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- Personal View: Let's not turn elderly people into patients (*BMJ* 2009;338:b873)
- Research: Effectiveness of telephone counselling by a pharmacist in reducing mortality in patients receiving polypharmacy (*BMJ* 2006;333:522)

POLYPHARMACY: A NECESSARY EVIL

The rise of patients taking four or more drugs is an aspect of modern medicine that requires some urgent attention, finds a new report. **Jacqui Wise** examines its recommendations

Polypharmacy is a term that first appeared in the medical literature more than 150 years ago, but according to a major report from the King's Fund there is now an urgent need to tackle the issue.[1] In the past 10 years the average number of items prescribed for each person per year in England has increased by 53.8%, from 11.9 in 2001 to 18.3 in 2011.[2] A Scottish study of more than 300 000 patients found that between 1995 and 2010 the proportion of patients receiving five or more drugs increased from 12% to 22% and the proportion receiving 10 or more drugs rose from 1.9% to 5.8% (figure).[3] For older people the figures are even higher, with one in six patients over the age of 65 receiving 10 or more drugs.[3]

The rise in polypharmacy is driven by the growth of an ageing and increasingly frail population, many of whom have multiple long term conditions. In addition, increasing numbers of patients are prescribed complicated prevention regimens to reduce their future risk of serious events such as stroke and acute myocardial infarction.

"Polypharmacy is a necessary evil," said Martin Duerden, a general practitioner and coauthor of the King's Fund report *Polypharmacy and Medicines Optimisation: Making It Safe and Sound*. "It used to always be frowned on, but now we accept that it has to be a part of modern medicine. But we need to endeavour to ensure that we use multiple treatments in the most effective and least harmful way."

The report defines polypharmacy as the concurrent use of multiple medication items by an individual and says it can be either appropriate or problematic. Appropriate polypharmacy, when use of medicines has been optimised and they are prescribed according to best evidence, can extend life expectancy and improve a patient's quality of life. But problematic polypharmacy can increase the risk of interactions and adverse drug reactions as well as affecting patient compliance and quality of life.

The report calls for better training on managing multimorbidity and polypharmacy for doctors, nurses, and pharmacists. It also says general practice consultations should be longer for patients with multiple conditions to allow enough time to review drug treatment. There needs to be consideration of whether each drug has been prescribed appropriately or inappropriately, both individually and in the context of the other drugs being prescribed.

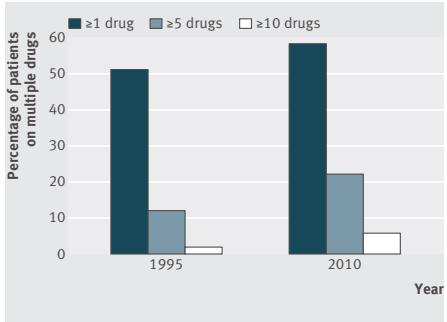
"Generally doctors are not very good at stopping medicines. We tend to add drugs in rather than substitute"

Need for formal consideration

Whereas a threshold of four or more drugs was considered high 10 years ago, this is now commonplace. But the report points out that there is now clear evidence of an increasing risk of prescribing errors, high risk prescribing, and adverse drug events as the number of drugs prescribed rises. It suggests that general practices take a pragmatic approach and review patients receiving 10 or more regular medicines and those receiving more than four medicines in whom there is another risk factor, such as a potential for drug interactions.

KEY RECOMMENDATIONS

- Patients with multimorbidity should have longer GP consultations to allow enough time to review the use of drugs
- More research is needed that includes patients with multimorbidity and polypharmacy
- Guidelines should take account of long term conditions that commonly coexist such as diabetes, coronary heart disease, heart failure, and chronic obstructive pulmonary disease
- At risk patients should be identified—those receiving 10 or more regular medicines or 4-9 medicines together with another factor such as potential for drug interactions
- Patients should have their long term conditions reviewed in one hospital visit and with access to a generalist clinician who can coordinate their overall care
- Better training in managing complex multimorbidity and polypharmacy for GPs, geriatricians, nurse specialists, clinical pharmacologists, and clinical pharmacists



Proportion of patients in Scotland receiving more than one drug, 1995 and 2010[1 3]

The prevalence of chronic disease is increasing, and many patients have several conditions. If each one is treated according to national guidelines patients may end up taking a complicated cocktail of drugs.

Umesh Kadam, senior lecturer in general practice and epidemiology at Keele University, commented: "Polypharmacy is a problem, not just for elderly people but also for patients with chronic diseases. Chronic disease guidelines recommend multiple drugs so a patient can very quickly be prescribed several drugs, which can become very confusing for the patient."

He added: "In our current models of care, we do not take a systematic approach to prescribing of multiple drugs, which is becoming an increasingly important issue with the patient experience of multi-morbidity."

The report calls for more clinical trials to include patients with multimorbidity and polypharmacy. Duerden told the *BMJ*: "Multimorbidity is a common thing—for the over 65s it is the norm. But nearly all our research is based on single diseases and tends to exclude patients with complex morbidity. Our evidence is based on patients who are very unusual."

Another recommendation is for evidence based guidelines to be developed that take into account long term conditions that commonly coexist such as diabetes, coronary heart disease, heart failure, and chronic obstructive pulmonary disease. In addition, the Quality and Outcomes Framework, which sets out performance targets for GPs, should be reviewed as it focuses on improving the treatment of single diseases rather than the needs of patients with several long term conditions.

John Wilding, professor of medicine at the Institute of Ageing and Chronic disease, University Hospital Aintree, Liverpool, told the *BMJ*: "It is the unintended consequence of guidelines for everything and targets for everything so, for example, a patient may be on a diabetes register, a coronary heart disease register, and a chronic obstructive pulmonary disease register and before you know it they are on 15 drugs."

Minimising patient burden

The King's Fund report warns against incremental prescribing or the "prescribing cascade," which is when a clinician does not recognise that a symptom is caused by one of the prescribed drugs and then prescribes another medication to counter this adverse effect. Wilding said: "Sometimes if a patient doesn't have their glucose controlled they are given yet another drug when it may be because they are actually prescribed too many drugs and are not taking them properly. It's important to extract from a patient how much of a burden it is taking the drugs."

The report says many people stay on medicines beyond the point where they are deriving optimal benefit. It points out that there is much advice on when to initiate a medicine but far less information and evidence to help support decisions to stop treatment. This is a particular concern towards the end of life, when some patients may still be prescribed drugs that would provide benefit only in the long term. Duerden told the *BMJ*: "Generally doctors are not very good at stopping medicines. We tend to add drugs in rather than substitute. Particularly for the older frail patient, it is important to evaluate whether a drug is truly of benefit. For example, a patient in a nursing home with poor mobility who is unlikely to live more than a few years may not benefit from continuing to take a statin." He added it is important to discuss stopping any medicines with the patient and their relatives.

"For the over 65s multimorbidity is the norm. But nearly all our research is based on single diseases. Our evidence is based on patients who are unusual"

The report also says it is necessary to address the increasing specialisation of clinicians because this trend may mean that no one considers the overall needs of a patient. It says patients with multimorbidity need to have access to generalist clinicians in hospital who can coordinate a patient's overall care. Also, rather than attending several disease specific clinics, patients ideally would have all their long term conditions reviewed in one visit by a clinical team responsible for coordinating their care.

The report points out that it is vital to involve patients so that they can make informed choices about their treatment. Many patients find taking a large number of pills an unpleasant chore, and this can detract from their quality of life. In any case, patients often do not take medicines in the way that prescribers intend, and many dispensed medicines remain unused or are wasted. Medication regimens should be kept as simple as possible—ideally with once or twice daily doses. Duerden said that doctors should look at how a regimen could be simplified even if this may involve compromise. For example, although a statin is best taken before bed, the patient may find it preferable to take it during the day alongside other pills.

The report gives some practical tips on managing medicines. For example, doctors should never assume that they know what patients are taking; the report advises asking patients to bring in all the medicines they are taking, including herbal products and over the counter medicines.

Wilding told the *BMJ*: "It is the responsibility of all doctors to try to rationalise the number of drugs whenever the opportunity arises. The reasons for a particular prescription may be long forgotten by the patient, and even in some cases by the original clinician."

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