Audit of medication lists for elderly patients admitted to a regional hospital

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Aim
To determine the type and number of discrepancies in the medication history information between general practitioners’ (GPs’) lists and the actual medication usage of patients aged 65 years or over prior to admission via the emergency department (ED) at a regional hospital in New South Wales, Australia.

Method
This clinical audit was conducted at a 166 bed rural referral hospital. Patients were included if they were 65 years or over and taking three or more medications prior to admission. The pharmacist then completed a medication history interview with the patient or carer and confirmed the accuracy of the information with other sources i.e. patient’s own medications and dose administration aids, community pharmacy records, patient lists and previous admission records. Medication discrepancies were considered to be any variation between the medication history obtained by the pharmacist and the GP’s medication list. A separate assessment was undertaken of the medication discrepancies between the history obtained by the pharmacist and those charted on the national inpatient medication chart (NIMC). This chart was completed by the medical officer upon admission to hospital for administration of pre-admission and hospital initiated medications. The actual and potential clinical significance of the discrepancies was assessed in consultation with a general physician.

Relevance
In Australia, 30% of hospital admissions in the elderly population are related to adverse drug events. The Medication At Transitions and Clinical Handoff (MATCH) study demonstrated that polypharmacy and age over 65 years were associated with a risk of medication errors at the time of admission. In rural and regional areas the problem can be exacerbated by the higher proportion of elderly patients and the distance patients travel to access services. Complete medication reconciliation is often difficult to achieve, particularly in the ED. Therefore, GP’s lists may be used as the basis for charting medications. However, a study reviewing the medication component of GP’s letters in a clinic setting revealed that the accuracy was 58%. In addition, a survey of the Fellows of the Australasian College of Emergency Medicine (FACEM) revealed that 25% of respondents, “perceived patients’ pre-hospital information and the computer generated medication list by the GP to be unreliable and misleading”. Personally controlled electronic health records have been identified as a tool to improve the transfer of medical information at transitions of care. However, this is only useful if it contains accurate, up to date information.

Results
Forty-eight patients (mean age 82 years) were included in this clinical audit. The median number of prescribed, regular medications was eight (range: 3-16 medications). Seventy-five per cent (n=36) of patients had one or more discrepancy in their GP’s medication list, with the most common number of discrepancies being four. The pharmacist noted 164 discrepancies, with 45% related to non-current medications still being recorded on the GP medication list. The actual clinical significance of the discrepancies associated with the GP’s list was classified as either ‘minor’ or ‘minimum’; however, the potential clinical significance of the discrepancies in 19% of the patients was considered to be ‘moderate’ or ‘major’.

Seventy-seven per cent of patients had one or more unintentional discrepancies identified from the NIMC, the most common number of discrepancies was one (25%, n=12). There were a total of 89 discrepancies identified between NIMC and the medication history obtained by the pharmacist. The most common discrepancy type on the NIMC was medications being omitted from the patient’s medication chart (58%). The actual clinical significance of the discrepancies associated with the NIMCs...
was classified as either ‘minor’ or ‘minimum’; however, the potential clinical significance of the discrepancies in 23% of the patients was considered to be ‘moderate’ or ‘major’.

**Conclusion**
This exploratory clinical audit demonstrates that while a GP’s medication list is a useful tool in the medication reconciliation process, in many cases it may not be an accurate representation of medications the patient is taking or using prior to admission. Elderly patients taking multiple medications are at risk of adverse events and errors at transitions of care. This is relevant as regional areas have a higher proportion of elderly patients. This audit also affirms the role of the hospital pharmacist in ensuring the accuracy of the medication history at hospital admission. In addition, it highlights that good communication is vital to prevent errors at transition of care and that this should also include liaison with other healthcare providers like the rural community pharmacies.

**Recommendation**
Involving a hospital pharmacist in medication reconciliation should be considered for all elderly patients taking multiple medications who are admitted to rural and regional hospitals.

**References**