Supporting Junior Doctors In Safe Prescribing

Pharmacist Led Education Contributes To Significant Error Reduction.

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Problem

Junior doctors are responsible for the majority of hospital prescriptions[1] and yet they feel unprepared for this task[2]. Evidence suggests they are twice as likely to make a prescribing error as their seniors [1]

Issues

Pharmacists monitor and review these errors, but tend to address them and move on in the interests of time efficiency, so there are limited opportunities for constructive developmental feedback. Traditionally education for this group of prescribers has adopted an individually focused pharmacological approach. Research tells us that error is not linked to a lack of pharmacology knowledge and that existing teaching strategies are nor working[3]

Solution

Education is typically included as an "Act" in the PDSA cycle- but rarely do we apply evidenced based education to the design of the education or evaluate its effectiveness for the improvement in patient care. We looked to an international programme that was both based on a sound and clear educational evidence base and outcome evaluated – a UK educational approach called ePiFFany (effective prescribing insights for the future)

Intervention

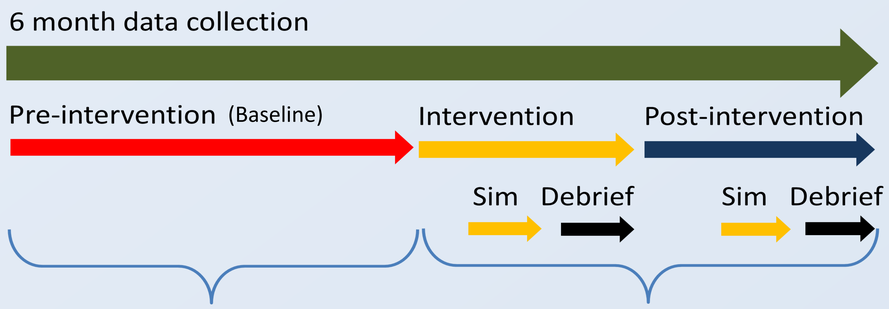
Two DHB's were offered the research opportunity to pilot, and adapt it locally. We stayed true to the model but strengthened the interprofessional component, drawing on our own previous work on opioid safety and junior doctor prescribing. We wanted to leverage pharmacists current key role in informal learning of junior doctors as they discuss and clarify errant prescriptions, contribute advice and support [4]

Objectives

- Develop safe prescribing practice by providing feedback and educational sessions based on simulated, practical, real-life scenarios
- Reduce prescription errors made by junior doctors in their first rotations to a standard equal to that of a non-intervention group (control) after 1 year as PGY1's, thereby accelerating their performance by 9 months
- Create an ethic for learning and safety through a safe, non-threatening interprofessional (junior doctor/pharmacist)learning environment in the workplace

Key Components

- Clinical simulations – participants videoed clerking and taking a medication history and prescribing, using recent ward patients
- Debrief targeting clinical reasoning around prescribing decisions
- Pharmacist coaching about complex prescribing tasks , linked to learning needs identified in the simulation



Measurement

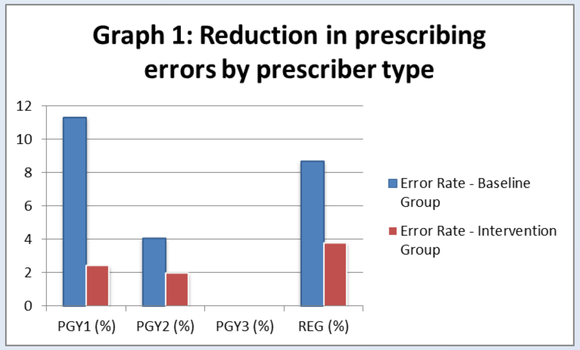
In-patients only (discharge prescriptions excluded)
Three months of baseline and intervention prescribing errors were collected. Data was stratified by type of error, severity of error and grade of prescriber. Baseline was quarter 4 and intervention data is quarter 1 of the following intake of junior doctors (PGY1, Post graduate year 1)

Data

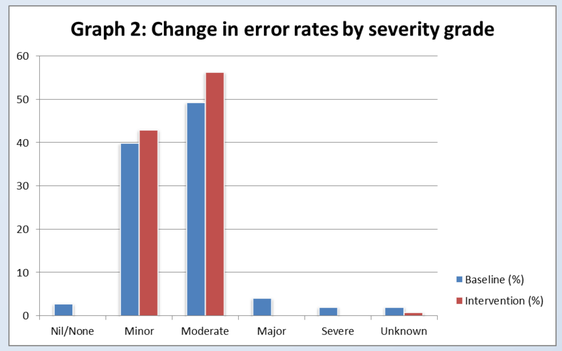
Data collection took a mixed method approach**.** The impact on patient care (audit) is presented here
Numerator: The numbers of prescription errors were counted as original prescription items and subsequent changes per day
Denominator : total number of prescriptions collected weekly from the e prescribing system, at the same time each week

Results

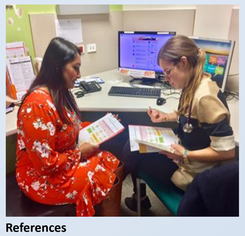
Both DHB's achieved significant reductions in prescribing errors (40-70%). DHB 1 results are depicted below
Error rate : **11.3%** baseline → **2.41%** intervention exceeding our expectations (see objectives)



Graph 1: DHB 1: **6** PGY1: # of items prescribed: baseline 4943, Intervention 4271



Graph 2: DHB 1: Error severity as a proportion of total errors



Learning Outcomes and Challenges

YES: we can make a significant difference to patient outcomes by reducing prescribing errors. Pharmacist coaching is an essential component. Doctors want more

BUT: key learning for the implementation team has been that the current model is extremely resource intense
- especially the simulation lab sessions
- releasing doctors from wards
- data collection

SO: authors recognise work is required to trial options for diverse sites and scale up to full cohort of junior doctors that still retain these core principals

WHAT NEXT: Adopting Improvement Science methodology in other sites in New Zealand and Australia, learning to design successful models which are easily applied and sustainable
- Trial a full roll-out in one DHB (scale up)
- Liaison with an Australian site with experience in a coaching model for pharmacists

Relevance Reducing prescribing errors is a top priority. This intervention works to accelerate junior doctors learning and awareness of making less prescribing errors

References
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