

RES-085: FROM DRIPS TO DECISIONS: AN ANALYSIS OF IVOS IN AN ACUTE NHS DISTRICT HOSPITAL, AND THE BARRIERS PREVENTING IT.

IV to oral switch Think ACED

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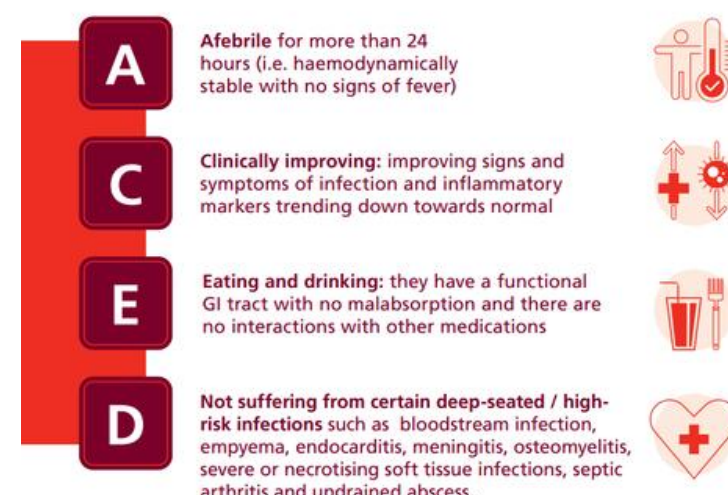
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Background

The Intravenous-to-Oral-Switch (IVOS) represents a multidisciplinary strategy that facilitates the transition of patients from intravenous to oral antibiotics when clinically appropriate (see ACED infograph). IVOS plays a critical role in antimicrobial stewardship, expediting patient discharge, and mitigating both operational and financial pressures on healthcare trusts. The latest NHS Planning guidance brings an intensified financial demand on the NHS, highlighting the importance of capitalising on cost-saving opportunities achievable with effective IVOS implementation.

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Methods

The study extracted a list of patients on intravenous antibiotics for more than 24-hours from Business Intelligence (BI) and analysed it against the electronic patient record (EPR) using a modified UKHSA Antimicrobial intravenous-to-oral (IVOS) decision aid tool [1]. Patients receiving prophylactic, antifungal, antiviral treatments, and those in intensive or high-dependency units were excluded from the study.

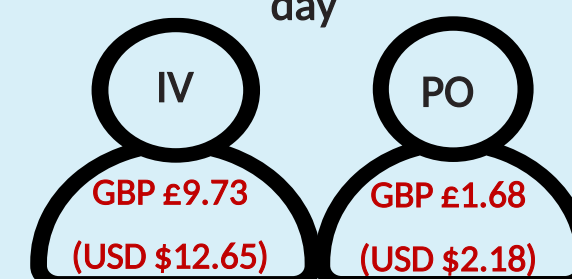
Objectives

- Analyse the IV antibiotic prescribing against drug cost and highlight the cost saving opportunities if IVOS took place
- Identify the barriers preventing this in practice and make recommendations for improvement

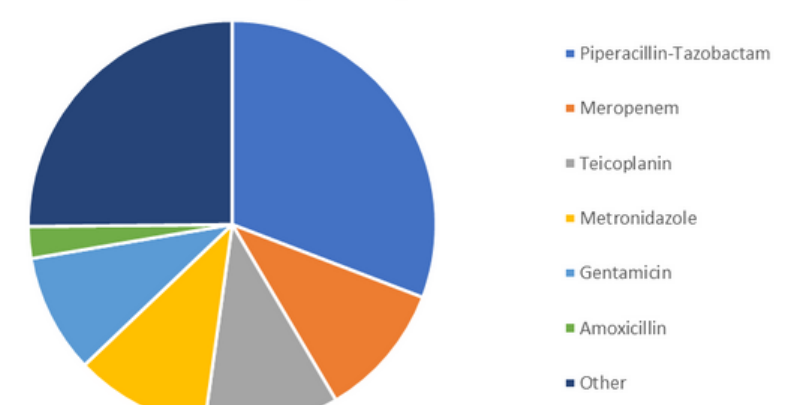
Results

- **Thirty-six out of 110 patients (33%) met the criteria¹ for IVOS**
- The average length of intravenous antibiotic course was 5.7 days in total (range 2-21 days)
- **Twenty-five patients (23%) were found to be able to switch to oral antibiotic(s) sooner than the audit day which meant that a total of 39 hospital-bed days could have been saved**, if medically fit for discharge
- Surgery in digestive tract used the highest volume of intravenous antibiotics which contributed to **14.5% of all IV antibiotic prescriptions** (n=159), **53% of these patients were suitable for IVOS**.
- The most common reason for being unsuitable for IVOS was “one or more infection marker criteria not met”.
- The total expenditure of intravenous antibiotics was **GBP £5,348.83 (USD \$6,953.48)** in which **GBP £1,124.55 (USD \$1,461.92) (21%) was spent on piperacillin-tazobactam**; the most popular antibiotic in the study.
- The highest rate of IVOS was seen in acute medicine with a total of 60% (n=5) of IV antibiotics being switched to oral on the audit day.
- The total **AMS Pharmacist Workforce** used in the study was 1090 minutes ~ 18.17hours = **GBP £562.08 (USD \$730.71)** ^[3]

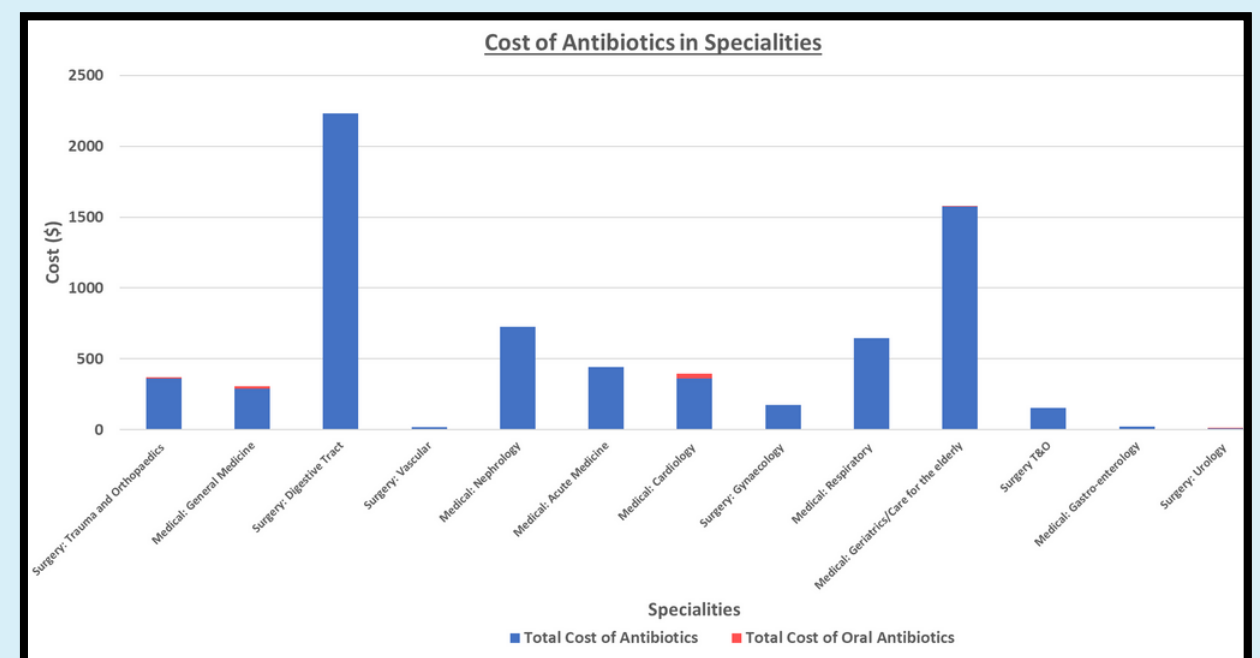
Cost per person per day ^[2]



Total number of prescriptions for each intravenous (IV) antibiotic (n = 159)



Cost of Antibiotics in Specialities



Conclusion

The results highlight key opportunities to maximise IVOS efficiency, such as directing resources toward high IV antibiotic prescribing specialties such as GI Surgery and regular review of broad-spectrum antibiotics such as piperacillin-tazobactam. IVOS should be advocated through educational and training to doctors and nurses, regular antimicrobial stewardship ward round and advocacy of IVOS through hospital staff communications. The use of **artificial Intelligence** should be maximized to help “detect” the patients on IVOS whom met the criteria for oral switch and alert the clinical team for prompt review which could help reducing the unnecessary use of IV antibiotic and promote hospital discharge.

References

- [1] UKHSA Antimicrobial Intravenous IV-to-Oral Switch (IVOS) Decision Aid. [V6 IVOS tool \(publishing.service.gov.uk\)](https://publishing.service.gov.uk/v6-IVOS-tool)
- [2] Cost calculation based on BNF April 2025 NHS indicative price for all antibiotics. available at: <https://bnf.nice.org.uk/>
- [3] AfC Payscale 24/25 Band 8a. available at: <https://www.nhsemployers.org/articles/pay-scales-202425-archived>



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