A substantial cause of preventable illness

Patients over 65 years old bear the greatest burden of illness and thus are the greatest beneficiaries of drugs to prevent, ameliorate, or treat conditions. One of the most rapidly growing segments of the population, they consume an ever-increasing proportion of all prescribed drugs.

For decades elderly people were excluded from randomised trials of many preventive drugs, reinforcing scepticism over whether they would benefit from treatment of conditions such as hypercholesterolaemia and hypertension. But elderly patients may benefit from such treatments at least as much as their younger counterparts. In fact, because of the higher prevalence of preventable disease in older patients, they often derive greater benefits from such prescribing than younger patients.

For this reason, much primary care has shifted from the treatment of acute illness to the management—often pharmacological—of “risk states” in elderly people, including hypertension, hypercholesterolaemia, and osteoporosis, as well as diseases such as atrial fibrillation, heart failure, and diabetes. Solid evidence from clinical trials indicates that appropriate prescribing can substantially reduce the burden of preventable morbidity in these conditions. Although such concerns are traditionally seen as a problem of the industrialised world, they are rapidly becoming a major issue facing developing countries as well.

But this benefit comes at a price: the high prevalence of adverse drug reactions in older patients. The problem has several sources. One is the altered pharmacokinetic status of elderly people; they are less able to metabolise and excrete many common drugs, even in the absence of liver or kidney diseases. They may also have altered pharmacodynamic responses, with some receptor systems (such as those for opiates and benzodiazepines) having greater sensitivity with advancing age, and others (such as those for insulin) showing reduced sensitivity. Unfortunately, the under-representation of older patients (especially frail ones) in clinical trials makes it even harder for the prescribing doctor to prevent untoward drug reactions in older patients.

When an elderly person experiences an adverse drug reaction, it may be mistakenly attributed by the patient or doctor to a new disease or (even worse) the ageing process itself. Examples include the parkinsonian side effects of many antipsychotic drugs and the fatigue, confusion,

Adverse drug reactions in elderly people

Doctors should pay greater attention to managing the risk-benefit relationship to improve care of patients over 65, urge Jerry Avorn and William Shrank.

The challenge of safer prescribing, says Anne Spinewine, lies in shared decision making.

Quality improvement for the care of older people has become a priority in many countries. Elderly people consume a large proportion of health care, including drugs, and evidence shows that prescribing to this group is often inappropriate. Inappropriate prescribing occurs in all care settings and at the transition between settings. Negative consequences include adverse drug events, higher costs for the patient and society, and impaired quality of life.

Specific approaches tailored to the needs of frail elderly people are needed. A recent review of ways to optimise prescribing to older people found that geriatric medicine services (including a multidisciplinary team that includes a geriatrician and other health-care providers with specialised geriatrics training), involvement of pharmacists in care, and computerised decision support can all improve the quality of prescribing to this group in different settings.

Quality improvement strategies are more likely to be effective when there is direct interaction with the prescriber and when the strategies are provided at the time of prescribing. In nursing homes, involvement of nurses in strategies is another important factor. The effect of educational interventions is mixed, although the lack of training of doctors in geriatrics is often cited as a cause of inappropriate prescribing.

However, widespread diffusion of effective approaches has not yet occurred. As in many other fields, translating research into practice is a delicate task. In the domain of quality improvement for safer prescribing to older people, this is further complicated by a lack of strong data showing the impact of effective approaches on important health outcomes. Also, the question of who should meet the cost of such approaches is a matter for debate. And we lack data on the cost effectiveness of strategies. With regard to computerised decision support systems, we first need systems that have been tailored to elderly patients before they can be implemented more widely.

It is important to take environmental barriers into account. Some barriers can be specific to the setting of care or even to the country of practice. For example, improving the quality of prescribing of neuroleptics in nursing homes is less likely to occur without an increase in staffing and resources. Direct contact with prescribers
The challenge of safer prescribing should be included in measures of quality performance. The reasons for those changes will also help to understand the limitations of shared decision making. Furthermore, many prescribers are reluctant to engage in it because of the extra time needed. Therefore a huge amount of work needs to be done here, from research to implementation. Education and training programmes for prescribers should include sessions on communicating with patients and on involving them in decisions.

Big improvements in communication at the interface between primary and secondary care are urgently needed

Quality improvement strategies for safer prescribing in older people must include shared decision making. The beliefs and preferences of older patients concerning treatment affect adherence and, in turn, the safe use of drugs. Several recent studies have shown the importance of considering patients’ wishes, but many questions remain unanswered.

The high prevalence of people with dementia and the need to involve carers in decisions compound further the task of shared decision making. Furthermore, many prescribers are not familiar with the principles of shared decision making or are reluctant to engage in it because of the extra time needed. Therefore a huge amount of work needs to be done here, from research to implementation. Education and training programmes for prescribers should include sessions on communicating with patients and on involving them in decisions.

Health authorities should also consider including this dimension of care in quality performance measures. What are the most urgent of the unanswered research questions? We need more clinical trials that enrol frail elderly patients, to enhance our knowledge of the benefits and risks of treatments in this group. With regard to quality improvement strategies, we need to evaluate the effect of multifaceted approaches on important health outcomes and costs. This is a challenging task that will certainly require multicentre trials with large samples.

It is important that quality improvement approaches are multidisciplinary in nature, use computerised decision support systems that are specific to this age group, and take the patient’s view into account.

Meanwhile, national health systems should provide incentives for prescribers to regularly review treatments, develop information systems to facilitate seamless care, and encourage the implementation of multidisciplinary approaches including geriatric medicine services. Quality improvement strategies need to be customised to account for differences in patients, prescribers, and environmental factors.

Anne Spinewine 
Cliniques Universitaires de Mont-Godinne, Yvoir, Belgium
anne.spinewine@uclouvain.be
The challenge of safer prescribing -- Spinewine 336 (7650): 956 -- bmj.com

**Making a Difference**

**Adverse Drug Reactions in Elderly People**

The challenge of safer prescribing

Anne Spinewine, clinical pharmacist and lecturer in pharmacotherapy anne.spinewine@uclouvain.be

Doctors should pay greater attention to managing the risk-benefit relationship to improve care of patients over 65, urge Jerry Avorn and William Shrank (doi: 10.1136/bmj.39520.671053.94). The challenge of safer prescribing, says Anne Spinewine, lies in shared decision making

Quality improvement for the care of older people has become a priority in many countries. Elderly people consume a large proportion of health care, including drugs, and evidence shows that prescribing to this group is often inappropriate. Inappropriate prescribing occurs in all care settings and at the transition between settings. Negative consequences include adverse drug events, higher costs for the patient and society, and impaired quality of life.

Specific approaches tailored to the needs of frail elderly people are needed. A recent review of ways to optimise prescribing to older people found that geriatric medicine services (involving a multidisciplinary team that includes a geriatrician and other healthcare providers with specialised geriatrics training), involvement of pharmacists in care, and computerised decision support can all improve the quality of prescribing to this group in different settings. Quality improvement strategies are more likely to be effective when there is direct interaction with the prescriber and when the strategies are provided at the time of prescribing. In nursing homes, involvement of nurses in strategies is another important factor. The effect of educational interventions is mixed, although the lack of training of doctors in geriatrics is often cited as a cause of inappropriate prescribing.

However, widespread diffusion of effective approaches has not yet occurred. As in many other fields, translating research into practice is a delicate task. In the domain of quality improvement for safer prescribing to older people, this is further complicated by a lack of strong data showing the impact of effective approaches on important health outcomes. Also, the question of who should meet the cost of such approaches is a matter for debate. And we lack data on the cost-effectiveness of strategies. With regard to computerised decision support systems, we first need systems that have been tailored to elderly patients before they can be implemented more widely.

It is important to take environmental barriers into account. Some barriers can be specific to the setting of care or even to the country of practice. For example, improving the quality of prescribing of neuroleptics in nursing homes is less likely to occur without an increase in staffing and resources. Direct contact with prescribers (such as with a clinical pharmacist) is not always feasible in nursing homes, and this can decrease the efficacy of the intervention. And we lack data on the cost-effectiveness of strategies. With regard to computerised decision support systems, we first need systems that have been tailored to elderly patients before they can be implemented more widely.

Big improvements in communication at the interface between primary and secondary care are urgently needed too. Many adverse drug events result from problems with communication relating to management of drugs during the transition between care settings. National online databases of drugs dispensed to patients (as in Denmark), to which all doctors and pharmacists have access, should help to tackle such problems. The same should apply to patient records. Such a challenge should be taken up at the national level, although of course steps must be taken to protect patients’ privacy. Better communication among prescribers to track changes in treatment and to record the reasons for those changes will also help to avoid the fragmentation of care. This aspect should be included in measures of quality performance.

Quality improvement strategies for safer prescribing in older people must include shared decision making. The beliefs and preferences of older patients concerning treatment affect adherence and, in turn, the safe use of drugs. Several recent studies have shown the importance of considering patients’ wishes, but many questions remain unanswered. The high prevalence of people with dementia and the need to involve carers in decisions complicates the task of shared decision making. Furthermore, many prescribers are not familiar with the principles of shared decision making or are reluctant to engage in it because of the extra time needed. Therefore a huge amount of work needs to be done here, from research to implementation. Education and training programmes for prescribers should include sessions on communicating with patients and on involving them in decisions. Health authorities should also consider including this dimension of care in quality improvement measures.

What are the most urgent of the unanswered research questions? We need more clinical trials that enrol frail elderly patients, to enhance our knowledge of the benefits and risks of treatments in this group. With regard to quality improvement strategies, we need to evaluate the effect of multifaceted approaches on important health outcomes and costs. This is a challenging task that will certainly require multicentre trials with large samples. It is important that quality improvement approaches are multidisciplinary in nature, use computerised decision support systems that are specific to this age group, and take the patient’s view into account.
Meanwhile, national health systems should provide incentives for prescribers to regularly review treatments, develop information systems to facilitate seamless care, and encourage the implementation of multidisciplinary approaches including geriatric medicine services. Quality improvement strategies need to be customised to account for differences in patients, prescribers, and environmental factors.

Footnotes
Competing interests: None declared.
Provenance and peer review: Commissioned; not externally reviewed.

References
5. Whiterington EMA, Pirzada OM, Avery AJ. Communication gaps and readmissions to hospital for patients aged 75 years and older: observational study. Qual Saf Health Care 2008;17:71-5. [Abstract][FREE Full text]

Relevant Articles:

Making a Difference: Making a difference: running the gauntlet to improve health care
Fiona Godlee
BMJ 2008;336:947 doi:10.1136/bmj.39541.660289.94 (Published 8 April 2008)
[Extract] [Full text] [PDF]

Making a Difference: Adverse Drug Reactions in Elderly People: A substantial cause of preventable illness
Jerry Avorn, William H Shrank
BMJ 2008;336:956 doi:10.1136/bmj.39520.671053.94 (Published 8 April 2008)
[Extract] [Full text] [PDF]

Rapid responses to this article

Psychiatric ADRs are often overlooked as being caused by current treatment.
Millie Kieve
BMJ 15 October 2008
[Full text]

Reasons
Mark E McConnell
BMJ 24 April 2008
[Full text]

Clinical indications - the future of prescribing is already here
Nigel J Masters
BMJ 20 April 2008
[Full text]

Quality improvement expertise needed at the coalface
Peter S Kidd
BMJ 10 April 2008
[Full text]

Related external webpages:

The challenge of safer prescribing -- Spinewine 336 (7650): 956 -- bmj.com http://www.bmj.com/content/336/7650/956.2.full
Related discussion

This article has been cited by other articles:

Prevalence and outcomes of use of potentially inappropriate medicines in older people: cohort study stratified by residence in nursing home or in the community
BMJQS 2011:0:bmjqs.2009.039818v1
[Abstract]

What's new

Last 7 days
Past weeks
Current print issue
Rapid responses
BMJ iPad app
NHS reforms

BMJ Group portals

Diabetes
Oncology
Psychiatry
Junior doctors
Clinical trials

Blogs | Podcasts

Martin McShane: The dog that hasn’t barked. (4 Feb 2011)
Research highlights – 4 February 2011 (4 Feb 2011)
Mervyn Dean on adjusting to work in Tanzania (3 Feb 2011)
Richard Smith: Can the NHS become environmentally sustainable? (3 Feb 2011)
Martin Dawes: Health research: what’s in a name? (3 Feb 2011)

Keep updated

Get email alerts

Get RSS alerts

Latest from BMJ
BMJ simple search
Follow BMJ on twitter
Watch on YouTube

Services

Submit an article
Subscribe/Activate
Request permissions

Tools

Print this page

Online poll

Compared with now, do you think healthcare in England in five years' time will be:

- Better
- The same
- Worse
- Much worse
The challenge of safer prescribing -- Spinewine 336 (7650): 956 -- bmj.com

http://www.bmj.com/content/336/7650/956.2.full
Correction to Spinewine 336 (7650): 956

BMJ 2008;336 doi: 10.1136/bmj.39560.618044.AD (Published 24 April 2008)

Correction

Adverse drug reactions in elderly people

In reference 5 of this article by Anne Spinewine (BMJ 2008;336, doi: 10.1136/bmj.39520.686458.94), the name of the first author should be Witherington (not Whiterington).

Related external webpages:

Related discussion

What's new

Last 7 days
Past weeks
Current print issue
Rapid responses
BMJ iPad app
NHS reforms

BMJ Group portals

Diabetes
Oncology
Psychiatry
Junior doctors
Clinical trials

Blogs

Martin McShane: The dog that hasn’t barked. (4 Feb 2011)
Research highlights – 4 February 2011 (4 Feb 2011)
Mervyn Dean on adjusting to work in Tanzania (3 Feb 2011)
Richard Smith: Can the NHS become environmentally sustainable? (3 Feb 2011)
Martin Dawes: Health research: what’s in a name? (3 Feb 2011)

Keep updated

Get email alerts

Get RSS alerts

Latest from BMJ

BMJ simple search

Follow BMJ on twitter

Watch on YouTube

Services

Submit an article
Subscribe/Activate