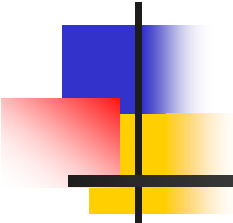


Does an orthopaedic preoperative assessment clinic benefit from a pharmacist?



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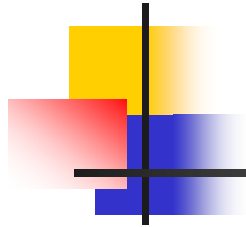
Pharmacist involvement in orthopaedic preadmission clinics

- Nurses traditionally run preadmission clinics (PAC).
- Medication history often taken by the nurse or doctor.
- There are a few centres involving a pharmacist in orthopaedic PACs.



Preoperative assessment

- Is to ensure that the patient is fully informed, prepared for anaesthesia, surgery and discharge.
- Is important to minimise risks of surgery & anaesthesia
- To improve patient outcomes post-surgery



Why involve a pharmacist in preoperative assessment?



Complexity of medicines

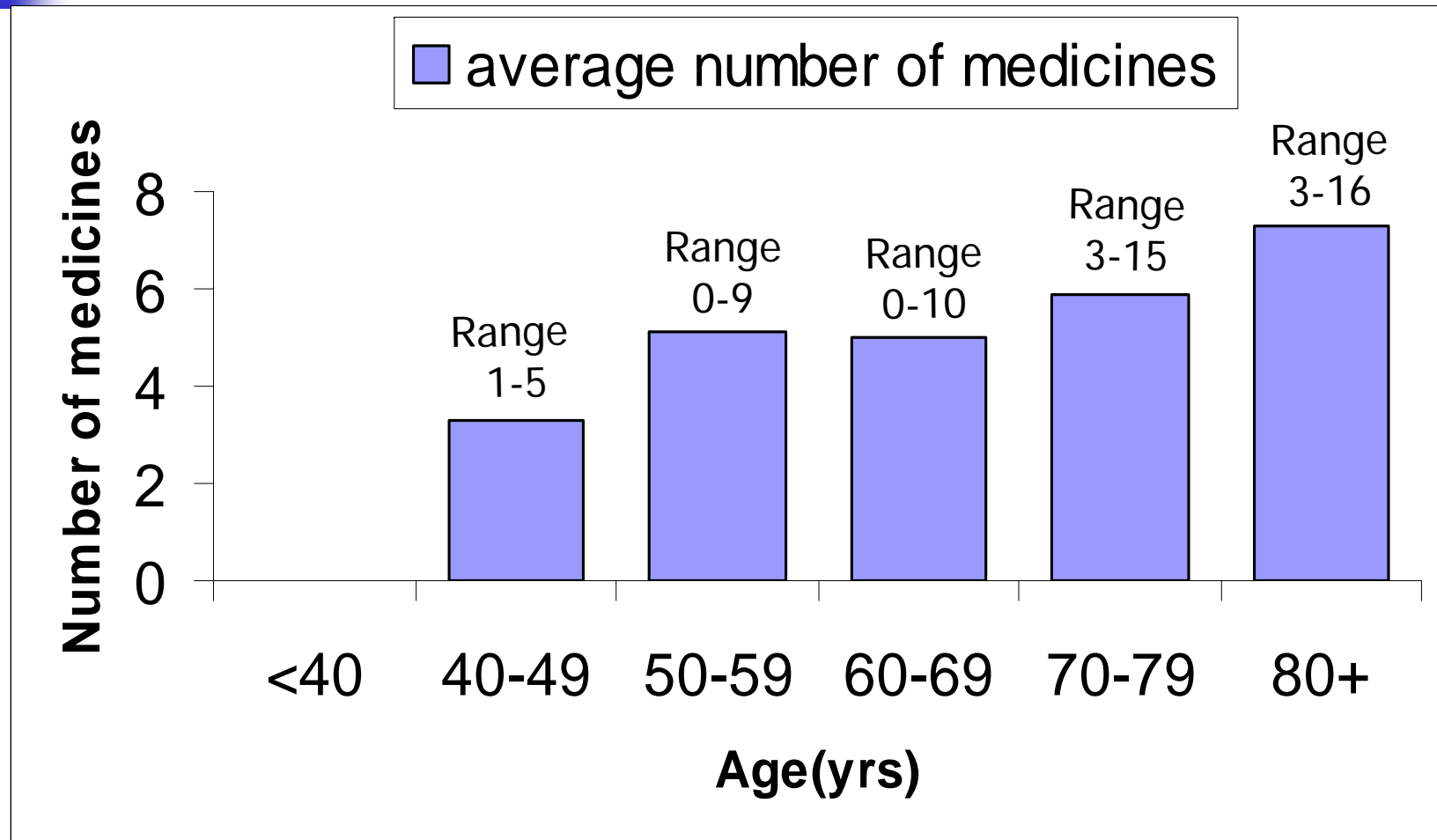
- Biological therapies e.g Anti-TNF.
- Increasing use of 'high risk' medicines:
 - methotrexate
 - anticoagulants e.g warfarin
 - antiplatelets e.g. clopidogrel
- Herbal remedies e.g St John's Wort

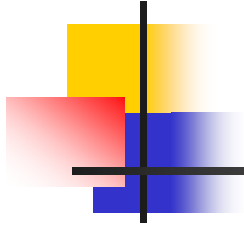
Numbers of medicines prescribed



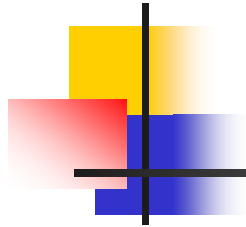
- Four out of five people over the age of 75 take at least one prescribed medicine with more than a third taking four or more medicines. (*Armour & Cairns 2002*)
- 36% of older people take four or more different medicine regularly. (*Oboh, Pharm J 2006*)

Survey of 100 consecutive orthopaedic patients seen by a pharmacist in the Cardiff & Vale orthopaedic preadmission clinic (2006)





Does an orthopaedic preoperative
assessment clinic benefit from a
pharmacist?



Study of all pharmaceutical interventions made for all elective orthopaedic patients admitted in a 4 week period (2007)



Aim

To determine whether a pharmacist documenting medication & allergy status at the orthopaedic PAC reduces the number of medication errors and necessary pharmaceutical interventions for elective orthopaedic patients on admission.



Background

- Pharmacist attended the orthopaedic PAC from June 2006.
- PAC of 3 of the 25 orthopaedic consultants plus 1 cons anaesthetist
- Pharmacist interviews the patient and documents a full list of medications and allergy status in the PAC notes.



Background

- All other patients have their medications and allergies documented by a PAC nurse.
- PAC documentation used to prescribe medication on patients chart on admission to ward.
- Patients medication chart written by orthopaedic FP2.



Method

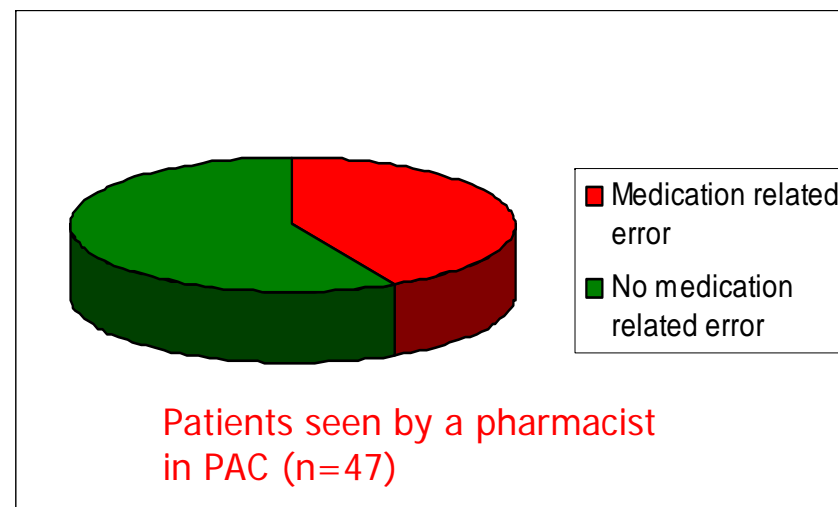
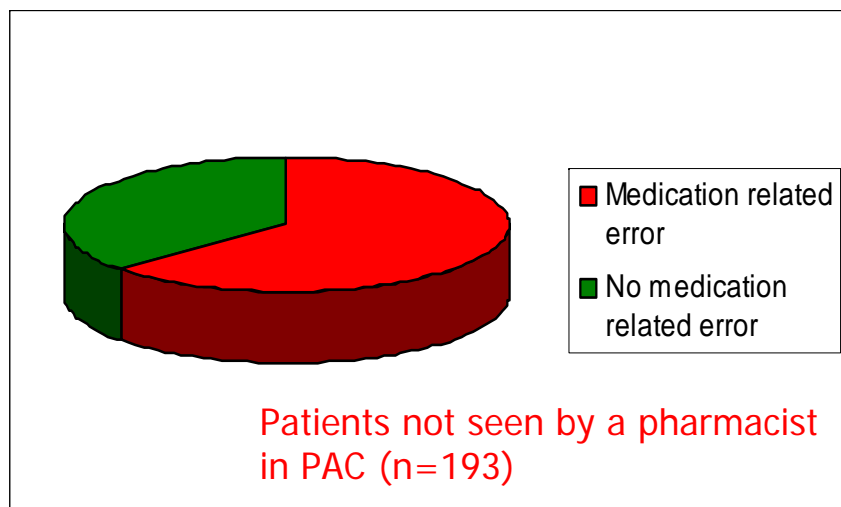
- Four-week survey on all elective orthopaedic wards in February 2007.
- All pharmaceutical interventions identified on the first review of the patients medication chart were recorded.
- A comparison of the number and type of interventions recorded between those patients seen by a pharmacist at PAC and those not.



Categories of pharmaceutical interventions

- Missing medication
- Incorrect medication
- Incorrect dose/frequency
- Incorrect timing
- Allergy/intolerance incorrect or incomplete
- Incorrect route
- Incomplete/ambiguous prescription
- Inappropriate continuation of medication
- Drug/drug interaction
- Drug/patient interaction

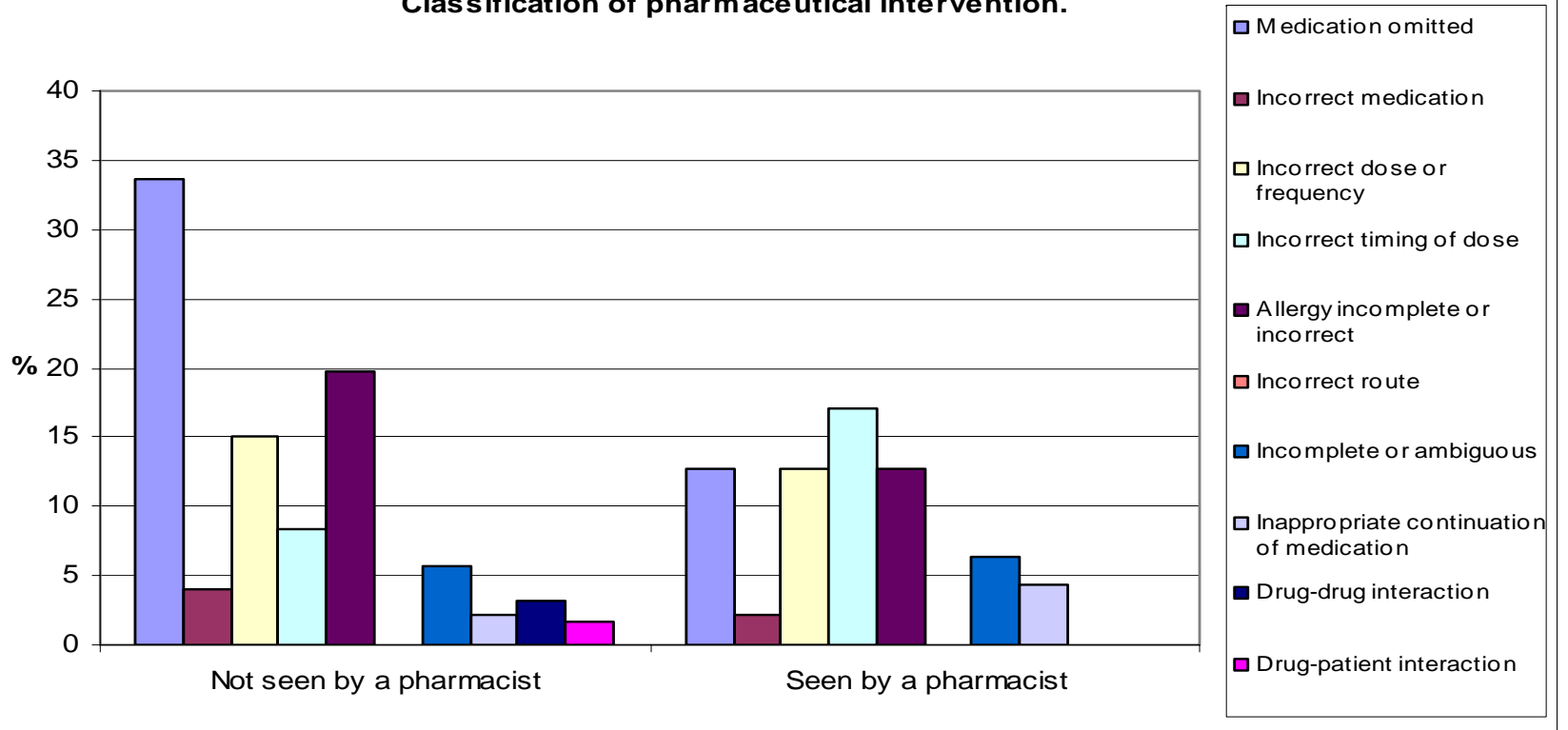
Percentage of patients charts requiring ≥ 1 pharmaceutical interventions.



There was a significant decrease in the number of patients charts that required an intervention in the pharmacy group (63% vs. 43%, $p=0.01$).



Classification of pharmaceutical intervention.





Missing medication

- The most common intervention recorded was unintentional omission of medication.
- This was significantly higher in the non-pharmacist group **33.7%** vs. **12.8%**, ($p=0.005$).



Missing allergy status

- A reduction from 19.7% to 12.8% if seen by a pharmacist in PAC.



Incorrect medication

- Of the patients *not seen* by a pharmacist, 4.1% were prescribed drugs they did not take.
- Of the patients *seen* by a pharmacist, 2.1% were prescribed drugs they did not take.



Examples of pharmaceutical interventions

- Methotrexate prescribed **daily**
- Movelat instead of meloxicam
- Co-codamol & paracetamol
- Missing anti-psychotics
- Missing Parkinsons treatments



Study conclusions

- Pharmacist involvement in an orthopaedic PAC:
- Significantly reduces medication-related errors on initial inpatient medication chart.
- Pharmacist documentation of medication & allergy status in PAC documentation is insufficient to eliminate medication errors.
- There is considerable room for improvement.



Study proposals

- Formal inclusion of a pharmacist within the PAC.
- Pharmacist transcription of medication & allergy history onto the inpatient medication chart.



A spoonful of sugar

Audit Commission report 2001

- Emphasised importance of medicine management.
- Recommended hospital pharmacy service included taking patients' medication history.
- Acknowledged the fact that pharmacists take more accurate drug histories in comparison to other health professionals e.g. junior Drs.



Designed for Life 2005

- Targeted continuous performance improvement:
- Safety
- Effectiveness
- Patient focus
- Timeliness
- Efficiency

The logo graphic consists of a vertical black line intersecting a horizontal black line. To the left of the intersection, there are three overlapping squares: a yellow one at the top, a red one to the left, and a blue one at the bottom. The text 'NPSA' is positioned to the right of the vertical line, centered vertically relative to the horizontal line.

NPSA

- 500-600,000 patients experienced a patient safety incident per year.
- “Insufficient communication, education or teamwork are associated with many of the reported patient safety incidents across all settings and types of incidents.”

The logo consists of a vertical black line intersecting a horizontal black line. To the left of the intersection, there are three overlapping squares: a yellow one at the top, a red one in the middle, and a blue one at the bottom. The text 'NPSA/NICE' is positioned to the right of the vertical line, in a blue, sans-serif font.

NPSA/NICE

Patient safety solutions pilot:

Clinical and cost-effectiveness of interventions in medicines reconciliation at the point of admission (due Dec07).

Provisionally recommending “pharmacists involved in medicines reconciliation as soon as possible after hospital admission”.



NPSA/NICE

- Unintentional variances of 30-70% between medication patients were taking before admission & their prescriptions on admission.



Benefits to Surgical/Anaesthetic team of Pharmacist transcribing medication onto inpatient drug chart at the PAC.

- Accurate medication prescription.
- Accurate documentation of allergy status.
- Identification & resolution of medication related problems.
- Reduction in morbidity, mortality and economic burden to health services.



Benefits to Pharmacists

- Able to document medication history in a less stressed environment.
- Confidence that fewer unplanned issues will occur on ward.
- Establish an early professional relationship with patient.
- Easier resolution of medication related problems preoperatively.
- Greater team working with other professions.



Other benefits to patient of a pharmacist in PAC

- Patient confidence increased.
- Answer medication related queries.
- Give advice regarding complimentary therapies.

Communicating with G.P



- Specific medication problems identified.
- Compliance issues.



Summary

A pharmacist documenting medication and allergy history in the orthopaedic PAC with transcription onto the inpatient medication chart should

Minimise risk of unintentional medication errors

A repeat survey will be necessary to confirm!