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Introduction:
Antimicrobial stewardship (AMS) is a key issue in ICUs; however, few studies have examined antibiotic decision-making in this context. INHALE is a research programme examining molecular diagnostics’ influence on hospital-acquired pneumonia (HAP) prescribing in ICU. This study explored how prescriber perceptions and contextual factors influence ICU antibiotic decisions, before implementing molecular tests.

Methods:
Four focus groups and 34 interviews were conducted with clinicians in four UK ICUs. Focus groups explored perceptions of factors influencing prescribing decisions and interviews explored decision processes using clinical vignettes depicting HAP. Data were analysed using thematic analysis.

Results:
Prescriber perceptions were key to decision-making. Most clinicians balanced societal risks of antimicrobial resistance (AMR) against individual patients’ needs, with the latter generally prioritised. In uncertainty, the default was to prescribe on the basis that antibiotics might prevent patient mortality, with clinicians viewing prescribing as more defensible than withholding. Antibiotic side effects were rarely mentioned. Clinicians were aware of AMR and strove to withhold potentially unnecessary antibiotics. This aim was counter-balanced by previous negative experiences, which motivated prescribing antibiotics ‘just in case’ of infection.

Clinicians’ perceptions interacted with the prescribing context. Examples include a lower perceived threshold to prescribe antibiotics out of hours, input from non-ICU team members, and varied local prescribing norms.

Conclusion:
When making prescribing decisions, clinicians’ understandable fear of undertreating possible infection often conflicts with AMS aspirations. Prescribers seem to be driven by perceived negative consequences for patients and themselves over more distal issues of AMR. Rapid evidence-based support from more effective diagnostics may help reconcile these competing priorities.