Optimising Antibiotic Duration and Preventing Missed Doses in Respiratory Infections

A Quality Improvement Project at Royal Blackburn Hospital

INTRODUCTION

- Antimicrobial resistance is a critical public health threat driven by inappropriate antibiotic
- Excessive antibiotic duration and missed doses increase treatment failure, adverse effects, and hospital length of stay.
- Antibiotic stewardship aims to promote appropriate choice, duration, and administration to improve patiet outcomes while reducing resistance.

AIM

- **Assess antibiotic duration** and missed doses against NICE & ELHT guidelines.

METHODOLOGY

- Retrospective audit over 6 weeks
- n = 40 adult inpatients
- Respiratory infections (CAP, COPD exacerbations, asthma exacrbations)
- Data from electronic prescribing records
- Compared with NICE & ELHT antimicronal guidelines

RESULTS

Cycle 1 (Baseline Audit)

- **50%** guideline-compliant antibiotic choices
- **55%** correct antibiotic duration
- **25%** had ≥1 missed or delayed antibiotic dose
- **45%** prolonged antibiotic courses
- **52.5%** documented IV review within 48-72 hours
- **45%** timely IV-to-oral switch

Cycle 2 (Re-Audit)

- **85%** guideline-compliant antibiotic choices
- **90%** correct antibiotic duration
- **75%** had ≥1 missed or delayed antibiotic dose
- **10%** prolonged antibiotic courses
- **90%** documented IV review within 48-72 hours
- **80%** timely IV-to-oral switch

WHY ANTIBIOTIC STEWARDSHIP MATTERS

- **Reduces antibiotic** resistance
- by avoiding prolonged use
- **Improves patient safety**
- **Global impact:** ~1.27 million caused in 2019
- **Public health priority:** Resistant infections cause
- longer stays, higher costs, and deaths

REFERENCES

1. NICE NG138 – Pneumonia in adults
2. NICE NG115 – COPD exacerbations
3. ELHT Antimicrobial Guidelines 2024

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