ABSTRACT BOOKLET

EurOOHnet Conference, Oxford

7-8th May 2026

Eur O:O:H net

European research network for
Out-Of-Hours primary health care

UNIVERSITY OF OXFORD

NUFFIELD DEPARTMENT OF
PRIMARY CARE
HEALTH SCIENCES

TABLE OF CONTENTS

TIMETABLE

Day 1, Thursday 7th May

8.45-9.00am	Arrival / Registration
9.00-9.30am	Welcome and introductions: *Gail Hayward*
9.30-10.30am	Guest speakers Chair: *Rebecca Barnes*
	Oxford Health GP Out-of-Hours Service *Angela O'Neill*, Senior Clinical Lead
	NHS 111 in Oxfordshire *James Ray*, Clinical Governance Lead
	Urgent Treatment Centre, Banbury, Oxford *Daniel Wood*, Manager
10.30-11.00am	Morning break
11.00-11.55am	Scientific session 1: Managing risk & safety Chair: *Lotte Ramerman*
	Rapid identification of emergencies in the telephone queue and routing to a fast track (FAST) – results for the primary outcome *Tobias Herrmann, Uta Weidlich-Wichmann, Tanja Dietsch, Timm Frerk, Gerald Willms, Thorsten Pollmann* Germany
	Rapid identification of emergencies in the telephone queue and routing to a fast track (FAST) – exploratory analysis of care pathways *Gerald Willms, Uta Weidlich-Wichmann, Tanja Dietsch, Timm Frerk, Thorsten Pollmann* Germany
	HEART-GP strategy with integrated hs-troponin point of care in Dutch OOH primary care: a guided referral approach *Indra M.B. Melessen, Jelle C.L. Himmelreich, Amy Manten, Eric P. Moll van Charante, Ralf E. Harskamp* Netherlands
	Documentation and factors affecting safety-netting in records of paediatric patients attending urgent primary care: A retrospective cohort study. *Roisin Dillon, Rebecca K. Barnes, Catherine J. Woods, Ariel Wang* England
	"We don't have any idea what happens to our patients": A qualitative study of clinician feedback mechanisms across NHS urgent primary care providers *Rachel Brettell, Rebecca K. Barnes* England
	Identifying Adverse Events Following Tele-Triage in OOH Primary Care: Development and Validation of a Register-Based Identification Tool *Maria Louise Køpfli, Henrik Schou Pedersen, Linda Huibers, Morten Bondo Christensen, Christian Emil Sejersen Brinck, Anette Fischer Pedersen* Denmark
11.55am-12.05pm	Comfort break
12.05-12.30pm	Scientific Session 2: Workforce Chair: *Gail Hayward*
	Multidisciplinary teamworking in GP OOH services in Scotland: What works, for whom, why and under what circumstance? *Babar Akbar* Scotland
	Teamwork in the OOH primary care: A mixed-methods study from the Central Denmark Region

	Tine Bennedsen Gehrt, Lea Skodborg, Bastian Benjamin Kruse, Peter Museaus Denmark
	Relationships between working conditions, remote work from home or not and the outcomes job satisfaction, burnout and thriving for nurses working in telephone advice services *Annica Björkman, Karin Myrberg, Anna Carin Wahlberg, Maria Engström* Sweden
12.30-1.30pm	Lunch
1.30-2.10pm	Workshop – Self-care advice outcomes in urgent primary care *Catherine J. Woods, Rebecca K. Barnes* England
2.10-2.15pm	Comfort break
2.20-3.00pm	Scientific Session 3: Help-seeking and Self-care Chair: *Rachel Brettell*
	Patient-Reported Help-Seeking Behavior for Common Infectious Illnesses in Daytime and OOH Primary Care *Meenu Bollier, Oliver Senn, Andreas Plate* Switzerland
	First experiences with digital self-assessment at a shared desk of the emergency department and the OOH service *Beate Zoch-Lesniak, Bernhard Rochel, Dominik von Stillfried* Germany
	Patient descriptions of self-care *Anna Lindström* Sweden
	Exploring information exchange in urgent primary care contacts with older patients and their companions in England *Yicen Guo, Catherine J. Woods, Nan Wang, Ariel Wang, Rebecca K. Barnes* England
3.00-3.30pm	Afternoon break
3.30-4.10pm	Scientific Session 4: Older patients and Multimorbidity Chair: *Vesna Homar*
	Ascertainment of delirium in older adults presenting to a primary care OOH service: a retrospective cohort study *Anna Seeley, Rachel Brettell, Ariel Wang, Rebecca K. Barnes, Gail Hayward* England
	Prognostication and care planning in OOH primary care in England: a mixed-methods study of terminal care case records *Rebecca Anderson-Kittow, Rachel Brettell, Ariel Wang, Rebecca K. Barnes* England
	Use of OOH primary care services before a cancer diagnosis for patients with a migrant background in Denmark *Karoline Riis Christensen, Anne Harbo Dahl, Anne Sofie Baymler Lundberg, Alina Zalounina Falborg, Linda Huibers, Line Flytkjær Virgilsen* Denmark
	Patterns of Urgent Healthcare Use, Multimorbidity, and Causes of Death in the Last Year of Life *Sarah Mills, Luciana Rocha Pedro, Colin McCowan, Sarah Bowers, Richard Andrew Taylor* Scotland
	Managing Complexity in OOH Primary Care: Lessons from Geriatric and Multimorbidity Risk Profiles *Ana R. Miljković* Serbia
4.10-4.15pm	Comfort break
4.15-4.55pm	Scientific Session 5: Demand Chair: *Beate Zoch-Lesniak*

	The use of OOH GP care in Belgium, Denmark, the Netherlands and Norway *Linda Huibers, Anthony Pairon, Valborg Baste, Lotte Ramerman* Denmark, Belgium, Norway, Netherlands
	Identification of acute unscheduled medical cases in routine data *Christoph Strumann, Beate Zoch-Lesniak, Laura Charitou, Jost Steinhäuser, Edgar Steiger* Germany
	Comparing ambulance and OOH primary care pathways for acute chest pain in the Netherlands *Amy Manten, Indra M.B. Melessen, Jelle C.L. Himmelreich, Eric P. Moll van Charante, Ralf E. Harskamp* Netherlands
	A learning health system for acute care: supporting regional implementation of acute care coordination *Lotte Ramerman, Priya Dewansingh, Robert Verheij* Netherlands
5.00-7.00pm	Free time
7.00-7.30pm	Pre-dinner drinks *Rector's Drawing Room, Exeter College, Turl Street*
7.30-10.00pm	EurOOHnet Dinner *Dining Hall, Exeter College, Turl Street*

Day 2, Friday 8th May

9.00-9.25am	Arrival
9.25-9.35am	Update from the Board *Lotte Ramerman for the EurOOHnet Board*
9.35-10.30am	Scientific Session 6: Triage Chair: *Babar Akbar*
	AI can pass the exam — but can it guide a patient? *Rebecca Payne, Andrew Bean, Adam Mahdi* Wales
	Video-supported Telephone Triage in Emergency Primary Healthcare: An Observational Study from Norway *Nathalie Sandal, Ingrid Hjulstad Johansen, Magnus Hjortdahl, Valborg Baste, Stine Ness, Erik Zakariassen* Norway
	Assessment of doctors' communication during out-of-hours tele-triage: Adapting the Four Habits Coding Scheme for tele-triage (4HCS-TT) *Brinck, Christian Emil, Køpfli, Maria Louise, Pedersen, Henrik Schou, Huibers, Linda, Christensen, Morten Bondo, Pedersen, Anette Fischer* Denmark
	Comparison of Doctor–Patient Communication in Video Consultations and Face-to-Face Consultations in General Practice: An Observational Study *Svend Storm Rasmussen, Christian Emil Sejersen Brinck, Henrik Schou Pedersen, Ulrik Bak Birk, Anette Fischer Pedersen* Denmark
	Evaluation of Generative Artificial Intelligence for Triage of Acute Chest Pain: A Vignette-Based Comparison of ChatGPT-5.2 with the Netherlands Triage Standard *Ralf E. Harskamp* Netherlands
	Impact of an AI-based Question Recommender on Communication and Medical Content in Calls to Medical Communication Centres: A Quasi-Experimental Feasibility Study

	Siri-Linn Schmidt Fotland, Arngeir Berge, Erik Zakariassen, Valborg Baste, Gro Fonnes, Vivian Midtbø, Frode Guriby, Christoph Trattner, Junyong You, Ingrid Hjulstad Johansen Norway
10.30-11.00am	Morning break
11.00-11.25am	Workshop - Comparison of decision support tools used in telephone triage *Beate Zoch-Lesniak* Germany
11.25am-12.20pm	Scientific Session 7: Prescribing Chair: *Siri-Linn Schmidt Fotland*
	Medications prescribed after an OOH primary care telephone consultation in North Wales, over the course of one year *Sonja Hofmann, Adam Mackridge, Christine Bond, Zoe Hoare, Rebecca Payne* Wales
	Antibiotic prescriptions in OOH primary care: a descriptive study across consultation types *Thea Kjærsgaard Mortensen, Henrik Schou Pedersen, Mette Amalie Nebsbjerg, Morten Bondo Christensen, Malene Plejdrup, Katrine Bjørnshave Bomholt, Linda Huibers* Denmark
	Differences in Determinants of Antibiotic Prescribing Between Regular and OOH Care: Context Matters *Andreas Plate, Sereina Graber, Sabrina Stollberg, Carola Huber, Oliver Senn* Switzerland
	A national learning community to improve antibiotic prescribing in out-of-hours general practice *Liselore Cariot, Mariska Scheffer, Cathrien Kager, Lotte Ramerman, Karin Hek* Netherlands
	HAPPY PATIENT – not so happy OOH? A secondary analysis of the multifaceted intervention on antibiotic prescribing across five European countries *Bent Håkan Lindberg, Ingrid Keilegavlen Rebnord* Norway
	CRP in GP OOH services - Tool or trap? *Rebecca Payne, Kate Lifford, Zoe Hoare, Sonja Hofmann, Clare Wilkinson, Haroon Ahmed* Wales
12.20-12.30pm	EurOOHnet Business *Lotte Ramerman for the EurOOHnet Board*
12.30-1.30pm	Farewell Lunch

PLENARY SPEAKERS

Angela O'Neill, Senior Clinical Lead, Oxford Health GP Out-of-Hours Service

Angela O'Neill is a Senior Clinical Lead at Oxford Health GP Out-of-Hours Service, with a clinical nursing background in Emergency and Urgent Care. Her work centres around clinical

governance, service improvement, and fostering innovation within urgent and emergency care systems. She collaborates closely with multidisciplinary teams to strengthen care pathways, enhance quality and safety, and embed evidence-based changes.She is particularly interested in workforce development, standardising best practice, and leveraging data and insights from incidents to drive measurable improvements.

James Ray, Clinical Governance Lead, NHS 111 in Oxfordshire

Dr James Ray is an Emergency Medicine Consultant in Oxford and Deputy Clinical Director for Acute Medicine and Rehabilitation, with Trust-wide responsibility for the Emergency Department. He is also a Digital Clinical Lead for London, leading on Integrated Urgent Care (IUC), and has extensive experience in implementing AI-enabled triage and natural language processing within the NHS 111 telephony platform. Nationally, he serves as a Clinical Advisor to NHS England for Urgent and Emergency Care, focusing on improving access from the community to hospital services, and previously led the national implementation of the NHS 111 First programme

Daniel Wood, Urgent Treatment Centre Manager, Banbury, Oxfordshire

Daniel Wood is a HCPC Registered Paramedic currently operating as manager of a busy Urgent Treatment Centre in Banbury, Oxfordshire on behalf of Principal Medical Limited. In his role, he maintains responsibility for the operational management of the service, including people-processes, governance, audit and budget management. Daniel has extensive background in Emergency and Urgent Care, with previous clinical work including NHS Ambulance Services, Acute Hospital at Home as well as Minor Injuries/Out of Hours services.

SCIENTIFIC SESSION 1: MANAGING RISK AND SAFETY

Session Chair: Lotte Ramerman

Title	**Rapid identification of emergencies in the telephone queue and routing to a fast track (FAST) – results for the primary outcome**
Author(s)	Tobias Herrmann, Uta Weidlich-Wichmann, Tanja Dietsch, Timm Frerk, Gerald Willms, Thorsten Pollmann
Affiliation	aQua-Institute, Göttingen
Background	Depending on time and residence, the increased use of the OOHC hotline 116117 can result in longer waiting times. Other studies indicate that an effective queue management to prioritize patients with urgent issues in similar service numbers is feasible.
Aim	Implementation and evaluation of queue management at 116117 with the aim of prioritizing urgent cases. Hypothesis: Cases with a very urgent need for treatment are largely recorded (high sensitivity), the proportion of incorrectly prioritized calls remains low (high specificity).
Methods	Prospective, two-armed cohort study with two intervention groups and one control group. Two interventions based on automated voice dialogues (1: Simple self-rating tool, 2: Automated brief query of emergency symptoms). In case of high level of urgency after 1 or 2, the callers are prioritized (routing in fast track). The validation of the urgency and the need for care is routinely carried out by employees of 116117 based on the result of the triage.
Results	**Intervention 1 (N=14.258): Sens=62,1%, Spez=61,3%** • Range Spez: 60,6% (KV HE) - 77,3% (KV BW) • Range Sens: 48,4% (KV BW) - 73,4% (KV RLP) **Intervention 2 (N=19.567): Sens=76,2%, Spez=37,0%** • Range Spez: 75,5% (KV BE) - 82,7% (KV TH) • Range Sens: 31,7% (KV TH) - 41,3% (KV BY) In the logistic regression analysis we identified significant predictors of false positive and false negative results results.
Conclusions	The thresholds originally set for the primary outcome were not reached. Nevertheless, intervention 2 in particular proved to be feasible in the overall assessment.

Title	**Rapid identification of emergencies in the telephone queue and routing to a fast track (FAST) – exploratory analysis of care pathways**
Author(s)	Gerald, Uta Weidlich-Wichmann, Tanja Dietsch, Timm Frerk, Gerald Willms, Thorsten Pollmann
Affiliation	aQua-Institute, Göttingen
Background	Depending on time and residence, the increased use of the OOHC hotline 116117 can result in longer waiting times. Other studies indicate that an effective queue management to prioritize patients with urgent issues in similar service numbers is feasible.

Aim	Implementation and evaluation of queue management at 116117 with the aim of prioritizing urgent cases.
Methods	Prospective, two-armed cohort study with two intervention groups and one control group. Two interventions based on automated voice dialogues (1: Simple self-rating tool, 2: Automated brief query of emergency symptoms). In case of high level of urgency after 1 or 2, the callers are prioritized (routing in fast track). The validation of the urgency and the need for care is routinely carried out by employees of 116117 based on the result of the triage.
Results	By linking various data sources (call, triage, postal survey, and clinical data), it is now possible for the first time to conduct a longitudinal analysis of all events before, during, and after the call. On this basis, anomalies in the care pathway could be identified.
Conclusions	The exploratory analyses and representations in Sankey diagrams make it possible to identify potentially critical processes and trace them clearly. This serves as a basis for prioritizing the analysis of individual cases.

Title	**HEART-GP strategy with integrated hs-troponin point of care in Dutch out-of-hours primary care: a guided referral approach**
Author(s)	Indra M.B. Melessen, Jelle C.L. Himmelreich, Amy Manten, Eric P. Moll van Charante, Ralf E. Harskamp.
Affiliation	Amsterdam UMC, University of Amsterdam, Academic Medical Center, Department of General Practice, Meibergdreef 9, 1105 AZ, The Netherlands
Background	Chest pain is the hallmark symptom of acute coronary syndrome (ACS), yet it is also a non-specific complaint due to its clinical overlap with less urgent conditions. The limited availability of diagnostic tools, further challenges assessment in out-of-hours primary care (OOH-PC). Consequently, general practitioners (GPs) tend to maintain a low threshold for referral to avoid missing ACS. Nevertheless, ACS may still be overlooked, which could result in irreversible cardiac damage or even death.
Aim	This study aims to improve current practice by evaluating the safety and effectiveness of a novel strategy that combines high-sensitivity point-of-care cardiac troponin (hs-troponin) with routine care.
Methods	The Dutch HEART-GP study (NL82428.018.22) is a prospective multicentre diagnostic accuracy trial to evaluate the diagnostic performance of the HEART-GP strategy, which includes hs-troponin testing, a GP's clinical judgement and based on availability and the discretion of a GP additional ECG testing, for ruling out a major adverse cardiac event (MACE). Our endpoint MACE is defined as ACS, urgent coronary revascularization, or (cardiac) death within 6 weeks after index presentation at the OOH-PC facility.
Results	Our preliminary data demonstrate the inclusion of 927 patients across four participating OOH-PC centres. As presented in Table 1, 51.9% of patients were female and the median age was 54 years. Overall, referral rates were comparable between the groups, with about 47% of patients being referred with or without the HEART-GP strategy. However, in 34% of cases the strategy altered referral status.
Conclusions	Preliminary findings suggest no difference in overall referral rates with or without the *HEART-GP strategy*. However, it did often result in alteration of the GPs referral plan, which will be analyzed for safety in greater detail. Funding Dutch Heart Foundation (projectID: 03-003-2022-0029)

Title	**Documentation and factors affecting safety-netting in records of paediatric patients attending urgent primary care: a retrospective cohort study**
Author(s)	Roisin Dillon, Rebecca Barnes, Catherine Woods, Lisa Hinton and Ariel Wang
Affiliation	Nuffield Department of Primary Care Health Sciences, University of Oxford
Background	Safety-netting is a key strategy in primary care for managing uncertainty and risk. In paediatric care, it supports children and families by advising how and when to seek further help. Despite its importance, limited evidence exists on how often safety-netting is documented in practice and what that documentation includes.
Aim	To assess the frequency and content of documented safety-netting advice in paediatric out-of-hours (OOH) consultations and to identify factors associated with its documentation.
Methods	This retrospective cohort study used case records from a single OOH provider in Southwest England (April 2019-March 2020). All contacts involving patients ≤18years were included. A random sample of 200 contacts, stratified by case priority (routine or urgent 1:1), was manually coded using pseudoanonymised free-text entries to identify the frequency and characteristics of documented safety-netting advice and associated factors. Findings informed a search stragtegy which was subsequently applied to the whole paediatric cohort.
Results	Across 33,345 paediatric contacts, safety-netting advice was documented in fewer than two thirds of consultations. Documented advice was mainly generic and often lacked clear timeframes for escalation and follow-up. In the full cohort, safety-netting documentation was significantly less likely for adolescent patients, weekend consultations and cases where there was immediate planned follow-up.
Conclusions	Safety-netting documentation in paediatric OOH care is inconsistent and influenced by patient age, timing and clinical context. The predominance of more vaguely documented advice indicates a gap between recommended practice and routine documentation. These findings highlight the need to strengthen and standardise safety-netting documentation to better support clinical decision-making and risk mitigation.

Title	**“We don’t have any idea of what happens to our patients.” A qualitative study of clinician feedback mechanisms across NHS Urgent Primary Care Providers**
Author(s)	Rachel Brettell
Affiliation	Nuffield Department of Primary Care Health Sciences, University of Oxford
Background	Effective feedback to clinicians can facilitate safety, learning and quality improvement. In urgent primary care (UPC)—including NHS 111, GP out-of-hours (OOH) and Urgent Treatment Centres—care is episodic, high acuity and often delivered in relative professional isolation, making feedback challenging to implement. Despite its importance, there is limited understanding of how feedback is collected, interpreted and used across UPC providers.
Aim	To explore and describe current processes used within UPC services to provide feedback to clinicians.
Methods	We conducted a qualitative study using semi-structured interviews with clinical and operational leaders from 30 UPC organisations across England and Wales. Interviews

	conducted between June 2024 and July 2025 were transcribed verbatim and analysed in NVivo using Framework Analysis to map feedback mechanisms, their use, and perceived enablers and barriers.
Results	Participants described a wide range of feedback mechanisms, including structured audits, case-based feedback, complaints processes, prescribing and productivity feedback and clinician-initiated feedback. Use, perceived value and consistency varied substantially between organisations. Call audits were ubiquitous but heterogeneous in purpose and implementation. Clinicians valued opportunities for 'diagnostic closure' which were often hard to realise in these settings. Barriers included workload pressures, resource intensity of audits, and tools perceived as insufficiently sensitive to clinical nuance. Enablers included strong organisational learning cultures and dashboard approaches that triangulated multiple feedback sources. Providers highlighted the ongoing tension between fostering engagement with feedback alongside managing concerns about performance management.
Conclusions	Overall, feedback systems exist but are fragmented, creating variable opportunities for meaningful reflection and improvement.

Title	**Identifying Adverse Events Following Tele-Triage in Out-of-Hours Primary Care: Development and Validation of a Register-Based Identification Tool**
Author(s)	Maria Louise Køpfli, Henrik Schou Pedersen, Linda Huibers, Morten Bondo Christensen, Christian Emil Sejersen Brinck, Anette Fischer Pedersen
Affiliation	Research Unit for General Practice, Aarhus, Denmark
Background	Tele-triage is a central component of out-of-hours primary care (OOH-PC) and is associated with substantial clinical uncertainty. Adverse events (AEs) following telephone triage are difficult to detect, as most are not captured in formal reporting systems or compensation claims. There is a need for scalable methods to identify patients at risk of harm using routinely collected health data
Aim	To develop and validate a register-based identification tool to detect potential adverse events following tele-triage contacts in Danish OOH-PC.
Methods	A register-based cohort study on tele-triage contacts in OOH-PC from 1 January 2022 and 31 December 2023. The dataset comprised all patients registered with a telephone consultation in the regions of Central Denmark and Southern Denmark. Patients were flagged as potential AE cases if they were registered with hospital admission ≤ 4 hours after the tele-triage contact or mortality within ≤ 24 hours. To validate the identification tool, a structured medical record review of 500 randomly selected flagged cases, will be perfomed to asses whether suboptimal triage actually occurred.
Results	Results are on the way.
Perspectives	This tool is intended as a first step toward improving the identification of safety events in OOH-PC and supporting data-driven strategies for monitoring and improving the quality of telephone triage.

SCIENTIFIC SESSION 2: WORKFORCE

Session Chair: Gail Hayward

Title	**Multidisciplinary teamworking in General Practice Out of Hours Services in Scotland: What works, for whom, why and under what circumstance?**
Author(s)	Dr. Babar Akbar
Affiliation	DPhil in Evidence-Based Health Care, University of Oxford, UK Urgent Care Service Lead, NHS Fife, Scotland, UK
Background	Multidisciplinary team (MDT) staffing models are increasingly used in GP Out-of-Hours (OOH) services to address workforce pressures and rising demand. Despite strong policy support, there is limited explanatory evidence describing how MDTs function in practice, why implementation varies across services, and what enables sustainable teamworking. Variation in staffing models across Scottish OOH services highlights the need for evidence to inform workforce and service design. This ongoing DPhil project uses realist methods to explain how MDT working embeds and functions within urgent primary care.
Aim	To develop a realist programme theory explaining how, why, and under what conditions MDT working functions effectively in GP Out-of-Hours services.
Methods	A realist review was undertaken following RAMESES standards. Literature on multidisciplinary staffing in primary and urgent care (OECD settings) was systematically identified and assessed for relevance and rigour. Data were coded using inductive, deductive, and retroductive reasoning to develop context–mechanism–outcome configurations (CMOCs). Stakeholder engagement with OOH clinicians and service leaders informed theory development. Thirty-eight CMOCs were synthesised into a refined programme theory. This review forms phase one of an ongoing DPhil project, informing a planned realist evaluation with MDT clinicians across Scottish OOH services.
Results	MDT working was more likely to embed where organisational readiness, leadership support, and viable workforce design created coherence and legitimacy for new roles. Clear role boundaries, proportionate supervision, and matching clinician competence to patient complexity increased confidence and safe delegation. Trust, shared understanding, and professional legitimacy developed over time through communication, joint working, and interprofessional learning. Patient understanding of MDT roles reinforced acceptance. Outcomes included improved collaboration, fuller use of workforce skills, and greater staff satisfaction. However, outcomes varied where clinical complexity and supervisory burden remained concentrated with GPs, creating workload strain.
Conclusions	Effective MDT implementation in OOH care depends on how organisational, workforce, and relational conditions interact to activate mechanisms such as trust, legitimacy, and confidence. This realist programme theory provides a practical explanatory framework to support workforce planning and service design in urgent primary care. The findings will be further tested through realist evaluation as part of an ongoing DPhil project.

Title	**Teamwork in the out-of-hours primary care: A mixed-methods study from the Central Denmark Region**

Author(s)	Tine Bennedsen Gehrt (presenting) 1,2 Lea Skodborg 1 Bastian Benjamin Kruse 1 Peter Museaus 3
Affiliation	1 Department of Research and Development, Prehospital Emergency Medical Services, Central Den-mark Region, Denmark 2 Department of Clinical Medicine, Aarhus University, Denmark 3 Centre for Educational Development, Aarhus University, Denmark
Background	In the Central Denmark Region, the out-of-hours primary care night service (in operation from 23-08, 7 days a week, all year) work as an interdisciplinary team, comprising both nurses and physicians, triaging all incoming calls. Effective teamwork is essential for patient safety and quality of care in out-of-hours primary care service teams.
Aim	To explore perceptions and practices of teamwork in the out-of-hours primary care night service using a mixed-methods approach combining a standardized teamwork questionnaire and participant observations.
Methods	A cross-sectional questionnaire survey using the TeamSTEPPS Teamwork Perceptions Questionnaire was conducted, measuring five teamwork components: team structure, leadership, situation monitoring, mutual support, and communication. Fifty staff members participated, representing triage nurses, triage physicians, consultation physicians, home visit nurses/paramedics, and coordinating physicians. Additionally, participant observations were conducted during three night shifts (23:00–03:00). Observations were first analyzed deductively using the TeamSTEPPS framework and subsequently analyzed inductively to identify emergent themes. Descriptive analyses were performed for the TeamSTEPPS questionnaire.
Results	Overall, respondents reported a high perception of teamwork across all five TeamSTEPPS components. Team structure received the highest ratings, reflecting clear roles, overlapping competencies, effective resource use, shared responsibility, and well-defined goals. Situation monitoring received the lowest, though still high, ratings. Observations supported these findings, demonstrating efficient workflows, clear leadership with a flat hierarchy, effective communication, and shared decision-making. Situation monitoring and mutual support were observed less frequently, potentially reflecting the organization of work rather than deficiencies. Inductive analysis identified four themes: a well-functioning system, strong social and relational skills, interdisciplinary collaboration with shared values, and supportive organizational and physical conditions.
Conclusions	Teamwork in the Central Denmark Region out-of-hours primary care night service is characterized by high perceived and observed effectiveness, supported by clear structures, strong leadership, trust-based interdisciplinary collaboration, and favorable organizational conditions.

Title	**Relationships between working conditions, remote work from home or not and the outcomes job satisfaction, burnout and thriving for nurses working in telephone advice services**
Author(s)	Annica Björkman[1], Karin Myrberg[1], Anna Carin Wahlberg [2], Maria Engström[1]
Affiliation	[1]Department of Health and Caring Sciences, University of Gävle, Sweden

	[2] Department of Neurobiology, Caring Sciences and Society, Karolinska Institutet, Stockholm, Sweden
Background	Remote work gained increased attention during the COVID-19 pandemic. During the pandemic, many registered nurses within Sweden's national healthcare service 1177 were offered the option to work from home to reduce transmission risks and maintain staffing when quarantine requirements were common. Although national restrictions have now been lifted, remote work remains available for some nurses within Swedish Healthcare Direct (SHD). This indicates a lasting shift in how telenursing can be organized and delivered in Sweden.
Aim	The study aimed to examine associations between working conditions, remote work, and the outcomes job satisfaction, thriving and burnout among nurses engaged in telenursing.
Methods	Questionnaire data from 182 nurses were collected during 2023, analysed using multiple linear regression models.
Results	Telenurses who worked remotely and scored better working conditions also scored higher job satisfaction and thriving. The models could explain 39% and 38% of the variance in job satisfaction and thriving respectively. For burnout, working condition was statistically significantly related while working remotely or not was non-significant; and the model explained 49% of the variance.
Conclusions	Remote work among telenurses is related to higher job satisfaction and thriving compared to office-based work. These findings highlight the significance of work environment conditions.

SCIENTIFIC SESSION 3: HELP-SEEKING AND SELF CARE

Session Chair: Rachel Brettell

Title	**Patient-Reported Help-Seeking Behavior for Common Infectious Illnesses in Daytime and Out-of-Hours Primary Care**
Author(s)	Meenu Bollier, Oliver Senn, Andreas Plate
Affiliation	Institute of Primary Care, University of Zurich and University Hospital Zurich, Zurich, Switzerland
Background	Common infectious symptoms, such as cough, sore throat, urinary tract infection symptoms and fever, are leading reasons for primary care visits. Help-seeking behavior depends on individual and contextual factors, including symptom severity, access to care by time of day and personal preferences. Understanding patients' motives and provider choices offer an empirical basis for the development of future interventions aimed at optimizing careseeking pathways.
Aim	The project aims to deepen the understanding of when and why individuals seek medical care for common infectious symptoms, and how help-seeking behavior differs between daytime and outof-hours. In addition, the study explores patients' experiences, expectations, and perceived barriers across different healthcare providers.
Methods	An anonymous, self-administered online survey will be conducted using REDCap survey software. Participants (staff, students) will be recruited in March/April 2026 through a mass email invitation distributed within the University of Zurich, Switzerland. The questionnaire was developed based on findings from previous literature and contains 4 main parts: general factors influencing help-seeking behaviour, sitation-specific factors, experiences and expectations regarding healthcare services and demographic and health-related characteristics. Participants will complete a questionnaire comprising Likert-scale items and open-ended questions to explore aspects not covered by predefined response options. The responses will be analysed using thematic analysis. Data will be analyzed descriptively, with regression analyses used to explore associations between participant characteristics and selected outcomes..
Results	We anticipate responses from approximately 2000 participants and will present preliminary results.
Conclusions	This study will provide insights into factors influencing medical help-seeking behaviour during both regular and out-of-hour periods. These findings may help to optimise patient-centred care.

Title	**First experiences with digital self-assessment at a shared desk of the emergency department and the out-of-hours service**
Author(s)	Beate Zoch-Lesniak[1], Bernhard Rochell[2], Dominik von Stillfried[1]
Affiliation	[1]Central Research Institute for Ambulatory Health Care in Germany (Zi), Berlin, Germany [2]Association of Statutory Health Insurance Physicians of Bremen, Bremen, Germany

Background	Since November 2024, all walk-in patients in the emergency department at St. Joseph-Stift Hospital in Bremen have been asked to complete a self-assessment using the software SmED (Structured Medical Initial Assessment for Germany). The program is provided at a computer terminal in an easy-to-use chatbot version designed for patients. The SmED results regarding the urgency and level of treatment are used to determine the order and setting of further care—either in the emergency department or in the out-of-hours service. Selected cases were reassessed by medical professionals, allowing for a comparison between self-assessment and professional assessment.
Aim	The aim of the study was to analyse the terminal use and the reliability of the self-assessments.
Methods	We conducted a retrospective analysis of SmED data from November 2024 to 2025.
Results	The terminal use increased from 104 assessments in November 2024 to 1,362 assessments in December 2025 (total n = 11,345). The mean duration of a self-assessment was 251 seconds (sd: 150.3 seconds). Most people were in the 14-49-year age group (74.1%) and reported throat pain (5.8 %). The validation of 144 self-assessments resulted in a decreased urgency of treatment in 125 cases (86.8%).
Conclusions	On-site self-assessment was well accepted by patients and may help to reduce staff workload, but should be closely monitored. Findings from the validation could help improve the self-assessment tool.

Title	**Patient descriptions of self-care**
Author(s)	Anna Lindström
Affiliation	Department of Scandinavian languages, Uppsala University, Sweden
Background	Development of antimicrobial resistance (AMR) is a global health challenge. Within primary care, respiratory tract infection (RTI) is an area where antibiotics are prescribed inappropriately. Conversation Analytic research can contribute to the solution of this global health problem by identifying communicative patterns and strategies that promote appropriate prescription (Stivers, 2007). Stivers (2002) examined problem presentations during the information gathering phase of pediatric consultations for RTI. She found that parents who presented their child's problem as "symptoms only" were hearable as adopting the stance of primarily seeking a medical evaluation of their children. Parents who presented a "candidate diagnosis" by contrast were hearable as adopting the stance that they were seeking confirmation of their lay diagnosis. The latter practice could be understood by doctors as pressure to prescribe antibiotics.
Aim	I will examine another patient practice in RTI-consultations namely patient self-initiated descriptions of efforts to self-care. The analysis will explore the sequential contexts and trajectories of these descriptions including how they may be heard to embody stances toward treatment outcomes.
Methods	The data are drawn from 68 video-recorded clinical consultations with adult patients for common respiratory infections in Swedish primary care. Data were collected from three sites including one after hours clinic. Data from the after hours clinic will provide the focus for my talk. The methodological perspective is conversation analysis (CA).

Results	Patients initiated descriptions of self-care in 24 visits (n=68). Nineteen of these (79%) were initiated during the information gathering phase of the encounter. Treatments mentioned included over the counter cold medicines, pain killers, prescription medicines and different home remedies. Patients often described the treatment as ineffective and doctors sometimes aligned with these descriptions of treatment inefficacy.
Conclusions	Patient initiated descriptions of self-care instantiate patient agentivity and give insights into how doctors and patients legitimize (or undermine) the patient's decision to seek medical care.

Title	**Exploring information exchange in urgent primary care contacts with older patients and their companions in England.**
Author(s)	Yicen Guo, Catherine Woods, Nan Wang, Ariel Wang and Rebecca Barnes
Affiliation	Nuffield Department of Primary Care Health Sciences, University of Oxford
Background	Urgent primary care services frequently see older patients with complex health needs. Here, access to patients' medical records is sometimes limited. Establishing the reason for the visit and exchanging relevant information about the patients history are critical for timely and accurate clinical assessment. Older patients are often seen with family members or formal carers, but little is known about their impact on information exchange.
Aim	To examine how information exchange is interactionally negotiated between clinicians, older patients and their companions in urgent primary care.
Methods	This conversation-analytic study draws on video-recorded contacts between clinicians, older patients and their companions in Urgent Treatment Centres and GP out-of-hours home visits. We focus on the early stages of consultations, examining turn-taking, turn design and the sequential organisation of information exchange.
Results	Preliminary analysis shows how establishing the reason-for-the-visit and receiving the patient's history can be interactionally complex. Companions frequently self-select to co-present the problem, introduce additional concerns or volunteer information, even when clinicians explicitly address the patient. In some cases, companions' contributions can also introduce epistemic tensions, including challenges to patients' credibility and accounts of their health behaviours. Although such contributions may be clinically relevant,, they can disrupt progressivity and complicate information exchange.
Conclusions	Information exchange in triadic consultations is a negotiated and potentially fragile process. Companion involvement, while often supportive, can unintentionally undermine older patie nts' participation and complicate accurate clinical assessment.

SCIENTIFIC SESSION 4: OLDER PATIENTS AND MULTIMORBIDITY

Session Chair: Vesnar Homar

Title	**Ascertainment of Delirium in older adults presenting to a primary care out of hours (OOH) service: a retrospective cohort study**
Author(s)	A.Seeley, R.Brettell, A.Wang, R.Barnes, G.Hayward
Affiliation	Nuffield Department of Primary Care Health Sciences, University of Oxford, England.
Background	Out-of-hours (OOH) services provide urgent primary care outside normal GP hours, serving patients with higher health needs. Delirium is commonly associated with acute illness, causes distress, and leads to poor outcomes. However, little is known about delirium presentations in OOH services.
Aim	We aimed to investigate delirium presentations using records from an OOH service in South-West England.
Methods	The database contained 33,345 contacts with patients ≥65 years attending the OOH service. We screened consultations during April and July 2019, and January 2020 using an automated search then clinical review by two independent GPs. We validated our search strategy by reviewing a random sample of 100 "search-negative" consultations initially and assessed inter-rater reliability. Patient characteristics were compared using Chi-squared tests.
Results	Of 4,288 consultations with patients ≥65 years in the study periods, 402 (9.5%) involved possible or probable delirium. A further 74 (1.7%) had end-of-life delirium and were excluded from further analysis. Patients with delirium were older (mean age 84.4 years vs 80.1 years), and more often had dementia (46.6% vs. 10.4%, p<0.001). 67% of delirious patients required home visits, compared to 22% without delirium (p<0.001). Patients with delirium were admitted to hospital twice as often as those without (20.6% vs 8.5%, p<0.001)
Conclusions	Delirium is a common OOH presentation, representing ~10% of consultations with patients ≥65. These patients often have cognitive impairment, require home visits, and are more likely to be admitted to hospital. These findings are important for planning urgent care services tailored to the needs of older people.

Title	**Prognostication and care planning in out-of-hours primary care in England: a mixed-methods study of terminal care case records**
Author(s)	Rebecca Anderson-Kittow, Rachel Brettell, Ariel Wang, and Rebecca Barnes
Affiliation	University of Oxford
Background	Out-of-hours primary care plays a critical role in supporting patients at the end of life. Patients and families require reassurance that appropriate support is available outside routine GP hours. Previous research suggests out-of-hours clinicians may experience anxiety around terminal care consultations due to prognostic uncertainty and the tension between time-pressured urgent care systems and complex end-of-life needs.

Aim	To describe the characteristics of out-of-hours primary care contacts coded as terminal care, and to examine the frequency and nature of documented prognostication, care planning, and end-of-life medications.
Methods	Mixed-methods analysis of all contacts coded as 'terminal care' within one regional GP out-of-hours service in South-west England (April 2019-March 2020; n=1349). Case records, including free-text entries, were analysed to identify case characteristics and any documented initiation, update, or review of prognostication, advance care planning (ACP)/treatment escalation planning (TEP), or end-of-life medications. Descriptive statistics summarised case characteristics. Inferential analyses examined associations between case characteristics and documentation of prognostication, ACP/TEP, and end-of-life medications. Qualitative content analysis of 100 randomly selected cases explored how prognosis was framed in free-text entries.
Results	Prognostication was documented in 57.4% of contacts, ACP/TEP in 53.8%, and end-of-life medications in 78.7%. Documentation of prognostication and care planning were significantly more common in non-cancer diagnoses (e.g. dementia, heart failure) than cancer ($p<0.001$). Among the qualitative sample (n=100), 13% explicitly referenced a time frame and 15% used the words "death" or "dying."
Conclusions	Prognostication and care planning were documented in over half of out-of-hours contacts coded as 'terminal care', though language and specificity varied. As documented prognostication largely concerned imminent dying, higher rates in non-cancer patients may reflect later recognition of terminal status, whereas contacts with cancer patients may be coded as 'terminal care' earlier in their disease trajectory. Greater clarity and consistency in prognostic terminology and coding may reduce such variation and support communication and care coordination.

Title	**Use of out-of-hours primary care services before a cancer diagnosis for patients with a migrant background in Denmark**
Author(s)	Author: Karoline Riis Christensen[1,2] Co-Authors: Anne Harbo Dahl[1,2], Anne Sofie Baymler Lundberg[1,2,3], Alina Zalounina Falborg[1,4], Linda Huibers[1,2], Line Flytkjær Virgilsen[1]
Affiliation	[1]Research Unit for General Practice, Aarhus, Denmark; [2]Department of Public Health, Aarhus University, Denmark; [3]Steno Diabetes Center, Aarhus University Hospital, Denmark, [4]Center for General Practice, Aalborg University, Denmark
Background	Out-of-hours primary care plays a critical role in supporting patients at the end of life. Patients and families require reassurance that appropriate support is available outside routine GP hours. Previous research suggests out-of-hours clinicians may experience anxiety around terminal care consultations due to prognostic uncertainty and the tension between time-pressured urgent care systems and complex end-of-life needs.
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Results	Prognostication was documented in 57.4% of contacts, ACP/TEP in 53.8%, and end-of-life medications in 78.7%. Documentation of prognostication and care planning were significantly more common in non-cancer diagnoses (e.g. dementia, heart failure) than cancer ($p<0.001$). Among the qualitative sample (n=100), 13% explicitly referenced a time frame and 15% used the words “death” or “dying.”
Conclusions	Prognostication and care planning were documented in over half of out-of-hours contacts coded as ‘terminal care’, though language and specificity varied. As documented prognostication largely concerned imminent dying, higher rates in non-cancer patients may reflect later recognition of terminal status, whereas contacts with cancer patients may be coded as ‘terminal care’ earlier in their disease trajectory. Greater clarity and consistency in prognostic terminology and coding may reduce such variation and support communication and care coordination.

Title	**Patterns of Urgent Healthcare Use, Multimorbidity and Causes of Dealth in the Last Year of Life**
Author(s)	Sarah Mills (1), Luciana Rocha Pedro (1), Colin McCowan (1), Sarah Bowers (1,2), Richard Andrew Taylor (3)
Affiliation	1. University of St Andrews, 2. NHS Fife, 3. University of Virginia
Background	In Scotland, 1% of people are in their last year of life (LYOL); 95% use urgent/unscheduled care in that year.
Aim	To identify distinct patterns of healthcare service use in the last year of life and examine how these relate to demographic characteristics, multimorbidity and causes of death.
Methods	Retrospective cohort 57,838 patients (NHS Fife and Tayside) who died 2010-2019. Each patient’s daily healthcare use during LYOL tracked using CHI-linked, anonymised data from national datasets, accessed securely via Trusted Research Environment (TRE). Cohort subdivided and analysed using a novel clustering algorithm, MIRANDA (Medoids Iterative Recombination for Agglomerative Nested Datasets), which grouped patients into clusters based on similar patterns of healthcare use.
Results	Five distinct clusters were identified. Cluster sizes ranged from 649 to 39,225 patients. Type 1 (67.8%) showed minimal service use until a sharp terminal rise. Type 2 (20.1%) had low use for six months then sustained increase. Type 3 (8.0%) showed a gradual mid-year escalation. Type 4 (3.0%) displayed two distinct peaks. Type 5 (1.1%) showed high and sustained hospital use. All clusters showed significant ($P<0.005$) differences in demographics, multimorbidity and causes of death.
Conclusions	Urgent care use in LYOL is highly heterogenous, with five key distinct clusters reflecting different illness trajectories, multimorbidity patterns, and causes of death.

Title	**Managing Complexity in Out-of-Hours Primary Care: Lessons from Geriatric and Multimorbidity Risk Profiles**
Author(s)	Ana R. Miljković
Affiliation	Family (General) Medicine Specialist, PhD Assistant, Department of General Medicine and Geriatrics, Faculty of Medicine, University of Novi Sad, Healt Center Novi Sad, Serbia
Background	Multimorbidity and geriatric complexity are major challenges in out-of-hours (OOH) primary care. In these settings, doctors often work with limited diagnostic resources and incomplete clinical information. Older adults with multiple chronic diseases have a higher risk of acute deterioration, hospitalisation, polypharmacy-related problems, and diagnostic uncertainty. This uncertainty may lead to unnecessary tests and referrals, increasing the burden for both patients and the health system.
Aim	This paper aims to describe key clinical and system-related challenges in managing multimorbidity among older patients in OOH primary care, focusing on diagnostic decision-making, polypharmacy, frailty, and digital health barriers.
Methods	A narrative synthesis of current evidence was conducted, focusing on multimorbidity, polypharmacy, frailty, diagnostic stewardship, and digital health literacy in older adults in primary care and OOH settings.
Results	The reviewed evidence shows that multimorbidity and frailty increase the use of OOH services and acute care. Polypharmacy raises the risk of adverse drug events, diagnostic uncertainty leads to unnecessary testing, and limited digital health literacy delays access to information and prescriptions, increasing reliance on OOH services.
Conclusions	The management of multimorbidity in OOH primary care requires integrated approaches. Rational diagnostic strategies, safer medication management, better digital accessibility for older adults, and improved continuity of care are essential to reduce patient risk and system strain.

SCIENTIFIC SESSION 5: DEMAND

Session Chair: Beate Zoch-Lesniak

Title	**The use of OOH GP care in Belgium, Denmark, the Netherlands and Norway**
Author(s)	Linda Huibers[1], Anthony Pairon[2], Valborg Baste[3], and Lotte Ramerman[4]
Affiliation	[1]Research Unit for General Practice, Aarhus, and Department of Public Health, Aarhus University, Aarhus, Denmark [2]Department of General Medicine, University of Antwerp, Belgium [3]National Centre for Emergency Primary Health Care, NORCE Norwegian Research Centre AS, Bergen, Norway [4]Netherlands Institute for Health Services Research (Nivel), Utrecht, the Netherlands
Background	Demand at OOH GP services continues to increase due to demographic changes. The pressure on call-handlers and GPs is visible in many countries, including Belgium, Denmark, the Netherlands and Norway. Unknown is how organisational contexts are related to the use of OOH GP care.
Aim	To describe and compare the use of OOH GP care in Belgium, Denmark, the Netherland and Norway, and to relate the use of care with organisational and contextual factors in these countries.
Methods	Using registry data, we compared the consumption of OOH GP care in the four countries. We established the 10-year trend in contacts with OOH GP care. Of 2023 data, we performed subanalysis on peak-times and stratifications for age groups and type of consultation. Organisational and contextual factors of the four countries are described.
Results	Preliminary results, work-in-progress. Denmark and Norway had higher levels of OOH GP services use, in particular telephone contacts, whereas Belgium had hardly any telephone consultions. Reimbursment policies could affect these outcomes. Belgium and Denmark had a higher level of home visits compared to the Netherlands and Norway, which may be related to differences in provision of care to nursing homes. All four countries show different 10-year trends, but similar peak-moments during the day.
Conclusions	Registry data could be used to compare transnational trends in OOH GP care to support discussing the role of organisation of care and pinpointing opportunities for sustainable national OOH care.

Title	**Identification of acute unscheduled medical cases in routine data**
Author(s)	Christoph Strumann[1], Beate Zoch-Lesniak[2], Laura Charitou[2], Jost Steinhäuser, Edgar Steiger[2]
Affiliation	[1]Institute of Family Medicine, University Medical Center Schleswig-Holstein, Campus Lübeck, Germany [2]Central Research Institute of Ambulatory Health Care in Germany (Zi), Berlin, Germany
Background	General practitioners (GPs) are the primary contact in outpatient care and manage a substantial share of acute, unscheduled cases. Data from 17 practices within the

	German Supraregional Health Services Research Network (SHRN) indicate that more than 60% of consultations are acute. However, the regional scope of SHRN limits national generalizability.
Aim	This study aims to estimate the proportion of acute cases in German primary care combining SHRN and nationwide administrative billing data.
Methods	We applied two complementary approaches. First, diagnosis-specific "acute values" were derived from SHRN routine data by calculating, for each three-digit ICD-10 code, the proportion of acute unscheduled consultations (same-day appointment, no prior appointment, or emergency billing code). These values were transferred to nationwide quarterly billing data from the Central Research Institute of Ambulatory Health Care in Germany (Zi) and averaged at case level to generate a population-based estimate. Second, we developed a quarterly prediction model based on SHRN data to estimate the probability of case-level acuteness in the Zi data using case- and patient-specific variables.
Results	Nationwide billing data from 2024 include 209,882,149 primary care cases. The mean number of treatment days per case was 2.0 (SD = 2.11); 65.7% of cases involved only one treatment day. The diagnosis-based approach yielded an overall acute proportion of 61.1%. Prediction-based results will be presented at the congress.
Conclusions	By combining a diagnosis-based transfer approach with a prediction model, we provide a nationwide, representative estimate of the proportion of acute cases in German primary care using Zi billing data, despite the absence of direct urgency information.

Title	**Comparing ambulance and out-of-hours primary care pathways for acute chest pain in the Netherlands.**
Author(s)	Amy Manten, Indra M.B. Melessen, Jelle C.L. Himmelreich, Eric P. Moll van Charante, Ralf E. Harskamp.
Affiliation	Amsterdam UMC, University of Amsterdam, Academic Medical Center, Department of General Practice. Amsterdam Cardiovascular Sciences, Atherosclerosis & Ischemic syndromes, Amsterdam, The Netherlands.
Background	Chest pain is a common reason for seeking out-of-hours care. In the Netherlands, both emergency medical services (EMS) and out-of-hours primary care (OOH-PC) assess these patients, yet how their workloads compare remains unclear.
Aim	To explore the pre-hospital flow of patients with acute chest pain by comparing the relative volumes of EMS and OOH-PC contacts, and by examining temporal trends in chest pain-related contacts across these organizations using two regions in the Netherlands.
Methods	We performed a retrospective observational study using aggregated routine care data from six OOH-PC cooperatives and two ambulance dispatch centers across two Dutch regions (approximately 1.2 million inhabitants). Annual data (2019-2024) included chest pain contacts, assigned urgency levels, and actions following contact. For the comparison between OOH-PC and EMS, EMS volumes were adjusted to reflect afterhours activity.
Results	In total, 32,675 chest pain contacts were reported in 2023-2024, 25,078 for OOH-PC and 7,687 for EMS dispatched ambulances. Per 1,000 inhabitants, OOH-PC managed 3.4 times as many contacts as EMS dispatched ambulances in 2023, and 3.2 times as many in 2024.

	Between 2019 and 2024, OOH-PC contacts increased from 6.3 to 10.3 contacts per 1,000 inhabitants, and EMS volumes rose from 2.7 to 4.4 per 1,000 inhabitants. OOH-PC contacts increasingly resulted in an ambulance request, while urgency levels remained stable. EMS-initiated ambulance dispatches showed a growing share of potentially unnecessary deployments, as these increasingly resulted in on-site assessment without subsequent hospital transport.
Conclusions	OOH-PC manages more acute chest pain contacts than EMS dispatched ambulances. Although demand increased for both services, the concurrent rise in ambulance requests from OOH-PC and the growing proportion of EMS dispatches not requiring transport may indicate inefficient resource allocation. Closer coordination and alignment of triage methods are needed to preserve pre-hospital capacity.

Title	**A learning health system for acute care: supporting regional implementation of acute care coordination**
Author(s)	Lotte Ramerman, Priya Dewansingh, Robert Verheij
Affiliation	Nivel, Utrecht, the Netherlands
Background	Acute care in the Netherlands, through Out-of-hours (OOH) services, emergency departments (EDs), ambulances, mental health services and home care, is under increasing pressure, due to staff shortages and raising demand. Care remains fragmented, with multiple entry points and limited coordination across providers, which may result in suboptimal access and use of care. A national policy called acute care coordination (in Dutch: zorgcoördinatie), is aimed at ensuring that patients receive the right care by the right healthcare provider, at the right time and place (first time right). The organisation of acute care coordination differs per region, creating a unique learning opportunity for comparative learning and evaluation.
Aim	To develop and implement a national Learning Health System (LHS) to support and accelarate the implementation of acute care coordination.
Methods	In an LHS, data and practice-based experiences from healthcare are continuously translated into new evidence and knowledge, followed by integration into practice. In this project, routine health data from acute care providers are translated into a monitor. The monitor and common themes are discussed in a national and regional learning communities, to promote cross-regional exchange of knowledge and experiences. Knowledge exchange is facilitated by an online platform. Different tools are used to evaluate the LHS and the implementation of acute care coordination.
Results	Early discussions in the national learning network highlight the need for stronger cross-regional collaboration and interaction between regions. Key preconditions for implementation include regional variation in acute care needs and priorities, differences in provider organisation and governance, and differences in funding arrangements across health insurers.
Conclusions	Dashboards are increasingly available to healthcare providers, yet translating insight into practice often remains limited, reducing uptake and impact. By applying LHS principles, we aim to bridge this gap and support the regional implementation of acute care coordination.

SCIENTIFIC SESSION 6: TRIAGE

Session Chair: Babar Akbar

Title	**AI Can Pass the Exam — But Can It Guide a Patient?**
Author(s)	Rebecca Payne, Andrew Bean, Adam Mahdi
Affiliation	North Wales Medical School, Bangor University, Nuffield Department of Primary Health Sciences, University of Oxford, Oxford Internet Institute, University of Oxford
Background	Large language models (LLMs) now achieve near-passing scores on medical licensing examinations and are increasingly used by the public for health advice. However, strong benchmark performance does not necessarily translate into safe or effective real-world use..
Aim	To evaluate whether LLMs improve members of the public's ability to identify relevant medical conditions and select appropriate levels of care i n common health scenarios.
Methods	Ten clinically validated medical vignettes were developed through iterative consensus by experi enced physicians, with gold-standard dispositions and differential diagnoses defined independently. In a preregistered randomised study (n=1,298), UK participants were assigned either to use one of three LLMs (GPT-4o, Llama 3, Command R+) or to consult usual resources. Participants identified likely relevant conditions and selected an appropriate level of care (self-care to ambulance). Model-alone performance and simulated LLM–LLM interactions were also assessed.
Results	When prompted directly, LLMs identified relevant conditions in over 90% of cases. However, participants using LLMs were significantly less likely than controls to identify relevant condition s and were no more accurate in selecting the correct level of care. Human–LLM performance was substantially lower than model-alone performance. Transcript analysis revealed frequent communication breakdowns, including incomplete user information and failure to recognise correct model suggestions. Performance on standard medical benchmarks and simulated interactions did not reliably predict real-world human–LLM performance.
Conclusions	Although LLMs demonstrate substantial medical knowledge, they do not reliably improve public medical decision-making when deployed in interactive settings. Rigorous human user testing is essential before implementation in patient-facing roles.

Title	**Video-supported Telephone Triage in Emergency Primary Healthcare: An Observational Study from Norway**
Author(s)	Nathalie Sandal [1 2 3], Ingrid Hjulstad Johansen [1], Magnus Hjortdahl [4 5], Valborg Baste [1], Stine Ness [3], Erik Zakariassen [1 2]
Affiliation	[1]National Centre for Emergency Primary Health Care, NORCE Research AS, Bergen, Norway [2]Department of Global Health and Primary Care, University of Bergen, Bergen, Norway

	[3]Norwegian Air Ambulance Foundation, Oslo, Norway [4]Faculty of Health Sciences, Oslo Metropolitan University, Oslo, Norway [5]Norwegian Centre for Rural Medicine, Department of Community Medicine, UiT, The Arctic University of Norway, Tromsø, Norway.
Background	Telephone triage in Local Emergency Medical Communication Centres (LEMCs) relies on verbal information and clinical judgement. The recent introduction of video support provides operators with visual input, but knowledge about how video is used in routine triage and how it influences urgency and response decisions remains limited.
Aim	To describe the use of video support in telephone triage at Norwegian LEMCs, including frequency, call duration, patterns of use, and associations with changes in urgency and response assessments.
Methods	We conducted an observational study using two data sources: national-level operational data from 79 Norwegian LEMCs in 2024, and prospectively collected triage data from six LEMCs participating in the Watchtower Project in 2022–2023. Call characteristics, video use, call duration, urgency level, and response were analysed descriptively, including changes in urgency and response following video use.
Results	The national-level dataset included 2 242 522 calls, with video used in 4.9%. Median call duration was 7:13 minutes (IQR: 5:09-10:02) with video, and 3:58 minutes (IQR: 2:18-6:16) without video ($p < 0.001$). The Watchtower dataset included 109 281 calls. Video was most frequently used in the evening, for children (47% aged 0-15 years), and in calls initiated by next of kin (58%). Skin-related issues accounted for 65% of all video-supported calls. Following video use, urgency changed in 36% of contacts (22% downgraded, 14% upgraded), and the intended response changed in 31%. Changes occurred in both directions, including shifts between nurse-managed and physician-managed responses.
Conclusions	Video-supported calls were longer than non-video calls. Video is used selectively and is associated with bidirectional adjustments in urgency and response assessments in a substantial share of calls.

Title	**Assessment of doctors' communication during out-of-hours tele-triage: Adapting the Four Habits Coding Scheme for tele-triage (4HCS-TT)**
Author(s)	Brinck, Christian Emil[1,2]; Køpfli, Maria Louise[1,2]; Pedersen, Henrik Schou[1]; Huibers, Linda[1,2]; Christensen, Morten Bondo[1,2]; Pedersen, Anette Fischer[1,2,3]
Affiliation	1: Research Unit for General Practice Aarhus, Bartholins Alle 2, 8000 Aarhus, Denmark 2: Department of Public Health, Aarhus University, Bartholins Alle 2, 8000 Aarhus, Denmark 3: Department of Clinical Medicine, Aarhus University, Bartholins Alle 2, 8000 Aarhus, Denmark
Background	Out-of-hours (OOH) telephone triage places high demands on clinicians' communication, as clinical decisions must be made rapidly without visual cues and under considerable uncertainty. Although several instruments exist to assess tele-triage communication, many show limited reliability or require extensive analytical expertise. The Four Habits Coding Scheme (4HCS) is a widely used and psychometrically robust framework for assessing physician communication, but it was originally developed for face-to-face consultations and has not previously been adapted for OOH tele-triage.

Aim	To adapt the Danish version of the Four Habits Coding Scheme for use in OOH tele-triage (4HCS-TT) and to examine its content validity and inter-rater reliability.
Methods	An observational study was conducted using 112 audio-recorded OOH tele-triage calls from general practitioner-led services in Denmark. The original 23-item 4HCS was adapted through expert-based content review, resulting in a 19-item version tailored to the tele-triage context. Five trained raters independently assessed all calls using the 4HCS-TT. Inter-rater reliability was evaluated using intraclass correlation coefficients (ICC). Item score distributions and floor and ceiling effects were examined descriptively.
Results	Mean item scores varied substantially across the 19 items, ranging from 1.49 (Identify feelings) to 4.41 (Give clear explanation). Floor effects were observed for nine items and ceiling effects for four items. Inter-rater reliability ranged from moderate to excellent for most items (ICC = 0.54–0.85), with lower reliability for two items related to greeting and use of the patient's frame of reference.
Conclusions	The Danish 4HCS was successfully adapted for OOH tele-triage, resulting in a 19-item instrument with good contextual fit and generally satisfactory inter-rater reliability. The 4HCS-TT shows promise as a structured framework for assessing professional communication in OOH tele-triage.

Title	**Comparison of Doctor–Patient Communication in Video Consultations and Face-to-Face Consultations in General Practice: An Observational Study**
Author(s)	**Svend Storm Rasmussen, Christian Emil Sejersen Brinck, Henrik Schou Pedersen, Ulrik Bak Birk, Anette Fischer Pedersen**
Affiliation	Research Unit for General Practice, Department of Public Health, Aarhus University, Aarhus, Denmark
Background	Doctor–patient communication is central to patient satisfaction, treatment adherence, and clinical outcomes. Following the COVID-19 pandemic, video consultations have become a routine component of general practice. While video consultations improve accessibility and convenience, concerns remain regarding differences in communication quality compared with traditional face-to-face consultations. Systematic investigation of communicative behavior across consultation formats is limited.
Aim	To compare the quality and characteristics of doctor–patient communication in video consultations and face-to-face consultations in day time general practice using semantic communication analysis and dialogue pattern analysis.
Methods	This observational study uses an existing dataset of 150 recorded consultations (75 video and 75 face-to-face) conducted by general practitioners in the Central Denmark Region. Communication quality is assessed using the Four Habits Coding Scheme (4HCS), rated independently by trained evaluators. Dialogue pattern analysis includes uninterrupted patient speaking time, doctor–patient speaking ratio, pauses and interruptions. Group differences will be analyzed using Student's t-tests and two-way ANOVA using STATA.
Results	Results are pending.
Conclusions	This study will contribute to understanding how consultation format influences doctor–patient communication. The findings may inform training in video-based clinical communication and support the continued integration of video consultations into general practice.

Title	**Evaluation of Generative Artificial Intelligence for Triage of Acute Chest Pain: A Vignette-Based Comparison of ChatGPT-5.2 with the Netherlands Triage Standard**
Author(s)	Ralf E. Harskamp
Affiliation	Amsterdam UMC
Background	Doctor–patient communication is central to patient satisfaction, treatment adherence, and clinical outcomes. Following the COVID-19 pandemic, video consultations have become a routine component of general practice. While video consultations improve accessibility and convenience, concerns remain regarding differences in communication quality compared with traditional face-to-face consultations. Systematic investigation of communicative behavior across consultation formats is limited.
Aim	To explore the feasibility and preliminary performance of ChatGPT-5.2 for telephone triage of acute chest pain, compared with the current triage standard, using clinical vignettes.
Methods	A vignette-based study was conducted using cases from the TRACE cohort, a study of consecutive patients with chest pain contacting a regional OOH-PC service in the Netherlands with structured clinical follow-up. Twenty cases were selected by stratified sampling (10 with a major event; 10 without.) Written information of the telephone contact was entered into ChatGPT-5.2 in new, stateless sessions. Recorded Netherlands Triage Standard (NTS) urgencies, the national system for urgency assessment (high-low risk: U1-U5), served as the comparator. Urgency classifications were categorised as concordant, over-triaged, or under-triaged relative to major-event status; high urgency was defined as U1-U2.
Results	Among 20 vignette cases (55% female), ChatGPT-5.2 classified 9 out of 10 major-event cases as high urgency, whereas NTS classified 7 of 10 as high urgency. Among the 10 non-major-event cases, ChatGPT-5.2 classified 6 as low urgency, compared with 8 for NTS.
Conclusions	In this exploratory vignette-based study, ChatGPT-5.2 and NTS suggest differing patterns of over- and under-triage, warranting evaluation in larger, representative datasets.

Title	**Impact of an AI-based Question Recommender on Communication and Medical Content in Calls to Medical Communication Centres: A Quasi-Experimental Feasibility Study**
Author(s)	Siri-Linn Schmidt Fotland[1,2], Arngeir Berge[1,3], Erik Zakariassen[1,2,4], Valborg Baste[1], Gro Fonnes5, Vivian Midtbø[1], Frode Guriby[3], Christoph Trattner[3], Junyong You[5,] Ingrid Hjulstad Johansen[1]
Affiliation	1. National Centre for Emergency Primary Health Care, NORCE Norwegian Research Centre AS, Box 22, NO-5838 Bergen, Norway. 2. Department of Global Public Health and Primary Care, Faculty of Medicine, University of Bergen, Box 7804, NO-5020 Bergen, Norway. 3. Department of Information Science and Media Studies, Faculty of Social Science, University of Bergen, Box 7804, NO-5020 Bergen, Norway. 4. Department of Research and Development, Norwegian Air Ambulance Foundation, Oslo, Norway 5. Digital Systems, NORCE Norwegian Research Centre AS, Box 22, NO-5838 Bergen, Norway.

Background	Operators' management of contacts to medical communication centres decide patient safety, and is influenced by medical knowledge, communication skills, and the decision support system used.
Aim	To investigate if use of an AI-based question recommender prototype, that suggested medical questions and allowed for automatic documentation, affected the operators' telephone triage performance.
Methods	22 operators handled 15 medical cases called in by simulated callers 5 months before and then after the introduction of the protoype. Audio-records of the calls were rated according to the Assessment of Quality in Telephone Triage tool (AQTT). Pre- and post-values were compared.
Results	A total of 320 paired calls were analyzed. Overall medical quality improved significantly with use of the AI-based question recommender, from a mean of 6.83 points in the pretest to 7.16 points in the posttest rated on a 10-point scale (difference 0.34, 95% CI 0.11–0.57, P=.004). The effect size was small (Cohen's dz=0.16). No significant change was observed in overall communication quality with a mean of 7.06 points in the pretest and 6.97 points in the posttest (difference –0.09 points; 95% CI –0.28 to 0.10, P=.353). A significant decrease from pre- to posttest was observed in 2 of 19 specific items from AQTT "Collects information about the patient's location" (P<.001) and "Ensures that the triage decision is understandable and feasible" (P=.002). No significant changes were found in the remaining specific items, triage accuracy, patient safety, call duration or effciency.
Conclusions	The AI-based question recommender prototype improved the overall medical quality of calls without affecting overall communication quality. The effect size of the improvement was small. Although the results indicate that AI based question recommender systems can support operators during telephone triage, the clinical relevance of these findings are uncertain.

SCIENTIFIC SESSION 7: PRESCRIBING

Session Chair: Siri-Linn Schmidt Fotland

Title	**Medications prescribed after an out-of-hours primary care telephone consultation in North Wales, over the course of one year.**
Author(s)	Sonja Hofmann[1], Adam Mackridge[2], Christine Bond[3], Zoe Hoare[1] Rebecca Payne[1,4],
Affiliation	[1]Bangor University, Bangor, United Kingdom. [2]Betsi Cadwaladr University Health Board, Bangor, United Kingdom. [3]Institute of Applied Health Sciences, University of Aberdeen, Aberdeen, United Kingdom. [4]Nuffield Department of Primary Health Care Sciences, University of Oxford, Oxford, United Kingdom.
Background	Recent innovations in medicines supply following out-of-hours (OOH) telephone consultations could enable patients to collect recommended treatments from remote dispensing machines located close to home. However, there is little evidence on which medications are most frequently prescribed after OOH telephonic consultations, limiting understanding of what medicines to stock in these machines .
Aim	To describe medications prescribed following OOH telephone consultations and provide evidence to support optimal stock selection for remote dispensing systems.
Methods	This retrospective observational study has analysed routinely collected data from the North Wales OOH electronic medical record system, Adastra to describe the medicines that have been prescribed. Microsoft Copilot (AI) supported data cleaning and sorting. Ongoing analyses using linear mixed models will identify seasonal variation in prescribing and examine associations with patient age. A comprehensive list of the most frequently prescribed medications is being developed, grouped by two-month periods and age brackets, to support more nuanced and population-specific stocking decisions.
Results	Medications for both acute and chronic condition were commonly issued following OOH telephonic consultations. The most frequently prescribed items included antibiotics—particularly those used for urinary tract infections—alongside oral analgesics (with and without opioids), antidepressants, antihypertensives, antiepileptics, antiemetics, inhalers (notably salbutamol), and corticosteroids. Early findings suggest that chronic medication requests constitute a substantial proportion of OOH prescriptions. Further work is ongoing to evaluate seasonal patterns and demographic drivers.
Conclusions	Understanding prescribing trends after OOH 111 calls can support evidence-based and efficient stocking of remote medication dispensing systems. Accounting for temporal and demographic variation may further improve alignment with local population needs, particularly where machine capacity is limited. High levels of antibiotic prescribing highlight the need for strengthened antibiotic stewardship within OOH services. The notable number of chronic medication prescriptions also raises questions about why these patients seek OOH care and whether alternative pathways could better support them.

Title	**Antibiotic prescriptions in out-of-hours primary care: a descriptive study across consultation types**

Author(s)	Thea Kjærsgaard Mortensen (medical student, research year student) Henrik Schou Pedersen (PhD, statistician) Mette Amalie Nebsbjerg (MD, PhD) Morten Bondo Christensen (GP, professor) Malene Plejdrup (GP, associate professor) Katrine Bjørnshave Bomholt (MD, PhD) Linda Huibers (MD, associate professor)
Affiliation	Research Unit for General Practice, Aarhus, Denmark Aarhus University, Denmark
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Title	**Differences in Determinants of Antibiotic Prescribing Between Regular and Out-of-Hours Care: Context Matters**
Author(s)	Andreas Plate1, Sereina Graber2, Sabrina Stollberg2, Carola Huber2, Oliver Senn1
Affiliation	1: Institute of Primary Care, University of Zurich and University Hospital Zurich, Zurich, Switzerland 2: Helsana Group, Zurich, Switzerland
Background	Antibiotic prescribing varies substantially across physicians and practices and cannot be fully explained by patient characteristics alone, underscoring the need to systematically assess its

	determinants. Out-of-hours (OOH) care represents a distinct clinical setting which may further influence prescribing behaviour.
Aim	To examine whether and to what extent determinants of antibiotic prescribing by general practitioners (GP) differ between regular care (RC) and OOH care
Methods	We analysed outpatient claims data (2023) from a large Swiss insurer covering about 15% of the population. The study focused exclusively on adults and GP-issued antibiotic prescriptions. Data included patient sociodemographic and clinical characteristics, prescriber information (practice and individual level), and contextual variables. Identification of OOH consultations relied on a specific emergency inconvenience billing code for services delivered during emergency duty periods.
Results	The analysis comprised 2,6 million consultations across 3,375 practices and 9,138 physicians. Preliminary regression analyses indicated that, controlled for patient and morbidity characteristics, OOH care is associated with a substantial increase in antibiotic prescribing and that other determinants of antibiotic prescribing also differed between RC and OOH care. For instance, regional variation observed in RC largely disappeared in OOH care. Conditions positively associated with prescribing in RC (e.g., cancer) were associated with lower prescribing in OOH care. Similarly, higher continuity of care indices were linked to lower prescribing in RC but showed no association in OOH settings. Urban–rural differences present in RC were no longer evident in OOH care.
Conclusions	Preliminary findings suggest that OOH-care context is linked to a substantial rise in antibiotic prescribing overall and that other determinants of prescribing differ between RC and OOH care. Results from advanced model analyses will be presented at the meeting. In addition, alternative definitions (e.g., classifying all weekend consultations as OOH) will be explored to assess the robustness of the findings.

Title	A national learning community to improve antibiotic prescribing in out-of-hours general practice
Author(s)	Liselore Cariot, Mariska Scheffer, Cathrien Kager, Lotte Ramerman, Karin Hek
Affiliation	Nivel, the Netherlands Institute for Health Services Research
Background	Inappropriate or excessive antibiotic prescribing can contribute to antibiotic resistance. Antibiotics are among the most frequently prescribed medications in out-of-hours general practice services (OOH-GPS), with considerable variation between services, suggesting room for improvement.
Aim	To develop a national learning community and provide an overview of interventions to promote appropriate antibiotic prescribing in OOH-GPS.
Methods	We collected data on existing interventions through a survey amongst Dutch OOH-GPS and an international literature review. Results of the latter were presented last year. We identified facilitators and barriers to implementation, using the RE-AIM framework, from an organizational perspective via a learning community session with Dutch OOH-GPS and from the perspectives of healthcare providers and patients through interviews and surveys.
Results	17 (of 50) OOH-GPS completed the survey. Decision support and diagnostics were the most often used interventions. In contrast to results from literature, audit and feedback was hardly used. Stakeholder involvement was most often mentioned as facilitator for successful implementation and time pressure as barrier. Two learning platform sessions were organised

	with OOH-PCS staff and 20 interviews with healthcare providers (GPs, triagists, pharmacists and nurses) working at the OOH-GPS were performed. Analyses are currently being done and results will be presented at the conference.
Conclusions	Knowledge exchange in learning community sessions enhances the yield of data collection beyond literature reviews, surveys and interviews and showed the potential benefits of cross regional knowledge exchange to enhance sustainable antibiotic prescribing. An intervention overview to promote appropriate antibiotics prescribing at OOH-PCS was created.

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Title	**HAPPY PATIENT – not so happy out of hours? A secondary analysis of the multifaceted intervention on antibiotic prescribing across five European countries.**
Author(s)	Bent Håkan Lindberg[1,2], Ingrid Keilegavlen Rebnord[3]
Affiliation	[1]National Centre for Emergency Primary Health Care, Norce, Bergen, Norway.

	[2] Department of General Practice, Institute of Health and Society, University of Oslo, Norway [3]Section for General Practice, Department of Global Public Health and Primary Care, University of Bergen, Norway
Background	Out-of-hours (OOH) services account for a substantial proportion of antibiotic use, yet few stewardship interventions have been evaluated in this setting.
Aim	To perform secondary analyses on the effect of the multifaceted intervention on antibiotic prescribing in OOH across five European countries participating in the HAPPY PATIENT project.
Methods	A prospective, non-randomised, before-and-after study was conducted in France, Greece, Lithuania, Poland and Spain. Physicians completed paper-based Audit Project Odense (APO) registration forms for all OOH contacts during two 3-month periods: February–April 2022 (pre-intervention) and February–April 2023 (post-intervention). The intervention comprised individual feedback reports, group workshops, communication skills training, patient information leaflets, and access to an e-learning platform. Primary outcomes were (i) total antibiotic prescribing rate and (ii) proportion of unnecessary or inappropriate prescriptions, analysed with descriptive statistics.
Results	A total of 67 physicians contributed 3,606 registrations (1,786 pre, 1,820 post). Contrary to the effect observed in general practice, overall antibiotic prescribing did not change (49.3% vs 48.7%; $p = 0.748$). Unnecessary prescriptions remained high (33.1 %). However, significant changes were observed for specific diagnoses: COVID-19 prescribing fell markedly (28% → 5%; $p < 0.001$), while pneumonia prescribing increased (79% → 94%; $p < 0.001$). In urinary tract infections, the use of first-line agents for cystitis increased from 70.0 % to 79.5 % ($p = 0.027$).
Conclusions	The multifaceted OOH intervention did not mirror the effect observed in general practice on reducing antibiotic prescribing. It succeeded in lowering COVID-19-related prescribing and improving first-line therapy for cystitis, but its broader stewardship impact was limited, likely due to contextual factors such as the pandemic, antibiotic shortages, and the heterogeneity of OOH service models. The Euroohnet can serve as a pivotal platform for shaping future antibiotic prescribing interventions in OOH across multiple European countries, enabling each country to incorporate locally adapted components to enhance effectiveness.

Title	**CRP in GPOOH Services, Tool or Trap?**
Author(s)	Rebecca Payne, Kate Lifford, Zoe Hoare, Sonja Hofman, Clare Wilkinson, Haroon Ahmed
Affiliation	North Wales Medical School, Bangor University, Cardiff University
Background	C-reactive protein point-of-care testing (CRP POCT) testing is recommended in UK guidance for managing lower respiratory tract infection (LRTI), yet availability in GP out-of-hours (GPOOH) services appears limited.

Aim	To determine availability of CRP POCT in UK GPOOH services and explore clinicians' views on its utility, including barriers and enablers to use.
Methods	A UK-wide questionnaire was distributed to GPOOH clinicians via service providers. Semi-structured interviews and focus groups were conducted with GPs working in OOH services.
Results	Survey responses were received from 99 clinicians across the UK. Only 6% reported access to CRP POCT, representing one of the largest gaps between current availability and perceived need. Most survey respondents felt POCT could support safer (79%) and more confident (79%) decision-making and potentially reduce hospital admissions (71%). However, views on whether sufficient evidence exists to justify CRP POCT use in GPOOH were mixed (24% yes, 34% no, 39% unsure). Two focus groups and three interviews were completed (total n=12 GPs). Preliminary qualitative findings reflected similar ambivalence. CRP POCT was viewed as a potential adjunct in cases of diagnostic uncertainty or to help justify antibiotic decisions to patients, but unlikely to replace clinical judgement. The main barrier identified from quantitative and qualitative data was lack of equipment availability, alongside cost, time, workload pressures, training requirements, and uncertainty about clinical utility. Concerns regarding over-reliance on testing and false reassurance were also raised. Enablers included stronger evidence of impact on antibiotic prescribing and patient outcomes, portable and easy-to-use devices, peer adoption, and concise guidance integrated into clinical pathways.
Conclusions	There is clear interest in CRP POCT within GPOOH, but implementation is constrained by a lack of evidence for the OOH setting and system-level barriers. Addressing these factors is essential before wider adoption.