Inappropriate Drug Prescribing and Polypharmacy Are Major Causes of Poor Outcomes in Long-Term Care

John E. Morley MB, BCh *

Divisions of Geriatric Medicine and Endocrinology, Saint Louis University School of Medicine, St Louis, MO

Previously in your Journal, we have stressed the problems associated with medications in long-term care.1–12 In this issue, we have 6 further articles stressing the problems of inappropriate prescribing and providing some solutions to control medication usage in the nursing home.13–18 Inappropriate medications are a major reason for readmission to hospital from long-term care.19–30 This is spurred by the ridiculous medications that many patients are started on in the hospital by physicians who have no concept of how to manage the frail elderly.31–37

Cook13 reports that potentially inappropriate drug prescribing occurs more often in sicker persons (higher Charlson Co-Morbidity Index), those receiving a psychiatric consult, and in those without dementia. Smeets et al,18 focusing on excess psychotropic medicines that are used in residents with dementia, found 4 major possible areas: (1) the beliefs of physicians and advanced practice nurses, (2) previous experiences and education of the health care professionals, (3) effective communication between physicians and family, and (4) staffing issues and policies. Reeve et al19 found that 92% of older persons were willing to stop medications if possible. This highlights the appropriateness of soliciting the opinions of residents and family as a way to help reduce medications. An important component in the reduction of psychotropic medicines in the nursing home is to have available behavior therapy programs, meaningful activities, and exercise programs in the nursing home.39–45

Delirium is a common problem in nursing homes.46–50 In a geriatric care unit in France, delirium was present in 69% of residents on 6 or more drugs a day and in only 30% of those on fewer drugs.53 This study confirms that limiting drug burden is an important component of reducing delirium in nursing homes. Landi44 highlighted that anticholinergic burden due to drugs is a major cause of delirium, and also found that anticholinergic burden increased functional decline and falls. Fox et al,51 in a systematic review, found that anticholinergic medicines had adverse effects on cognition and physical function. Inappropriate medications have been shown to contribute to poor balance.42 Psychotropic medications are a major cause of delirium, and many of them have a high anticholinergic burden.6 Polypharmacy has previously been recognized as a major cause of falls.54,55

A number of lists of potentially inappropriate drugs for older persons have been developed. These include the Screening Tool of Older Persons’ potentially inappropriate prescriptions (STO\(\text{P})\),56 the Beers criteria,57 and “Fit for the Aged” (FORTA).58 Use of FORTA has been shown to reduce falls. Using a community database in the United Kingdom and the STO\(\text{P})\), it was found that 29% of patients 70 years or older were using inappropriate medications.59 The 3 major transgressions were proton pump inhibitors for longer than 8 weeks, nonsteroidal anti-inflammatory drugs for longer than 3 months, and long-term use of neuroleptics. Grace et al60 compared the Beers and STO\(\text{P})\) criteria in persons older than 65 years presenting to the emergency department; 95.2% were prescribed at least one potentially inappropriate medicine when both criteria were used. In approximately 90% of patients, the Beers and STO\(\text{P})\) criteria identified different drugs! Inappropriate prescribing was considered a partial cause of emergency department attendance in 30% of patients. At present, there is limited evidence of positive clinical outcomes related to use of any of the criteria in large populations. There is need for a comparative intervention study in nursing homes. There is also a need to examine the Beers criteria using evidence rather than opinion.

The new cholesterol guidelines suggest that very few if any persons in nursing homes should be on a statin.60–62 Similarly, it would appear that hypertension is overtreated in nursing homes.63–65 Increasing drug treatment of hypertension has been shown to increase falls.66 Weight loss, which is highly prevalent in nursing homes, results in lowering of blood pressure, allowing most medications to be reduced or discontinued.57–70 Using 24-hour ambulatory blood pressure measurements, it was shown that in the nursing home many of the nurses’ measurements are inappropriate high, possibly due to resident anxiety or resistance to interventions.71 Electronic blood pressure cuffs produce spuriously elevated systolic blood pressures in persons with atrial fibrillation.

Ward et al72 report that internal medicine residents have a very limited knowledge of the form of care available in skilled nursing facilities. There is little understanding concerning the availability of physicians or advanced practice nurses to review medications started in the hospital. This was highlighted by Kostas et al.72 They showed a very limited ability to manage medications in older persons. After a medication workshop, their prescribing ability improved dramatically.

The International Association of Gerontology and Geriatrics, together with the World Health Organization, has called for an increase in drug trials in frail nursing home residents.73 This is essential if we are to be able to appropriately introduce new drugs into nursing homes and develop evidence-based guidelines for the care of frail older persons.
References

46. Morley JE. Systolic hypertension should not be treated in persons age 80 and older until blood pressure is greater than 160 mmHg. J Am Geriatr Soc 2013;61:1197–1198.