

Ageing is not for the faint-hearted: are we making it worse? Polypharmacy-related harm in the elderly

Katharine A Wallis MBChB, PhD, MBHL, FRNZCGP

'These psychiatrists and the medical community are the worst drug dealers in the world. These drugs will make you fat, ruin your life, make you miserable and destroy anything you want to do. And nobody tells you that.'

Stevie Nicks talking about clonazepam

Department of General Practice and Primary Health Care, The University of Auckland, Auckland, New Zealand

Polypharmacy-related harm in the elderly

Stevie Nicks might not have been elderly, nor taking drugs that most of us would readily have agreed to prescribe. Nevertheless, her experience mimics that of many: suffering vague unexpected adverse effects caused by drugs prescribed by doctors. Adverse drug effects (ADEs) are common in the elderly and are a common cause of avoidable hospital admissions.¹⁻⁵ The drugs causing most harm are those that are commonly prescribed, with well-recognised benefits (at least in some patients): antibiotics, anticoagulants, hypoglycaemic agents, and cardiovascular drugs.^{3,6} ADEs in the elderly are often overlooked, as they frequently present as vague non-specific symptoms or mimic other common conditions, for example lethargy, fatigue, drowsiness, muscle aches, weakness, postural hypotension, falls, delirium, and depression.⁷ ADEs not only cause suffering, they also drain precious health care resources—the annual cost of adverse drug reaction admissions in the United Kingdom has been estimated at £466m.⁵

The single greatest predictor of adverse drug events is the number of medications a person takes.^{8,9} The elderly are especially vulnerable because they take more medications for more chronic conditions and their organs are no longer

so robust. The risk of an elderly person suffering ADEs has been estimated at 38% when taking four medications, and 82% when taking seven or more medications.¹⁰ Polypharmacy (the use of multiple medications) is common in the elderly and the prevalence is increasing.¹¹ In New Zealand, about 10% of adults 65 years and older are taking 10 or more regular medications.¹² Many of these medications are potentially inappropriate (their potential risks outweigh the potential benefits).¹³

How have we come to this? Why are doctors prescribing more and more drugs to the elderly year on year, many of these drugs potentially inappropriate? Disease-specific guidelines help drive polypharmacy by telling doctors when to start medications but not when to stop them. Many guidelines are not appropriate for the elderly. The elderly often have multiple chronic conditions, while guidelines are usually for single conditions. Further, guidelines are usually based on clinical trials that largely excluded the elderly, leading to recommendations that may not be appropriate in this age group.¹⁴ Clinical trials of medications in the elderly sometimes have different results. For example, while intensive diabetes treatment is generally recommended, in the elderly it is associated with higher all-cause mortality;¹⁵ and statins do not reduce all-cause mortality in patients aged 70–82 years.¹⁶

The **ETHICS** column explores issues around practising ethically in primary health care and aims to encourage thoughtfulness about ethical dilemmas that we may face.

THIS ISSUE: Our guest ethicist and GP Katharine Wallis explores ethical issues around polypharmacy and deprescribing.

J PRIM HEALTH CARE
2015;7(2):167–169.

CORRESPONDENCE TO:
Katharine Wallis
k.wallis@auckland.ac.nz

There is a culture of prescribing and ‘pill popping’. Despite the dearth of evidence demonstrating the benefits of many medications in the elderly, and an abundance of evidence demonstrating polypharmacy-related harm, the default setting is often to prescribe. And patients may unwittingly encourage this practice. Despite being associated with increased mortality, more health care is associated with higher patient satisfaction.¹⁷ Patient satisfaction is a priority for many doctors as their livelihood often depends upon it. Doctors may be reluctant to suggest withholding or withdrawing medication for fear of causing offence or being misinterpreted as no longer caring. Nevertheless, stopping drugs that are more likely to do harm than good is the right thing to do. As is warning patients about the risks of continuing to take medication that may no longer be appropriate.

Deprescribing to optimise prescribing

Deprescribing is the process of tapering and stopping drugs.¹⁸ Deprescribing is not about abandoning patients but about providing the best care and improving patient outcomes. Deprescribing is an integral part of everyday good prescribing practice. As with prescribing, deprescribing is a patient-centred intervention, with inherent uncertainties requiring shared decision-making, informed consent, and monitoring. The patient’s care goals, current level of functioning, life expectancy, values and preferences all come into play. Deprescribing takes time, effort and skill. It is the responsibility of the prescriber to do the deprescribing; doctors are doing the prescribing and doctors must also do the deprescribing.

Deprescribing potentially inappropriate medications is the right thing to do. Beneficence demands we act in the patient’s best interests. Withdrawing medications not only may reduce the burden of polypharmacy and the risk of ADEs, but also may alleviate adverse drug symptoms and improve quality of life. Determining best interests is not always easy, but talking with patients about their care goals can help—spending time helping patients decide what is best for them. Non-maleficence requires doctors to at least do no harm: if the benefits are not proven and the risks are well-documented, then we should not prescribe. Further, justice demands we address

polypharmacy-related harm: ADEs cost health systems billions each year, clogging up the system and depriving others of care.

While addressing polypharmacy-related harm through deprescribing makes good sense, it will not be easy to assimilate deprescribing into our culture of prescribing. Deprescribing entails a shift in the attitudes and behaviours of both doctors and patients. Education of both doctors and patients may help in this process. In New Zealand, the Government’s introduction of the new Integrated Performance and Incentive Framework (IPIF) ‘11 plus’ measures (Measures to better manage people aged 65 years or older who are prescribed 11 or more medicines) in July 2015 might help encourage practices to address polypharmacy.¹⁹ But it is not always easy for doctors to know which drug to stop, when and how; it is not always easy to recognise when a once-appropriate medication has become inappropriate. Several tools have been developed to help doctors with this process.^{20–22} Audit and feedback, electronic prompts, manual reminders, and (yet more) guidelines may also help.

Conclusion

Polypharmacy is common in the elderly and becoming more common. Polypharmacy is the single greatest predictor of ADEs. The scale of polypharmacy-related harm in the elderly is under-appreciated: ADEs add to the challenges of ageing and are estimated to cost health systems billions each year. To reduce polypharmacy-related harm, we need to reduce polypharmacy. We need to withhold and withdraw medication where appropriate. Not to do so risks ‘ruining someone’s life and destroying anything they want to do’. This has never been the goal of medicine. Rather, as Hippocrates suggested, the goal has always been ‘to help, or at least to do no harm.’²³

References

1. Tache S, Sonnichsen A, Ashcroft D. Prevalence of adverse drug events in ambulatory care: a systematic review. *Ann Pharmacother*. 2011;45(7–8):977–89.
2. Wallis K, Dovey S. No-fault compensation for treatment injury in New Zealand: identifying threats to patient safety in primary care. *BMJ Qual Saf*. 2011;20(7):587–91.
3. Budnitz DS, Lovegrove MC, Shehab N, Richards CL. Emergency hospitalizations for adverse drug events in older Americans. *N Engl J Med*. 2011;365(21):2002–12.

4. Kalisch LM, Caughey GE, Barratt JD, Ramsay EN, Killer G, Gilbert AL, et al. Prevalence of preventable medication-related hospitalizations in Australia: an opportunity to reduce harm. *Int J Qual Health Care*. 2012;24(3):239–49.
5. Pirmohamed M, James S, Meakin S, Green C, Scott AK, Walley TJ, et al. Adverse drug reactions as cause of admission to hospital: prospective analysis of 18 820 patients. *BMJ*. 2004;329(7456):15–19.
6. Howard RL, Avery AJ, Slavenburg S, Royal S, Pipe G, Lucassen P, et al. Which drugs cause preventable admissions to hospital? A systematic review. *Br J Clin Pharmacol*. 2007;63(2):136–47.
7. Klopotoska JE, Wierenga PC, Smorenburg SM, Stuijt CC, Arisz L, Kuks PF, et al. Recognition of adverse drug events in older hospitalized medical patients. *Eur J Clin Pharmacol*. 2013;69(1):75–85.
8. Scott IA, Anderson K, Freeman CR, Stowasser DA. First do no harm: a real need to deprescribe in older patients. *Med J Aust*. 2014;201(7):3.
9. Fried TR, O'Leary J, Towle V, Goldstein MK, Trentalange M, Martin DK. Health outcomes associated with polypharmacy in community-dwelling older adults: a systematic review. *J Am Geriatr Soc*. 2014;62(12):2261–72.
10. Atkin PA, Veitch PC, Veitch EM, Ogle SJ. The epidemiology of serious adverse drug reactions among the elderly. *Drugs Aging*. 1999;14(2):141–52.
11. Duerden M, Avery T, Payne R. Polypharmacy and medicines optimisation: making it safe and sound. London, UK: The King's Fund; 2013.
12. Love T, Ehrenberg N. Variation and improving services: case studies and key questions. Wellington: Health Quality and Safety Commission; 2014.
13. Nishtala PS, Bagge ML, Campbell AJ, Tordoff JM. Potentially inappropriate medicines in a cohort of community dwelling older people in New Zealand. *Geriatr Gerontol Int*. 2014;14(1):89–93.
14. Mangin D, Sweeney K, Heath I. Preventive health care in elderly people needs rethinking. *BMJ*. 2007;335(7614):285–87.
15. Andrews MA, O'Malley PG. Diabetes overtreatment in elderly individuals: Risky business in need of better management. *JAMA*. 2014;311(22):2326–27.
16. Shepherd J, Blauw GJ, Murphy MB, Bollen EL, Buckley BM, Cobbe SM, et al. Pravastatin in elderly individuals at risk of vascular disease (PROSPER): a randomised controlled trial. *Lancet*. 2002;360(9346):1623–30.
17. Fenton JJ, Jerant AF, Bertakis KD, Franks P. The cost of satisfaction: a national study of patient satisfaction, health care utilization, expenditures, and mortality. *Arch Intern Med*. 2012;172(5):405–11.
18. Scott IA, Hilmer SN, Reeve E, Potter K, Le Couteur D, Rigby D, et al. Reducing inappropriate polypharmacy: the process of deprescribing. *JAMA Intern Med*. 2015; doi: 10.1001/jamainternmed.2015.0324.
19. Ministry of Health Expert Advisory Group. Integrated Performance and Incentive Framework: final report. Wellington: Ministry of Health; 2014.
20. Reeve E, Shakib S, Hendrix I, Roberts MS, Wiese MD. Review of deprescribing processes and development of an evidence-based, patient-centred deprescribing process. *Br J Clin Pharmacol*. 2014;78(4):738–47.
21. Chieng JH, Hughes L, Stewart A, Frampton CM, Hanger HC, Jardine DL. Introduction of the Pill Pruner to acute medical care: a simple medication guide to control polypharmacy. *Australas J Ageing*. 2015;34(1):58–61.
22. Patterson SM, Cadogan CA, Kerse N, Cardwell CR, Bradley MC, Ryan C, et al. Interventions to improve the appropriate use of polypharmacy for older people. *Cochrane Database Syst Rev*. 2014;(10):CD008165.
23. Epidemics I. In Hippocrates. (Trans., Jones W. Loeb Classical Library) Cambridge, MA: Harvard University Press, 1923–1988, vol. X, p.165.

Murder That Wasn't: The case of George Gwaze

Felicity Goodyear-Smith

Reviewed by **Glynn Owens** DPhil(Oxon), Professor of Psychology, The University of Auckland, Auckland, New Zealand

This is an extraordinary book about an extraordinary case. In 2007, 10-year-old Charlene Makaza, biological niece but effectively daughter of George Gwaze, died in Christchurch. Subsequently interpretation of clinical, microbiological and histological signs led both clinicians and the police to assume (mistakenly) that her death was a consequence of sexual trauma and suffocation. The finding of small traces of George's sperm in her underwear was seen as conclusively linking him to the supposed assault.

As a result of this, and a failure to recognise that the traces could easily have found their way into Charlene's underwear through entirely innocent mechanisms, George was charged with her rape and murder.

But George was not guilty, a conclusion reached not only by the jury in his first trial, but also by the jury in the retrial subsequently ordered by the Supreme Court. For him, and for his family, the horrors were phenomenal. Most of us find it hard to imagine the trauma of having one's young child die. Parents struggle with such experiences for the rest of their own lives, even when the death, unlike Charlene's, could be anticipated. It is probably impossible for most to imagine how awful it would be to have this compounded by accusations of being responsible for her rape and murder.

In her writing, Felicity Goodyear-Smith notes that the case is exceptional; the defence was not that George did not commit the crimes, but that no crimes were committed. Thankfully it was possible to obtain expert opinion, both from New Zealand and overseas, to demonstrate that the apparent signs of rape and murder could result from nothing more than the little girl's HIV-positive status, and her mother's practice of washing the family's underwear together.

As a result of a number of errors in this case, an innocent man had to endure years of being under suspicion and of separation from his 12-year-old niece (thanks to a CYFS ruling which prevented contact). Some may now feel ashamed of their involvement in this case. But the author of this book, and her colleagues who cleared George's name, should feel proud.

Publisher: Otago University Press, Dunedin, New Zealand

Date of publication: 2015

No. of pages: 192

ISBN: 978-1-877578-99-1

www.nationwidebooks.co.nz