Optum

Re-connecting the dots: Action on polypharmacy and overprescribing

Perspectives from the pharmacy profession

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Foreword

There's a good argument to say that addressing polypharmacy and overprescribing is – quietly but steadily – becoming one of the most important strategic challenges facing the NHS today.

The numbers are stark. Around 40% of people over 65 are now on polypharmacy – defined as taking five or more medications simultaneously. Of these, between 10% and 30% experience adverse drug reactions, and nearly half are non-adherent, whether intentionally or unintentionally.

Financially, it's estimated that £300 million is wasted annually on unused medicines, including £90 million stockpiled in patients' homes and £50 million accumulating in care homes. Meanwhile, a 2022 study by Bangor University and the University of Liverpool suggests that the cost of adverse drug reactions to the NHS could exceed £2.2 billion per year.

And the situation looks even more precarious if you project these numbers forward. Looking ahead, with the proportion of over-65s expected to rise to nearly a quarter of the population by 2043, there's a real risk that polypharmacy could escalate into a full-scale crisis for the NHS, causing even greater harm to patients and mounting costs to the service – much of which is avoidable.

So what can be done? This briefing draws on our facilitated discussions at the HSJ's ICS Medicines Forum, which brought together pharmacists and other healthcare professionals from across England to explore challenges and potential solutions to polypharmacy.

It was immediately clear from these conversations that this is an extremely complex and multi-layered problem, with no simple fixes. However, some key themes and actionable recommendations emerged:

1. **Technology is a critical part of the solution.** There is an urgent need for digital tools that enable frontline professionals to manage polypharmacy more effectively by integrating systems that streamline care for patients on multiple medications.
2. **Data management remains a significant challenge.** Consistently capturing and measuring the impact of structured medication reviews (SMRs) and other interventions is essential to sustaining good practice, but this requires the right tools and frameworks to succeed.
3. **The 'people' factor is crucial**. Deprescribing decisions are sensitive, with significant implications for a person's health and wellbeing. Patients must remain at the heart of decision-making, but this isn't always straightforward when time and resources are thinly stretched.
4. **Communication and coordination between healthcare professionals must improve.** Many patients on polypharmacy fall through gaps in care. Strengthening collaboration and creating more integrated treatment pathways are therefore essential.

The encouraging news is that there is a great deal of good practice across the country, with some important steps being taken to rethink approaches to care – and 'reconnect the dots' – in a way that ensures that patients receive highly personalised and appropriate treatment.

By highlighting the challenges, and sharing the triumphs, we hope this report will contribute to the ongoing and necessary conversation about acting on polypharmacy and making prescribed medicines better and safer for all.

We are hugely grateful to all delegates for their time and thoughtful contributions.

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About this report

This document describes the key outputs from an Optum-hosted roundtable discussion that took place at the HSJ ICS Medicines Forum on 1 October 2024.

Around 30 senior pharmacy colleagues from across primary and secondary care, ICB leadership roles, and community pharmacy took part in a 30-minute, moderated discussion entitled 'Deprescribing and addressing polypharmacy'.

They were asked to give their views on:

- **How do you make the biggest difference in terms of reducing problematic polypharmacy and supporting deprescribing?**
- **What role can technology and data play in enabling you, and how well are current systems doing so – what needs to change?**
- **What does 'good' look like and how do you measure success within your organisation or area of practice?**

Built around the four major themes that arose from the conversation – technology, data, people and pathways – each section in this report includes brief analysis of the arguments made and a series of illustrative quotes from delegates. The last section sets out some overarching conclusions.

Section 1

Technology

Our delegates recognised **that electronic health records, integrated prescribing systems and clinical decision support tools** all had important roles to play in reducing avoidable drug-related harms – for example, by providing prompts for regular SMRs, flagging high-risk patients, identifying those with complex polypharmacy needs, and addressing 'low-hanging fruit' such as managing protocols around 'when required' PRN medications.

In addition, embedding **risk stratification** algorithms within these systems mean that professionals could prioritise those patients most in need of review based on factors like the number of medications, patient age, history of ADRs, or changes in health status. When these tools work well, they can help pharmacists and other healthcare professionals to focus on high-priority cases.

However, the reported availability of these types of technology was felt to be patchy by our respondents. This was particularly the case with access to **mobile equipment** that allow community-based healthcare professionals to input and retrieve patient medical information remotely – in their absence, many had to spend hours re-keying information into patient record systems on desktop systems.

There were also problems related to the **usability of different functions** within the clinical systems deployed. In some cases, useful features were already embedded – for example, the ability to identify and segment patient cohorts – but were either unknown or seldom used by frontline professionals.

Another major barrier involved the **lack of interoperability** across primary, secondary, and social care. When systems join up effectively, different teams can easily access up-to-date information about a patient's medications and clinical history, thereby reducing the chance of conflicting treatment decisions.

Unfortunately, many of our delegates reported that their clinical systems did not integrate smoothly (or at all) with tools used in other parts of the system, leading to incomplete or delayed access to medication records. As a result, many professionals said they had to work with **an incomplete picture of a patient's clinical history**, which contributed to a higher risk of medication errors and missed opportunities to deprescribe.

In their own words

"Our IT is a big blocker because it's so clunky. Secondary and primary care systems don't talk to each other so a GP may not be able to see what's on a mental health record, and vice versa. Even within secondary care, we have two systems: one system for recording your patient's notes, another for doing the prescribing. It just doesn't flow or connect."

"Mobile access to electronic health records would make a big difference, both in terms of recording and accessing data on polypharmacy. Right now, a lot of time is consumed by re-entering information into the patient record after we do our visits, which creates inefficiencies. We need the technology to support us better when we're out in people's homes."

"I think there are also some significant issues around patient confidentiality and information governance related to sharing data between organisations, whether the patient has given their consent for the data to be shared and so on. So I don't underestimate the challenges involved [in making data sharing possible], but the bottom line is it's not easy for a prescriber to deprescribe when they don't have the full picture of that patient's history."

Section 2

Data

Addressing polypharmacy on a population scale depends upon being able to gather, analyse, and utilise data effectively. Our delegates emphasised that **consistent and comprehensive data capture** was important for identifying prescribing patterns, prioritising areas of risk, and understanding the impact of SMRs and other interventions. However, several factors were felt to be hindering good practice.

Many respondents described practical problems in **extracting good quality data** from existing systems. One of the issues cited was poor configuration of these systems to meet their needs making it difficult to access the right information – this reflected the importance of pharmacy teams (and other healthcare professionals) having an active voice in the development and customisation of clinical IT systems within the NHS.

Delegates also discussed **the risks of data overload**. Although some felt the use of data visualisations such as dashboards could helpfully pinpoint priorities for professionals to focus on, others expressed the danger of "dashboard fatigue" and called for better ways of synthesising and understanding priorities across the system.

This led to a conversation about developing the right target outcomes for polypharmacy. While high-level statistics on adverse drug reactions and other metrics can provide a useful overview, there's a pressing need to **define what success looks like** in the context of deprescribing. This can sometimes be quite nuanced and difficult to measure empirically.

One example cited was how to assess the impact of moving a patient from three individual drugs to one combination therapy – although the short-term cost of the combination drug may be higher, the long term saving involved in better adherence and management of the patient's condition under this regimen could provide better value. This ability to **track and measure the longer-term benefits of deprescribing** was therefore felt to be essential for 'making the case' for these interventions.

Finally, delegates reported a **potential gap in training and capability**. While healthcare professionals are trained to prescribe medications, there is often less emphasis on deprescribing, including how to gather and manipulate data to drive impact. People also pointed to a shortfall in how clinical software supported them as professionals – for example, many tools provided decision-making support for prescribing medicines, but far fewer offered equivalent support for deprescribing.

In their own words

"We use dashboards so our pharmacists can get a visual representation of what treatments are being prescribed and who the high-risk patients are. I suppose that's one way of approaching this challenge – building dashboards around specific medicines can help surface issues which clinicians can then go away and interrogate further. In other words, taking a more stratified approach that helps professionals see what really matters within our area."

"We're a mobile team working in the community and we capture our own data if we're doing an SMR – that is, what we've recommended a patient starts or stops, what the care plan looks like and so on. But this is where we fall short because we don't know the right technology to capture this information systematically. We probably spend a lot more time using spreadsheets and everything else. There's a lot of time spent duplicating tasks."

"In my experience it's not always easy to get results out of the system. Sometimes it's about how much control you have over the system itself, whether it's configured in a way that enables you to access the data you need efficiently. There's an onus on IT departments to get this right – to customise the software in a way that works. Is our professional voice being heard in these decisions? I'm not sure it is."

"It's useful to have high level statistics on things like adverse drug reactions and so forth, but really what's the exam question here for us as professionals? I think there's an important piece of work in terms of understanding how we actually measure the impact of deprescribing in different contexts. What does success really look like? And there's perhaps a deeper point about capability and skills too. As someone said earlier in the conference, 'We are taught to prescribe, but are we really taught to deprescribe?'"

Section 3

People

Deprescribing is delicate: our respondents described it as a balancing act which often involved weighing up the risks and benefits on a case-by-case basis. For people on polypharmacy, stopping a drug may exacerbate a condition or lead to withdrawal effects, making this a **highly personal decision** that requires deep clinical judgment and an understanding of the patient's own preferences and needs.

Our delegates emphasised that the principles of **personalised care and shared decision-making** are therefore paramount. Professionals must carefully and proactively engage people in conversations about the benefits and risks of continuing versus stopping each medication. As one respondent put it, deprescribing must be 'done with' rather than 'done to' patients.

A major barrier to this is the **time and resourcing pressures** many health professionals face. Properly assessing a patient's medication regimen, considering alternatives, and engaging in shared decision-making demands significant time and attention. The issue was most apparent in primary care, but even in community pharmacy, the short appointment times were felt to be a limiting factor.

It was also pointed out that the process of deprescribing itself can take time. For example, some drugs will need to be reduced gradually over time rather than stopping abruptly, and patients will need to be monitored closely over this period, just as they would when initiating medication. Just as there is the New Medicines service to support patients on new medications, some delegates questioned whether a **Deprescribing Medicines service** may be needed too.

Many patients with polypharmacy also see multiple specialists, which can lead to fragmented care. Respondents described a **failure of communication between healthcare professionals**, resulting in conflicting advice, overprescribing, or missed opportunity to prevent harm. Several cases were cited where medicines and supplements had been prescribed during acute episodes of care and then automatically continued after discharge, underlining the importance of addressing issues of polypharmacy at the point of transfer.

This underlines the importance of **collaborative working and trust** across different parts of the health and care system, which did not always appear to be in place. For instance, we heard examples of a drug initially being deprescribed only for another health professional to re-prescribe it at a different point in the care pathway. There is therefore an urgent need to improve and standardise ways of working across ICSs.

In the same way, **open channels of communication between the patient and professionals** were felt to be essential in managing expectations and educating patients about the risks of overprescribing. Healthcare practitioners need to be clear about what patients can expect during the deprescribing process, including how their health will be monitored and what signs to watch for. These conversations need to happen as early as possible in the treatment pathway – and then sustained through any transfers of care.

In their own words

"One of our big lessons is that you've got to make every opportunity count. When a patient is ready to be discharged you need to get the treatment pathway going and the right discussions happening from the beginning. Tell them what their medications are and what they're on. It's so important that they understand what we're doing and why we're doing it. This is all about personalised care and ownership at the end of the day: putting the patient at the centre of the decision rather than feeling 'done to'."

"Even when you manage to identify opportunities to deprescribe, there's still the challenge of ongoing monitoring and a review period for the patient. Are they responding? Was it the right decision? Are they implementing other measures to replace the medication that's ended? It's important to be documenting the impact of these decisions, but that can be tough without the right systems and frameworks to do so."

"We need to be very careful about excessive or ungrounded approaches to deprescribing. Because ICBs are under such [financial] strain, there can be a temptation to look at a list of medications and simply cut away. We've had situations where PCN pharmacists have gone onto the system and withdrawn certain medications on cost grounds. The reality though is we can't do this without clinical input and careful engagement. Polypharmacy deprescribing must happen in a patient-centred way, not solely based on cost saving for the long-term management of their health condition."

Section 4

Pathways

One of the biggest challenges in polypharmacy involves 're-connecting the dots' in a patient's treatment and long-term care. **Integrated care pathways** are therefore essential, particularly for patients with complex needs and multiple long-term conditions.

Several delegates spoke about their involvement in **multidisciplinary teams (MDTs)**, which were seen as vital to delivering a more proactive approach to managing polypharmacy. By pooling expertise from different disciplines, MDTs allow for better joined-up and more holistic approaches to care that address all aspects of a patient's health, rather than treating each issue in isolation.

Respondents also emphasised the importance of **continuous care planning**, where medication plans are regularly reviewed and adjusted based on the patient's health and preferences. Good practice involves an ongoing and regular conversation about medication risks and benefits, with frequent communication between patients and healthcare professionals, supported by clear documentation and access to up-to-date health records.

Case management models can be equally effective. We heard, for example, from health professionals working within the community to support disadvantaged groups and people with complex needs. This involved risk-stratifying the population to identify marginalised groups and then offering targeted support, including outreach programmes for patients who did not access other health services.

Underpinning this, the principle of **'making every contact count'** was deemed crucial in polypharmacy, given the many complexities and nuances involved in people's care. Many respondents spoke about the importance of pre-emptive action, for example by preventing medicines from being prescribed in the first place and/or ensuring reviews consistently happen through the treatment pathway.

Finally, it was also noted that the current **contractual models** in place for community pharmacy did not incentivise deprescribing – underlining the importance of ensuring funding approaches align with these strategic goals.

In their own words

"We work in health inequalities and are integrated within an MDT, so we go out into the community to do structured medication reviews in the patient's home. We'll get a referral from the GP and have to go find them, knock on the door a few times. When we do get access, we spend time with them … and I think time is a very important factor here. In primary care, you only get maybe 10 minutes with a patient. We can sit with our patients for an hour or two. And in that time, we're listening to them and we're looking at everything. What's their environment like? Do they need social input? Do they need occupational therapy? We do a holistic assessment alongside the SMR and make our recommendations. There have been times when we come out of a person's house with thousands of pounds worth of unused medicines as a result."

"We're currently partnering with our Health Innovation Network to run a community of practice on polypharmacy with our secondary care colleagues. This includes developing a polypharmacy clinic where we can refer patients in to have a full review, but there are capacity limits there so we can't always use that route. So one of the other things we've done is discuss a more radical way of thinking of treatment plans and prescribing. It's a 'one-in, one-out' approach – so that every time you prescribe something, you think about what else they're on and look at the risks and benefits around that approach … but always with the patient at the centre – they have the lived experience and need to be at the heart of this."

"I think for community pharmacy, the contractual model is a big blocker to deprescribing. The national contract is currently based on the number of items you dispense with payments made accordingly. Whichever way you look at it, you can't get away from the perversity of this arrangement, and it really needs to change otherwise no incentives that are put in place [to encourage deprescribing] are going to measure up against it."

Conclusions: five recommendations for improvement

There are no easy fixes when it comes to polypharmacy. Our discussions exposed the delicate challenges and complexities involved in managing the treatment plans for people on multiple medications.

However, it's also clear that, without effective solutions put in place, the problems related to polypharmacy will intensify, wasting precious NHS resources and increasing rates of harmful prescribing.

Our conversations focused on four key areas for improvement – technology, data, personalised care, and integrated care pathways.

Based on these themes, we have identified five broad recommendations:

1. **Developing more integrated, user-friendly digital solutions**. The healthcare system must prioritise investment in technology that supports seamless integration across primary, secondary, and social care.
   Too often, professionals lack access to complete patient records, leading to missed opportunities to deprescribe or prevent medication-related harm.
   Greater investment in mobile technologies for community-based teams is also needed to ensure patient care isn't compromised by gaps in access to critical data. Pharmacists also need to have greater influence in decisions around the procurement and customisation of clinical IT systems and receive regular training and support to get the most out of them.

2. **Strengthening the use of data to inform deprescribing efforts.** Effective action on polypharmacy requires high-quality data that healthcare professionals can easily access and use. Current systems are often not tailored to the needs of clinicians, and there's a lack of standardised metrics to assess the impact of deprescribing. Customising data systems to meet the needs of prescribers – and agreeing on consistent success metrics at system and local levels – will be crucial for driving better outcomes.

3. **Supporting personalised care in deprescribing**. Deprescribing must be a patient-centred process and shared decision-making between clinicians and patients is essential to ensure any changes to medication are safe, appropriate, and aligned with the patient's goals.
   This requires time, clear communication, and an understanding of the patient's full clinical history and personal circumstances. Blanket deprescribing initiatives, driven solely by cost-saving, must therefore be avoided in favour of more personalised, clinically-led decisions.

4. **Rethinking care pathways to support better polypharmacy care.** The complexities of polypharmacy demand a holistic, integrated approach to care, particularly for patients with multiple long-term conditions or those experiencing health inequalities. Multidisciplinary teams, case management models, and structured medication reviews are crucial to providing proactive care that considers the whole patient. Ensuring continuity of care across different settings, especially during transitions like hospital discharge, is also essential to avoid fragmentation and unnecessary treatments. Contractual and funding models need to be aligned with any shared ambition to address harmful polypharmacy and overprescribing.

5. **Delivering training and development to build skills and capability.**
   Managing polypharmacy and deprescribing requires its own unique skill set.
   Healthcare professionals need the right knowledge and skills to determine when deprescribing is appropriate, understand its impact, and engage patients using population health management principles. Improved training in technology, data analysis, and patient communication is therefore important to embed deprescribing practices in a way that improves outcomes and patient experience.

The positive news is that throughout our session, we heard striking examples of good practice from around the country, showing how the difficulties associated with polypharmacy can be overcome.

By following these five avenues for improvement, we believe the NHS can now develop **a more coordinated, technology-enabled, and patient-centred approach** to deprescribing – one that's vital for delivering safer care for patients and ensuring better use of NHS resources for the future.

Acknowledgements

Optum UK would like to thank all delegates who generously gave up their time and contributed their knowledge and insights to this workshop.

If you would like to find out more about how Optum and EMIS can support pharmacy professionals in achieving these goals, please contact: askoptum@optum.com