Community Pharmacists’ Role In Medication Management

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This paper highlights the many roles of a pharmacist as part of the health care team in the medication management of the elderly patient either in their own home or in some form of assisted living in rural Australia.

Australia as a whole is ageing. Small communities in rural Australia are ageing at a faster rate than the average. It is estimated that by 2001 the population over 65 years in NSW alone will be almost 140,000. In the North Coast, the fastest growing area in NSW, the elderly population is projected to increase by 52.7% in the decade to 2001. In the far west of the State, the elderly population will increase in the same period by 25% despite a static or decreasing general population.

More resources will be spent looking after the aged in residential care. Considerably more funds will need to be spent to keep elderly people in their own (or their carer's) home.

One significant impact on the well-being of a person is their medication. Through involvement with prescribers, patients and carers, pharmacists can optimise medication usage.

1. Multiple Disease states

<table>
<thead>
<tr>
<th>Study of 200 elderly patients</th>
<th>78% had 4 major diseases</th>
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<tbody>
<tr>
<td></td>
<td>38% had 6 major diseases</td>
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<tr>
<td></td>
<td>13% had 8 major diseases</td>
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The elderly patient is prescribed a large number of drugs with almost 35% of all prescriptions being written for the over 65 year group (which represents only 10% of the population). As illustrated in Table 1, this age group have multiple disease states.

Furthermore, there are unrealistic expectations of either (or all) the patient, carers, prescribers even the dispenser, that additional medication will solve certain problems (e.g., anti-biotics for viral infections). Often, prescribed medication is supplemented by over-the-counter medication such as laxatives, antacids or analgesics. In some cases, some elderly patients (or carers) will share medication "which works for them".

The wrong medication or too much medication will result in reduced quality of life for the patient. The right medication in a dosage regimen too complicated for the elderly patient or carer to follow may also not achieve the desired outcomes.

The non-compliance rate has been estimated to be as high as 59%. Hospital re-admissions are as high as 35% due to non-compliance with prescribed medication schedules.
Patients stabilised in hospital and then discharged without sufficient consultation and support are often those who have to be re-admitted. The pilot programmes in Orange and Wagga Wagga have demonstrated the value of the liaison pharmacist.

Risk factors for adverse drug reactions increase as people get older and take more medication. Statistical evidence indicates that whites react more than blacks to medication, and women more than men. Women generally suffer morbidity from illness, men suffer higher mortality.

Many drugs have direct impact on patient falls resulting in broken bones and other physical damage. Many of these falls could be avoided by better medication management.

Many sedative or hypnotic drugs have a long half-life resulting in daytime fatigue, disorientation and even falls. Research by John Howie, a pharmacist in Orange, showed that elimination of sedatives improved the quality of life of the residents of nursing homes.

<table>
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<tr>
<th>Risk of Drug Reaction</th>
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<tr>
<td>Chances of drug reaction:</td>
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<tr>
<td>due to age</td>
</tr>
<tr>
<td>4.6% - 15% for patient &gt;60 yrs</td>
</tr>
<tr>
<td>8.7% - 21% for patient &gt;70 yrs</td>
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<tr>
<td>up to 24% for patient &gt;80 yrs</td>
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<tr>
<td>due to multiple medication</td>
</tr>
<tr>
<td>Reduction in av. no. of drugs</td>
</tr>
<tr>
<td>from 7.8 to 6.9</td>
</tr>
<tr>
<td>risk reduced</td>
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<tr>
<td>from 24.3% to 7%</td>
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</tbody>
</table>

Multiple prescribers and multiple pharmacies are contributing factors to drug misadventure or adverse drug reaction.

The Pharmaceutical Health and Rational use of Medicine (PHARM) Committee established by the Federal Government is focusing on the rational use of medicines to improve health outcomes.

In its submission to the Federal government, the Pharmacy Guild of Australia stated:

“1.1 The primary motivation for the introduction of medication management review services by pharmacists to the elderly and the disabled living independently in the community is to;

1.1.1 improve health outcomes through better medication management; and

1.1.2 effect savings in overall health budget by

improved medication prescribing through consultation with doctors, resulting in quality medication use and decreased cost;
reduced medication misadventure, resulting in decreased medical treatment and hospitalisation; and

increased period of independent living by the frail aged and disabled and prevention of inappropriate admission to long term care institutions.

1.2 The Macklin Report confirms the likelihood of these outcomes in relation to those people already living in long term care institutions;

1.2.1 "there are likely to be reductions in drug prescribing, and drug costs, as a result of pharmacist review of drug regimens in nursing homes; and

1.2.2 it is possible that, as a result of pharmacist review there would be a reduction in adverse outcomes to patients”.”

Compliance with medication is known to be poor in the elderly. Only limited study has been done to examine the reasons for this for patients living at home.

The Department of Human Services and Health will compensate nursing home operators who employ pharmacists to provide blister or unit dose packaged drugs for residents of homes.

A small but detailed study by Wong and Norman from the Geriatric Research and Clinical Center, UCLA, identified patients living alone as being most at risk.

The study involved 22 patients of the clinic, of whom 18 completed the trial. They determined a Non-Compliance Index (NCI) which is the number of missed doses multiplied by 100 and divided by the total number of doses in the period. For example, for a patient taking 4 tablets per day, if (s)he missed 10 doses a month the NCI would be \((10 \times 100) / 120 = 8.33\). They compared the same group of patients using individual bottles/packages with a dose organised system (in their case, blister packs).

The result was that the group’s NCI fell from 9.17 to 2.04, a statistically significant figure.

Further examination found that "patients living alone and who self administered their medicines were significantly greater in NCI reduction than the control".
The micro-examination also found that "on the contrary, age, folstein mini-mental score, frequency of administration and the total number of doses required were not found to correlate with NCI”.

A small consultative group study in Tamworth involving prescribers, nurse educators, community nurses, nursing home DONs, pharmacists, home care-givers and the elderly themselves found a similar result. The most significant finding of this consultation was poor communication between key parties when a medication regimen was changed.

A patient living at home is visited by the GP and the community nurse. The doctor alters the medication, updates the medication sheet for the community nurse. When prescription is filled, the oldest repeat or prescription is presented, the pharmacist is unaware of the change and labels with non-current information. This resulted in confusion for everyone concerned, non-compliance for the patient and unsatisfactory health outcomes. This was resolved by education and consultation.

The consultative group surveyed a number of elderly patients or care-givers about compliance. The survey was marred because of concerns over threatened closures of pharmacies. However it did highlight the fact that confusion occurred when more than one pharmacy was used (different labels, different terminology and incomplete history resulting in over supply of some items) as well as the problems with generic and trade names leading to duplication of medication.

Another issue is that child-proof containers are often elderly-proof containers. Many patients remove tablets from containers to store them in unsatisfactory multiple tablet containers or jars to permit easy access. Small blister packages are often very difficult for the elderly to handle.

The present hospital system does not promote the involvement of pharmacists. In small communities with hospitals only 8.6% have any formal services provided by the pharmacists. For administrative reasons and assumed cost saving reasons, this service is provided by hospital pharmacists in Base Hospitals which were on average over 100K away.

The Pharmaceutical Benefits Supply Scheme pays pharmacists to 'supply' medications. If a pharmacist decides, in the patient's interest, not to 'supply' it, it is at the pharmacist's cost. From my own experience and extrapolating the impact for a full year, this represents up to $20,000pa for giving my professional opinion that this item is unnecessary. In Canada, the pharmacist is paid a fee, just like the GP, if they provide a 'Professional Opinion' which indicates medication is unnecessary.

With the advent of Multi-Purpose Services in small communities, where umbrella funding of management of patients will occur, the pharmacist should be considered part of the health team and part of the funding of these services. The separation or cost shifting between the hospital system and the Pharmaceutical Benefits Supply Scheme is as yet unclear.
The community pharmacist has supported and supplied many of the patients who will be supported by the MPS. This is an opportunity to utilise the skills of the pharmacist to reduce overall costs and expand the services available.

The National Rural Health Strategy (NRHS) made thirteen proposals to improve health services in rural Australia. The pharmacists of rural Australia have a major role to play in implementing several of these NRHS proposals.

**NRHS Proposal #2**

*Health Authorities, in conjunction with the community and non-government agencies, should further pursue the development of frameworks, model health plans as examples of how services might best be delivered to rural communities.*

Proposed Pharmacy Services:

2/1. The pharmacist should be recognised as part of the health team for pharmaceutical care and primary health care services provided. This will involve formal contacts between hospitals and pharmacists.

2/1.1 In the larger centres, community liaison pharmacists should be employed to be involved in all discharges to ensure:
   a) patients and care-givers understand the medication and the medication regimen.
   b) prescriptions are updated (existing repeat forms) to reflect the new medication regimen.
   c) there is liaison with community pharmacists.

2/1.2 Establish a procedure within each area whereby medication chart updates for patients living in their own home be communicated to the dispensing pharmacist. Encouraging patients, care-givers and community nurses who collect medication to attend a single pharmacy of the patient's choice.

2/1.3 In small communities, the community pharmacist be more directly involved in the hospital which would include (but not limited to)
   a) supply of drugs and medical supplies (where appropriate).
   b) maintenance and utilisation of patient medication profiles.
   c) educating patients about appropriate use and storage of drugs.
   d) developing drug policies and procedures for the supported accommodation or home health service.
   e) reviewing and evaluating patient's drug regimens periodically.
   f) providing dose and medication compliance systems for people living in supported care or in their own homes.
   g) participating in agency committees such as utilisation review committee.
   h) giving in-house continuing education programmes to other personnel.
NRHS Proposal #3
The flexible approaches to funding and management arrangements between Commonwealth and States for aged care and health services in rural communities should be accelerated and expanded. This is the subject of the current Australian Health Ministers Advisory Council working party initiatives in relation to multipurpose services and nursing home type patients.

Proposed Pharmacy Service

As a pharmacy is located in almost all rural communities large enough to have a hospital, a MPS or a nursing home, the pharmacy service should be integrated into any new scheme. The pharmacist currently provides a number of services, some of which are funded by the Commonwealth (Prescriptions) and others by standard commercial activity. The scope to improve quality use of medicines, quality of life of the patient and in some cases reduce costs by employing the pharmacist are well documented and outlined above.

3/1. Where an MPS is planned, the community pharmacist should be part of the consultative process and pharmacy services should be contracted locally.

3/1.1 The pharmacist would
a) be responsible for all the medication in the MPS whether supplied under contract by the regional hospital or through the PBSS.
b) maintain and utilise patient medication profiles.
c) educate patients about appropriate use and storage of drugs.
d) develop drug policies and procedures for the MPS.
e) review and evaluate patient drug regimens periodically.
f) participate in patient care committees.
g) provide compliance aids and systems for patients (and home-based patients).
h) provide in-service continuing education.

3/1.2 These services would be funded from the global budget

NRHS proposal # 7
In conjunction with ongoing programmes designed to recruit and retain health care providers in rural areas....

Community pharmacists in small rural communities have the same problems in recruiting staff or potential purchasers of the business/practice as other health professionals. There is no incentive scheme available for pharmacists despite research on community attitudes which ranks pharmacists just behind doctors in the health requirements.
**Proposed Pharmacy Service**

7/1 That pharmacists be included in any recruitment, education and relocation incentive scheme.

7/2 Coordination of visiting allied health professionals with the community pharmacy to examine ways to optimise the time and resources of the visiting specials.

**NRHS Proposal # 9**

*Action should be taken by all Health Authorities to develop and implement innovative best practice models in order to maximise the opportunities for multi-skilling of health workers and the expansion of multi-disciplinary activities.*

Pharmacists in rural Australia offer a proven environment where multi-disciplined and multi-skilled staff operate. The best practice models must therefore include the community pharmacists.

9/1 Establish a collaborative approach with pharmacists in their community for all health services; community health, allied health services.

9/2 Involve the community pharmacists in provision of pharmaceutical care as outlined in proposals 2 and 3 above.

**NRHS Proposal # 10**

*During 1994-95 mainstream programmes should seek to best meet the special needs of the target group........a) Aboriginal health... b) rural mental health services*  

**Pharmacy Proposal**

10/1 In Aboriginal communities little has been done to incorporate pharmacy health services with those of the Aboriginal community. The Aboriginal primary health project includes the white GP but does not include the frequently accessed white pharmacist. The Aboriginal medical aid posts include the distribution/supply of medicines but not a person trained in the management and storage of these medications.

10/2 In mental health services, very potent medication is supplied often without the supervision and review of the pharmacist. Frequently dose organising systems are filled by non-qualified care-givers. The pharmacist should be involved in compliance monitoring as well as periodical medication review of mental patients in their own home or in assisted care.

**NRHS Proposal # 12**

*During 1994/95 special emphasis should be given by Health Authorities to implementing primary health care approaches for meeting rural health needs and to public health programmes targeted towards early detection and prevention of health problems*
Pharmacy Proposal

12/1 Pharmacy provides a large range of primary health care services. A procedure should be established in rural communities to recognise these services and to establish a consultative and communication process to optimise these services.

12/2 The community pharmacies are an ideal place in which to establish health screening services such as blood pressure monitoring, blood glucose monitoring, weight and peak flow. The non-threatening environment with considerable resources and the full-time presence of a suitably qualified health professional will optimise this service. This could be funded jointly by Medicare and patient contributions. Pharmacists should be recognised by private health funds as providers of these services.