

ANTIBIOTICS STEWARDSHIPNESS IN ACUTE MEDICAL UNIT

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INTRODUCTION

The introduction of antibiotics into clinical use was arguably the greatest medical breakthrough of the 20th century^[1]. However, misuse of these valuable compounds has resulted in the rapid rise of antimicrobial resistance with some infections now effectively untreatable. The UK Government-commissioned O'Neill report predicted that without urgent action 10 million people a year will die from drug resistant infections by 2050^[2]. In 2021, the overall crude case fatality rate for 30-day all-cause mortality in patients with key Gram-negative bacterial BSI was 16.7%^[3].

The UK 5-year action plan for antimicrobial resistance 2019 to 2024 targets ^[4]

- To reduce the number of specific drug-resistant infections in people by 10% by 2025.
- To reduce UK antimicrobial use in humans by 15% by 2024.

AIMS AND OBJECTIVES

- 1.To appraise that antibiotics choices are as per trust's guidelines
- 2.To assess if the dose and duration of antibiotic prescriptions are as per the trust's guidelines
- 3.To monitor if the documentation of antibiotic prescriptions are correct

METHOD

Data were collected randomly and retrospectively by reviewing the drug charts and clinical notes of the patients admitted acute medical unit. The standard is the trust's antibiotic prescriptions guideline. The project was started in February 2023 and reaudited in June/July 2023 in which sample size of 117 patients and 131 patients was collected respectively.

RECOMMENDATIONS

- To improve the awareness of antibiotic stewardship in the trust
- To review the Trust's guideline for every antibiotics prescriptions
- To perform clinical review for antibiotics at 48-72hours
- To document all indications and decisions of antibiotics
- To consult with the microbiologist whenever necessary
- To sign and mention the name and GMC number in every prescription.

FUTURE ACTION PLANS

- .To do presentations and poster to improve awareness
- A poster of trust's antibiotic guidelines for common infections at the clinical area
- Daily review of antibiotic indications by the medical teams
- To put on notification stickers at the drug charts to review inappropriate prescriptions

REFERENCES

- 1.Leonard Katz, Richard H Baltz, Natural product discovery: past, present, and future, *Journal of Industrial Microbiology and Biotechnology*, Volume 43, Issue 2-3, 1 March 2016, Pages 155–176, <https://doi.org/10.1007/s10295-015-1723-5>
- 2.Neil JO. Report on Antimicrobial Resistance. Report on Antimicrobial Resistance. 2016.
- 3.UK Health Security Agency. English surveillance programme for antimicrobial utilisation and resistance (ESPAUR) Report 2021 to 2022. London: UK Health Security Agency, November 2022.
- 4.[UK 5-year action plan for antimicrobial resistance 2019 to 2024 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/102950/uk-5-year-action-plan-for-antimicrobial-resistance-2019-to-2024.pdf)

RESULTS

The results comparison table between the 1st cycle and 2nd cycle as below

		Audit 1	Audit 2
Commonest infection in which antibiotics were used		CAP 29.9% Lower UTI 6.8% Cellulitis 5.1% Not mentioned 24.8%	CAP 32.1% Sepsis unknown origin 9.2% Lower UTI 8.4% Not mentioned 27.5%
Most commonly used antibiotics		IV Tazocin 29.9% IV co-amoxiclav 21.4%	IV Tazocin 21.4% IV co-amoxiclav 20.6%
Is antibiotics prescribed according to the Trust guideline	Yes No Not mentioned	47.9% 31.6% 20.5%	58.8% 16% 25.2%
Is the dose appropriate?	Yes No Not mentioned Renal dose adjusted	87.2% 3.4% 1.7% 7.7%	90.1% 3.4% 3.8% 3.1%
Is the duration appropriate?	Yes No Not mentioned	65% 11.1% 23.9%	69.5% 6.9% 23.7%
Is the antibiotic reviewed after 48-72hours?	Yes No Not mentioned	56.6% 14.2% 29.2%	62.6% 17.6% 19.8%
Discussion with microbiologist if not according to trust guideline	Yes No	29.4% 67.6%	19.4% 80.6%
Did the prescriber sign and stamp at the prescription?	Sign only Stamp only Both Neither	39.6% 0.9% 59.4% 0%	21.4% 0.8% 76.3% 1.5%

DISCUSSION AND CONCLUSIONS

These two audits demonstrated that there was a decrease in the usage of broad-spectrum antibiotics, Tazocin and Co-amoxiclav. Compliance to trust's guideline, appropriateness of dosage and duration, and clinical review in 48-72hours increased. Although there was improvement, there were gaps between the practices and the standard protocol which will definitely lead to antibiotic resistance and interfere the UK 5-years antibiotic resistance targets to be fulfilled.