Health Innovation Network

Local change, national impact

Polypharmacy: getting the balance right

The mechanics of tackling overprescribing and problematic polypharmacy

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Medicines optimisation involves much more than simply reviewing each item of medicine: it is a social process involving the management of uncertainty, in partnership with a patient over time, to achieve the optimal balance of medicines based on a patient's priorities and goals. Understanding how this work can be done most effectively by multidisciplinary teams will be vital for addressing polypharmacy in the context of modern primary care.

Professor Carolyn Tarrant, Department of Health Sciences, University of Leicester.

Introduction

This manual has been developed by clinical leaders with a passion for improving the quality of structured medication reviews, especially for older people taking multiple medicines.

It is intended to help Integrated Care Boards (ICBs), Primary Care Networks (PCNs) and GP practices think about how to organise teams to tackle overprescribing and problematic polypharmacy.

Most people can relate to the experience of purchasing, running and maintaining a car. We see the patient as the driver, with their body as the car, and the prescriber as the mechanic. We believe this analogy brings to life the nuts and bolts of overprescribing stewardship

What the manual includes:

1. Why should we care about overprescribing and problematic polypharmacy?

   Real patient stories are included with names changed to protect anonymity.

2. The nuts and bolts of overprescribing stewardship and how to best deal with them:

   a. Evidence based medicine: specialists and generalists should only start medicines that are clinically warranted, and that the patient wishes to take AND suspend or stop medicines that are no longer warranted or wanted.

   b. Shared decision making: discussing what matters to the patient, their views and preferences, and how medicines might help and hinder.

   c. Repeat prescribing: using the Royal Pharmaceutical Society and Royal College of General Practitioners toolkit to make the system as safe, effective and efficient as possible and ensuring medicines indications and review dates are clear.

   d. Medicines reconciliation: ensuring medicines are still appropriate after transfers between care facilities.

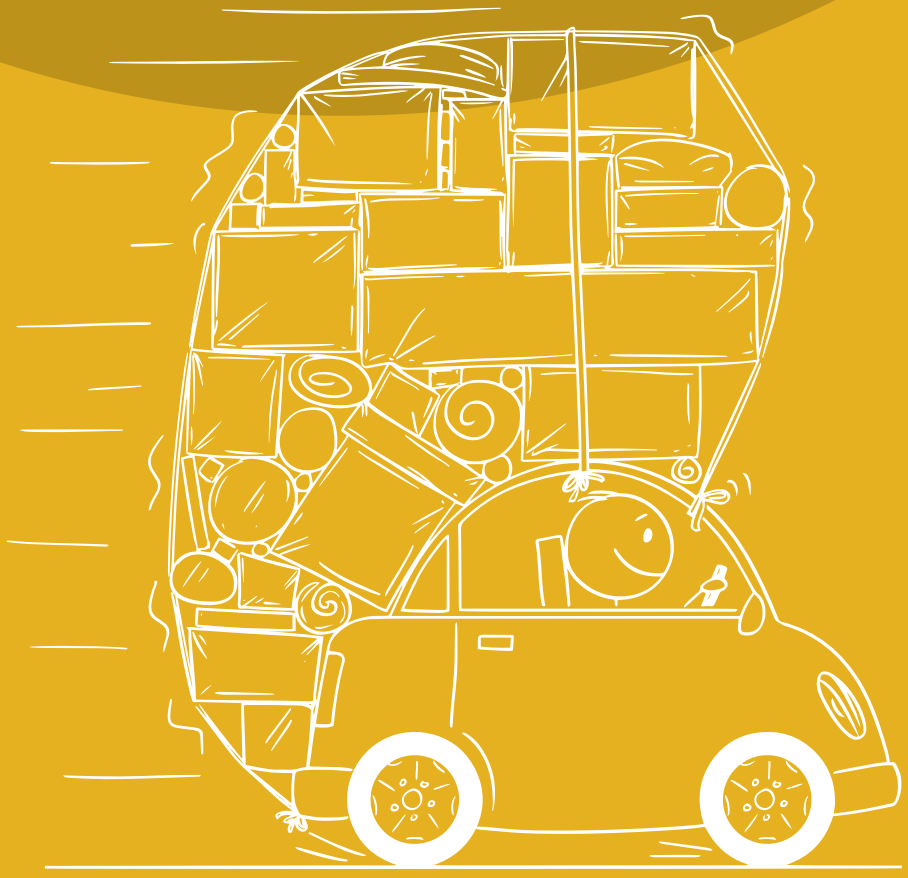
   e. Structured medication reviews: reviewing the appropriateness of medicines for those in the highest risk groups.

3. Why overprescribing and problematic polypharmacy are everyone's responsibility (e.g. patients, healthcare professionals and NHS systems), with examples of commissioned services to aid the competency limits of clinicians in primary care.

4. Measuring progress: systems and patients.

Chapter one

What's the fault? Why should we think about systematically tackling overprescribing?



Definitions

- The Department of Health and Social Care has described overprescribing as "the use of a medicine where there is a better non-medicine alternative, or where the use is inappropriate for that patient's circumstances or is inconsistent with their wishes and can lead to problematic polypharmacy (a person's concurrent use of multiple medicines)."
- Polypharmacy may be appropriate for a person with complex or multiple conditions if their medicines are optimised and prescribed according to best evidence. However, it can be problematic when the benefit of the individual medicines is not realised.

What happens to patients when things go wrong?

George is an 83-year-old widower who lives independently. He enjoys life with family nearby, still drives, and participates in bowling at the local club. His health does not usually limit his daily activities but living with multiple chronic conditions means that he has numerous clinicians involved in his care. George has diabetes, had a coronary artery bypass graft 30 years ago, left now with an irregular heartbeat (atrial fibrillation) and last year had an operation on his prostate.

He takes 10 repeat medicines a day and is often nervous about his health when he attends clinics because he lives on his own. Earlier this year, he had two specialist outpatient appointments at the local hospital:

1 The cardiologist found his blood pressure was high at his appointment, and he was prescribed an extra blood pressure tablet. The cardiologist mistakenly added Amlodipine to his current Felodipine *(from the same drug group so would have just increased side effects, not improved his blood pressure).*

2 The urologist saw him after his prostate operation. The clinic letter said George had been advised he could stop two of his medicines (Finasteride and Solifenacin) as a result of the corrective surgery. George said this was not communicated to him.

Two weeks later, George was admitted to hospital as an unplanned admission due to severe constipation and, after investigation revealed no clear cause, he was started on laxatives. Neither of the unnecessary Amlodipine or Solifenacin medications, that would have worsened his constipation, were reviewed or stopped.

George was identified for a post-discharge face to face structured medication review (SMR) in primary care by his PCN pharmacist, where the duplicate blood pressure lowering prescription and the Solifenacin were discovered as probable causes of the constipation.

The review also uncovered George was experiencing side-effects from two other medications: continuous balanitis from his Empagliflozin, despite excellent diabetic control, so it was agreed to stop and review; and moderate bruising from his blood thinner, which it was agreed was not appropriate to stop.

His admission was avoidable: four of his ten medicines (Amlodipine, Solifenacin, Finasteride, Empagliflozin) were stopped.

Two weeks later, at his follow up appointment, George's blood pressure remained in target range, he was passing urine without problems, his bowels were opening regularly, and his balanitis had resolved.

George was very pleased with the outcome and was happy to be taking far fewer medicines every day.

Why is this important? The size and scale of polypharmacy

Medicines are intended to help patients, but they can cause harm.

In England in September 2024, **1,054,989** people received 10 or more medicines*.

429,259 of them were aged 75 or over.

143,982 were aged 85 or over.

This is roughly **8%** of the population aged 75 and over and

8.9% of the population aged 85 and over.

A person taking **10 or more** medicines is **3 times more likely to suffer harm.**

16.5% of unplanned hospital admissions are due to adverse drug reactions and polypharmacy. Over a 7 year period there was a **53% increase** in the number of emergency hospital admissions caused by adverse drug reactions (2008-2015).

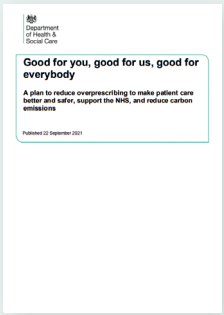
We **dispense over 1 billion** prescription items per year in primary care in England. Extrapolated **annual costs to the NHS in England** from hospital admissions due to **adverse drug reactions is £2.21 billion.**

Polypharmacy adds **preventable cost to the healthcare system** and **diminishes quality of care** for the patient.

Most of the harm from problematic polypharmacy is preventable....

*British National Formulary Chapters 1-4 and 6-10. Full reference list is available on page 48.

The policy context



The Department of Health and Social Care National Overprescribing Report (2022)

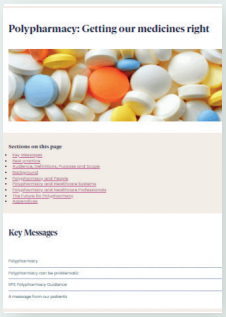
The findings and recommendations of the national overprescribing review led by Dr Keith Ridge, former Chief Pharmaceutical Officer for England.

Read online:
www.gov.uk/government/publications/national-overprescribing-review-report

Royal College of General Practitioners Report: Fit for the Future GP Pressures (2023)

This report, based on a survey of general practice staff, highlights the current workload and workforce pressures facing GPs and their teams, and the impact these are having on patients. It sets out the RCGP's recommendations for the government to tackle the workforce and workload crisis in general practice, and support GPs and their teams to meet the healthcare challenges of the 21st century.

Read online:
www.rcgp.org.uk/getmedia/f16447b1-699c-4420-8ebe-0239a978c179/gp-pressures-2023.pdf



Royal Pharmaceutical Society: Polypharmacy – Getting our medicines right (2019)

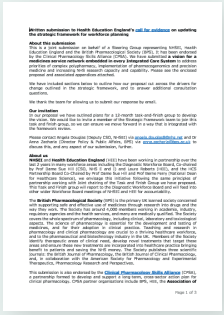
This guide is intentionally aspirational. The best practice statements made in this guidance may not necessarily reflect the current arrangements in healthcare but aim to set out a picture of what good systems could (and should) have in place and how healthcare professionals could behave in order to address the problems that can arise from polypharmacy.

Read online:
www.rpharms.com/recognition/setting-professional-standards/polypharmacy-getting-our-medicines-right

British Geriatrics Society: Joining the Dots (2023)

This document aims to show what good quality age-attuned integrated care for older people looks like. It is intended to help commissioners in the design and delivery of health and care services for older people.

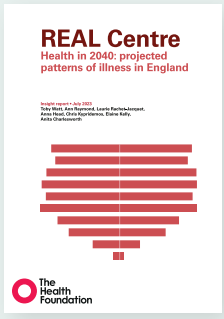
Read online:
www.bgs.org.uk/policy-and-media/joining-the-dots-a-blueprint-for-preventing-and-managing-frailty-in-older-people



British Pharmacological Society vision for a medicines service network embedded in every Integrated Care System (2021)

NHS England, Health Education England and the British Pharmacological Society vision for a medicines service network embedded in every Integrated Care System to address priorities of complex polypharmacy, implementation of pharmacogenomics and precision medicine and increasing NHS research capacity and capability.

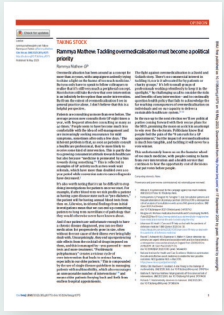
Read online:
www.bps.ac.uk/about/policy-positions-and-statements/consultation-responses/articles/2021/health-education-england-%E2%80%93-long-term-strategic-fra



Health Foundation: Health in 2040 – projected patterns of illness in England (2023)

This aims to support policymakers prepare for the future by looking at patterns of illness over the next two decades. The analysis lays out the potential scale and impact of the growth in the number of people living with major illness as the population ages, assigning scores to 20 conditions based on how likely the illness is to affect people's use of primary care and emergency health services, and likelihood of death.

Read online:
www.health.org.uk/publications/health-in-2040



Dr Rammya Mathew, GP opinion: Tackling overmedicalisation must become a political priority (2023)

Read online:
www.bmj.com/content/381/bmj.p1075

The role of the ICB in tackling overprescribing

Integrated Care Systems (ICSs), working with their Integrated Care Boards and Integrated Care Partnerships (ICPs), have four key responsibilities:

1. **Improving outcomes in population health and healthcare**
2. **Tackling inequalities in outcomes, experience and access**
3. **Enhancing productivity and value for money**
4. **Helping the NHS to support broader social and economic development**

Read more: www.kingsfund.org.uk/publications/integrated-care-systems-explained

National medicines optimisation opportunities 24/25

The NHS England Medicines Optimisation Executive Group (MOEG) has identified and agreed 16 national medicines optimisation opportunities for the NHS in 2023/24 to deliver on these four integrated care boards (ICBs) responsibilities. **Addressing problematic polypharmacy is objective 1.**

Read more: NHS England » National medicines optimisation opportunities 2023/24

Network Contract Directed Enhanced Service (DES) 24/25:

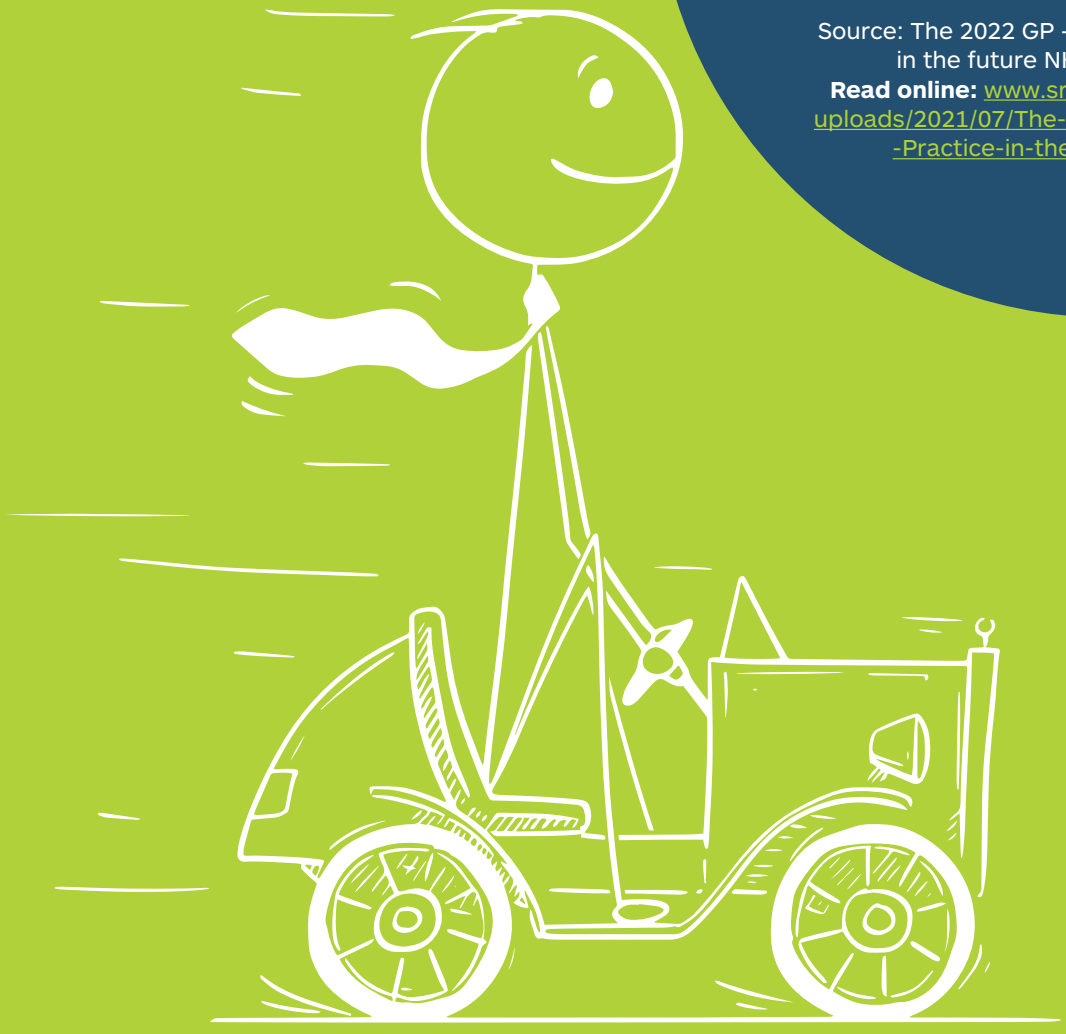
How it fits with tackling overprescribing

Be responsible for the care management of patients with chronic diseases and undertake clinical medication reviews to proactively manage people with complex polypharmacy, especially older people, people in care homes, those with multiple co-morbidities (in particular frailty, COPD and asthma) and people with learning disabilities or autism (through STOMP - Stop Over Medication Programme and STAMP - Supporting Treatment and Appropriate Medication in Paediatrics).

Chapter two
How do we fix this?

Consider patients as people ...be moved by their suffering and ...be their companions on difficult and life-changing journeys.

Source: The 2022 GP - A Vision for General Practice in the future NHS - RCGP 7 May 2013,
Read online: www.srmc.scot.nhs.uk/wp-content/uploads/2021/07/The-2022-GP-A-Vision-for-General-Practice-in-the-Future-NHS-2013.pdf



1. Evidence based medicine

First, developing an explicit understanding of medication management as an ongoing, iterative process, where the decision to prescribe medication is seen as the start of a journey rather than a destination.

** Tarrant, Lewis, Armstrong*

The prescriber's manual using the car analogy

By Dr Lawrence Brad and Steve Williams

Specialists and generalists should only start medicines that are clinically warranted, that the patient wishes to take AND suspend or stop medicines that are no longer warranted or wanted.

Stage 1 – considering a medication

Medication

- Consider alternatives to a medicine e.g. physiotherapy, social prescribers, health coaches, talking therapies.
- Assess values and preferences to ensure best choice made to meet individual's requirements.
- Use independent advice to help fully engage patient e.g. patient information, decision support tools e.g. https://www.nhs.uk/medicines/ www.Gpevidence.org and use the BRAN model (Benefits, Risks, Alternatives, (do) Nothing).
- Allow time to reflect with a follow up call.

Car

- Consider alternative options such as a bicycle.
- Allow time for reflection and organise follow up call to avoid pressure to buy.
- Use independent expert sources to research beyond promotional marketing e.g. WHATCAR? magazine.

***View online:** https://pubmed.ncbi.nlm.nih.gov/36216498

Tarrant, Carolyn & Lewis, Rachel & Armstrong, Natalie. (2022). Polypharmacy and continuity of care: medicines optimisation in the era of multidisciplinary teams. BMJ quality & safety. 32. 10.1136/bmjqs-2022-015082

Stage 2 – starting a medication

Medication

- Discuss the harms as well as the benefits with the patient and consider the disease and drug interactions.
- Generally, start low and go slow with opportunity to stop or change dose or medication after trial period.
- Most medicines are NOT “for life” If they are the dose will need to change e.g. Insulin, Levothyroxine.
- Specialist medicines need monitoring and expert support team in place.

Car

- Understand need and purpose of the vehicle, level of extra features needed, and any non negotiables e.g. want an automatic and need 4 doors.
- Test drive and utilise free return guarantee if car unsuitable.
- One car is unlikely to last a lifetime as the car gets older and driver needs change.
- Specialist cars, e.g. F1, need a full support team with performance monitoring.

Stage 3 – regular review

Medication

- Understand the clinical trajectory: prescriptions may be short term e.g. antidepressants, some likely longer term e.g. statins, others need intense review e.g. Methotrexate under shared care with a specialist.
- Patients need to take personal responsibility for their part in their health e.g. healthy living diet, regular exercise, avoiding alcohol.
- Some medicines will be more affected by getting older/ frail. These patients will need more tests, regular reviews and medication adjustment e.g. anticoagulants and opiates.
- Regular holistic medication review with the patient is crucial, the frequency and intensity will likely increase as patients get older and become more complex.

Car

- Understand the journey: long family motorway trip, solo city trip, or an off- road experience where you need special equipment to avoid vehicle breakdowns and accidents.
- Drivers need to take personal responsibility e.g. check tyre pressures and brake lights to reduce damage potential.
- As the car gets older some parts may need more attention and need regular servicing e.g. engine and crucial safety aspects i.e. brakes.
- Regular MOT is mandatory after 3 years but the performance of the car will diminish with more miles on the clock so more comprehensive service is also needed when adjustments or replacement of parts will need to be made.

Stage 4 – suspending/stopping a medication

Medication

- Clinical pictures and trajectories change as patients get older/become more complex thus temporary suspension or cessation of one or more medicines may be needed.
- The harms and benefits must be discussed with the patient as their values and preferences may have changed since initiation.
- Specialist opinion e.g. cardiology or palliative care may be sensible for complex decisions especially if moving from preventative treatment to symptom control.

Car

- As the car gets older options for maintenance need to be discussed as the vehicle may become no longer economically viable to fully repair, and you may instead rely on a local supportive mechanic to help keep it on the road.
- Need to appreciate when the car is no longer suitable for the driver’s needs or has become too unreliable or unsafe.
- A specialist mechanic may be needed to offer a second opinion on the viability of the vehicle or may need to plan for the end of life of the car, and the safest most efficient way to do this.

2. Shared decision making: a patient's perspective

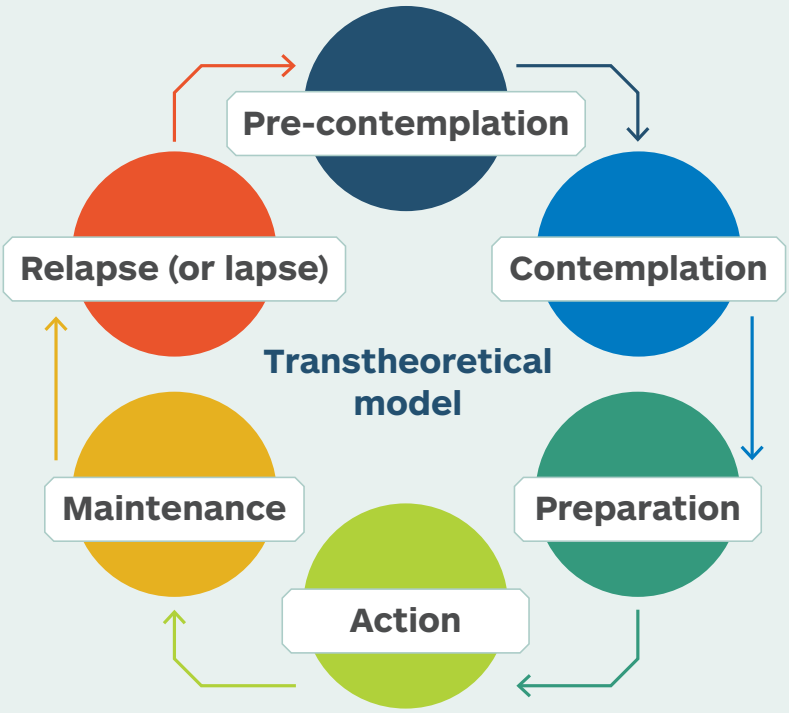
The patient in the driving seat using the car analogy

By Graham Prestwich, Expert Patient and Innovator, Me and My Medicines

People go through a process when they buy into an idea or approach, similar to a car purchase:

1) Awareness of the make and model.
2) Get interested in what is on offer.
3) Start to want the car and prepare yourself and family with justification.
4) Take action, raise the funds and cut the deal at the showroom.

We also need to consider willingness to take action based on the transtheoretical model of behaviour change: the secret is for all the behaviours to be encouraged without actually mentioning any of it to anyone, just do the right thing in a patient-centred model of care.



- Patients are the drivers of their own car; clinicians are just the mechanics. Clinicians must support and trust patients.
- Please do not blame patients for what we do not understand. Rather, check the effectiveness of your own communication skills.
- Or patients may choose to take their car to another garage and see a different mechanic.

https://meandmymedicines.org.uk

BRAN: Benefits, Risks, Alternative and (doing) Nothing

Choosing Wisely UK and Association of Medical Royal Colleges developed the BRAN campaign to encourage patients to ask four questions of the health professional to make better decisions together.

Use the speech bubble under each section to write down any questions to take to your appointment

What are the Benefits of the treatment?

- What can I expect to gain from the treatment?
- What is the chance of the treatment being successful?

What are the Risks?

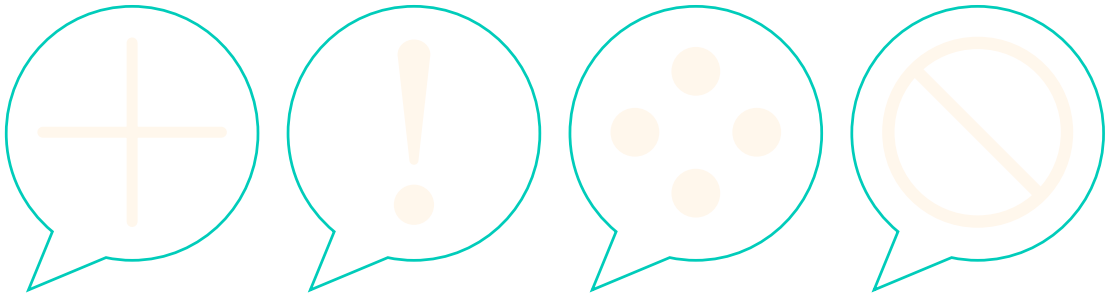
- What is the chance the treatment won't work?
- What are the possible side effects?
- What are the possible complications?
- How might the treatment affect my quality of life?

What are the Alternatives to this treatment?

- What are the other treatment options?
- What are benefits and risks of the other treatment options?
- Which treatment options should be used first?

What if I do Nothing?

- How will my condition change if I don't have treatment?
- Will my condition be more difficult to treat later?



It can be daunting having an appointment, but this leaflet will help you to get the most out of yours.

Sometimes there is more than one treatment available.

Here are four questions you might want to think about at your appointment.

What are the Benefits?

What are the Risks?

What are the Alternatives?

What if I do Nothing?

If you choose not to have treatment now, it does not mean you cannot change your mind at a later stage. We know circumstances and conditions change.

You can talk with your healthcare professional about how to seek support later if you decide to do nothing now.

You may want to talk over all your options with family or friends. It's also helpful to think about what affect these options will have on you and your lifestyle.

If there is anything you are unsure about, please ask.

Please use this as a reminder to ask questions about treatment.

Make the most of your appointment using the BRAN questions:

What are the Benefits?
What are the Risks?
What are the Alternatives?
What if I do Nothing?

ChoosingWisely UK

NHS

Make the most of your appointment

Helping you make the right choice using **BRAN**.

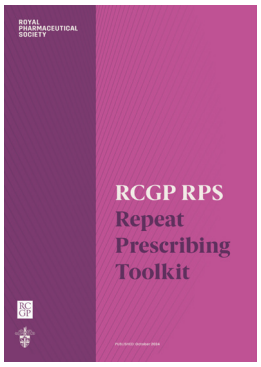
Benefits

Risks

Alternatives

Nothing

3. Repeat prescribing systems



Commissioned by NHS England and published in 2024, the Repeat Prescribing Toolkit was developed in collaboration by the Royal College of General Practitioners and the Royal Pharmaceutical Society.

It describes good practice for a robust, safe and efficient repeat prescribing process and contains a self assessment for GP practices and PCNs to scrutinise their own arrangements and identify any gaps which may reduce medication safety and or efficiency.

The toolkit then allows the practice to plan to address this and improve their repeat prescribing system.

Read online: www.rpharms.com/resources/repeat-prescribing-toolkit

The 5 elements of repeat prescribing

Patient/carer

Area of the process where patients/ carers fulfill their responsibilities e.g. ordering repeats on time, being honest about over-ordering and the reasons why, booking blood tests ready for medication review.

Complying with annual structured medication review process.

Clinical

Prescriber making clinical decisions such as decision to make a medicine available via "repeat".

Prescriber setting out the duration of the repeat.

Prescriber highlighting any parameters where the medicine should not be reissued including lack of monitoring data.

Prescriber to check interactions.

Organisational culture

Administrative

Practice administrative staff manage the process of receiving the order for a repeat prescription and processing it through to clinical authorisation.

Processing tasks related to queries around repeat prescription requests.

Technical

Ensuring digital tools are deployed where possible to optimise the repeat process and reduce human workload.

Ensuring systems are in place for blood tests, alerts, and follow ups.

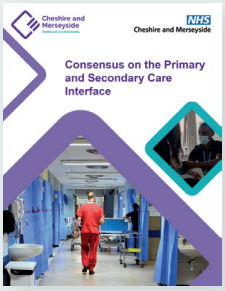
Ensure prescribing instructions are enacted e.g. stop after 6 months.

Clinical systems set up to remind prescriber when quantities are over or under ordered.

Follow up prescription queries.

4. Medicines reconciliation

Best practice guidance:



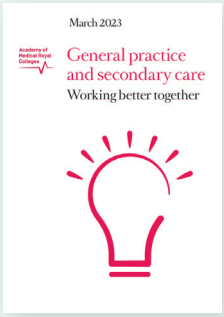
Cheshire and Merseyside have launched 'consensus' guidance to help colleagues develop easier care pathways between primary and secondary care.

Containing a set of clinically led principles, the guide helps with the creation of aligned care pathways which focus on good quality, patient-centred, communication.

The core purpose of the publication is to ensure we (the system) optimise access to the right care for our patients, giving them the very best outcomes.

To enable this, the consensus sets out a number of guiding principles for everyone to commit to when interacting with colleagues - to keep the patient at the centre of our decision making.

Read online:
www.cheshireandmerseyside.nhs.uk/media/qzpll3jp/consensus-on-the-primary-secondary-care-interface-full-version.pdf



General practice and secondary care: Working better together, collects examples of collaborative working from across England. It aims to offer "practical and workable solutions" to reduce the friction that occurs across the interface analysed in terms of the challenge, solution and outcome and gathered under three broad themes: culture, communication and clinical processes.

Read online:
www.aomrc.org.uk/wp-content/uploads/2023/05/GPSC_Working_better_together_0323.pdf

5. Structured medication reviews

Medicines MOT for structured medication reviews

People might consider a medication review a bit like a car MOT, where each of the medicines that work on the different parts of the body's main organs are checked to see that they are still working, or if they need adjustment or replacement.

Car	Body system
Fuel system	Gastrointestinal system
Engine and oil	Cardiovascular and circulatory system
Radiator	Respiratory system
Battery, electronics and wiring	Brain and nervous system
Gear box and clutch	Endocrine system
Exhaust and emissions	Urinary and genital tract
Seat belts and air bags	Immune system
Steering and brakes	Musculo-skeletal system
Lights	Eyes
Tyres and wheels	Ear, nose, throat
Bodywork	Skin

Triggers for a structured medication review

Proactive
Polypharmacy data tool or similar identifies person as being potentially 'at risk' or as being 'at risk from harm' from multiple medicines.

Reactive
Crisis or incident such as admission to hospital should be explored to see if polypharmacy is a contributory factor. Consider also if carer becomes poorly then medication issues may become acute for the person they care for.

Reactive
Person highlights concern about the growing number of medicines they are being asked to take.

Reactive
Healthcare professional or healthcare worker highlights concern about the growing number of medicines a person is trying to manage.

Holistic, structured medication review should aim to:

- Identify and discuss the person's goals
- Identify and discuss any adherence issues
- Identify and assess medicines with potential to cause harm
- Identify and assess the use of any unnecessary medicines
- Agree with the patient, and carers if appropriate, the actions to be taken regarding medicines, including stopping
- Share any decisions with the person, their carers, healthcare professionals and pharmacist
- Review and adjust as needed or refer if required

Healthcare professionals to ensure they are skilled in good consultations and shared decision making

Structured medication review process
Identify 4Ps 2Cs and Document

1. Identify and prioritise patient for review

2. Prepare for the consultation

3. Patient-centered consultation with shared decision making

4. Agree a plan

5. Co-ordinate care and collaborate

6. Document

Basic information
- Reason for referral/risk or problem identified
- Frailty score
- Relevant MHx – long term conditions, acute/major
- Relevant previous consultation
- Recent hospital admission
- Latest investigations and test results
- Additional useful information e.g. social care package, learning disabilities, dementia, dexterity, housebound, safety issue
- Patient's capacity to be involved with decision making or person with power of attorney (POA)
- Face to face, phone or video consultation

Medicines information
- Acute medicines
- Repeat medicines
- Recently stopped/started
- No prescribed medicines and supplements
- Allergies
- Multiple compartment aids
- Potentially inappropriate/high risk drugs

SMR consultation template checklist
1. Identify what matters most to patient at the outset
2. Negotiate shared agenda and goals
3. Take a good history and undertake medicines reconciliation
4. Identify potentially inappropriate medicines (PIMs) and medicines support needs/risks
5. Use and interpret research evidence in context of individual patient situation and goals
6. Use your clinical judgement to ensure medicines are appropriate (safe and effective) in the individual patient's circumstances
7. Check willingness and capability to adhere to medicines
8. Agree and document an action plan for the medicines reviewed (including changes, support, follow up, monitoring, sign posting, referral, safety netting)

Patient circumstances, goals, values and wishes

Clinical judgement | **Evidence base**

Images provided by NHS England on behalf of the National Overprescribing Review Patient Engagement exercise

Have a PLAN

If people's bodies are like cars then maybe we need a warning label, or a set of terms & conditions about the use of medicines in people.

Car:

The estimated distance your electric vehicle can travel on a single charge is based on test data, not your personal driving patterns. It's natural for this to fluctuate based on how you charge the battery throughout its life and your actual range depends on many factors, particularly your environment and personal driving habits.

Patient:

We are all different and will not be identical to those people in the medication clinical trials. As people get older and/or more medically complicated their response to medicines alters so relative harms to benefits may change. Regular holistic medication review is therefore necessary.

When Medicines MOTs happen the health professional (*the mechanic in our car analogy*) and the patient (*driver*) both need to have a **PLAN**.

Prepare before the consultation the issues they think they want to raise.
Listen to the other person's lived or learned experience about the medicines.
Agree with the other person after discussion about the BRAN of each medicine, what the plan is regarding adjusting, suspending, stopping medication and any monitoring or follow up needed.
Note the agreed plan so that all parties, plus all other prescribers, are fully aware and can consider any monitoring or revisit the conversation in future consultations.

Start with a **PLAN** and always use **BRAN!**

The Specialist Pharmacy Service has a published a useful guide detailing how to identify, invite and apply a person-centred framework to support structured medication review.

Read more here: www.sps.nhs.uk/articles/a-person-centred-approach-to-polypharmacy-and-medication-review

Download resources
https://thehealthinnovationnetwork.co.uk/programmes/medicines/polypharmacy/patient-information/

Resources to help patients understand and prepare for a structured medication review

The Health Innovation Network in partnership with patients and partners, developed a range of patient information materials in different community languages to support and prepare people who have been invited for a structured medication review with their GP, pharmacist or other healthcare professional.

These materials are free to use and can be shared electronically with patients by email, text or any other electronic systems used within your workplace or printed and used in paper format.

The resources are available in the following languages, including audio versions for visually impaired people and easy read versions for people with learning disabilities:

- English
- Arabic
- Chinese Traditional (Cantonese)/Chinese Simplified (Mandarin)
- Bengali
- Gujarati
- Somali
- Polish
- Punjabi Gurmukhi/ Punjabi Shahmukhi
- Romanian
- Urdu
- British Sign Language (BSL) patient animation

Greater Manchester case study

Health Innovation Manchester developed a dashboard to illustrate levels of deprivation by primary care network (PCN) and the corresponding levels of problematic polypharmacy. PCNs were identified to pilot the materials across Tameside, Salford, Stockport, Wigan, Oldham and Bury. These were incorporated into their existing patient communications, processes and appointments.

"Receiving the materials helped me think about my medicines before my appointment"

"It was great to receive the documents in my first language"

"The materials have helped to build relationships with patients, and improve the quality of SMRs"

Nottingham case study

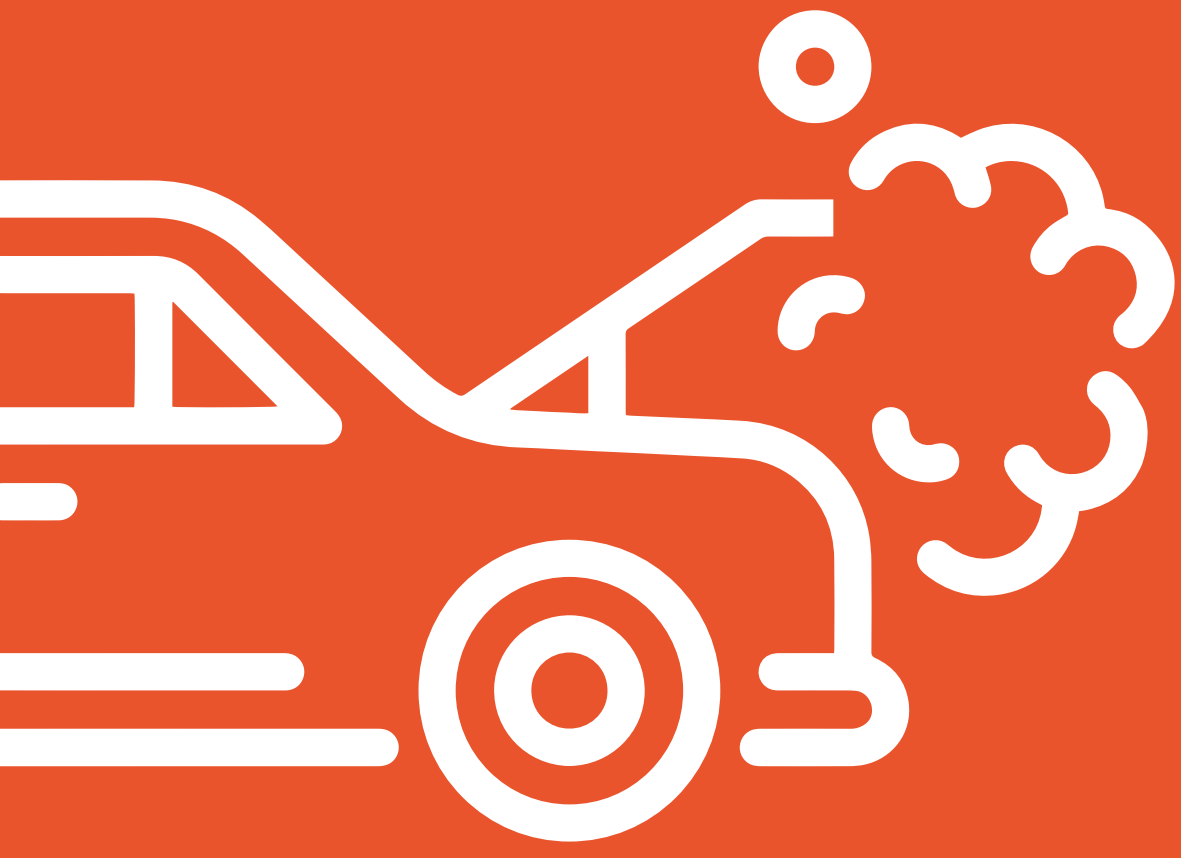
Radford and Mary Potter PCN in Nottingham was selected as a test site owing to its patient demographics. Black and minority ethnic groups form 46% of the resident population, while 66% of the population are classed as living in the most deprived areas of England. Both statistics are above the national average.

Baseline data showed that the PCN conducted 24 SMRs in the three weeks before distributing the materials. After promoting the materials, the number of SMRs conducted by the PCN **increased by 88%** to a total of 45 SMRs in the three subsequent weeks.

88% increase in SMRs

Lad, B. A campaign to help patients discuss their medicines nearly doubled our medication reviews. The Pharmaceutical Journal, PJ, May 2024, Vol 312, No7985;312(7985) https://doi.org/10.1211/PJ.2024.1.314200

Chapter three
Why is this difficult to fix?

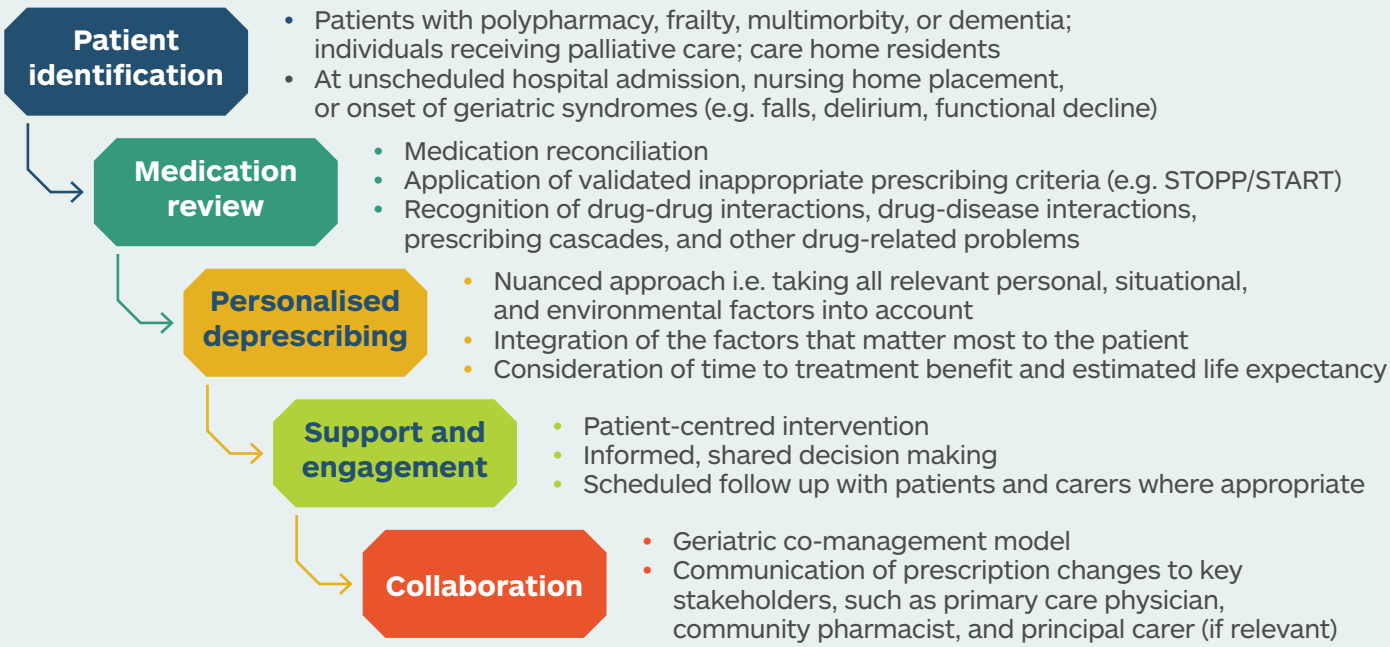


Commissioning problematic polypharmacy review services

Dealing with problematic polypharmacy is complex. Below are two key studies providing the evidence as to why commissioners should address problematic polypharmacy in their localities.

Polypharmacy: a novel approach to tackling a public health crisis

Abstract: With growing global concern regarding medication-related harm, WHO launched a global patient safety challenge, Medication Without Harm, in March 2017. Multimorbidity, polypharmacy, and fragmented healthcare (patients attending appointments with multiple physicians in various healthcare settings) are key drivers of medication-related harm, which can result in negative functional outcomes, high rates of hospitalisation, and excess morbidity and mortality, particularly in patients with frailty older than 75 years. Some studies have examined the effect of medication stewardship interventions in older patient cohorts but focused on a narrow spectrum of potentially adverse medication practices, with mixed results. In response to the WHO challenge, we propose the novel concept of broad-spectrum polypharmacy stewardship, a co-ordinated intervention designed to improve the management of multimorbidity's, taking into account potentially inappropriate medications, potential prescribing omissions, drug–drug and drug–disease interactions, and prescribing cascades, aligning treatment regimens with the condition, prognosis, and preferences of the individual patient. Although the safety and efficacy of polypharmacy stewardship need to be tested with well-designed clinical trials, we propose that this approach could minimise medication-related harm in older people with multimorbidity's exposed to polypharmacy.



View online: https://pubmed.ncbi.nlm.nih.gov/37030320

Daunt R, Curtin D, O'Mahony D. Polypharmacy stewardship: a novel approach to tackle a major public health crisis. Lancet Healthy Longev. 2023 May;4(5):e228-e235. doi: 10.1016/S2666-7568(23)00036-3. Epub 2023 Apr 5. PMID: 37030320.

Barriers and facilitators of implementing proactive deprescribing within primary care: a systematic review

Objective: Proactive deprescribing - identifying and discontinuing medicines where harms outweigh benefits - can minimise problematic polypharmacy but has yet to be implemented into routine practice. Normalisation process theory (NPT) can provide a theory-informed understanding of the evidence base on what impedes or facilitates the normalisation of routine and safe deprescribing in primary care.

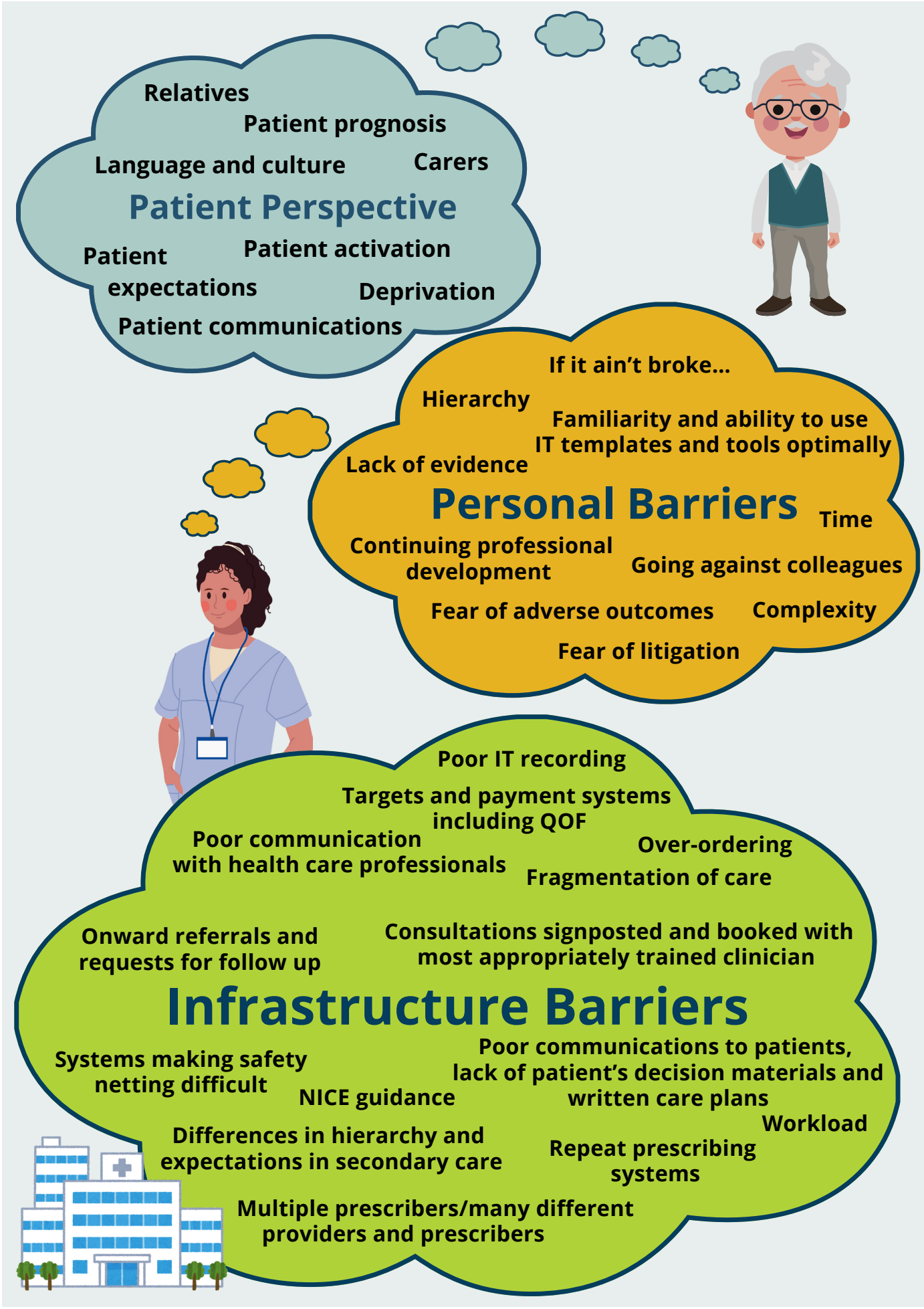
Summary: Through NPT, multiple barriers and facilitators were identified that impede or facilitate the implementation and normalisation of deprescribing in primary care (see table).

Construct of Normalisation Process Theory	Barriers of implementation	Facilitators of implementation
Coherence	• Negative deprescribing perceptions • Patient and HCP strong belief in continuation of medicines • Limited understanding of HCP roles in deprescribing • Uncertainty and lack of information about how to deprescribe • Lack of interest in deprescribing	• Patients receiving deprescribing education • Structured education and training for HCPs on proactive deprescribing • Belief in the consequences of PIMs and ADRs • Deprescribing accepted as scope of practice • Prior agreement on deprescribing clinical decision rules
Cognitive participation	• HCPs apprehensive to discontinue medicines • Patient resistance to deprescribing recommendations • Lack of internal and external collaboration • Lack of proactively identifying patient needs	• Engagement of HCPs and patients • Positive relationships between HCPs and patients • MDT Involvement • Patient-centred approach
Collective action	• Sub-optimal deprescribing environment • Strong prescribing culture • Poor communication and information sharing • Lack of confidence to deprescribe	• Availability of deprescribing resources and support for HCPs • Supportive guidance for patients • Collaborative MDT sharing workload • Presence of pre-defined deprescribing process • Confidence in deprescribing • Requiring medicines to have an associated indication for use
Reflexive Monitoring	• Deprescribing tools not used as initially intended	• Individualised feedback on prescribing for GPs

HCP = healthcare professional, PIMs = potentially inappropriate medicines, ADRs = adverse drug reactions, MDT = multi-disciplinary team.

View online: https://pubmed.ncbi.nlm.nih.gov/36860190

Okeowo DA, Zaidi STR, Fylan B, Alldred DP. Barriers and facilitators of implementing proactive deprescribing within primary care: a systematic review. Int J Pharm Pract. 2023 Apr 10;31(2):126-152. doi: 10.1093/ijpp/riad001. PMID: 36860190.


Relatives
Patient prognosis
Language and culture
Carers
Patient Perspective
Patient activation
Patient expectations
Deprivation
Patient communications
If it ain't broke...
Hierarchy
Familiarity and ability to use IT templates and tools optimally
Lack of evidence
Personal Barriers
Time
Continuing professional development
Going against colleagues
Fear of adverse outcomes
Complexity
Fear of litigation
Poor IT recording
Targets and payment systems including QOF
Poor communication with health care professionals
Over-ordering
Fragmentation of care
Onward referrals and requests for follow up
Consultations signposted and booked with most appropriately trained clinician
Infrastructure Barriers
Systems making safety netting difficult
Poor communications to patients, lack of patient's decision materials and written care plans
NICE guidance
Workload
Differences in hierarchy and expectations in secondary care
Repeat prescribing systems
Multiple prescribers/many different providers and prescribers

Chapter four
What does a good service plan look like?

System responsibilities

ICB Boards	• Ensure PCN Clinical Directors are aware of the value of repeat prescription systems, medicines reconciliation and structured medication reviews processes to tackle overprescribing plus help improve GP access and continuity of care targets. • Support PCNs to share best practice on repeat prescription systems, MR and SMR processes. • Help shape SMR processes according to ICB priorities and share ICB wide SMR data quarterly to ensure progress. • Engage better with PCNs to improve local ownership and delivery on overprescribing and problematic polypharmacy, potentially through contractual means if appropriate • Co-produce digital medicines strategy that includes interoperability of medicines systems. • Commission polypharmacy specialist review services and more non-pharmacological modalities e.g. in pain management and mental health services.
PCN Clinical Boards	Support the GP Prescribing and Senior Clinical Pharmacist Leads plus Patient Participation Group to agree: • A repeat prescription system that encourages regular medication reviews. • A MR process for discharges. • An annual capacity/demand plan for which, and how many, patients should be invited for proactive SMRs (PCN DES).
ICB Medicines Optimisation Team	• Support PCNs to complete the RCGP/RPS Repeat Prescribing Toolkit self assessment and implement improvements. • Support PCNs and GPs to implement their MR process in line with the document management system aims. • Provide GP system searches to help PCNs manage their SMR processes. • Provide population health data to help PCNs target their SMR processes.

Individuals' responsibilities

Patients	• Be open and honest about your issues, concerns and expectations of your medicines. • Ask questions – it's OK to ask! • Tell healthcare professionals how your medicines fit in with what is important to you at the time. • Tell healthcare professionals about any medicines you are NOT taking, or not taking as directed. • Where you are able, take responsibility for your own health and maximise health behaviours that do not involve medicines.
Carers/Advocates involved in medicines tasks e.g. ordering, collection, administration	• Be open and honest about your issues, concerns and expectations of your relative's or friend's medicines. • Ask questions – it's OK to ask! • Tell healthcare professionals about other things that are important to your relative or friend that are affected by medicines or affect how the use their medicines.
Personalised care roles e.g. social prescribing link workers, health coaches, care co-ordinators	• Ask what medicines patients are actually taking and not taking. • Ask about their issues, concerns and expectations of their medicines. • Ask about their support needs to take their medicines safely. • Note, resolve and communicate any discrepancies to appropriate healthcare professional. • Encourage positive health behaviours that do not involve medicines.

Health professionals' responsibilities

Primary care prescribers e.g. GPs, pharmacists, advanced nurse practitioners, allied health professionals	Whether prescribing or deprescribing ASK ABOUT: • What matters most to the patient! • Their ideas, concerns and expectations (ICE) of their medicines. • What medicines they are actually taking, and not taking. • Commit to shared decisions before INITIATING a medicine (Start Well), CONTINUING (Carry on Well) or STOPPING existing medicines (Finish Well) and tailor intervention to align with patient's goals and priorities. • Document decisions and any review plans dependent on clinical trajectories.
Secondary/Tertiary care prescribers e.g. consultants, doctors, pharmacists, advanced nurse practitioners, allied health professionals including mental health, learning disability and autism specialists.	Whether prescribing or deprescribing ASK ABOUT: • What matters most to the patient! • Their ideas, concerns and expectations (ICE) of their medicines. • What medicines they are actually taking, and not taking. • Commit to shared decisions before INITIATING a medicine (Start Well), CONTINUING (Carry on Well) or STOPPING existing medicines (Finish Well) and tailor intervention to align with patient's goals and priorities. • Document decisions PLUS communicate a summary of conversation with the patient including indication, timescale for review by primary care, and generic or specific contact details for patient and health professional if there is a query.
Pharmacy professionals undertaking medicines reconciliation	• ASK about their ideas, concerns and expectations (ICE) of their medicines. • ASK what medicines they are actually taking, and not taking. • Note, resolve and communicate any discrepancies to primary care clinical team. • Utilise the National Discharge Medicines Service (DMS) to link the patient's usual community pharmacy into any medication changes.
Pharmacy professionals dispensing/ issuing medicines e.g. community, practice, hospital pharmacy teams	As part of repeat dispensing, repeat prescribing and discharge/outpatients' service: • ASK what medicines they are actually taking, and not taking. • ASK about their ideas, concerns and expectations (ICE) of their medicines. • Ask about their support needs to take their medicines safely. • Note, resolve and communicate any discrepancies to appropriate healthcare practitioner to primary care clinical team. • Refer appropriate patients for the community pharmacy New Medicines Service (NMS).

Deprescribing competencies

We believe that everyone has a part to play in safe deprescribing but that they need to clearly understand their level of competence, and when to refer to the next level of practitioner.

Level	Competency	Who
Level 1	Is aware that medicines can have harms and limitations as well as benefits (especially as people get older). Challenges ongoing need for medicines constructively and aware of, and knows how to refer for, non-medication options.	Patients, family, advocates, carers, healthcare technicians, associate nurses, trainees etc.
Level 2a	Manages patient expectations around medicines. Identifies individual medicines to stop. Refers appropriately for structured medication review.	All healthcare practitioners e.g. doctors, pharmacists, nurses, pharmacy technicians, allied health professionals, paramedics, physician associates etc.
Level 2b	Ensures stop/review dates are in place for all medicines started and records indications. Stops individual medicines due to adverse drug events*, lack of efficacy or non-adherence.	Prescribers
Level 3	Performs structured medication reviews addressing whole treatment regimen. Makes or recommends multiple changes to treatment. Implements, monitors and adjusts these changes. Uses research evidence, guidelines and deprescribing MDTs.	Clinical pharmacists Medical generalists GPs Frailty advanced nurse practitioners
Level 4	Performs combined medical and medication reviews of complex multimorbidity and polypharmacy. Addresses complex issues e.g. prescribed drug dependence, chronic pain, anticholinergic burden and constructively challenges specialist prescribing. Contributes to research evidence and guidelines and leads deprescribing MDT.	Consultant pharmacists Clinical pharmacologists Geriatricians Specialist GPs Advanced clinical pharmacists or frailty advanced nurse practitioners

* Adverse drug events include adverse drug reactions/ interactions, allergic reactions, medication errors etc.

Case study:

Ready reckoner of potential cost reduction and benefits from addressing problematic polypharmacy in South West London

Southwest London landscape	Clinical problem and cost pressures	Potential for savings	Estimated annual cost reduction and benefits
4 acute trusts	Hospital admissions for adverse drug reactions Estimated costs £23.6 million	2/3 preventable – say prevent 1/3	£7.8 million Free up hospital beds
168 GP practices	Repeat prescriptions ~50 hours per week practice time Estimate £30 per hour*, £78,000 per practice per year Estimated costs £13.1 million	Reduce time required by ~1/5 by clearer medication regimens and deprescribing	£2.62 million Free up GP and pharmacist time
15,000 people on 10 or more medicines	Drug costs and waste	Potential to reduce drug costs by £207/patient/year**	£31 million

Source: **Professor Emma Baker,** Professor and Consultant Physician in Clinical Pharmacology City St George's, University of London and St George's University Hospitals NHS Foundation Trust, London

* GP Salary in United Kingdom - Average Salary (talent.com)
Clinical Pharmacist Salary in United Kingdom - Average Salary (talent.com)
Estimated salary £30 approx. average of pharmacist and GP
accessed December 2024

** Bennett, F., Shah, N., Offord, R., Ferner, R., & Sofat, R. (2020). Establishing a service to tackle problematic polypharmacy. *Future healthcare journal,* 7(3), 208–211 https://research.birmingham.ac.uk/en/publications/establishing-a-service-to-tackle-problematic-polypharmacy

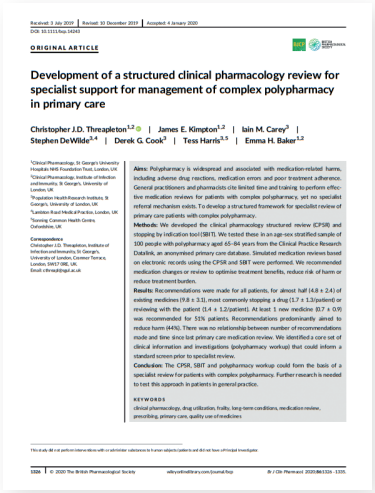
Case study:

Clinical Pharmacology and Polypharmacy Service, St George's University Hospitals NHS Foundation Trust and South West (SW) London Integrated Care System

In SW London our Clinical Pharmacology Team of three consultants and two specialist trainees runs a service for patients with polypharmacy. Our service has four main components:

Daily advice and guidance service. We answer online queries from GPs and pharmacists about complex medicines, deprescribing, adverse drug reactions and any other medicines-related issues within our areas of expertise. We are also contacted directly by clinicians and patients around the country looking for clinical pharmacology input.

Weekly clinics. We offer face-to-face or telephone appointments for patients with complex polypharmacy, dependence on prescribed drugs, problematic adverse drug reactions and allergies, challenging pharmacogenomics and anything else related to medicines. Patients are referred by GPs, clinical pharmacists, hospital practitioners or self-refer.



ORIGINAL ARTICLE

Development of a structured clinical pharmacology review for specialist support for management of complex polypharmacy in primary care

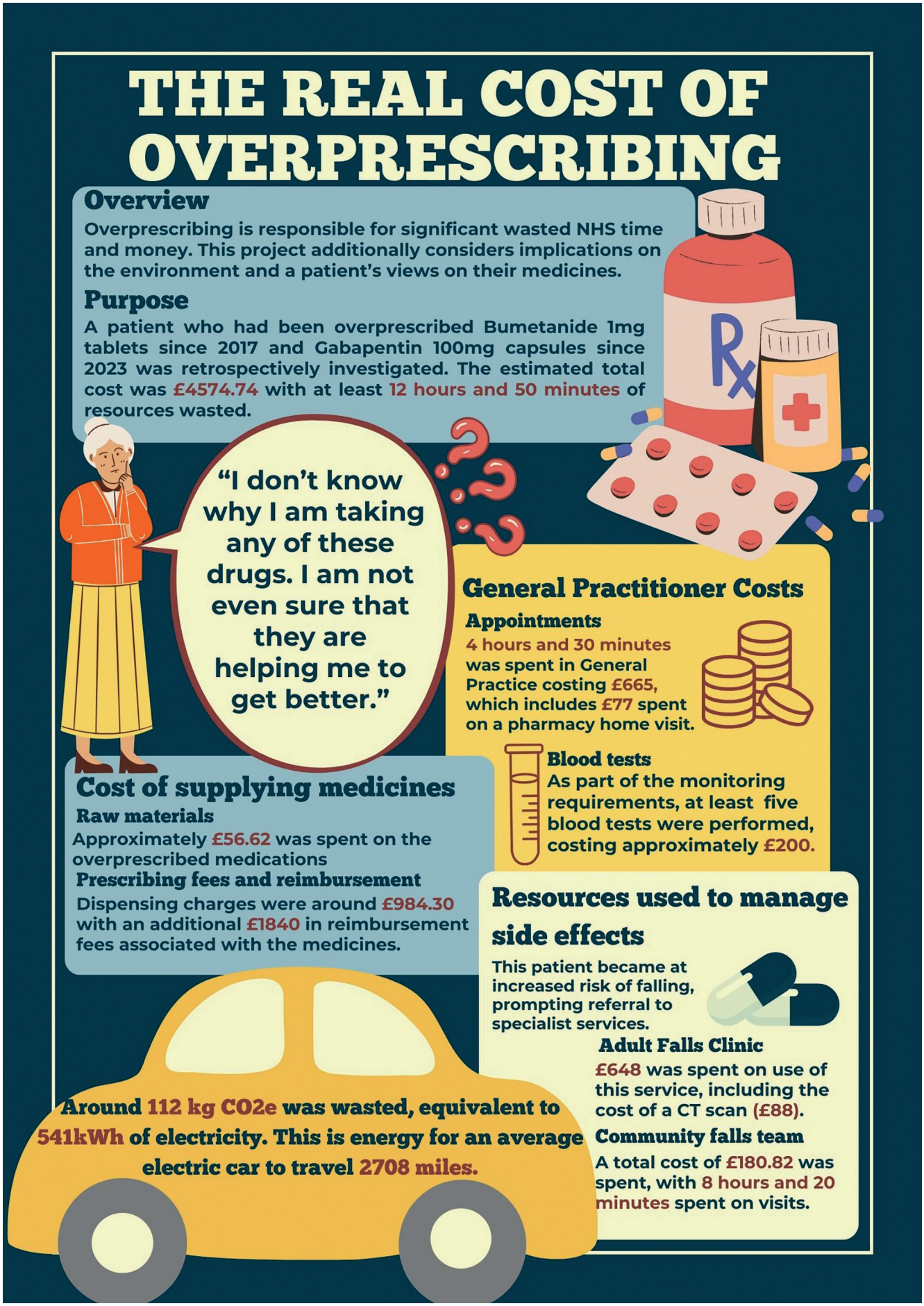
Monthly online multidisciplinary team meetings. All pharmacists and GPs across SW London are invited to attend this meeting on MS Teams and bring complex cases and questions relating to polypharmacy to discuss. Building shared expertise is really important to tailor medicines appropriately for patients, particularly where there is little evidence to inform deprescribing decisions.

Education and training. We develop and deliver workshops and learning resources to help all practitioners improve their use of medicines and deprescribing.

Our service was developed from research and collaboration we have done in SW London. Christopher Threapleton (a specialist trainee who has now been appointed as a consultant in our service) has submitted his PhD entitled '*Problematic polypharmacy in primary care: Analysis of the current landscape and development of an integrated polypharmacy service'*. His research included a systematic review, modelling of factors driving polypharmacy in SW London, a survey investigating readiness of practitioners across SW London to manage polypharmacy and development of new tools for tackling polypharmacy[1].

Reference

1. Threapleton CJD, Kimpton JE, Carey IM, DeWilde S, Cook DG, Harris T, Baker EH. Development of a structured clinical pharmacology review for specialist support for management of complex polypharmacy in primary care. Br J Clin Pharmacol. 2020 Jul;86(7):1326-1335.



Used with permission from Perston B, Oboh L, Howes K. South East London ICS Overprescribing project 2024

Case study:

Medicines queries for older people advice and guidance service, Leeds Office of NHS West Yorkshire Integrated Care Board

The medicines queries for older people advice and guidance (A&G) service was set up in response to feedback from practice and primary care network (PCN) pharmacy teams. Teams requested additional support for structured medication reviews (SMRs) especially for complex older people living with frailty.

Initially, a pilot was set up with five PCNs in Leeds where practice and PCN pharmacists referred patients, where they needed additional support to complete their SMR, to a consultant pharmacist for older people. A MS Teams meeting was arranged with the consultant pharmacist to discuss patients referred into the service. These discussions adopted a coaching-style approach to provide advice, support and empower pharmacy staff for future SMRs.

The pilot received good feedback with participating pharmacists feeling more confident and empowered in undertaking SMRs and less insecure. All participants felt that the service had improved their practice. Feedback from PCN clinical directors was to use existing referral mechanisms for city-wide roll-out of the service following the successful pilot.

As Leeds already has specialist A&G available for a number of clinical specialities accessed via AccuMail, the SMR support service is now provided through this platform and is available to any clinician from primary care. Clinicians in primary care can email a request for medicines queries for older people A&G directly from the patient record within the GP clinical system and the response also appears in the patient record. Requests are received via a central email and responded to within two working days in line with other A&G services in the city.

Where patients are particularly complex and a more detailed discussion is required, a MS Teams call is arranged to gather further information and provide advice and support using a coaching-style approach.

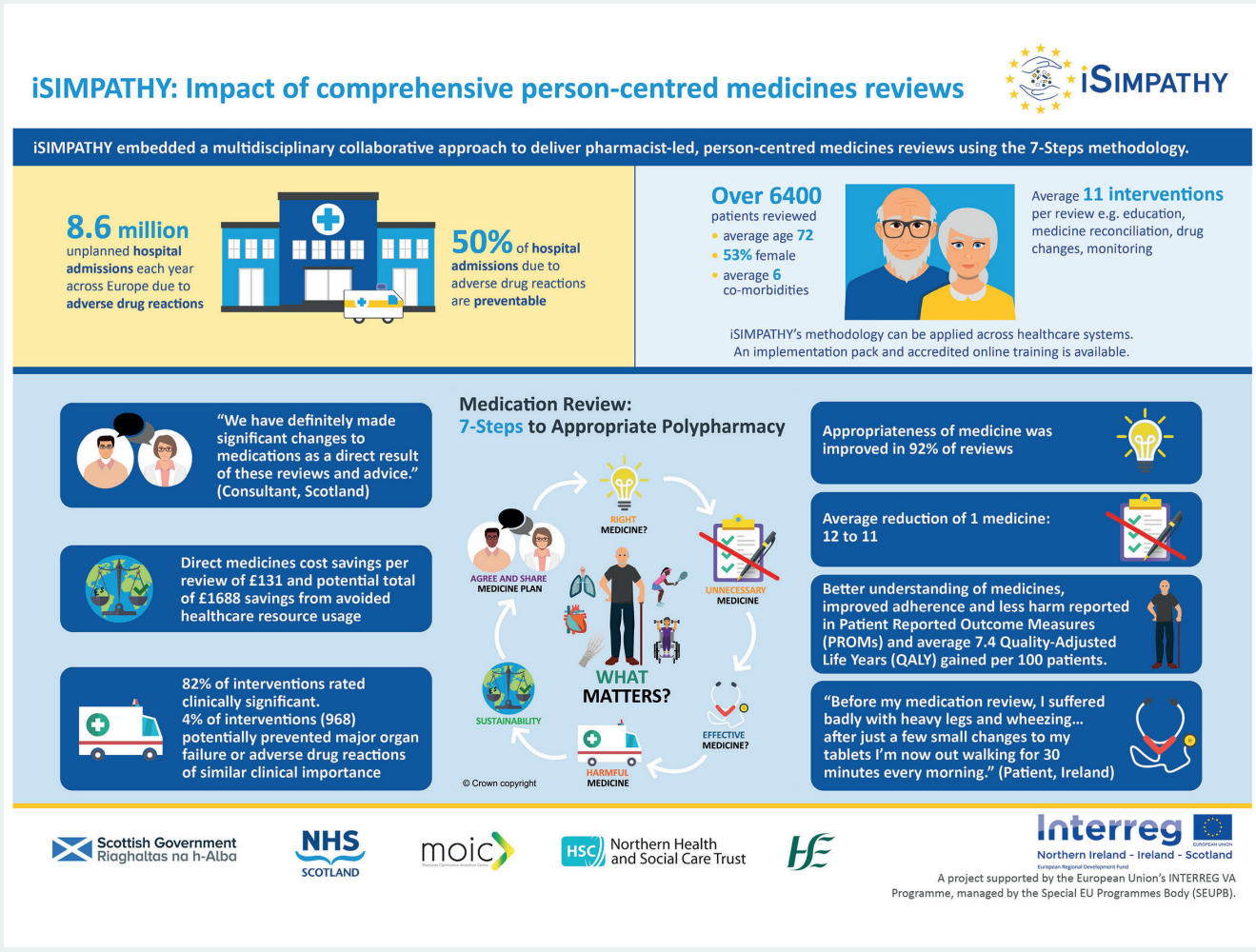
Source: Heather Smith. Consultant Pharmacist: Older People at NHS Integrated Care Board (ICB) in Leeds, West Yorkshire ICB.

Case study:

iSIMPATHY

iSIMPATHY sought to transform the approach to optimisation of medicines through the delivery of medicine reviews to over 6,000 patients taking multiple medicines, and in delivering training to 120 GPs, hospital doctors and pharmacists. It provided a significant contribution towards the embedding of a single approach for polypharmacy management as well as firmly establishing the value of cross-border working in this field.

iSIMPATHY was an EU-funded project run across Northern Ireland, Scotland and the border areas of the Republic of Ireland from October 2019 until March 2023.



Read online: www.isimpathy.eu/index.html

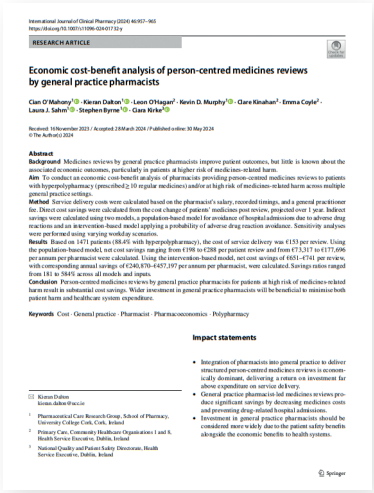
Case study:

Economic cost-benefit analysis of person-centred medicines reviews by general practice pharmacists in Ireland

Background: Medicines reviews by general practice pharmacists improve patient outcomes, but little is known about the associated economic outcomes, particularly in patients at higher risk of medicines-related harm.

Aim: To conduct an economic cost-benefit analysis of pharmacists providing person-centred medicines reviews to patients with hyper polypharmacy (prescribed ≥ 10 regular medicines) and/or at high risk of medicines-related harm across multiple general practice settings.

Method: Service delivery costs were calculated based on the pharmacist's salary, recorded timings, and a general practitioner fee. Direct cost savings were calculated from the cost change of patients' medicines post review, projected



International Journal of Clinical Pharmacy (2024) 46:957–965
https://doi.org/10.1007/s11096-024-01732-y

RESEARCH ARTICLE

Economic cost-benefit analysis of person-centred medicines reviews by general practice pharmacists

Ciara O'Mahony[1] · Kieran Dalton[1] · Leon O'Hagan[2] · Kevin D. Murphy[1] · Clare Kinahan[3] · Emma Coyle[2] · Laura J. Sahm[1] · Stephen Byrne[4] · Ciara Kirke[4]

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Abstract
Background Medicines reviews by general practice pharmacists improve patient outcomes, but little is known about the associated economic outcomes, particularly in patients at higher risk of medicines-related harm.
Aim To conduct an economic cost-benefit analysis of pharmacists providing person-centred medicines reviews to patients with hyperpolypharmacy (prescribed ≥ 10 regular medicines) and/or at high risk of medicines-related harm across multiple general practice settings.
Method Service delivery costs were calculated based on the pharmacist's salary, recorded timings, and a general practitioner fee. Direct cost savings were calculated from the cost change of patients' medicines post review, projected over 1 year. Indirect savings were calculated using two models, a population-based model for avoidance of hospital admissions due to adverse drug reactions and an intervention-based model applying a probability of adverse drug reaction avoidance. Sensitivity analyses were performed using varying workday scenarios.
Results Based on 1471 patients (88.4% with hyperpolypharmacy), the cost of service delivery was €153 per review. Using the population-based model, net cost savings ranging from €198 to €288 per patient review and from €73,317 to €177,696 per annum per pharmacist were calculated. Using the intervention-based model, net cost savings of €651–€741 per review, with corresponding annual savings of €240,870–€457,197 per annum per pharmacist, were calculated. Savings ratios ranged from 181 to 584% across all models and inputs.
Conclusion Person-centred medicines reviews by general practice pharmacists for patients at high risk of medicines-related harm result in substantial cost savings. Wider investment in general practice pharmacists will be beneficial to minimise both patient harm and healthcare system expenditure.

Keywords Cost · General practice · Pharmacist · Pharmacoeconomics · Polypharmacy

Impact statements

- Integration of pharmacists into general practice to deliver structured person-centred medicines reviews is economically dominant, delivering a return on investment far above expenditure on service delivery.
- General practice pharmacist-led medicines reviews produce significant savings by decreasing medicines costs and preventing drug-related hospital admissions.
- Investment in general practice pharmacists should be considered more widely due to the patient safety benefits alongside the economic benefits to health systems.

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2 Primary Care, Community Healthcare Organizations 1 and 8, Health Service Executive, Dublin, Ireland
3 National Quality and Patient Safety Directorate, Health Service Executive, Dublin, Ireland

over one year. Indirect savings were calculated using two models, a population-based model for avoidance of hospital admissions due to adverse drug reactions and an intervention-based model applying a probability of adverse drug reaction avoidance. Sensitivity analyses were performed using varying workday scenarios.

Results: Based on 1,471 patients (88.4% with hyper polypharmacy), the cost of service delivery was €153 per review. Using the population-based model, net cost savings ranging from €198 to €288 per patient review and from €73,317 to €177,696 per annum per pharmacist were calculated. Using the intervention-based model, net cost savings of €651-€741 per review, with corresponding annual savings of €240,870-€457,197 per annum per pharmacist, were calculated. Savings ratios ranged from 181 to 584% across all models and inputs.

Conclusion: Person-centred medicines reviews by general practice pharmacists for patients at high risk of medicines-related harm result in substantial cost savings. Wider investment in general practice pharmacists will be beneficial to minimise both patient harm and healthcare system expenditure.

O'Mahony C, Dalton K, O'Hagan L, Murphy KD, Kinahan C, Coyle E, Sahm LJ, Byrne S, Kirke C. Economic cost-benefit analysis of person-centred medicines reviews by general practice pharmacists. Int J Clin Pharm. 2024 Aug;46(4):957-965. doi: 10.1007/s11096-024-01732-y. Epub 2024 May 30. PMID: 38814513; PMCID: PMC11286700. **Read online**: https://pubmed.ncbi.nlm.nih.gov/38814513

Chapter five
Dashboard for success: how do we know when we have fixed it?

How to measure success

The first step in addressing problematic polypharmacy is to utilise accurate and reliable data to

1. Benchmark local polypharmacy prescribing compared to regional and national levels.
2. Look at key therapeutic polypharmacy comparators and identify patients who are deemed (using medication safety evidence) to be at greatest risk from harm.
3. Measure long term trends in polypharmacy prescribing to help ICBs and PCNs to understand what is working and what isn't.

All three stages are supported by the NHS BSA epact 2 Polypharmacy prescribing comparators - provided free of charge to all PCNs and ICSs.

Developed by GPs and Pharmacists and data analysts, this HSJ award-winning tool has already demonstrated how areas that use the data as intended can make significant reductions in their problematic polypharmacy rates.

Population Health Management- Polypharmacy Prescribing Data

Primary Care Networks are charged with proactively managing people with complex polypharmacy. To help with this, the NHSBSA Polypharmacy Prescribing Comparators help practices and PCNs to compare their levels of polypharmacy with the rest of the country and identify patients deemed to be most at risk from harm. The Polypharmacy comparators were designed by GPs and Pharmacists to identify manageable numbers of patients to prioritise for a Structured Medication Review. The NHS numbers of the patients deemed to be at risk from harm can be provided to local GP practices without the need to develop local system searches. To register to access this data See www.nhsbsa.nhs.uk/access-our-data-products/epact2/registering-epact2

Measure system progress: polypharmacy maturity matrix

This matrix was developed to assist system leaders consider their strategic improvements in overprescribing and problematic polypharmacy.

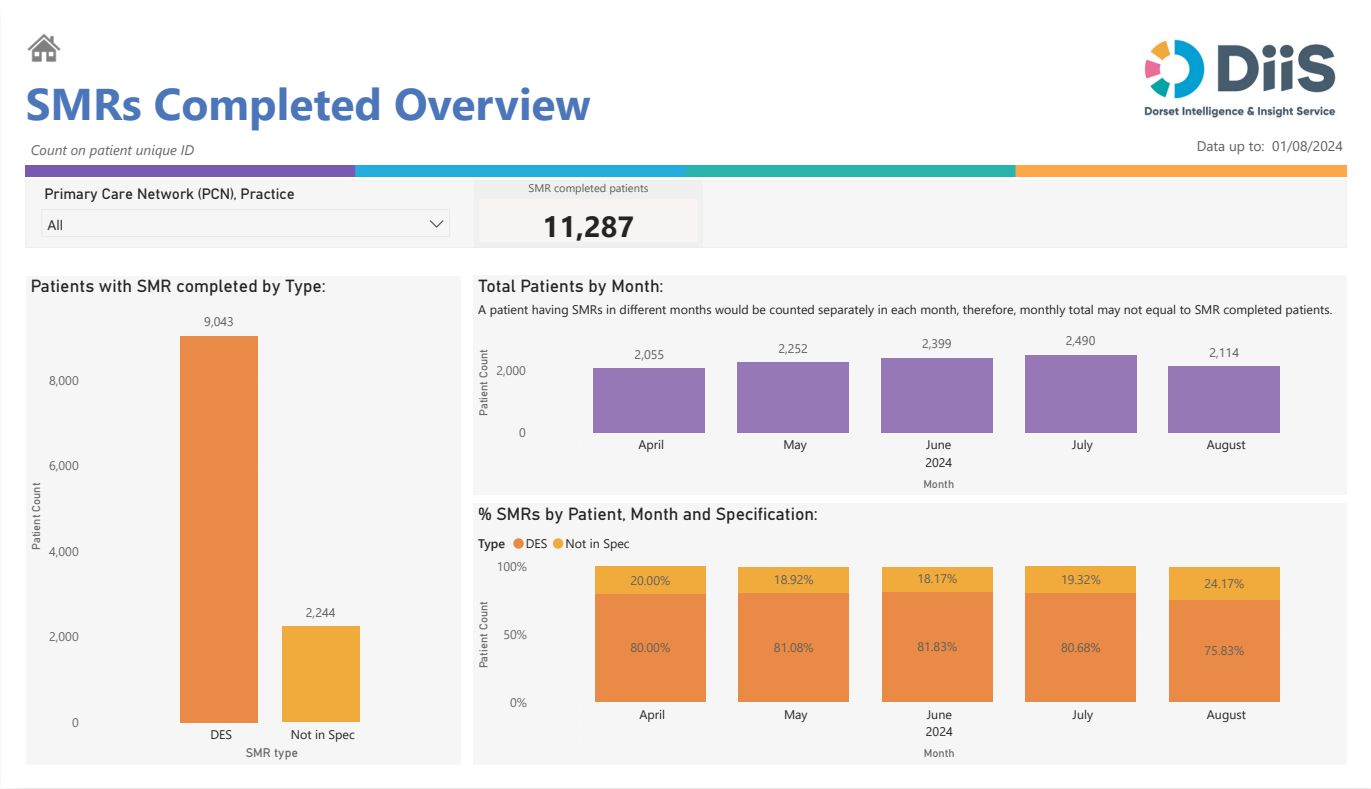
	Community Pharmacy	General Practice	Neighbourhood Team	Hospital	Commissioner
1. Awareness	Staff have seen and read some information about the concept.	Doctors/nurses aware of the concept. Patient participation group (PPG) members may have raised the topic.	Staff have seen some information and share in discussion with colleagues.	Pharmacy department senior staff aware of the concept.	Medicines Optimisation (MO) leads aware of the information and shared with colleagues.
2. Interest	Staff actively seeking further information and understanding.	Discussed at a practice meeting. May be discussed at PPG by patients and doctors. Practice nurse/ practice-based pharmacist interested.	Team considering how they could support the approach across all members. Discussions on fit with the work of the whole team.	Topic discussed at a formal meeting with the outcome of exploring the implications further. Some discussion about costs and potential benefits and value to the Trust.	MO team considering the potential benefits, both clinical and financial to local services and priorities. Looking into further information and likely costs.
3. Desire	See benefits and keen to participate, want to know the views of local practices and how they could co-operate in the approach. Considering how the approach could be funded and supported.	Convinced there may be some real benefits for their patients and improving consultations. Questions raised about exactly how to proceed. May also have Local Medical Committee support. See benefits of more confident patients.	Various enthusiastic members of the team see the value and supporting and encouraging the approach, finding out how exactly the concept could be supported and implemented locally.	Strong interest emerging from pharmacists and other colleagues across the organisation seeking further information and considering the practical issues to be overcome for effective implementation across primary and secondary care.	Taking a proposal to formal meeting of clinicians and cross organisation MO meetings to discuss and agree local system benefits and outcomes. Draft an approach that is within available budget and support resources.

	Community Pharmacy	General Practice	Neighbourhood Team	Hospital	Commissioner
4. Action	Agreement with local practices to proceed with implementation. Have an implementation plan agreed within the organisation. Staff formally briefed.	Partnership meeting agrees to proceed based on a proposal. Discuss and agree with PPG the proposed approach and seek their input and recommendations. Have an implementation plan. All staff briefed with standard information.	Work with local practices and agree the approach and process. Briefing of all staff, set out roles and approaches. Check the fit with local providers, community pharmacy and the local practices in particular.	Senior pharmacy management agree the approach with senior clinicians and managers supported by an implementation plan that includes: • Staff briefing • Internal organisation and promotion in public areas • Discussion at team meetings on progress and ongoing learning experiences • Measurement and progress review process	Recognise the cross-system support for the approach and co-ordinate the approach to implementation. Ensure that commitment across the system is real and authentic. Set up a system to measure progress with implementation. Agree a measure for intermediate outcomes that is realistic and meaningful and sufficiently sensitive.

Are we optimising structured medication reviews?

Population Health Management systems may aid ICBs to incentivise structured medication reviews in those people identified as most in need.

SMR dashboard showcasing Dorset PCN activity



Source: Peter Cope, Head of Medicines Improvement, NHS Dorset

Measuring patient progress

This matrix was developed to assist practices and PCNs to consider their level of patient-centredness to overprescribing and problematic polypharmacy.

Level 7

Options for treatment discussed with patient, carer, or family in depth. There are many relevant and pertinent patient questions raised. Health professionals provide honest and clear answers where possible. Unintended consequences discussed and conclusions drawn. Agreement is reached and a shared commitment is made. Options for ongoing dialogue and questioning is made clear. Follow up review is arranged and confirmed.

Level 6

Patient given treatment options to consider with information. May be encouraged to 'go away and think about it'. Choices discussed with information being shared. Side effects and any unintended consequences discussed. Other complementary interventions discussed for example diet and exercise. An agreement is reached between patient and professionals. Likely to involve additional professional input e.g. pharmacist. Follow up review is arranged.

Level 5

Patient opinions sought on the choice of medicine and fit with lifestyle. Patient provided with extra insights or signposted to information. Side effects discussed. Patient encouraged to ask questions. Patient requests written information to share with carers and/or family.

Level 4

Patient opinions sought on the choice of medicine. Patient encouraged to ask questions but ask very few. Community pharmacy provide additional relevant information. Patient has questions about the use and side effects of their medicine(s).

Level 3

Patient shows some interest in the choice and use of the medicine. Information about the treatment is discussed and questions encouraged. Patient may have one to two basic questions about administration. Patient may discuss questions with community pharmacy.

Level 2

Patient informed verbally about the medicine including why. Patient has the opportunity to ask questions if they wish. During dispensing further verbal information is provided. No discussion about what to do if a medicine issue should arise.

Level 1

Patient given the prescription with no meaningful discussion. Patient does not ask any questions. The medicine is dispensed with little or no meaningful discussion. The patient may or may not go on to use the medicines as directed.

Chapter six
The roof box: additional resources and information

The size of the polypharmacy problem:

An example of a 'calling card' from Dorset (2022)

THE SIZE OF THE POLYPHARMACY PROBLEM 2022

The World Health Organisation has highlighted the suboptimal use of medicines as a major problem worldwide. It estimates that more than half of all medicines are prescribed, dispensed or sold inappropriately, and that half of all patients fail to take them correctly. Risks of not addressing polypharmacy include:

- INCREASED RISK OF HARM
- INCREASED RISK OF NON-ADHERENCE/MEDICINE ERROR
- INCREASED RISK OF HOSPITAL ADMISSION

THE DORSET STATISTICS

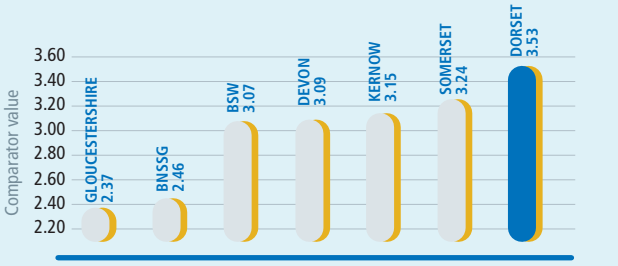
817,691 Total population of dorset

256,778 60 years +

5,708 care home residents

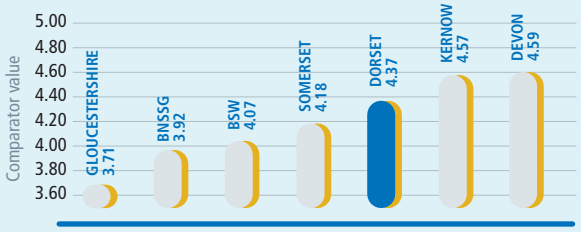
38,351 living with moderate/ severe frailty

375,034 number of patients on 1+ repeat medication



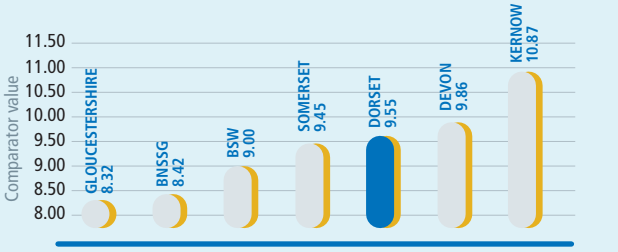
PERCENTAGE OF PATIENTS PRESCRIBED A NSAID AND ONE OR MORE OTHER UNIQUE MEDICINES LIKELY TO CAUSE KIDNEY INJURY (DAMN MEDICINES)- ALL AGES

DORSET CCG highlighted within results for SOUTH WEST during Jan-22



PERCENTAGE OF PATIENTS PRESCRIBED 10 OR MORE UNIQUE MEDICINES - ALL AGES

DORSET CCG highlighted within results for SOUTH WEST during Jan-22



PERCENTAGE OF PATIENTS PRESCRIBED 8 OR MORE UNIQUE MEDICINES - ALL AGES

DORSET CCG highlighted within results for SOUTH WEST during Jan-22

BNSSG: Bristol, North Somerset and South Gloucestershire. BSW: Bath: Bath and North East Somerset, Swindon and Wiltshire. Source: NHS BSA EPACT2

Medicines reconciliation in primary care: a study evaluating the quality of medication-related information provided on discharge from secondary care

Objectives: Medicines reconciliation is an effective way of reducing errors at transitions of care. Much of the focus has been on medicines reconciliation at point of admission to hospital. Our objective was to evaluate medicines reconciliation after discharge from hospital by assessing the quality of information regarding medicines within discharge summaries and determining whether the information provided regarding medicines changes were acted on within seven days of receiving the discharge information.

Methods: A retrospective collaborative evaluation of medicines-related discharge information by Clinical Commissioning Group (CCG) pharmacists using standardised data collection tools. Outcomes of interest included compliance with national minimum standards for medication-related information on discharge summaries, such as allergies, changes to medication regimen, minimum prescription standards, for example, dose, route, formulation and duration, and medicines reconciliation by the primary care team. Data were analysed centrally.

Results: 43 CCGs covering each of the four National Health Service regions in England participated in the study and submitted data for 1454 patients and 10 038 prescribed medicines. The majority of medication details were stated in accordance with standards with the exception of indication (11.7% compliance), formulation (60.3% compliance) and instructions of ongoing use (72.5% compliance). Documentation about changes was poor: 1550/3164 (49%) newly started medicines, 186/477 (39%) dose changes and 420/738 (57%) stopped medicines had a reason documented. Changes were not acted on within seven days of receiving the discharge information for 12.5% of patients.

Conclusions: Our evaluation revealed overall good compliance with discharge medication documentation standards, but a number of changes to medicines during hospitalisation were not fully communicated or documented on the discharge summary or actioned in the general practice after discharge.

Read online: https://pubmed.ncbi.nlm.nih.gov/32419933

Shah C, Hough J, Jani Y. Medicines reconciliation in primary care: a study evaluating the quality of medication-related information provided on discharge from secondary care. Eur J Hosp Pharm. 2020 May;27(3):137-142. doi: 10.1136/ejhpharm-2018-001613. Epub 2018 Sep 26. PMID: 32419933; PMCID: PMC7223345.

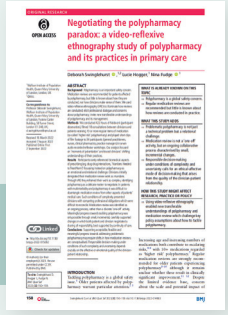
Negotiating the polypharmacy paradox: a video-reflexive ethnography study of polypharmacy and its practices in primary care

Abstract: Polypharmacy is an important safety concern. Medication reviews are recommended for patients affected by polypharmacy, but little is known about how they are conducted, nor how clinicians make sense of them. We used video-reflexive ethnography (VRE) to illuminate how reviews are conducted; elicit professional dialogue and concerns about polypharmacy; invite new transferable understandings of polypharmacy and its management.

Results: Participants rarely referenced biomedical aspects of prescribing (e.g., drug-drug interactions, 'Numbers Needed to Treat/Harm') focussing instead on polypharmacy as an emotional and relational challenge. Clinicians initially denigrated their medication review work as mundane. Through VRE they reframed their work as complex, identifying polypharmacy as a delicate matter to negotiate.

In patients with multimorbidity and polypharmacy it was difficult to disentangle medication review from other aspects of patients' medical care. Such conditions of complexity presented clinicians with competing professional obligations which were difficult to reconcile. Medication review was identified as an ongoing process, rather than a discrete 'one-off' activity. Meaningful progress towards tackling polypharmacy was only possible through small, incremental, carefully supported changes in which both patient and clinician negotiated a sharing of responsibility, best supported by continuity of care.

Conclusion: Supporting acceptable, feasible and meaningful progress towards addressing problematic polypharmacy may require shifts in how medication reviews are conceptualised. Responsible decision-making under conditions of such complexity and uncertainty depends crucially on the affective or emotional quality of the clinician-patient relationship.


Negotiating the polypharmacy paradox: a video-reflexive ethnography study of polypharmacy and its practices in primary care

View online: https://pubmed.ncbi.nlm.nih.gov/36854488

Swinglehurst D, Hogger L, Fudge N. Negotiating the polypharmacy paradox: a video-reflexive ethnography study of polypharmacy and its practices in primary care. BMJ Qual Saf. 2023 Mar;32(3): 150-159. doi: 10.1136/bmjqs-2022-014963. Epub 2022 Sep 2. PMID: 36854488; PMCID: PMC9985753.

NHS Discharge Medicines Service (DMS)

The NHS Discharge Medicines Service is a new essential service for community pharmacy contractors, commencing on the 15 February 2021. As an essential service, it must be provided by all community pharmacy contractors.

The service has been established to ensure better communication of changes to a patient's medication when they leave hospital and to reduce incidences of avoidable harm caused by medicines. By referring patients to community pharmacy on discharge with information about medication changes made in hospital, community pharmacy can support patients to improve outcomes, prevent harm and reduce readmissions.

Read more and to access the service specification: www.england.nhs.uk/primary-care/pharmacy/pharmacy-services/nhs-discharge-medicines-service

DMS Evaluation: https://bmjopen.bmj.com/content/6/10/e012532

Community Pharmacy New Medicine Service (NMS)

Research has shown that pharmacists can successfully intervene when a medicine is newly prescribed, with repeated follow up in the short term, to increase effective medicine taking for the treatment of a long-term condition.

The New Medicine Service demonstrates increased patient medicine adherence compared with normal practice, which translates into increased health gain at reduced overall cost.

The service is available to all patients, prescribed eligible new medicines, with appropriate consent and will involve carers and parents/guardians where that consent cannot be given by the patient themselves, e.g. younger children and for people who are unable to give consent but may benefit from the service.

Read more and to access the service specification: www.england.nhs.uk/primary-care/pharmacy/pharmacy-services/nhs-new-medicine-service

NMS Evaluation: www.nottingham.ac.uk/~pazmjb/nms

Why is this important? The size and scale of polypharmacy: reference list

References

1 Source NHS BSA epact 2 Oct 2022 www.nhsbsa.nhs.uk/access-our-data-products/epact2

1a DHSC Good for you, good for us, good for everybody A plan to reduce overprescribing to make patient care better and safer, support the NHS, and reduce carbon emissions Published 22 September 2021 https://assets.publishing.service.gov.uk/media/614a10fed3bf7f05ab786551/good-for-you-good-for-us-good-for-everybody.pdf

2. Payne RA et al. Is polypharmacy always hazardous? A retrospective cohort analysis using linked electronic health records from primary and secondary care. British Journal of Clinical Pharmacology 2014; 77: 1073 – 1082. https://bpspubs.onlinelibrary.wiley.com/doi/full/10.1111/bcp.12292

2a. Elliott, R. A., Camacho, E., Jankovic, D., Sculpher, M. J., & Faria, R. (2020). Economic analysis of the prevalence and clinical and economic burden of medication error in England. BMJ Quality and Safety. Advance online publication. https://doi.org/10.1136/bmjqs-2019-010206

3. Osanlou R, Walker L, Hughes DA, et al. Adverse drug reactions, multimorbidity and polypharmacy: a prospective analysis of 1 month of medical admissions. BMJ Open 2022;12:e055551. doi:10.1136/bmjopen-2021-055551 https://bmjopen.bmj.com/content/12/7/e055551

4. Is polypharmacy associated with mortality in the very old: Findings from the Newcastle 85+ Study - Davies - 2022 - British Journal of Clinical Pharmacology - Wiley Online Library https://doi.org/10.1111/bcp.15211

5. British National Formulary Chapters 1-4 and 6-10 https://bnf.nice.org.uk

About the Health Innovation Network

There are 15 health innovation networks across England (formally Academic Health Science Networks), established by NHS England in 2013 to spread innovation at pace and scale – improving health and generating economic growth.

We tackle national problems, with local understanding, and local problems, with national expertise.

Each health innovation network is fully-embedded in their local health and research ecosystem. This drives economic prosperity and growth in all parts of the country, and ensures that everyone benefits from innovation.

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