Does medicines reconciliation reduce prescription errors in medical admissions?

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Introduction

• Prescription errors
• Medicines reconciliation
• NPSA and NICE clinical guidelines
• Does medicines reconciliation reduce prescription errors in medical admissions?
Potential sources of error

Accurate drug history

- Medication lists
- OTC drugs
- Transcription errors
- Relative/carer
- Time constraints
- Patient
- Limitations OOH
The problem - prescription error

• Prescription errors range between 30-70%\(^1,2\)
• Occurs most commonly on admission\(^3\)
• NPSA reported 100 medication errors which resulted in death/ severe harm, 32% of these were caused by prescribing errors\(^4\)
• Government has made reducing medication errors a target
Medicines reconciliation

Collect

Compare

Communicate
The evidence

Systematic review⁵:

• Pharmacy led interventions
• Package of medicines reconciliation interventions
• Transfer of GP summary by fax
• Interventions reduce prescription errors
Clinical guidelines and current practice

NICE/ NPSA 2007 guideline recommendations:

- All adults should have medicines reconciled
- Standardised systems for collecting and documenting information
- Pharmacists should be involved as soon as possible
- 95% patients at Glasgow Royal Infirmary have medicines reconciliation form completed
Aim

To test whether medicines reconciliation is associated with a reduction in prescription errors in medical admissions
Methods

• Retrospective study
• Power calculation: 109 patients required to detect 10% improvement in accuracy
• Association between prescription error rate and MR form completion assessed using generalised linear mixed effects models
Results

• 74 patients had MR form completed, 35 did not.
• Total of 699 prescriptions (478 vs 221)
• Accuracy per prescription after correcting for patient-level variability was 87.9% with an MR form and 59.7% without (p<0.0001)
• Having no MR form reduced the log odds of accurate prescription per drug by -0.121 (95% CI -0.079 to -0.163, p<0.0001)
• This effect was not seen in 74 patients who had a medicines reconciliation form completed (log odds 0.003 per drug, 95% CI -0.044 to +0.050, p=0.895)
Accuracy per patient

![Graph showing accuracy per patient across different drugs.](image)
Accuracy of prescription (Red = MR form, Blue = No form)
Conclusion

• Medicines reconciliation significantly improved prescription accuracy
• Percentage rate of prescribing errors increased significantly with number of drugs on admission
• This was not seen when a medicines reconciliation form was used
• Therefore medicines reconciliation does reduce prescribing errors, particularly in patients who are taking several drugs
References

Thank you