

Supporting CORRECT Antimicrobial CHOICES IN SEPSIS



A nomination of Dr Alexander Pond-Allerton (FY2 Doctor) for the Das Pillay Antimicrobial Stewardship Memorial Award Submitted by Bai Bolla Consultant Antimicrobial Pharmacists for ULHT in recognition of the dedication and commitment to Antimicrobial Stewardship and patient outcomes.



Background

Several reasons to improve awareness of correct antimicrobial choice in sepsis have been highlighted in our Trust. These range from mortality risk and significant side effects to the more widespread inappropriate resolutions of antibiotics or inadequate cover provided by chosen.

An antimicrobial audit undertaken by Dr. Pond-Allerton on acute surgical wards revealed inappropriate use of Piperacillin-Tazobactam and Meropenem. Two key issues were highlighted by root cause analysis:

1. Incorrect labelling as sepsis
2. Perception of poor differentiation in current guidelines even where there is a clear suspected cause.

The existing antimicrobial guidance and posters were felt to be unclear and difficult to read due to the volume of information (see image 1 and 2 below).

Project overview

The purpose of creating a new clinical decision making tool was to improve both access and clarity of Trust antimicrobial recommendations in sepsis, improve known and unknown, that can be referred to swiftly at the point of prescribing. These recommendations needed to be clear, concise and easily used in daily practice.

Dr. Pond-Allerton produced this tool (image 3, below) which simplifies the choice of antibiotic required by way of a few simple questions, with checkboxes and for their inclusion if the user requires. It is easy to use, and has been updated to reflect changes to guidelines, to ensure it remains relevant to local antimicrobial trends.

Practical Application

The decision tool has been widely used (see image 4) and has received positive feedback from staff, particularly regarding the ease of use, accessibility, educational value, enabling rapid decisions and bolstering confidence in these decisions.

ULHT Sepsis Decision Tool Use

Month	Mobile	Computer
Jun-22	~45	~45
Jul-22	~40	~40
Aug-22	~100	~100

Image 1 - previous guidelines for treatment of sepsis of unknown cause

Image 2 - previous guidelines for treatment of sepsis of unknown cause

Image 3 - screenshot of MICROGUIDE clinical decision tool

Image 4 - QR code for the ULHT sepsis antimicrobial clinical decision tool

Figure S1. Poster overview of the project.

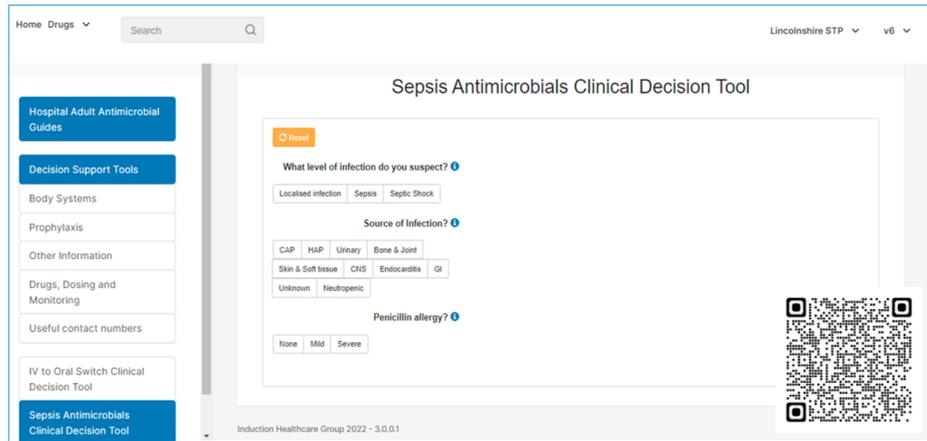


Figure S2. Screenshot of the tool itself, as viewed by a user. Note also the QR code in the bottom-right-hand corner to view the current version directly.

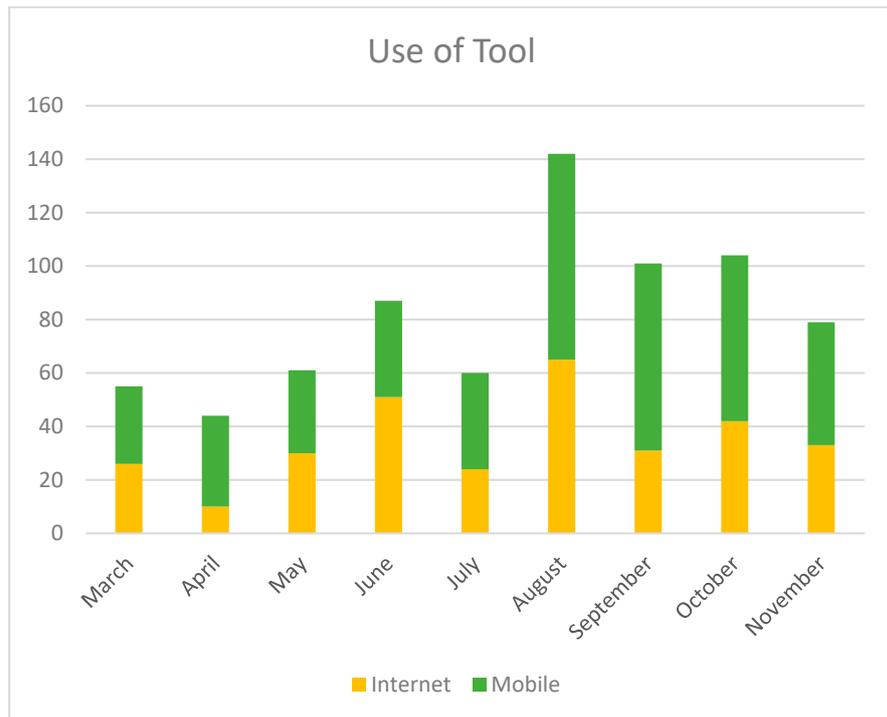


Figure S3. Graph depicting the use of the tool in 2022 so far. Updated since poster submission for accuracy.

- Airedale NHS Foundation Trust
- Barts Health NHS trust
- Bedford Hospital NHS Foundation Trust
- Children’s University Hospital, Dublin
- Dartford & Gravesham NHS Trust
- East & North Hertfordshire NHS Trust
- GGC Inverclyde Royal Hospital
- Gloucestershire Hospitals NHS Foundation Trust
- Kettering General Hospital NHS Trust
- Kings College NHS Foundation Trust
- Lewisham and Greenwich NHS Trust
- North Bristol NHS Trust
- Royal Marsden NHS Foundation Trust
- Royal United Hospitals Bath NHS Foundation Trust
- Royal Wolverhampton NHS Trust
- The Robert Jones & Agnes Hunt Orthopaedic Hospital NHS Foundation Trust
- University College London NHS Foundation Trust
- University Hospitals Birmingham NHS Foundation Trust
- University Hospitals Bristol & Weston NHS Foundation Trust

Figure S4. List of hospitals and NHS Trusts that the tool has been shared with.

Table S1. Overview of pre- and post-intervention audit data.

Observations from audit	Pre-intervention compliance 2021 (n = 54)	Post-intervention compliance 2022 (n = 48)
Clearly documented clinical indication	78%	83%
Appropriate choice of antimicrobial	70%	71%
Allergy status taken into account correctly	96%	98%