University of Southampton

PRIMARY CARE RESEARCH CENTRE

Medicines Optimisation and Deprescribing in Older People:

Personalised, Proactive and Preventative

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Medicines optimisation and deprescribing are essential to delivering the NHS's long term shift towards community based, digitally enabled and preventative care.

Evidence shows that proactive multidisciplinary medication reviews reduce harm, prevent unnecessary hospital admissions, and improve quality of life for older people—while delivering value for money and supporting environmental sustainability.

To realise these benefits at scale, medicines optimisation must be embedded as a core, routine element of primary care, supported by targeted investment, digital infrastructure, multidisciplinary training and public engagement. These actions will ensure that those most at risk benefit first, offering a practical and evidence based route to improving outcomes and supporting the long term sustainability of the NHS.

This brief summarises the evidence on overprescribing and polypharmacy (10+ regular medicines) among older people in England, and the approaches shown to improve patient outcomes through safer prescribing practices.

The work draws on a programme of research led by the Primary Care Research Centre, University of Southampton, including MODIFY, SPiDeR and STOP DEM.

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THE CHALLENGE

Over one million people in England are prescribed 10+ medicines, almost half of whom are aged ≥75 years or over (1). Inappropriate overprescribing disproportionately affects older people living with multiple long-term conditions, cognitive impairment, or frailty. Older people living with frailty who are prescribed more than 10+ medicines are **three times more likely to experience harms** such as falls, confusion and loss of independence (2). Older people from ethnic minority communities, and those living in socially deprived and underserved areas (3-7) often have higher rates of polypharmacy but are more likely to experience challenges in accessing medication reviews (4-7).

Overprescribing—where medicines are continued despite limited benefit, better alternatives or misalignment with patient preferences—leads to problematic polypharmacy (8, 9). Overprescribing and problematic polypharmacy add significant preventable costs to the healthcare system through wasted medicines, increased workload and avoidable hospital admissions (1, 10). Problematic polypharmacy and adverse drug reactions are linked to approximately **16.5% of unplanned hospital admissions** [5]. Unplanned hospital admissions linked to problematic polypharmacy and adverse drug reactions cost the NHS in England an estimated **£2.21bn per year** (1).

As the UK population lives longer with multiple long-term conditions, overprescribing and polypharmacy will continue to grow unless addressed. In Primary Care, access to proactive medicines reviews is often inconsistent, due to demand and workforce pressures, variation in medicines review processes, training needs, and digital infrastructure gaps. Implementing effective medication optimisation processes at scale in neighbourhood health services is one of the key strategies needed to slow the progression of frailty and delay loss of independence (11).

WHAT WORKS

1. PROACTIVE COMMUNITY BASED CARE

Evidence shows that Structured Medication Reviews (SMRs) targeting those at highest risk (aged ≥75, taking 10+ medicines, or living with frailty) are effective when delivered proactively within primary care (12).

- → Multidisciplinary proactive medicine reviews led by clinical pharmacists can improve safety, support deprescribing, and reduce hospital admissions (13).
- → Carer involvement is essential for people with dementia or mild cognitive impairment, ensuring shared decision making and continuity of care (12, 14).
- → Cost-effective SMRs can generate substantial medication savings and deliver quality adjusted life year (QALYs) gains (13).

2. DIGITALLY ENABLED, CONSISTENT AND SCALABLE PRACTICE

High quality medicines optimisation requires system enabled approaches that support consistent workflows, documentation, follow up and workforce coordination. Effective strategies include (also refer to resource list):

- → Digital Infrastructure to support team-based medicines optimisation through connected communication pathways, shared electronic health records and digital co-location
- → Digital stratification tools to identify and target people at high risk of overprescribing
- → Embed digital tools that identify high risk medications and guide safe deprescribing steps, for example the PrescQUIPP IMPACT tool, free to NHS staff (15).
- → Training programmes delivered online, at scale to healthcare professionals, including Polypharmacy Action Learning Sets developed by the Wessex Health Innovation Network (16).
- → Accessible Patient Information to help prepare for medication reviews and support documentation of outcomes, for example free resources provided by the Health Innovation Network (17).

3. PREVENTION, PERSONALISATION AND REDUCING INEQUALITIES

A personalised approach focused on "what matters most" improves engagement, supports safer deprescribing, and enhances wellbeing (12, 18).

- → Social prescribers can play an influential role by offering alternatives to medicines—such as physical activity, community activities and talking therapies—which improve health and wellbeing.
- → Targeted support to reduce inequalities is especially important for populations with higher burdens of polypharmacy and poorer access to medicines services.
- → Inclusive medicines policies and processes to involve people living in more deprived areas, from diverse communities, and those with multiple long-term needs.

WHAT NEEDS TO HAPPEN NOW

To embed personalised, proactive and preventative medicines optimisation across the NHS:

Resource and incentivise Integrated Care Boards and Primary Care Networks to deliver proactive, team based SMRs in community settings, with protected time for staff including pharmacists, GPs and social prescribers.

Expand workforce training, including Polypharmacy Action Learning Sets, and strengthen capacity across primary care teams.

Adopt system enabled, digitally supported processes that allow identification and prioritisation of high risk patients, structured follow up and consistent documentation.

Invest in social prescribing, embedding link workers as core members of the medicines optimisation pathway, including post review support.

Target resources towards underserved communities where medicine related harm is most prevalent.

Launch a national public engagement campaign promoting awareness of deprescribing, medication reviews and shared decision making.

RESOURCES

PrescQIPP, Improving Medicines and Polypharmacy Appropriateness Clinical Tool (IMPACT) **Bulletin 268: IMPACT**

Health Innovation Network, Polypharmacy Action Learning Sets: **https://thehealthinnovationnetwork.co.uk/our-programmes/medicines/polypharmacy/**

Health Innovation Network, **Resources to support patients having a Structured Medication Review - The Health Innovation Network**

https://www.arc-wx.nihr.ac.uk/research-areas-list/arc-wessex-programme-of-research-on-medicines-optimisation-(modify-spider-stop-dem)

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