

Risks of polypharmacy increased at the primary-secondary interface

Polypharmacy due to multiple physician involvement in patient care increases the risk of serious adverse drug events.

Following our recent polypharmacy campaign, several GPs suggested that this campaign would also benefit their colleagues in secondary care medicine as many patients return from a hospital stay with multiple additional medications. This is certainly a valid issue and worthy of further investigation...

Each year in New Zealand, there are approximately 135,000 admissions to hospital for people over the age of 60 years (NZHIS, 2006). It is inevitable that a significant proportion of these patients will return to their general practice with additional medications. Polypharmacy messages are most often aimed at the individual primary care provider, however elderly patients are more likely to have multiple health problems and therefore may see several physicians. Multiple practitioners managing one patient may unknowingly prescribe duplicate or contraindicated medication regimens. Several overseas studies have examined the transition of patients between primary and secondary care, specifically in regards to medication. The most common medication error on admission to hospital is inadvertent withdrawal of a prescribed drug, often due to the doctor relying on patient recall of their medications (Midlov, 2005). The most common medication error on discharge back to primary care is the addition of a contraindicated or duplicate medicine (either the same drug as prescribed by the GP or within the same drug group) (Midlov, 2005). Ideally admission and discharge notes should include information about what drugs were used prior to hospital care and what changes have been made. Unfortunately we know this does not always happen and the patient becomes the sole source of information on medication.

“Many patients on multiple medications are this way because they are subject to multiple prescribers (house surgeons, registrars, consultants) such that the GP loses professional control of the medication list” GP, South Canterbury.

A higher prevalence of medication discrepancies are known to be associated with patients with cardiac conditions. This may reflect the greater frequency with which medication regimens are adjusted to treat cardiac conditions or it may also reflect that evidence based treatments often recommend multiple medications (Coleman, 2005).

The most significant issue of polypharmacy involving multiple prescribers is the risk of serious adverse drug events. There is an increased risk of drug interaction if inappropriate medications are prescribed due to a lack of information available to the secondary care prescriber.

In a German study involving elderly patients admitted to hospital, 55.6% of patients were being prescribed drugs which put them at risk for a potential interaction before they were admitted. After discharge, with medication changes from secondary care physicians, 60.9% were at risk of drug interactions (Kohler 2000).

The risk of potentially inappropriate drug combinations increases with the number of physicians involved in the medical management of an elderly patient. In a large study involving 65,000 elderly residents of Quebec, it was found that patients visited a median of three different doctors per year (range 1 to 58) and two thirds had two or more prescribing doctors (range 1 to 18). The most common medication problems encountered as a result of multiple

physician prescribing were concurrent prescriptions for two benzodiazepines and the prescription of a potassium-sparing diuretic with a potassium supplement. The patients who had four or more prescribing doctors (21%) had three times the risk of a potentially interacting cardiac drug combination and two times the risk of a potential NSAID or psychotropic drug reaction (Tamblyn, 1996).

Analysis of pharmaceutical claims data in New Zealand found that almost 50% of over 50 year olds who were consulting their GP, received five or more medicines over a 6 month period. As the number of prescribing doctors increased, so too did the number of dispensed medications. A patient with one doctor was prescribed on average four medicines. A patient with six prescribing doctors received on average 15 medicines (bpac^{nz}, 2006).

The most obvious solution to potentially dangerous polypharmacy occurring as a result of multiple prescribers, is establishing better communication between primary and secondary care doctors. Ideally, a single GP should take overall responsibility for managing and coordinating the medication regimen for a patient.

In some countries, pharmacists maintain drug profiles for each patient and use this information to screen for potentially inappropriate prescriptions. Patients are encouraged to have

a single dispensing pharmacist for this purpose (Tamblyn, 1996). This is currently not standard practice in New Zealand although individual pharmacists may have procedures in place to detect medication discrepancies for their regular patients.

So what can GPs do to address this issue?

- Give your patients written lists of all their medications, this is a function included in some PMS systems. Alternatively Medication Record Cards are available from bpac^{nz}. Don't forget to list OTC drugs.
- Request details of medication changes made by other physicians, including reasons for the change.
- Regularly question patients on adherence to their medication regimen and any changes made to it.

“Could the message be sent to secondary care as many of the long term meds are commenced in hospitals, with the patient being commenced on multiple preventive meds, with the message of ‘for life’. Education of risks to all levels of prescribers would be important for a change” GP, Canterbury.

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