

AIM

Improve patient care and antimicrobial stewardship (AMS) in acute medical ward

- Measure effect on antimicrobial decision-making documentation
- Measure impact on length of antibiotic courses

BACKGROUND

AMS aims to improve efficacy and reduce adverse effects of antibiotic use by reducing inappropriate prescribing.

Overuse of broad-spectrum IV antibiotics and failure to de-escalate leads to antimicrobial resistance (AMR) and longer hospital admissions. (1)

Antimicrobial resistance (AMR) is of growing concern to public health (Fig. 1).

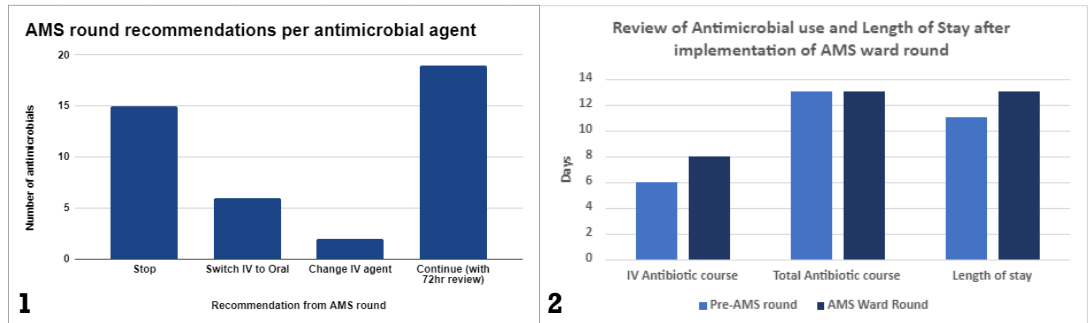
Previous studies have shown AMS associated with reduction in length of stay (LOS) and costs of care. (2)

METHODS

4-weeks of patients requiring IV antibiotics reviewed prior to one plan do study act cycle. A weekly AMS round was started on a 13-bed extension bay of an acute medical ward, attended by a consultant microbiologist, specialist pharmacist and ward medical team. Each patient on IV antibiotics was discussed with recommendations recorded per antibiotic.

RESULTS

- Of 36 patients reviewed pre-intervention, only 28% had documented antimicrobial rationale, despite lengthy antibiotic courses observed.
- In 4-weeks of AMS rounds, all 22 patients requiring IV antibiotics were discussed with 42 recommendations made and a significant number advised to stop or switch to oral (50%) (Graph 1).
- An increase in cultures was observed with AMS round (80%, 12 positive vs. 69%, 6 positive).
- Overall lengthy courses of IV antibiotics observed with no substantial differences in total antibiotic length and LOS between cycles (Graph 2), however doubling of complex cases (bacteraemia & musculoskeletal infection) requiring long IV courses was noted in 4-weeks of AMS round.



Graph 1: AMS round recommendation per antibiotic (42 total). **Graph 2:** Review of antibiotic course length (IV and total) and LOS of 4-weeks pre- and post- AMS round.

CONCLUSIONS/RECOMMENDATIONS

AMS rounds promote discussion and documentation of antibiotic decision-making. They provide valuable input to patient care through promoting more appropriate de-escalation of antibiotics, use of cultures and tailoring of therapy.

Further study is needed to establish longer term impact on antibiotic use, LOS and costs of care.

GLOBAL A failure to address the problem of antibiotic resistance could result in:



**10m
deaths
by 2050**

**Costing
£66
trillion**

Figure 1: Image taken from Public Health England Guidance "Health matters: antimicrobial resistance" illustrating dangers and potential costs of poor AMS