GENTAMICIN: ARE WE PRESCRIBING SAFELY?

Introduction

Gentamicin is widely used within DGRI, but given its significant side effects, prescriptions need close monitoring. Anecdotally, the prescribing quality of this antibiotic can be variable. As such, we wanted to see if there was any validity to these claims and, if so, could any improvement be made?

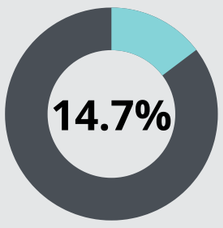
Objectives

1. Indentify the common issues in gentamicin prescribing.
2. Improve gentamicin prescribing across DGRI through change cycles.

Methods

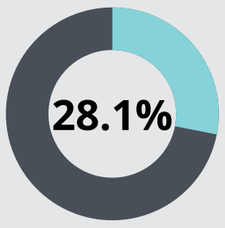
We began with data analysis, followed by identifying common issues. We then addressed these through multiple interventions and reauditing.

Initial Audit



Only **14.7%** of charts were completed correctly

1 in 5 patients were given the **wrong dose**

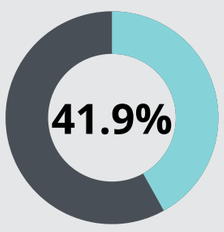


One quarter of all gentamicin levels were taken outside the window

1 in 5 of patients who had gentamicin, had no chart on portal

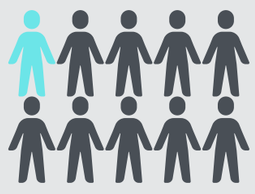
Interventions and Outcomes

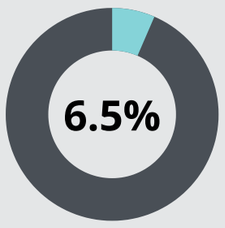
Intervention 1	Intervention 2	Intervention 3	Intervention 4	Intervention 5
Instruction added to 'order notes' on HEPMA	Added "HIGH ALERT" tab on HEPMA	Displayed poster in DGRI Doctors' Mess	Posters distributed around in CAU and SAU	Audit project poster creation and entry



41.9% of charts were completed correctly at re-audit

1 in 10 patients were given the **wrong dose**





6.5% of all gentamicin levels were taken outside the window

2 in 5 of patients who had gentamicin, had no chart on portal

Limitations And Conclusions

1. Repeat audit was a smaller sample, allowing for the potential of chance results.
2. Repeat audit at 6 months, allowing for confunding factors such as more experience.
3. Only gentamicin prescribed on HEPMA could be analysed, excluding STAT doses in ED and theatres.
4. Most changes done within small window, so cannot indentify single most effective.

Ideally, we would have added a **"Check Gentamicin Level"** option to HEPMA, however this has been more challenging than expected. We still aim to do this in due course. This could then be expended to a "Check Vancomycin Level" as a potential secondary QI project. While there have been improvements, there are still patients getting the **wrong dose** or **levels taken too late or early**. As such, there is room for further improvement projects and re-auditing. Additionally, we found an issue in retaining prescription charts after discharge, which could be a further QI project in itself.

DR CAITLIN ELLIOTT & DR HARRY JOHNSTON

FOR FURTHER INFORMATION CONTACT: CAITLIN.ELLIOT2@NHS.SCOT OR HARRY.JOHNSTON@NHS.SCOT