract infections (uUTIs) remain underused in Swiss general practice. Evidence on how ASPT are perceived, experienced, and integrated into decision-making within interprofessional primary care teams is limited.

Objective:

To explore ASPT-related knowledge, experiences, perceptions, and decision-making in Swiss primary care.

Design:

We conducted semi-structured interviews with 15 general practitioners, 27 non-physician medical staff (NPMS), and 27 members of the public. Interviews were conducted virtually or by telephone, audio-recorded, transcribed verbatim, and analysed using thematic analysis.

Results:

Across all participant groups, ASPT were generally considered acceptable, particularly for mild symptoms. Decision-making was influenced by symptom burden, safety concerns, patient expectations, and contextual constraints. Many participants reported self-management and prior help-seeking, including in community pharmacies, before later presenting to general practice. Within primary care, ASPT-related management involved multiple professional groups contributing to triage, counselling, and diagnostics, although interprofessional workflows, delegation, and counselling responsibilities varied considerably between practices. Safety netting, including clear follow-up instructions and escalation pathways, emerged as a central counselling prerequisite for ASPT acceptance.

Discussion:

Our findings suggest that antibiotic stewardship for uUTIs in primary care should not be understood solely as a prescribing issue. Instead, ASPT implementation emerged as a complex interprofessional process influenced by patient self-management, help-seeking pathways, communication practices, and organisational routines before and beyond the physician encounter. The findings challenge physician-centred stewardship models and underline the need for structured, interprofessional approaches integrating safety netting, symptom management, and patient-centred communication across the entire care pathway.

Pitch Presentation

Presenter:

Andreas Plate, University of Zurich, Switzerland



11:25 AM**Pitch Presentation**

Developing recommendations for effective, cost-effective and implementable antibiotic stewardship interventions: towards a national evidence-based multidisciplinary guideline for Germany

Presenter:
Peter Kurotschka, University Hospital Würzburg, Germany

Authors: Peter K. Kurotschka; Jutta Bleidorn; David Göttler; Johanna Grund; Hanna Kaduszkiewicz; Urte Klink; Robby Markwart; Guido Schmiemann; Ildikó Gágyor; on behalf of the German Society of General Practice/Family Medicine (DEGAM)

Rationale:

Antibiotic prescribing in Germany occurs predominantly in ambulatory care, yet no primary-care-specific antibiotic stewardship (ABS) guideline currently exists. Evidence for several interventions exist, but applicability need assessment for Germany.

Objective:

To develop evidence-based, multidisciplinary consensus recommendations for effective, cost-effective, and implementable ABS interventions in German primary care.

Design:

We are developing recommendations for a national primary care ABS guideline in Germany. The project involves stakeholders from general practice, pediatrics, infectious diseases, microbiology, pharmacy, public health, professional self-governance, and patient/public representatives. Specific PICO questions were prioritized through two Delphi rounds covering diagnostic interventions, prescriber-facing interventions, and patient/public or institutional interventions. Outcomes include total and guideline-concordant antibiotic use, antimicrobial resistance, symptom duration or burden, follow-up consultations, medical complications, hospital admissions, and cost-effectiveness. We searched for existing guidelines and health technology assessment reports mainly on institutional websites and specialized databases (such as G-I-N), and for systematic reviews (SRs) and randomized trials published from 2000 onwards in PubMed and Scopus. Evidence is being assessed using the GRADE approach, where possible, and summarized in evidence tables. Participatory formats, including patient/public representatives and primary care practice teams, will accompany the development process to support relevance, acceptability, and implementation.

Results:

So far, we identified 139 relevant SRs. Further results will be presented at GRIN, with emphasis on intervention types, outcomes, and evidence gaps relevant to primary care.

Discussion:

Possible recommendations addressed to physicians and institutions and existing ABS experiences from other countries will be discussed with the audience, focusing on their effectiveness and feasibility in routine care.

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11:30 AM

What should the ideal cellulitis diagnostic look like? A Modified Delphi Consensus Study to develop Preferred Product Characteristics for future cellulitis diagnostics

Authors: Rachel Brettell; Youngjoo Kang; Elizabeth Cross; Sonya Panchenko; Zhanna Oganeseva; Margaret Glogowska; Philip Turner; Michael Messenger; Martin Llewelyn; Gail Hayward

Rationale:

Cellulitis is a common bacterial skin infection with substantial clinical burden. Diagnosis remains challenging with no validated diagnostic aids or gold-standard test. Misdiagnosis and treatment failure are common, contributing to antimicrobial resistance, unnecessary treatment and hospitalisation.

Objective:

To use a modified Delphi consensus process to develop a list of Preferred Product Characteristics (PPCs) for future cellulitis diagnostics.

Design:

A multidisciplinary steering group with clinical, academic and industry representation was convened. Literature review, qualitative interviews, and PPI discussions informed an initial draft of 11 PPCs. These were refined through four online meetings, a public consultation and two Delphi surveys. In each survey, panellists rated each PPC on a 9-point Likert scale and provided free-text comments. Quantitative and qualitative findings from Survey 1 and the public consultation informed iterative revision of the PPCs. Consensus after the final survey was predefined as a median Likert score of ≥ 7 for each PPC.

Results:

The Delphi process ran from September 2025 to January 2026. 24 Delphi panellists and 24 public consultation respondents participated. Survey response rates were 95.8% and 100%, respectively. Consensus was achieved for all 11 PPCs, detailing intended purpose, target population, intended users, setting, modality, efficacy, safety, delivery, access and affordability, with median Likert ratings of 9 (IQR ≤ 1) for all items. The final PPC matrix will be presented at the conference.

Discussion:

This multidisciplinary Modified Delphi Process produced PPCs for an ideal cellulitis diagnostic technology. This framework may support industry, engineering and academic development to improve cellulitis diagnosis and patient outcomes.

Pitch Presentation

Presenter:

Rachel Brettell, University of Oxford, UK



11:35 AM**Association Between Cardiovascular Disease and Antibiotic Prescribing for Respiratory Tract Infections in European General Practice**

Authors: Sara Yousif, Nathaly Garzon-Orjuela, Abigail Murfitt, Alike W. van der Velden, Chris Butler, Akke Vellinga

Background:

Between-country differences in antibiotic prescribing (AP) for respiratory tract infections (RTIs) in general practice (GP) are well described, however, the influence of pre-existing cardiovascular disease (CVD) on AP has not been explored yet. This study aimed to determine the association between pre-existing CVD and AP for RTIs in European GP.

Methods:

A cross-sectional secondary analysis of Point Prevalence Audit Survey (PPAS) data (2021-2025) across 17 European countries involving 8,908 adult consultations (>18 years old) presenting with RTI in GP. The primary exposure was CVD status, and the primary outcome was AP. Multilevel logistic regression estimated adjusted odds ratios (aOR) with 95% confidence intervals (CI), accounting for country-level variation.

Results:

A total of 8,908 adult RTI consultations were documented, of which 2,067 patients (23.2%) presented with CVD. Antibiotics were prescribed frequently to patients with CVD than to those without CVD (30.7% vs 21.4%). After adjustment model, patients with CVD had higher odds of receiving antibiotic prescription (OR 1.19 [1.02 to 1.39]). Moderate illness severity associated with the highest prescribing likelihood (OR 5.11 [4.54 to 5.75]). Patients with CVD were prescribed more reserve-class antibiotics, including macrolides (7.2% vs 4.5%), despite its documented cardiotoxic risks. Country variation explained 13% of AP variance (ICC = 0.13) with a Median OR of 1.95 [1.74 to 2.15].

Conclusion:

Pre-existing CVD independently drive AP and agent selection, revealing a “safety paradox” where vulnerable patients preferentially receive cardiotoxic macrolides. These findings highlight an important antimicrobial stewardship (AMS) gap and the need for interventions that incorporate comorbidity-specific guidance and account for country variation to improve prescribing quality and ensure patient safety.

Pitch Presentation

Presenter:
Sara Yousif, University College Dublin, Ireland



11.40 AM Panel Discussion

Research Ideas

11:55 AM

grinweb.org as a platform for collaboration and resource sharing

Authors: Morten Lindbæk; Sigurd Høye

Rationale:

GRIN consists of more than 250 active researchers who publish a large number of high-quality papers annually. Having easy access to this research on infectious diseases in primary care and being able to discuss might be a great resource for all members. Furthermore, many GRIN members hold influential positions in antibiotic stewardship and the development of clinical guidelines in their respective countries. It would be very useful to facilitate more continuous collaboration and shared insight into these activities.

Design:

We aim to explore the potential of grinweb.org as more than just a static information site. We envision the website as a hub for enhanced collaboration, communication and sharing of resources, such as national and international clinical guidelines and antimicrobial stewardship programmes.

The success of such a platform is entirely dependent on the needs and engagement of its users. During this presentation, we will:

- Present ideas for how grinweb.org can strengthen the GRIN community.
- Invite all participants to take part in a short survey to map out how they want the website to be further developed and used in the future.

Discussion:

By developing grinweb.org into an active tool for its members, we can facilitate closer discussion of research findings and stimulate further international research collaboration. The results from this survey will provide the necessary foundation for creating a platform that offers real value to the GRIN community.

12:00 PM
Closing

LUNCH

12:30 PM
Take-away

Workshop

Chair: Akke Vellinga, University College Dublin

12:30 - 14:30 PM

Pandemic preparedness in primary care research: aims of BE READY

Authors: Alike W. van der Velden; Janneke Verberk; Roderick P. Venekamp; Emma Harper; Guro Haugen Fossum

Rationale

BE READY is a European partnership, co-funded by the EC and member states, to improve Europe's preparedness to predict and respond to emerging infectious health threats. Its ambition is to improve coordination of research and innovation at the EU and national levels, via ever-warm base research networks. GRIN members are involved in task 12.4 'coordinate the ever-warm base network of networks' (NIPH) and in sub-task 12.4.2 'the EU warm-base primary care network' (University of Oxford, Ecraid). BE READY funding is currently for research infrastructure and not for studies.

Objective

Collecting GRIN colleagues' visions on: establishing a warm base primary care research infrastructure in their countries, requirements and national funding opportunities to that aim, collaboration in an EU-wide warm base primary care research network, studies/activities in 'peace time', synergies with AMR research, pre-approvals of protocols, CRFs, common data capture tools, and options for recruitment from the community, including via a central team.

Design

Short introduction about BE READY and the example of the Dutch nationally-funded general practice research network, followed by an interactive (lunch) workshop.

Results

The workshop will facilitate sharing ideas, discuss practical solutions to structural and operational barriers and encourage across countries collaboration towards building an EU-wide ever-warm base primary care research infrastructure.

Discussion

Strengthening national and international primary care research infrastructure will support faster, coordinated and more impactful evidence generation for infectious diseases in primary care as a whole and would simultaneously allow for an efficient research response at scale should future pandemics hit.

List of registered participants

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Aleksandra Borek, SWPS University
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Alike van der Velden, University Medical Center Utrecht
Ana Garcia Sangenis, IDIAP Jordi Gol
Ana Moragas Moreno, IDIAP Jordi Gol
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Organising Committee

Akke Vellinga, University College Dublin
Nathaly Garzón-Orjuela, University College Dublin
Heike Vornhagen, University of Galway
Abigail Murfitt, University College Dublin

No Presentation

Reducing Antibiotic Prescribing in rural China with a complex intervention.

Authors: Frank Sullivan; Xiaolin Wei; Chao Zhuo; Joseph Hicks; Zhitong Zhang; Shishi Wu; John Walley ; Jinkun Zheng; Wei Guo; Hongyu Huang; Adalsteinn Brown; Nanshan Zhong

Rationale,

Antimicrobial resistance is driven by inappropriate use of antibiotics for acute respiratory infections, a major challenge in primary care in low- and middle-income countries.

Objective

To evaluate whether a digitally enabled stewardship programme could reduce antibiotic prescribing.

Design

We conducted a pragmatic, cluster-randomised controlled trial in 34 township hospitals in two rural counties of Guangdong, China. The intervention combined training and guidelines for doctors, concise, evidence-based guidelines embedded in the electronic medical record with point-of-care prompts, monthly prescribing peer review feedback for doctors, and patient education delivered through smartphone application. The control group were given usual care with no inputs.

Results

During the 12-month implementation period (March 1, 2020, to February 28, 2021), we analysed 97,239 eligible consultations for acute respiratory infections (ARIs). The primary outcome was whether a consultation resulted in any antibiotics being prescribed. This outcome was met: antibiotics were prescribed in 26% (14,521/54,799) of intervention consultations compared with 71% (30,340/42,440) of control consultations, yielding an adjusted risk difference of -39 percentage points (95% confidence interval: -47 to -29; $p < 0.001$). There was no evidence of increased harm, as 30-day hospitalisation rates for respiratory illness or sepsis did not differ between groups (adjusted risk difference 0.2 percentage points; 95% confidence interval: -0.3 to 0.6)

Discussion

A comprehensive stewardship programme can substantially reduce inappropriate antibiotic prescribing for ARIs in rural primary care facilities in China without compromising patient safety.



No Presentation

Prognostic value of upper respiratory tract microbes in children and adults presenting to primary care with acute respiratory infections as part of the RAPID TEST RCT

Authors: Emily L Brown; Mandy Lui; Peter Muir; Hannah Thornton; Samantha Abbs; Emma Bridgeman; Athene Lane; Rebecca Clarke; Lucy Yardley; Chris Metcalfe; Alastair D Hay

Rationale

Point-of-care testing (POCT) to detect upper respiratory microbes is suggested as a solution to antibiotic overuse for respiratory tract infections (RTIs), but clear evidence is lacking regarding the associations between microbe presence and symptom outcomes.

Objective

To understand the relationship between nose/throat swab microbiological results and participant-reported symptom severity in primary care patients with acute RTI.

Design

RAPID-TEST RCT recruited patients ≥ 12 months old with RTIs presenting to 16 GP practices in SW England. Patients had a nose/throat swab analysed using BioFire® FilmArray® Torch 1 (19 viruses, four atypical bacteria) and TaqMan PCR (29 viruses, 13 bacteria). [AH4.1][EB4.2][EB4.3] Post consultation, patients/parents recorded severity of 14 RTI symptoms (11 for children) daily for up to 28 days (0-6 scale). We will use linear regression to investigate associations between microbiological results and mean symptom severity at days 2-4, adjusting for age, sex, clinical characteristics, antibiotic consumption.

Results

552 participants were recruited December 2022-April 2024. 63% were female; 86% ≥ 16 years; 95% white ethnicity; 26% chronic lung disease. 414 participants completed day 2-4 symptom severity data (76%). Mean severity score reduced from 2.0 to 1.4 on day 2 to 4. ≥ 1 virus was detected in 47% and an atypical bacterium in 7%. The most commonly detected microbe was human Rhinovirus/Enterovirus (20%). Full results available for conference.

Discussion

These results will help determine if detecting upper respiratory microbes can guide treatment decisions in primary care. This may influence guidelines for POCT use and guide future work into targeted antibiotic and antiviral use.



No Presentation

A descriptive analysis of antimicrobial-resistant *Escherichia coli* urinary tract infections (E. coli AMR-UTIs) in English primary care between 2017-2025

Authors: Kate B. Ellis; Michael Lawton; Colin S. Brown; Russel Hope; Berit Muller-Pebody; Alastair Hay; Ashley Hammond

Antimicrobial-resistant urinary tract infections (AMR-UTIs) are associated with worse patient outcomes than antimicrobial-sensitive UTIs, including increased re-consultations, additional antibiotic courses, and higher rates of hospital admission and mortality. However, there is a paucity of evidence regarding their primary care epidemiology.

To describe how GP submitted E. coli AMR-UTIs vary across time, geography, and patient demographics, including age, sex, ethnicity, deprivation, and rurality.

Analysis of English diagnostic microbiology data covering 2017-2025 held by the UK Health Security Agency.

Between 2017-2025 there were 9,439,761 GP-submitted UTI episodes reported for 4,673,138 adults in England. 6,054,971 (64.1%) were caused by E. coli. Of which, 5,101,641 (84.3%) occurred in women. Resistance was similar between men and women for trimethoprim (28.3% vs 28.7%) but higher in men for nitrofurantoin (3.6% vs 1.8%). Across all National Institute of Health and Care Excellence (NICE) first-line antibiotics for women, resistance was higher in women aged 65+ than aged 16-64 (trimethoprim (29.8% vs 27.5%), nitrofurantoin (2.4% vs 1.1%), pivmecillinam (8.3% vs 5.9%), fosfomycin (3.2% vs 2.0%)). Trimethoprim resistance was consistently higher with increasing deprivation and higher in non-white patients than white patients within every deprivation quintile (39.1% vs 29.6% in the most deprived and 34.5% vs 27.3% in the least). Trimethoprim resistance fell year on year between 2017 (33.2%) and 2021 (26.1%) but has since been increasing up to 2025 (28.5%).

Our findings will provide clinicians and policymakers with a comprehensive overview of AMR in GP-submitted E. coli UTIs, identifying populations where antimicrobial stewardship interventions should be prioritised.



No Presentation

Parental knowledge, attitudes and behaviours towards antibiotic use and AMR in childhood infections: a UK survey

Authors: Liam Clayton; Alicia Demirjian; Donna M Lecky

Rationale:

Parents and carers play a key role in children's healthcare use and antibiotic exposure, making them an important group for antimicrobial stewardship (AMS). Although childhood upper respiratory tract infections are usually self-limiting, antibiotics are often prescribed unnecessarily.

Objective:

To examine UK parents' health-seeking behaviours, antibiotic use and knowledge and attitudes towards antimicrobial resistance (AMR).

Design:

An online survey of UK parents of children aged 16 years and under (n=1,208) was conducted in April 2024. Data were weighted by age, gender and ethnicity to reflect the UK population, with subgroup analyses by child and parent characteristics.

Results:

Parents frequently sought professional advice for their child's infections, primarily for reassurance and clinical assessment, with fewer reporting that obtaining antibiotics was a main reason for consultation. Care pathways varied by child age, with GP services utilised more by parents of 2–4-year-olds (46%, 92/197 vs. 28%, 132/470; $p<0.05$) and pharmacies by parents of 11–16-year-olds (25%, 119/470 vs. 17%, 33/197; $p<0.05$). Trust in GP advice was high (80%, 943/1,172), however antibiotics were reportedly prescribed more often than expected (34%, 130/386 vs. 28%, 109/386). Knowledge gaps, misconceptions and suboptimal behaviours regarding antibiotics and AMR were common.

Discussion:

Parents primarily seek reassurance and assessment when managing childhood infections, however mismatches between expectations and prescribing outcomes remain. These findings suggest opportunities to strengthen communication and shared decision-making between parents and clinicians, ensuring expectations are clearly understood and addressed. Reframing public health messaging on antibiotic use and providing accessible communication tools could support appropriate antibiotic use while maintaining parental confidence.



See you in Barcelona 2027!

GRIN Conference
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