

The polypharmacy challenge: time for a new script?

THE SCALE OF THE CHALLENGE

Polypharmacy, usually defined as the ongoing use of ≥ 4 medicines by one person, presents one of the most pressing primary care challenges of our time. This simple definition conceals much of the complexity that the concept evokes in the mind of the GP. Polypharmacy is not a new challenge for general practice, but the scale and complexity of the challenge is increasing. One Scottish study showed that about 20% of adults are dispensed ≥ 5 drugs (this has doubled since 1995) and about 6% of adults are dispensed ≥ 10 drugs (this has tripled since 1995).¹ The use of 10 drugs is regarded as a pragmatic indicator of 'high risk' prescribing and we should all be concerned by the rising prevalence of this phenomenon, especially in the context that 10% of hospital admissions among older adults are attributed to adverse drug reactions. Polypharmacy is costly to the NHS, wasteful (50% of medicines prescribed for long-term conditions are not used), and prone to error. According to the PRACtICE study,² errors arise in 5% of prescription items in general practice. Although these are mostly errors of mild to moderate severity, one in 550 of these errors has the potential to cause severe harm. Given the scale of prescribing it is clearly an important area in which to improve care.

FACTORS DRIVING POLYPHARMACY

There are many factors driving polypharmacy. At best polypharmacy may be a necessary response to shifting demographics and a rising, ageing population of patients with multimorbidities; above the age of 65 years multimorbidity is the norm. At worst, polypharmacy is an example of medical overactivity and iatrogenic harm. It arises in the context of a market-driven approach to health, focused on disease-specific, measurable standards, incentives, and an insatiable desire to eliminate risk and increase profits. It seems somewhat ironic that one of the factors driving polypharmacy — the focus on reducing risk of disease — should contribute to this high-risk situation. Ueda *et al* (this issue) estimate that strict application of the 2014 National Institute for Health and Care Excellence (NICE) cholesterol guidelines using the QRISK2 algorithm would result in 95% of males

"The search for evidence to underpin the recent NICE guideline on multimorbidity illustrates the stark reality of the evidence desert: specific recommendations regarding stopping medicines were only possible for one group of preventive drugs (bisphosphonates)."

and two-thirds of females without existing cardiovascular disease in the age group 60–74 years, and all males and females in the age group 75–84 years, requiring statin therapy.³ One of our academic colleagues recently referred to polypharmacy as *'the side-effect of evidence-based medicine'*. Another responded to this with a wry smile and remarked, *'this is entirely a matter of perspective; for the pharmaceutical industry it is not the side effect, it is the effect'* [personal communications, 2016].

Critics of our current predicament argue that *'[c]are that is measurably better may be meaningfully worse and a nightmare for the patient'* and call for a paradigm shift away from a disease-based model to one that focuses on care for patients.⁴ They recognise that this may involve complex decisions around not prescribing or stopping treatments, the evidence for which is often missing.⁴ However, willingness to engage in these complex decisions is a necessary contribution to reducing patients' considerable burden of treatment. The search for evidence to underpin the recent NICE guideline on multimorbidity illustrates the stark reality of the evidence desert: specific recommendations regarding stopping medicines were only possible for one group of preventive drugs (bisphosphonates).⁵

ADDRESSING THE POLYPHARMACY CHALLENGE: WHAT MATTERS TO GPs?

A Dutch study comprising focus groups with GPs who discussed case study vignettes designed to highlight multimorbidity and polypharmacy found that GPs identified similar broad strategies for medicines management (for example, defining treatment goals, adjusting medications based on treatment effects) but suggested different ways of executing these strategies in practice. Participating GPs highlighted the value of support from other GPs or

pharmacists in making these complex decisions.⁶ This finding resonates with the work of Sinnott *et al*, who explored GP decision making using in-depth qualitative interviews incorporating case-specific chart-stimulated recall.⁷ GPs' accounts of their decision making revealed a process of 'satisficing', that is, accepting care that is satisfactory and sufficient in the context of the particular patient. 'Satisficing' was a process of negotiating and accepting compromise, relaxing targets for disease control, and making best guesses about the most appropriate course of action. This sometimes meant accepting the status quo in situations regarded as stable, even if this entailed significant ongoing polypharmacy. Proactive changes to medication were most likely in the context of continuity of care, ample consultation time, and open communication with the patient, other health professionals, and GPs.⁷ These conditions are increasingly under threat in an overstretched NHS where relational continuity with a GP is difficult to sustain, and this may compound attempts to address the polypharmacy challenge. GPs' sense of isolation was an overarching theme in Sinnott *et al*'s meta-ethnographic synthesis of qualitative research investigating GPs' experience of caring for patients with multimorbidity.⁸ The researchers have now incorporated this important finding into a complex intervention that involves collaborative medication review by two GPs using a short medication checklist; this intervention has the notion of collegial peer support at its centre.⁹

ADDRESSING THE POLYPHARMACY CHALLENGE: WHAT MATTERS TO PATIENTS?

Although polypharmacy is increasingly recognised as problematic, the capacity to reconfigure care to adapt to the complex realities of patients' lives is limited in part by

our poor understanding of what matters to patients. Although 'medicines optimisation' — a person-centred approach to safe and effective medicines use — is a laudable goal, there has been little research exploring patients' perspectives and priorities around medicine taking, nor their actual experience and practices of fitting medicines into their daily lives and their varying capacity to do this. Interest in this area is increasing. One study comprising questionnaire and interview data gathered in the context of the OPTI-SCRIPT randomised controlled trial found that, although 96% of patients believed strongly in the necessity of their medications, 34% also reported strong concerns about the potential for adverse consequences.¹⁰ The importance of interpersonal trust between patient and doctor emerged as an important element of patients' ability to manage this uncertain situation.¹⁰

A recent pilot study conducted across 14 Dutch general practices (17 GPs) and including 59 older patients with multimorbidity who were prescribed ≥ 5 medications investigated the use of a simple outcome prioritisation tool (www.optool.nl). In the context of a consultation with their GP, patients were invited to express their preferences across four priorities: remaining alive; maintaining independence; reducing pain; and reducing other symptoms.¹¹ This formed the basis for a conversation about their medication. Although this was a small pilot study, the researchers found that most of the medication changes made (34 changes, involving 20 patients) involved either reducing drug doses or stopping them altogether. The use of such prioritisation tools may represent a promising way forward.

CONCLUSION

Kaufman, reflecting on the quandary of crossing the line towards too much medicine in the care of older people, writes: 'although few appear to have foreseen our current predicament, it was inevitable that medicine would collide with age'.¹² Polypharmacy is a 'wicked' problem comprising a complex tangle of the biological, behavioural, technological, cultural, and sociopolitical. It is unlikely that GPs can address the challenge single-handedly, because the solutions to some of these factors lie in higher-order structural, economic, and sociopolitical change.

But there is much work we can do. The terms 'appropriate' and 'inappropriate' as applied to polypharmacy might benefit from

ADDRESS FOR CORRESPONDENCE

Deborah Swinglehurst

Centre for Primary Care and Public Health, Blizard Institute, Queen Mary University of London, 58 Turner Street, London E1 2AB

E-mail: d.swinglehurst@qmul.ac.uk

some unpacking: 'appropriate to whom?' and 'appropriate for what purpose or with what in mind?'

There is much scope for investigating how patients, carers, doctors, and other health professionals negotiate polypharmacy, medicines optimisation, and deprescribing in their day-to-day lives and practices. This needs to include attention to some of the most complex situations, such as negotiating decisions when patients do not have the mental capacity to take part in such decision making themselves. Opportunities for working in new and innovative ways with our pharmacy colleagues (the accompanying editorial by Avery, this issue)¹³ may provide hopeful ways forward, as may closer involvement of patients and carers — not only in their own management but also in setting the research agenda moving forward. It is quite possible that polypharmacy presents primary care with an opportunity to assert its commitment to generalism, to re-focus on the patient-as-person and the professional-as-person, and to grapple effectively with complexity in practice. It is also possible that we may achieve more health with less medicine.

Deborah Swinglehurst,

Clinical Reader, NIHR Clinician Scientist, Centre for Primary Care and Public Health, Blizard Institute, Queen Mary University of London, London.

Nina Fudge,

Research Associate in Social Sciences, Centre for Primary Care and Public Health, Blizard Institute, Queen Mary University of London, London.

Funding

Deborah Swinglehurst and Nina Fudge have funding from the National Institute for Health Research (NIHR) through a Clinician Scientist Award (Swinglehurst). They are currently working on the APOLLO-MM project — Addressing the Polypharmacy Challenge in Older People with Multimorbidity (www.polypharmacy.org.uk).

Open access

This article is Open Access: CC BY-NC 4.0 licence (<https://creativecommons.org/licenses/by-nc/4.0/>).

Provenance

Commissioned; not externally peer reviewed.

DOI: <https://doi.org/10.3399/bjgp17X692189>

REFERENCES

1. Guthrie B, Makubate B, Hernandez-Santiago V, Dreischulte T. The rising tide of polypharmacy and drug–drug interactions: population database analysis 1995–2010. *BMC Medicine* 2015; **13**(1): 74.
2. Avery T, Barber N, Ghaleb M, *et al*. *Investigating the prevalence and causes of prescribing errors in general practice: the PRACtiCe Study. (Prevalence And Causes of prescribing errors in general practiCe)*. London: General Medical Council, 2012.
3. Ueda P, Wai-Chun Lung T, Clarke P, Danaei G. Application of the 2014 NICE cholesterol guidelines in the English population: a cross-sectional analysis. *Br J Gen Pract* 2017; DOI: <https://doi.org/10.3399/bjgp17X692141>.
4. Mangin D, Heath I, Jamouille M. Beyond diagnosis: rising to the multimorbidity challenge. *BMJ* 2012; **344**: e3526.
5. National Institute for Health and Care Excellence. *Multimorbidity: clinical assessment and management. NG56*. London: NICE, 2016. <https://www.nice.org.uk/guidance/ng56> (accessed 26 Jul 2017).
6. Sinnige J, Korevaar JC, van Lieshout J, *et al*. Medication management strategy for older people with polypharmacy in general practice: a qualitative study on prescribing behaviour in primary care. *Br J Gen Pract* 2016; DOI: <https://doi.org/10.3399/bjgp16X685681>.
7. Sinnott C, Hugh SM, Boyce MB, Bradley CP. What to give the patient who has everything? A qualitative study of prescribing for multimorbidity in primary care. *Br J Gen Pract* 2015; DOI: <https://doi.org/10.3399/bjgp15X684001>.
8. Sinnott C, McHugh S, Browne J, Bradley C. GPs' perspectives on the management of patients with multimorbidity: systematic review and synthesis of qualitative research. *BMJ Open* 2013; **13**(9): e003610.
9. Sinnott C, Mercer SW, Payne RA, *et al*. Improving medication management in multimorbidity: development of the Multimorbidity Collaborative Medication Review And Decision making (MY COMRADE) intervention using the Behaviour Change Wheel. *Implement Sci* 2015; **10**: 132.
10. Clyne B, Cooper JA, Boland F, *et al*. Beliefs about prescribed medication among older patients with polypharmacy: a mixed methods study in primary care. *Br J Gen Pract* 2017; DOI: <https://doi.org/10.3399/bjgp17X691073>.
11. van Summeren JJ, Schuling J, Haaijer-Ruskamp FM, Denig P. Outcome prioritisation tool for medication review in older patients with multimorbidity: a pilot study in general practice. *Br J Gen Pract* 2017; DOI: <https://doi.org/10.3399/bjgp17X690485>.
12. Kaufman SR. *Ordinary medicine: extraordinary treatments, longer lives, and where to draw the line*. Durham, NC: Duke University Press, 2015.
13. Avery AJ. Pharmacists working in general practice: can they help tackle the current workload crisis? *Br J Gen Pract* 2017; DOI: <https://doi.org/10.3399/bjgp17X692201>.