

**Health
Innovation
Network**

Polypharmacy: 
getting the balance right

Polypharmacy Programme **Getting the Balance Right**

Clare Howard FFRPS FRPharmS Q Clinical Lead Medicines Optimisation

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 2023, there were **993,019** people who received 10 or more medicines. **402,462** of them were aged 75 or over. **135,056** were aged 85 or over. BNF Ch 1-4 and 6-10



Over a six-month period, over **three quarters of people** over the age of 70 will have an adverse drug reaction. (1)



A person taking **10 or more** medicines is **3 times more likely to suffer harm** (2)



16.5% of unplanned hospital admissions are due to Adverse Drug Reactions and Polypharmacy. There has been a **53% increase** in the number of emergency hospital admissions caused by adverse drug reactions. (3)

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

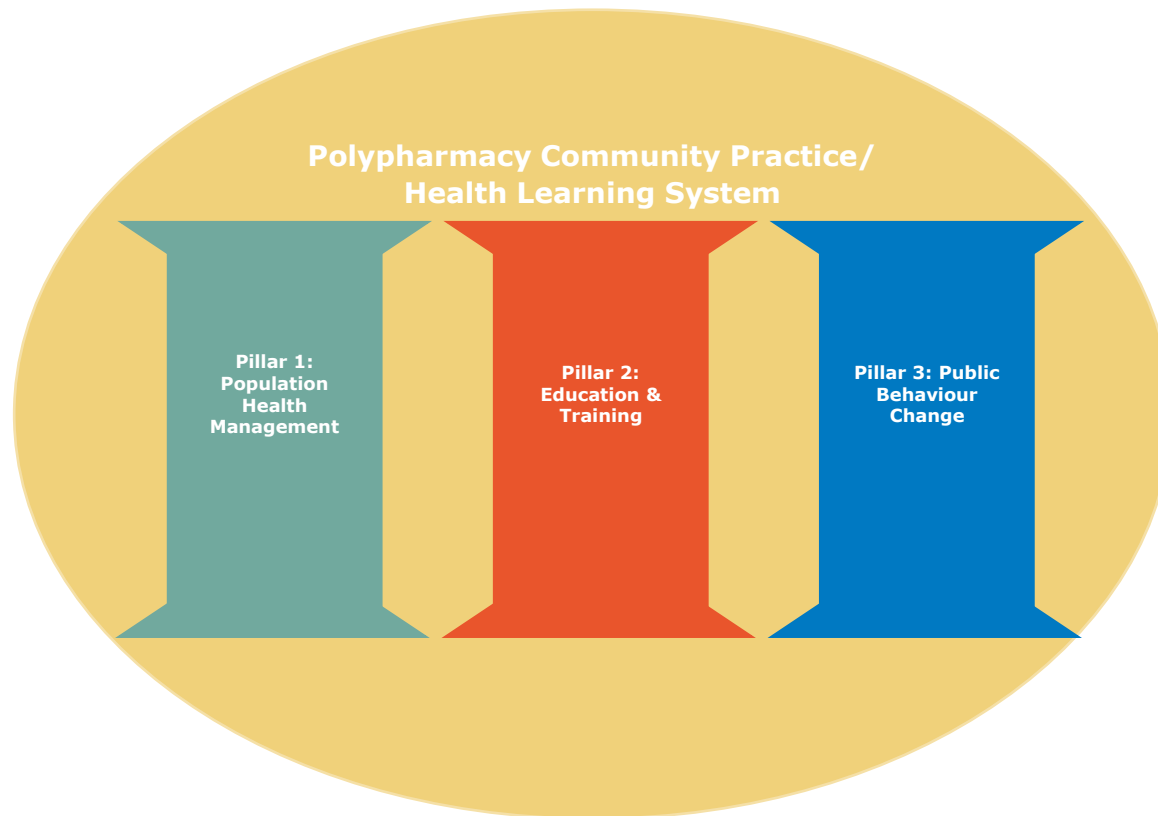
We **dispense over 1 billion** prescription items per year in Primary care in England. Extrapolated **annual costs to the NHS in England** from hospital admissions due to **Adverse Drug Reactions is £2.21 billion.**

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

The Health Innovation Network Polypharmacy Programme:

Getting the Balance Right

The core principle of **Polypharmacy** is to support local systems address problematic polypharmacy through:



- **Pillar 1: Population Health Management**

Using data (NHS BSA Polypharmacy Comparators) to understand PCN risks and identify patients for prioritisation for a Structured Medication Review

- **Pillar 2: Education & Training**

Running local **Polypharmacy** Action Learning Sets (ALSs) to upskill the primary care workforce to be more confident about stopping unnecessary medicines. ALS model originally developed and piloted by Wessex AHSN and supported by Health Education England (HEE)

- **Pillar 3: Public Behaviour Change**

A menu of public-facing campaigns to change public perceptions of a “pill for every ill” and encourage patients to open up about medicines. e.g., Me + My Medicines, Are Your Medicines Working For You?

BMJ Open Adverse drug reactions, multimorbidity and polypharmacy: a prospective analysis of 1 month of medical admissions

Rostam Osanlou^{1,2}, Lauren Walker,^{1,2} Dyfrig A Hughes³, Girvan Burnside,⁴ Munir Pirmohamed^{1,2}

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ABSTRACT

Objective To ascertain the burden and associated cost of adverse drug reactions (ADRs), polypharmacy and multimorbidity through a prospective analysis of all medical admissions to a large university teaching hospital over a 1-month period.

Design Prospective observational study.

Setting Liverpool University Hospital Foundation National Health Service (NHS) Trust, England.

Participants All medical admissions with greater than 24-hour stay over a 1-month period.

Main outcome measures Prevalence of admissions due to an ADR and associated mortality, prevalence and association of multimorbidity and polypharmacy with ADRs, and estimated local financial cost of admissions where an ADR was a contributing or main reason for admission with projected costs for NHS in England.

Results There were 218 identified patient admissions with an ADR giving a prevalence of 18.4%. The majority of these (90.4%) were ADRs that directly resulted in or contributed to admission. ADRs thus accounted for 16.5% of total admissions. Those with an ADR were on average taking more medicines (10.5 vs 7.8, p<0.01) and had more comorbidities than those without an ADR (6.1 vs 5.2, p<0.01). Drugs most commonly implicated were diuretics, steroid inhalers, anticoagulants and antiplatelets, proton pump inhibitors, chemotherapeutic agents and antihypertensives. 40.4% of ADRs were classified avoidable or possibly avoidable. The mortality rate due to an ADR was 0.34%. The average length of stay for those with an ADR was 6 days. Direct 1-month cost to the NHS from ADRs was £2.21 billion.

Conclusion The local prevalence of admission and mortality from ADRs is higher than previously reported. Important factors that could be contributing to this include polypharmacy and multimorbidity. ADRs place a significant burden on patients and healthcare services with polypharmacy should be a major aim for preventing ADRs.

INTRODUCTION
Improved living conditions and better access to and quality of medical care have led to increased life expectancy and the associated accumulation of long-term conditions (LTCs).¹ According to a report by the Academy of Medical Sciences, multimorbidity is a growing issue globally, particularly in more economically developed countries where it is now considered the norm not the exception.² Age is the single biggest risk factor for LTCs, such as cancer, cardiovascular disease and neurodegeneration, in developed countries. An ageing population is therefore at increased risk of polypharmacy.³ Care for people with multiple LTCs is often stretched across various single-organ specialists leading to siloed specialty prescribing and increasingly complex medication regimens.

Polypharmacy is the concurrent use of multiple medications by an individual. There is no consensus on the number of medications that defines polypharmacy because of the need to treat complex or multiple comorbidities with combinations of medicines. Thus, numerical definitions vary but perhaps the most common definition is taking five or more regular medications.⁴ The Wessex Academic Health Science Network has developed a set of prescribing comparators

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ Over 1000 medical admissions were individually reviewed by specialists in clinical pharmacology and general internal medicine in this prospective analysis of adverse drug reactions (ADRs).
- ⇒ Standardised criteria, as listed in methods, were used to identify and classify ADRs. This improves the objectivity and reproducibility of the analysis.
- ⇒ Extrapolating the cost analysis nationally based on medical admissions locally may be unreliable due to differences including local population and services.
- ⇒ This study does not take into account how commonly each medicine that caused an ADR is prescribed in the local community.

to increased life expectancy and the associated accumulation of long-term conditions (LTCs).¹ According to a report by the Academy of Medical Sciences, multimorbidity is a growing issue globally, particularly in more economically developed countries where it is now considered the norm not the exception.² Age is the single biggest risk factor for LTCs, such as cancer, cardiovascular disease and neurodegeneration, in developed countries. An ageing population is therefore at increased risk of polypharmacy.³ Care for people with multiple LTCs is often stretched across various single-organ specialists leading to siloed specialty prescribing and increasingly complex medication regimens. Polypharmacy is the concurrent use of multiple medications by an individual. There is no consensus on the number of medications that defines polypharmacy because of the need to treat complex or multiple comorbidities with combinations of medicines. Thus, numerical definitions vary but perhaps the most common definition is taking five or more regular medications.⁴ The Wessex Academic Health Science Network has developed a set of prescribing comparators

Over 1,000 medical admissions reviewed.

218 (18.4%) of admissions identified with an ADR

90.4% were ADRs that directly resulted in or contributed to admission

Thus, ADRs accounted for **16.5%** of all medical admissions

Those with ADRs were on average taking more medicines (10.5vs 7.8 p<0/01)

And had more comorbidities than those without ADRs

Drugs most commonly implicated were

- Diuretics (14.2%)
- Steroids (12.4%)
- PPIs (8.3%)
- Chemotherapy (7.3%)
- Antiplatelets (7.4%)
- ACE/ A2RB (6.4%)
- Opioids (6%)

40.4% of ADRs were considered avoidable

Mortality rate 0.34%

Average LoS was 6 days.

National extrapolated costs £2.21 billion.

Reducing inappropriate polypharmacy should be a major aim for preventing ADRs.

RESEARCH ARTICLE

The association between antihypertensive treatment and serious adverse events by age and frailty: A cohort study

James P. Sheppard^{1*}, Constantinos Koshari¹, Richard Stevens¹, Sarah Lay-Flurrie¹, Amitava Banerjee², Brandon K. Bellows³, Andrew Clegg⁴, F. D. Richard Hobbs⁵, Rupert A. Payne^{5,6}, Subhashisa Swain¹, Juliet A. Usher-Smith⁷, Richard J. McManus¹

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Data Availability Statement: Data were obtained via a CPRD institutional licence. Requests for data sharing should be made directly to the CPRD (<https://cprd.com>). The Hospital Episode Statistics

Abstract

Background

Antihypertensives are effective at reducing the risk of cardiovascular disease, but limited data exist quantifying their association with serious adverse events, particularly in older people with frailty. This study aimed to examine this association using nationally representative electronic health record data.

Methods and findings

This was a retrospective cohort study utilising linked data from 1,256 general practices across England held within the Clinical Practice Research Datalink between 1998 and 2018. Included patients were aged 40+ years, with a systolic blood pressure reading between 130 and 179 mm Hg, and not previously prescribed antihypertensive treatment. The main exposure was defined as a first prescription of antihypertensive treatment. The primary outcome was hospitalisation or death within 10 years from falls. Secondary outcomes were hypotension, syncope, fractures, acute kidney injury, electrolyte abnormalities, and primary care attendance with gout. The association between treatment and these serious adverse events was examined by Cox regression adjusted for propensity score. This propensity score was generated from a multivariable logistic regression model with patient characteristics, medical history and medication prescriptions as covariates, and new antihypertensive treatment as the outcome. Subgroup analyses were undertaken by age and frailty. Of 3,834,056 patients followed for a median of 7.1 years, 484,187 (12.6%) were prescribed new antihypertensive treatment in the 12 months before the index date (baseline). Antihypertensives were associated with an increased risk of hospitalisation or death from falls (adjusted hazard ratio [aHR] 1.23, 95% confidence interval (CI) 1.21 to 1.26), hypotension (aHR 1.32, 95% CI

Study

Data from **1,256** GP practices.

Patients **over 40** with Systolic BP of 130-179 mmHg and no previous antihypertensive.

Primary outcome hospitalization and or death within 10 years or falls. Secondary outcomes hypotension, syncope, fracture AKI, gout.

Findings

Of the 3,834,056 patients followed for a median of 7.1 years, 12.6% were prescribed an antihypertensive in the 12 months before the index date.

Antihypertensives were associated with an increased risk of hospitalisations and falls.

The absolute risk was low, except in 80–89-year-olds or those with severe frailty where the risks (61 and 84 per 10,000 patients treated per year respectively) were similar to the likelihood of benefit from the antihypertensive.

Conclusion

In these populations, physicians may want to consider alternative approaches to management of blood pressure and refrain from prescribing new treatment.



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Deprescribing medicines in older people living with multimorbidity and polypharmacy: the TAILOR evidence synthesis

Joanne Reeve, Michelle Maden, Ruaraidh Hill, Amadea Turk, Kamal Mahtani, Geoff Wong, Dan Lasserson, Janet Krska, Dee Mangin, Richard Byng, Emma Wallace and Ed Ranson



To tackle problematic polypharmacy, therefore, we need data on the safety and impact of deprescribing, and a framework describing good practice. This translates into two research questions:

1. What quantitative and qualitative evidence exists to support the safe, effective and acceptable stopping of medication in older people with multimorbidity and polypharmacy?
2. How, for whom and in what contexts can the safe and effective individual tailoring of clinical decisions related to medication use work to produce desired outcomes?

Design

Our funders requested a secondary analysis of published data for this work. We therefore described the need for two distinct review methods to answer our questions and so generated three objectives for the TAILOR project:

1. to complete a robust scoping review of the literature on stopping medicines in this group to describe what is being done, where and to what effect
2. to undertake a realist synthesis review to construct a programme theory explaining the mechanisms and heterogeneity of deprescribing approaches
3. to use the findings to inform practice, research and policy.

Our inclusion criteria were:

- population – patients (aged ≥ 50 years), with polypharmacy (five or more medicines per day) and multimorbidity (two or more long-term conditions); and health-care professionals involved in deprescribing for this group
- interventions – strategy or strategies used to safely deprescribe medications in older people with multimorbidity and polypharmacy; outcomes related to effectiveness, safety and acceptability
- context – any
- study design – quantitative, observational or qualitative methodologies
- limits – from 2009 (our preliminary search identified no abstracts on deprescribing before this date), English language and no conference abstracts.

<https://pubmed.ncbi.nlm.nih.gov/35894932/>

Four potential interventional strategies to improve deprescribing practice were recognised:

1. shared decision-making (three Context-Mechanism-Outcome-Configurations (CMOCs))
2. continuity of care and development of trust (five CMOCs)
3. monitoring (four CMOCs)
4. multidisciplinary teams (three CMOCs).

Our final programme theory described/explained the components needed to reduce the cognitive/ emotional load to enable tailored (de)prescribing practice. These components were the presence of an

- **enabling infrastructure** (including clarity of professional roles, building professional skills and confidence, recognising the value of distinct generalist and specialist skills within a multidisciplinary team, supporting continuity of approach and addressing incentive structures);
- consistent access to the **high-quality** (including contextual) **data** needed for tailored decisions;
- support for the generation of **shared understanding of the meaning/purpose of medicines**, enabling tailored explanations of medicines use;
- and the **ongoing monitoring of effect** (continuity of support), contributing to establishing and maintaining trust. Our findings extend existing models of good practice by recognising the need
- to consider the impact of prescribing decisions beyond biomedical/pharmacological effects, and by demonstrating the need to include organisational/contextual factors in models of best practice.

Strategic and Policy Context

NHS Long Term Plan

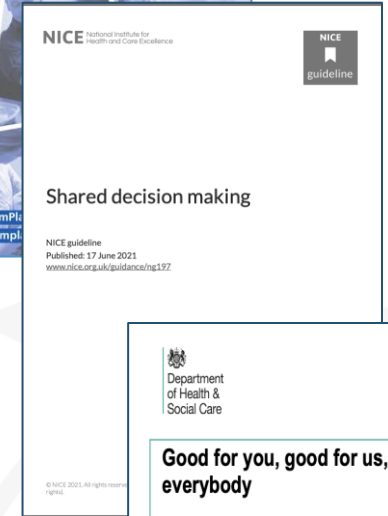
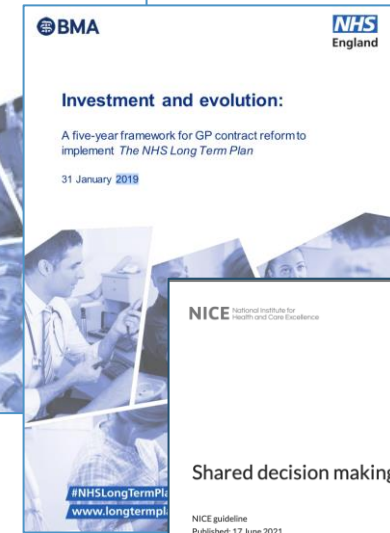
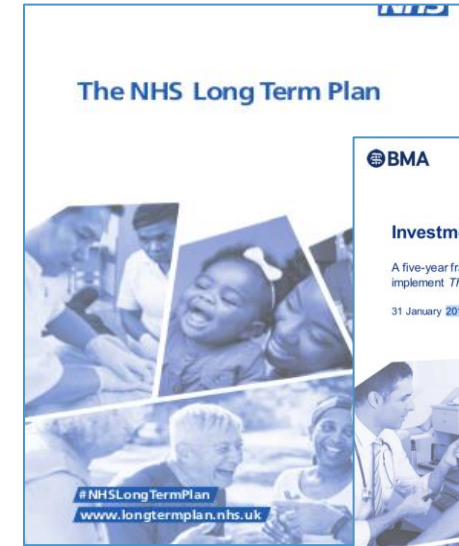
Commitment to increase the number of Pharmacists working in General Practice. Highlights the importance of Structured Medication Review (SMR)

Primary Care Networks

Funding for PCNs to secure Pharmacists

**QOF
Update**

Overprescribing review published September 2021
NICE guidance on Shared Decision Making (SDM)
published June 2021



NHS Long Term Workforce Plan

June 2023



NHS Long Term Workforce Plan: Pharmacy Background Briefing

30 June 2023

The [NHS Long Term Workforce Plan \(LTWP\)](#) sets out the next phase in the growth and development of the NHS workforce as a whole, including the important role of pharmacy professionals across all settings. This briefing provides further detail on the pharmacy workforce developments.

5. In **general practice and urgent care**, pharmacists supported by pharmacy technicians, and working more closely with community pharmacy teams, will continue to use population health techniques to case-find and see patients who need structured medication reviews. As more care moves out of hospital settings, pharmacy professionals will work in teams with their specialist colleagues in secondary care to treat more complex cases.

Network Contract Directed Enhanced Service

Contract specification 2023/24 – PCN Requirements and Entitlements

1 April 2023

8.2. Medication Review and Medicines Optimisation

8.3. A PCN is required to:

- a. use appropriate tools to identify and prioritise the PCN's Patients who would benefit from a structured medication review (referred to in this Network Contract DES Specification as a "SMR"), which must include patients:
 - i. in care homes⁵⁰;

- ii. with complex and problematic polypharmacy, specifically those on 10 or more medications;
 - iii. on medicines commonly associated with medication errors⁵¹;
 - iv. with severe frailty⁵², who are particularly isolated or housebound patients, or who have had recent hospital admissions and/or falls; and
 - v. using one or more potentially addictive medications from the following groups: opioids, gabapentinoids, benzodiazepines and z-drugs;
- b. offer and deliver a volume of SMRs determined and limited by the PCN's clinical pharmacist capacity, and the PCN must demonstrate reasonable ongoing efforts to maximise that capacity;
 - c. ensure invitations for SMRs provided to patients explain the benefits of, and what to expect from SMRs;
 - d. ensure that only appropriately trained clinicians working within their sphere of competence undertake SMRs. The PCN must also ensure that these professionals undertaking SMRs have a prescribing qualification and advanced assessment and history taking skills, or be enrolled in a current training pathway to develop this qualification and skills;
 - e. clearly record all SMRs within GP IT systems;
 - f. actively work with its CCG in order to optimise the quality of local prescribing of:
 - i. antimicrobial medicines;
 - ii. medicines which can cause dependency;
 - iii. metered dose inhalers, where a lower carbon device may be appropriate; and
 - iv. nationally identified medicines of low priority;⁵³

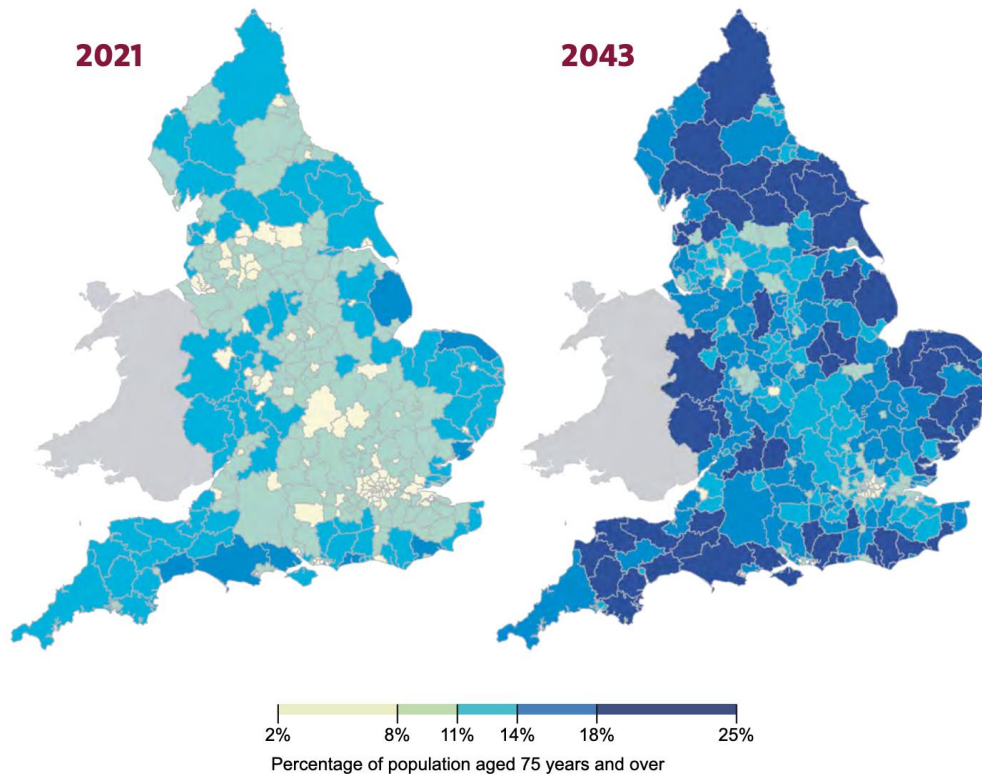
Structured Medication Reviews

- SMRs are the best tested intervention for reducing problematic polypharmacy; estimates for the percentage reduction in the number of medicines a patient is taking range between 2.7% ([Baqir et al, 2017](#)) and 9.9% ([Appendix D: Health Economics Analysis of Polypharmacy Reviews](#)).
- In care homes, SMRs can reduce the number of medicines a person takes by around 19.5% ([Baqir et al, 2017](#)).
- The [OSCAR study](#) that has looked at over 100,000 SMRs: early findings look encouraging.
- BUT important that patients understand the SMR and its purpose.

Chief Medical Officer's Annual Report 2023

Health in an Ageing Society

Executive summary and recommendations



11. Improving quality of life in older age sometimes means less medicine, not more

It is essential that all patients, but especially those in later old age, are able to have realistic discussions with their doctors about whether more treatment will improve quality of remaining life. Some treatments may extend life but at the expense of reducing its remaining quality and independence; the decision about how to balance these should be the patient's. This needs full and realistic information from their medical advisors. Examples might be major operations, or chemotherapy, or continuing drugs which have side effects and whose principal aim is to extend life, or repeated admissions to hospital. In medicine it is often easier to do more things, even when it is far from clear that quality of life will increase as a result. Over-treatment is as inappropriate as under-treatment in all patients, including older patients. Greater use of advance care plans can help avoid over-treatment especially when out-of-hours doctors and carers may be less familiar with someone's wishes.

- D) The **medical profession** needs to respond to the inexorable rise of **multimorbidity**. The single most important way to achieve this is to recommit to maintaining generalist skills as doctors specialise. **NHS** organisations also need to minimise the probability that the same person has to attend multiple clinics for a predictable cluster of diseases.

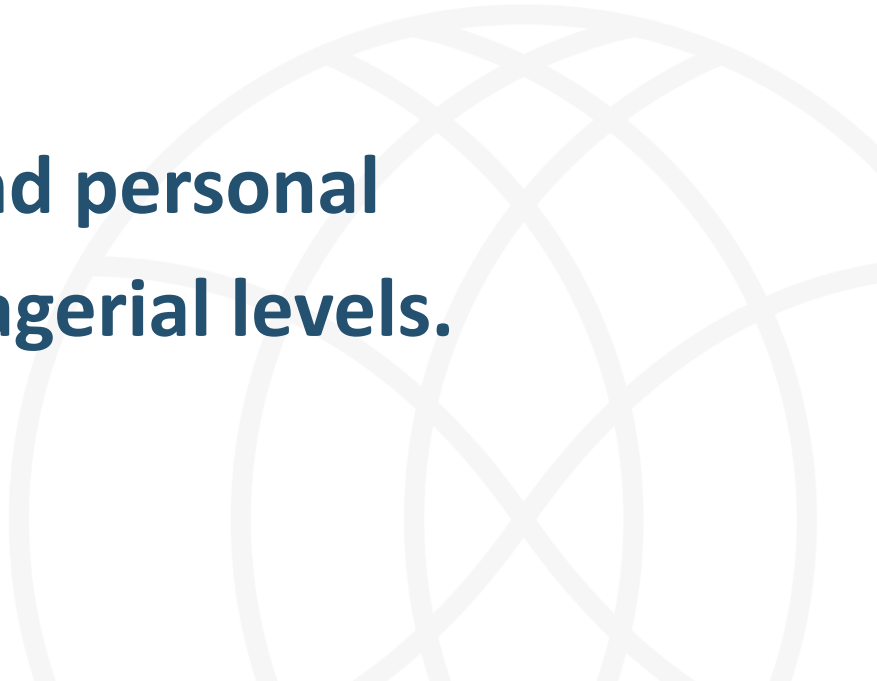
Pharmacists

Pharmacists play a key role in the care of older adults. As leaders in medicines optimisation, they reduce the risk of polypharmacy and support the safe and effective use of medicines to enable the best possible outcomes. Community pharmacists are likely to be a regular point of contact for adults with long term conditions and they provide older adults with essential care for minor ailments.

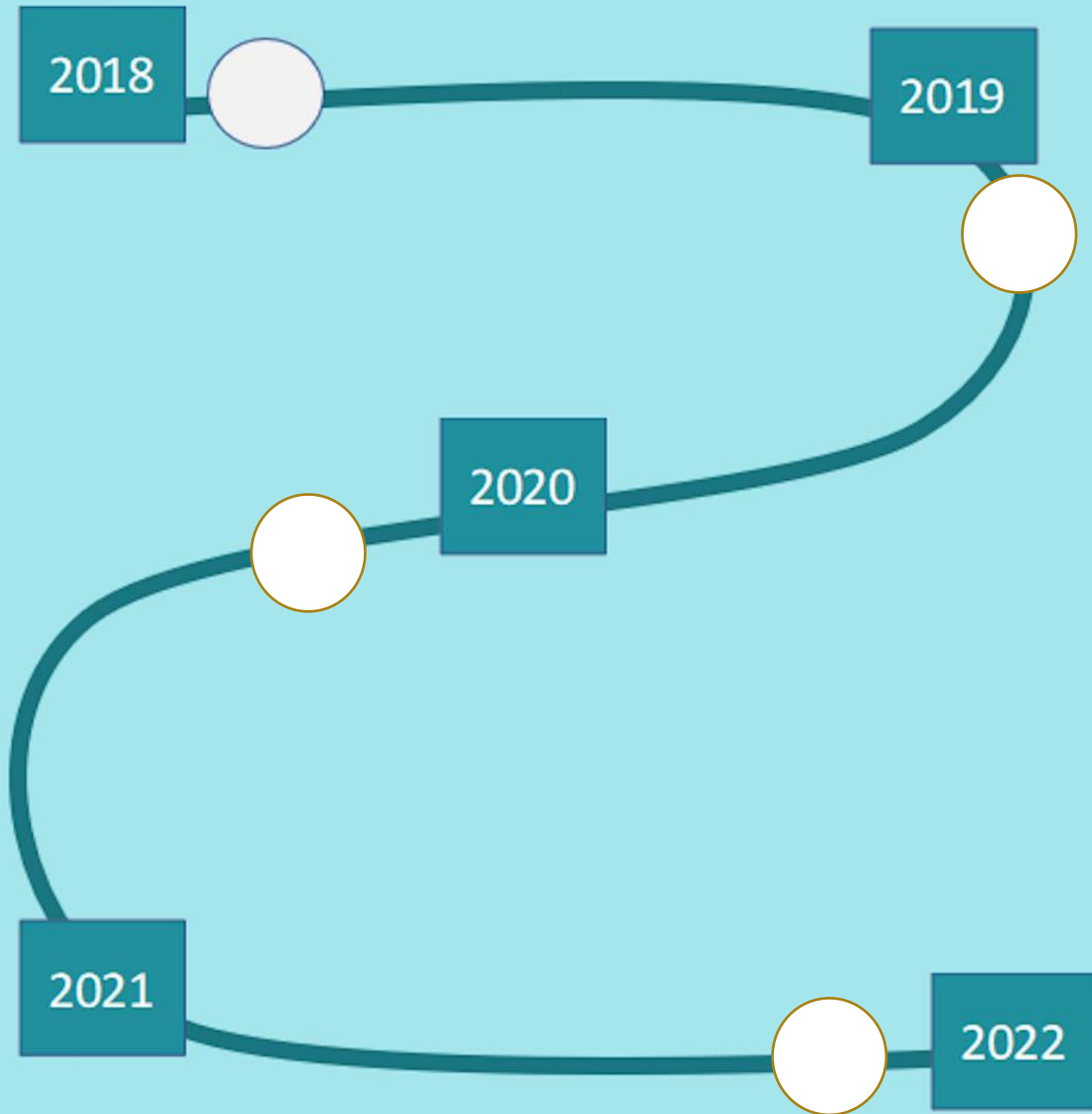
Pillar 2 Action Learning Sets

Action Learning Sets are a structured method enabling small groups to address complicated issues by meeting regularly and working collectively.

This tool is especially geared to learning and personal development at the professional and managerial levels.



Our Polypharmacy ALS Story



Year	Activity
2018	Adapt Health Foundation model: 2 pilot cohorts in Southampton
2019	Review and retest: 2 cohorts in Dorset University of Southampton Evaluation
2020	HEE South fund 9 cohorts across Wessex, Oxford, Southwest and West of England. COVID-19 move to virtual delivery.
2021	6 virtual cohorts: feedback shows positivity and outcomes maintained. Harder to deliver for facilitators but reach increased.
2022	AHSN National Polypharmacy Programme: scale up ALS Findings published in <i>BMC Medical Education</i> 2022

Aims and Objectives

These action learning sets were originally based on a model of work funded by the Health Foundation in Yorkshire and Humber. We have built on the work over the last four years and the independent evaluation led to HEE commissioning us to run 6 new cohorts in 2021 and 6 more in 2022. They are now part of a national scaleup program.

This work aims to get a better understanding of why medicines that are not clinically appropriate aren't always stopped and provide support for **GPs and Pharmacists conducting polypharmacy medication reviews.**

We aim to

1. **Understand** from delegates the barriers (practical and cognitive) to systematically stopping medicines that are no longer warranted in older patients.
2. **Explore** with delegates how we can address some of these barriers within General Practice and support better medication reviews.
3. Provide a **deeper understanding** of shared decision making and how to incorporate this into all medication reviews (especially for older people with multimorbidity)
4. **Outline** some of the many **tools** available to help prescribers to conduct successful medication reviews and test if the eLearning for high-risk medicines is useful
5. **Replicate** the impact already shown in the Southampton University Independent Evaluation

Supports recommendations 16 and 18 of NOR (education and training, data science)

Polypharmacy Action Learning Sets



DAY 1

What is Polypharmacy?
Seeing this through the patient's eyes.
Group work: Medicines you are confident and not confidence to stop.
Exploring personal and structural barriers to stopping medicines.



DAY 2

Review of session 1
Share your findings from medication reviews.
Theory: Shared Decision Making
Tools to help- what's out there?



DAY 3

Review of session 2
How was SDM for you?
Group work to look at actual med reviews, what went well and what can be done better?
Support from Community Care of the Older Person Consultants and experienced Pharmacists.
What are the gaps? Pathways.

QI
project
and
Poster

Homework -
Back at base

Undertake a
medication review

Carry out a shared
decision-making
medication review.

Complete post
workshop
questionnaire



RESEARCH

Open Access



Evaluating the impact of a polypharmacy Action Learning Sets tool on healthcare practitioners' confidence, perceptions and experiences of stopping inappropriate medicines

Cindy Faith Brooks^{1*}, Anastasios Argyropoulos², Catherine Brigitte Matheson-Monnet³ and David Kryl¹

Abstract

Background: Issues of medication adherence, multimorbidity, increased hospitalisation risk and negative impact upon quality of life have led to the management of polypharmacy becoming a national priority. Clinical guidelines advise a patient-centred approach, involving shared decision-making and multidisciplinary team working. However, there have been limited educational initiatives to improve healthcare practitioners' management of polypharmacy and stopping inappropriate medicines. This study aimed to evaluate the impact of a polypharmacy Action Learning Sets (ALS) tool across five areas: i. healthcare practitioners' confidence and perceptions of stopping medicines; ii. knowledge and information sources around stopping medicines; iii. perception of patients and stopping medicines; iv. perception of colleagues and stopping medicines and v. perception of the role of institutional factors in stopping medicines.

Methods: The ALS tool was delivered to a multi-disciplinary group of healthcare practitioners: GPs [$n = 24$] and pharmacy professionals [$n = 9$]. A pre-post survey with 28 closed statements across five domains relating to the study aims [$n = 32$] and a post evaluation feedback survey with 4 open-ended questions [$n = 33$] were completed. Paired pre-post ALS responses [$n = 32$] were analysed using the Wilcoxon signed-rank test. Qualitative responses were analysed using a simplified version of the constant comparative method.

Results: The ALS tool showed significant improvement in 14 of 28 statements in the pre-post survey across the five domains. Qualitative themes (QT) from the post evaluation feedback survey include: i. awareness and management of polypharmacy; ii. opportunity to share experiences; iii. usefulness of ALS as a learning tool and iv. equipping with tools and information. Synthesised themes (ST) from analysis of pre-post survey data and post evaluation feedback survey data include: i. awareness, confidence and management of inappropriate polypharmacy, ii. equipping with knowledge, information, tools and resources and iii. decision-making and discussion about stopping medicines with colleagues in different settings.

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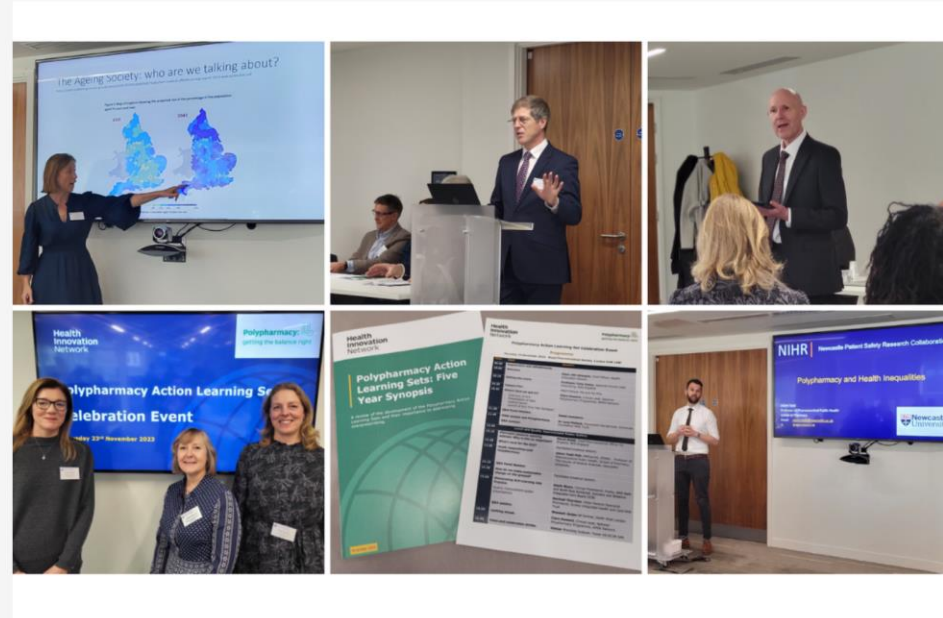


Polypharmacy Action Learning Sets: Five Year Synopsis

A review of the development of the Polypharmacy Action Learning Sets and their importance to addressing overprescribing.

November 2023

Celebrating five years of Polypharmacy Action Learning Sets



GPs, pharmacists and geriatricians from across the country gathered at the Royal Pharmaceutical Society in London on 23 November to celebrate five years since the launch of the Polypharmacy Action Learning Sets, an evidenced-based education approach to upskill primary care in addressing problematic or unnecessary polypharmacy in their patients.

Speakers included Professor Tony Avery, NHS England's National Clinical Lead for Prescribing; Dr Lucy Pollock, Consultant Geriatrician at Somerset NHS Foundation Trust and author of 'The Book About Getting Older'; David Webb, NHS England's Chief Pharmaceutical Officer; Adam Todd, Professor of Pharmaceutical Public Health at Newcastle University; and Clare Howard, Clinical Lead for the Health Innovation Network's national Polypharmacy programme.

News and events

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Related links

> [National Polypharmacy Programme](#)

> [Polypharmacy Action Learning Sets report](#)

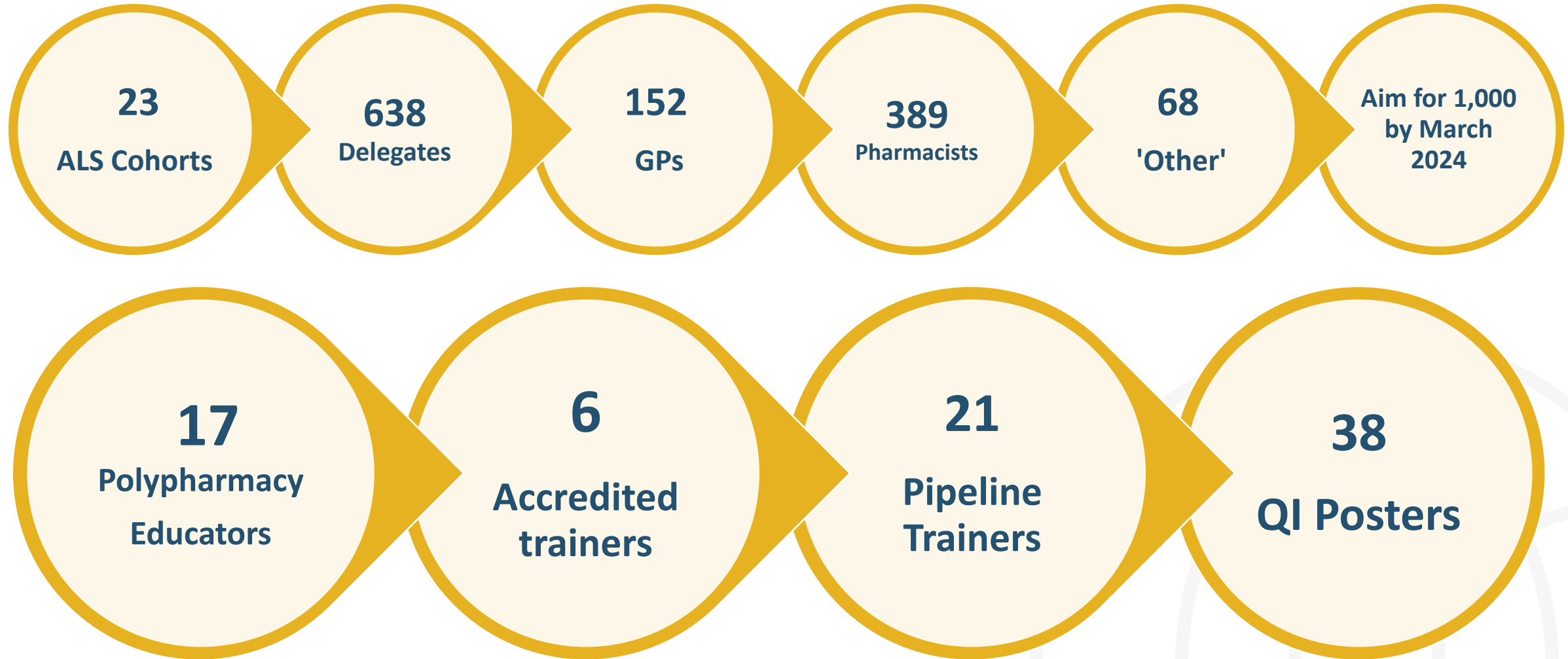
> [Polypharmacy QI posters](#)

> [Polypharmacy Action Learning Sets short film](#)

> [Register interest to join a Polypharmacy Action Learning Set](#)

> [West of England Polypharmacy](#)

Impact to date & 23/24



ALS 5 Years - what have we learnt?

Health
Innovation
Network

Polypharmacy Action Learning Sets: Five Year Synopsis

A review of the development of the Polypharmacy Action Learning Sets and their importance to addressing overprescribing.

November 2023

Barriers to deprescribing and contributors to over prescribing.

Peer support helps.

Language matters.

Geriatricians rock!

This type of support is leading to change.

Train the trainer model.

Its all about the patient and what matters most to them.

Barriers to stopping medicines



Personal barriers

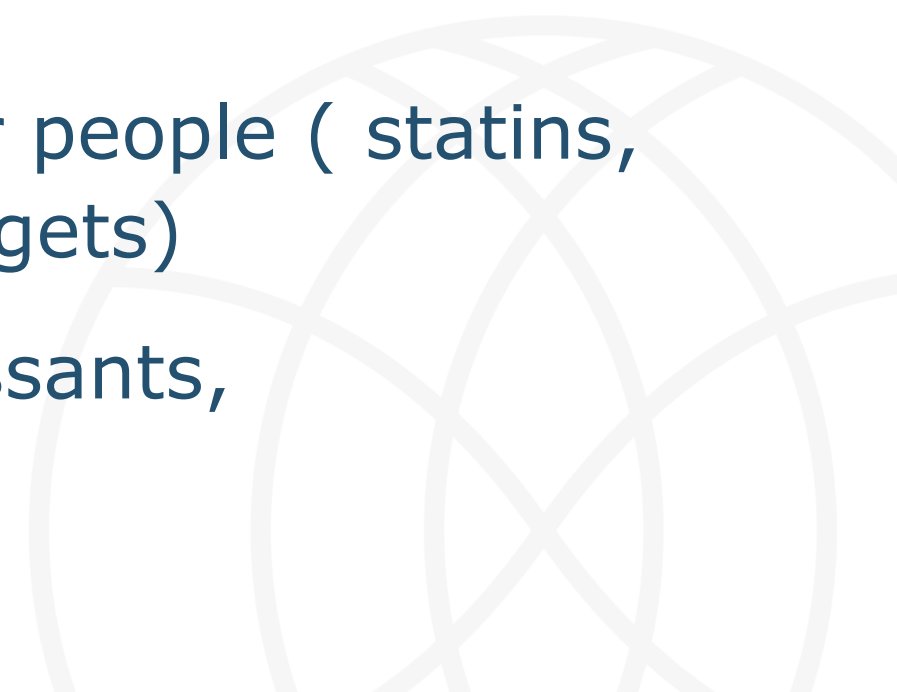
- Confidence to stop
- Time pressures
- Resources
- Patient expectations
- Different healthcare professionals to stop medicines have different priorities re stopping medicines
- Not confident in all areas
- Pressure patient/carers
- Lack of evidence
- Worry about causing harm
- Time to think and do it well
- Difference of opinion with/to colleagues
- Lack of knowledge/information resource
- Specific medications – potential harm
- Not really knowing what patient is doing with their medications
- Records: Why drug started? Working in the dark
- Repeat processes
- Time: medication reviews 'hijacked'
- Fear of causing harm: stop medications and then an event happens/peers wouldn't support your decision
- Fear of litigation
- Individual's knowledge – so much to keep up to date with



Environmental barriers

- **Transfers of Care -medicines reconciliation**
- **Aging population with multi morbidities**
- QOF. Targets driving action
- Lack of time
- Lack of expertise/evidence
- Fear of consequences
- Lack of process in primary care
- Patient expectations/Family pressure
- High proportion of nursing homes
- Multiple prescribers for 1 individual
- Conflicting information – quality/source
- Specialist prescribing
- Training needs – both existing and new pharmacists
- Electronic tools/different IT tools
- Pain prescribing and pathways
- Checklist prescribing
- Single condition focus
- Blame game
- Medical advancement – more and more drugs
- Patient Confidence – multiple clinicians – patient confusion
- Communication pathways
- Prescriber confidence
- Media influences

Top “challenging” therapeutic topics that delegates highlight

- Managing **pain** in older people (Opioids and NSAIDs)
 - Managing **Heart Failure** in frail older people (pts unable to tolerate the number and side effects of the 4 pillars)
 - **Cardiovascular disease** in frail older people (statins, Hypertension, anticoagulants, QoF targets)
 - **Mental Health** - stopping Antidepressants, Antipsychotics, Dementia medicines
- 

<https://gpevidence.org/>

268. IMPACT April 2023 3.0



GP EVIDENCE

Conditions

AF

Atrial Fibrillation

CHD

Coronary Heart Disease

CKD

Chronic Kidney Disease

COPD

Chronic Obstructive Pulmonary Disease

Gout

Gout

HF-PEF

Heart Failure with Preserved Ejection Fraction

HF-REF

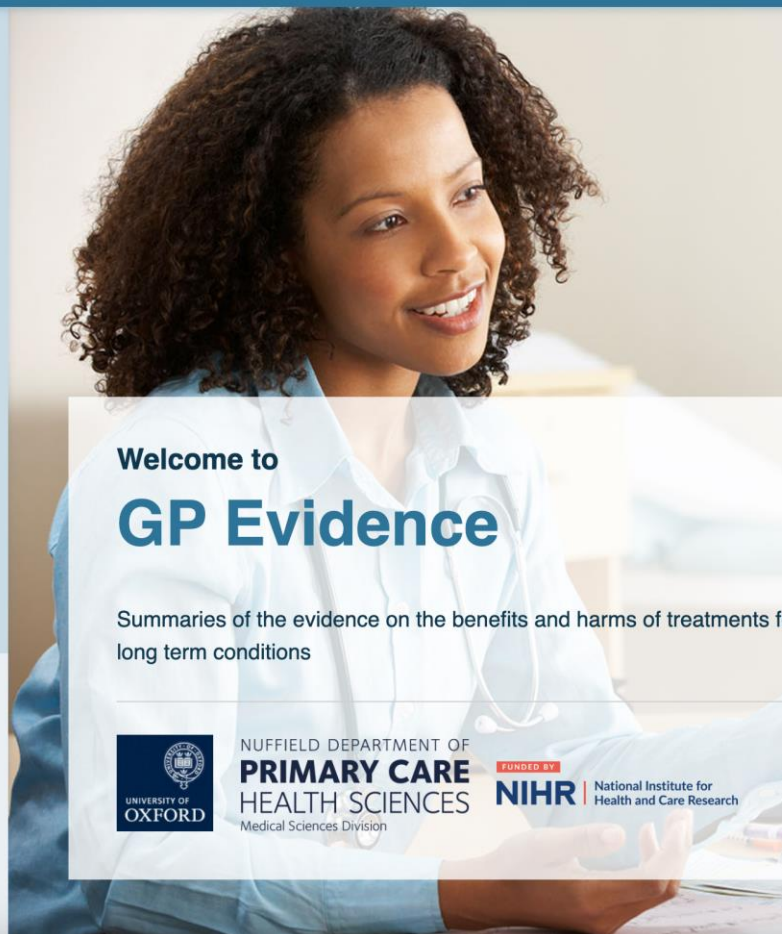
Heart Failure with Reduced Ejection Fraction

Hypertension

Hypertension

Lipids

Lipid lowering to prevent



Welcome to

GP Evidence

Summaries of the evidence on the benefits and harms of treatments for long term conditions



NUFFIELD DEPARTMENT OF
PRIMARY CARE
HEALTH SCIENCES
Medical Sciences Division



National Institute for Health and Care Research

IMPACT - Improving Medicines and Polypharmacy Appropriateness Clinical Tool

This bulletin provides suggestions for consideration by commissioning organisations and clinicians to optimise medicines use, and provide practical advice (where it is available) about how to safely stop/discontinue/withdraw a medicine and issues to consider. For person-centred care, clinicians should ask people what matters to them so that their treatment and care can be personalised. A discussion about medicines benefits and risks and possible consequences of different options should take place with the person to enable shared decisions with them about whether to continue or stop a medicine. If it is decided that therapy is appropriate, it should be continued. Where it is decided to stop a medicine because the risk of continuing outweighs the benefit to the patient, the information in this bulletin can be used as a practical decision aid, in conjunction with other relevant, patient specific data.



Geriatricians rock!

- “The moment I saw the work the Action Learning Set team were doing I wanted to be part of it. Supporting GPs and prescribers to put their patients at the centre of their decisions, to understand patients’ goals, to be honest about uncertainty, side effects and unwanted medicine and to recognise good medicines too - wow what a goal! This project is all about improving the lives of patients and prescribers and I love it”. **Dr Lucy Pollock, Consultant Geriatrician, Somerset Foundation NHS Trust.**
- “I love to contribute to the ALS teachings because I know our older patients often are subjected to polypharmacy and suffer the associated side effects. Also, it is clear to me that clinicians very often lack confidence to deprescribe and don't feel they know how to go about it. I have learned much in the sessions myself, by sharing experiences with others and listening to their own anecdotes. I always say that deprescribing is one of the few areas where we have control and can make a definite difference. Many other problems in our patients are irreversible and progressive but we CAN stop medication that has or can become harmful”. **Dr Ana Phelps, Consultant Geriatrician working at Buckinghamshire Healthcare NHS Trust**
- “I am very passionate about highlighting the negative effects of polypharmacy and the consequence to patients' quality of life. This is a fantastic forum of ideas and discussion to socialise the principles of deprescribing and drive a better future for our patients”. **Dr Robin Fackrell, Consultant in Geriatric and General Medicine, Royal United Hospitals Bath NHS Foundation Trust**

Delegates feedback

"The learning action set was brilliant. The discussion groups were particularly useful for sharing experiences and learning. The provision of resources was also helpful. I feel more confident to apply my learning and champion deprescribing in polypharmacy."

"I found the Action Learning Sets very useful, there really is nowhere else for GPs to get this kind of training. For me, it really highlighted the global issue around polypharmacy and the tools and resources that are available for GPs and their teams to get this right for our patients."

"Wonderful interactive discussions around polypharmacy barriers and useful pointers for how to overcome in practice. Day 3 with the geriatricians was especially beneficial to provide insight to problems around pressure to work to targets in general practice."

"I found the group discussions where we discussed actual cases particularly helpful. Getting support on my own cases and also hearing how others have managed theirs.

[It was] also reassuring to know that many of the reasons I struggle with deprescribing are reflected by other prescribers."



Its all about patients and what matters most

- Patient films
- Patient stories
- Montgomery case law
- Medication reviews
- Health inequalities



UNIVERSITY OF LEEDS



Montgomery vs Lanarkshire Health Board: background

- Nadine Montgomery's son was born with cerebral palsy as a result of shoulder dystocia during birth.
- Mrs Montgomery was around five feet tall, and was also diabetic, which often results in a larger foetus. She had raised concerns that her baby might be too big to be delivered vaginally, but had not asked about 'exact risks'.
- Evidence showed a 9-10% risk of dystocia where a diabetic woman gives birth via vaginal delivery, but Mrs Montgomery wasn't warned of the risk of shoulder dystocia, or offered a caesarean section as an alternative.
- The treating obstetrician felt that if Mrs Montgomery was told of the risk she would opt for a caesarean, and didn't believe this was in her best interest.
- It was accepted that shoulder dystocia can cause serious complications for mother and baby but also accepted that the risk of cerebral palsy was low, at around 0.1%.
- Mrs Montgomery claimed for negligence, arguing she should have been told of all the risks.
- She was awarded over £5 million in damages, after an appeal went to the Supreme Court.

What are health inequalities?

Health inequalities Public health Equality and diversity

Pillar 3: Year 2 National rollout of patient-facing resources to prepare patients for a Structured Medication Review (SMR) – launched 23 September 2023

386 Downloads September (557 to date)

Text box for GP practice name and address

NHS

Dear <name of patient>

Reviewing your medicines

The practice is running a new service to help you with your medicines - this is called a medication review.

A medication review is a chance to check that your medicines are the best ones for you.

What will happen at the review?

- You will have a face-to-face appointment or telephone call with the practice pharmacist or GP.
- They will check your medicines are working - and not causing side effects.
- It is also a chance for you to tell us how you are getting on with your medicines - and to ask questions and find out more about them.

Why are we doing this?

We are doing this to make sure that your medicines are the right ones for you.

- The purpose of the review is not to save money.
- Also it is not to check if you are taking your medicines.

No medicines will be altered without agreement between you and the pharmacist or GP.

What happens next?

We will contact you to make an appointment to speak with the practice pharmacist or the GP at the practice or over the telephone.

- The pharmacist or GP will explain what your medicines are for.
- They will check if any changes to your medicines are needed.
- There will also be a chance to have your questions answered.

If someone helps you with your medicines, it may be helpful for them to be with you when you speak to the practice pharmacist.

On the other side there are some questions you might want to ask about your medicines at the appointment. >>>

Text box for name and signature

NIHR Yorkshire and Humber Patient Safety Research Collaborative | ageUK | TheAHSNNetwork

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NHS

Questions to think about before the appointment that you may wish to ask

- Why am I taking these medicines?
- How do I know they are helping me?
- Do I still need all my medicines?
- Why do I have to take so many pills?
- What side effects do they cause?
- It is difficult for me to open the containers - can you help with this?
- It is difficult to remember to take my medicines - can you help with this?
- It is difficult to swallow my medicines - can you help with this?
- I run out my medicines at different times - can you make this the same time for all of them?

See other language versions >>>

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NHS

Safely stopping your medicine

Today we have agreed that you should stop your medicine:

- This side of the leaflet outlines what to do when stopping this medicine.
- The other side has information if you need to stop gradually.

Keep a copy of this with you - and show it to anyone you see about your health.

Why we have agreed to stop this medicine

Medicines should only be used when they benefit you. In your case, we have agreed the benefits of this medicine are less than the risk of side effects caused by it.

What might I notice and what should I do?

Most people do not notice any difference after stopping. But do keep watching for any changes in your condition.

Minor symptoms

- Continue as agreed and keep watching for any changes in your condition.
- Talk to your practice pharmacist about these symptoms at your next appointment.

Major symptoms

- Call your practice straight away for help or call 111 if after hours.
- Severe symptoms - call 999 for help.

How will I stop this medicine?

- Stop taking your medicine straight away from:
- Stop taking your medicine gradually - see the other side of this leaflet.

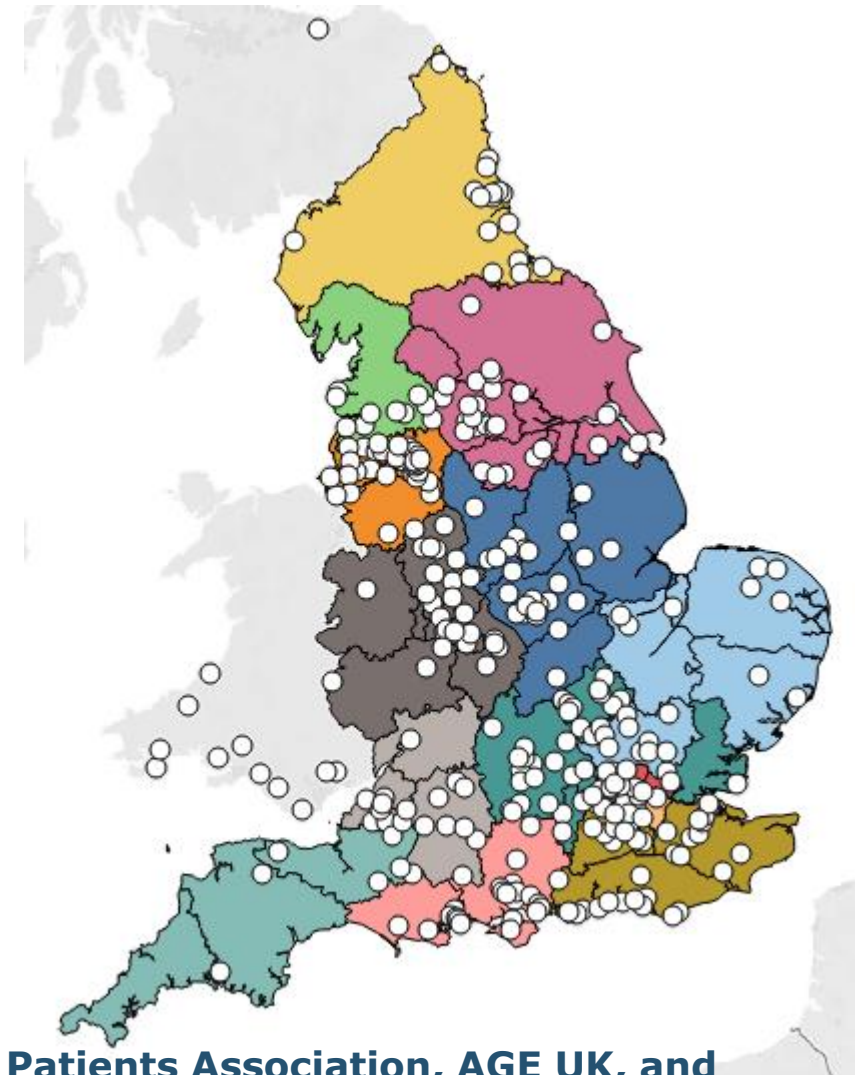
What should I do next?

Your next appointment is:

If you need to speak to somebody before ring and ask for:

NIHR Yorkshire and Humber Patient Safety Research Collaborative | ageUK | TheAHSNNetwork

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NHS

Preparing for a Medication Review

Direction: This Page text: "Preparing for a medication review"

3

Direction: Panning shot of terrace street, showing characters in the window taking medicines.

4

Voiceover: In some cases, medicines that were started in mid-life may not be suitable as we enter older age.

5

Voiceover: Sometimes taking lots of different medicines can make you feel unwell.

Direction: As the woman sits down, she ages (hair and clothes change) and the furniture in the room becomes more modern (but stays in exactly the same place).

Direction: The camera zooms in to the character and the background changes to outside.

[Including a patient animation](#)
[West of England AHSN](#)
[\(vimeo.com\)](https://vimeo.com)

Resources hosted/promoted by NHSE, Patients Association, AGE UK, and PRESQUIPP so far

This type of support is leading to change

REDUCING ANTICHOLINERGIC BURDEN (ACB)

BACKGROUND

There is increasing evidence that medicines with anticholinergic effects increase the risk of:

- cognitive impairment
- falls
- all-cause mortality in older people.

Risks appear cumulative, with people taking more medicines with anticholinergic activity i.e. higher anticholinergic burden (ACB), being at higher risk.

SUPPORTING MATERIALS

Patient Information Leaflet on risks of anticholinergic medicines

ACB calculator template & protocol written & published to all BSW SystmOne practices

- Calculates ACB score based on repeat templates
- Records ACB score with read code

METHODS

Since 2020 BSW ICB has included projects to reduce ACB in our annual Prescribing Incentive Scheme.

- Review of strongly anticholinergic drugs for Over Active Bladder for highest risk groups.
- Education sessions on ACB risks for prescribers.
- "Deprescribing Champion" GP in each practice
- Calculating & recording ACB scores in Structured Medication Reviews (SMRs)

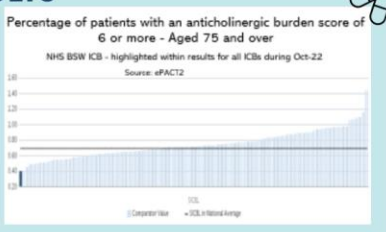
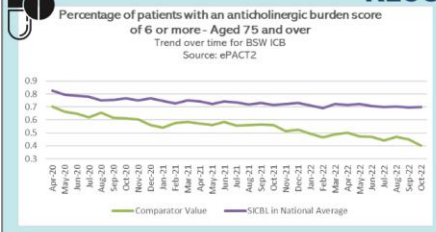


Bath and North East Somerset, Swindon and Wiltshire Integrated Care Board

What you need to know about anticholinergic medications



RESULTS



www.bswtogether.org.uk

When Less is More: Deprescribing Proton Pump Inhibitors

January 2023

Wessex Southern Health Science Network

Dr Priti Kadoo – Frailty Hub GP Surrey

Introduction:

- PPIs are one of the most commonly prescribed medications
- Effective and generally safe for the symptomatic management of acid-mediated gastrointestinal disorders.
- But increasingly being used for long periods, often without a proper indication for their use.
- Use linked to increased risk of fractures, pneumonia, enteric infections, vitamin and mineral deficiencies, and acute interstitial nephritis, particularly among older people who make up the largest proportion of PPI users, amongst other possible side effects.
- When an ongoing indication is unclear, the risk of side effects could outweigh benefit.
- Several algorithms exist to aid deprescribing

Side effects associated with PPIs

Outcomes:

- Case 1: CB 85yr → 5yrs GORD on 2 PPI, no OGD – arranged – NAD – stopped 1 PPI (1 remained for ticagrelor cover)
- Case 2: AS 96yr → on PPI since 2019, no ulcer, contributing to ACB (falls / confusion) trial off PPI 1/12
- Case 3: JC 84 → admitted asymptomatic renal failure – stopped PPI → renal function normal.
- Case 4: MK 94 → on PPI since 2003 for GORD, also HF/ AF/ CKD. Recent hyponatraemia – switched PPI to famotidine – improved na+
- Case 5: EF 85 → on PPI for 20yrs +, GORD, stopped PPI

References:

- https://deprescribing.org/wp-content/uploads/2018/08/ppi-deprescribing-algorithm_2018_En.pdf
- <https://www.primaryhealthcare.com.au/wp-content/uploads/2018/09/A-Guide-to-Deprescribing-Proton-Pump-Inhibitors-2019.pdf>
- <https://www.cureus.com/articles/50133-adverse-effects-associated-with-proton-pump-inhibitor-use>
- <https://www.acbcalc.com/>

ACB Contribution to Anticholinergic Burden

Proton Pump Inhibitors

Conclusion:

- Action learning sets aid awareness & importance of polypharmacy & deprescribing
- Increased awareness in the importance of deprescribing PPI medications
- Many possible side effects of PPI, particularly in long term use & in older adults
- Resources available to support deprescribing
- Focussed medication reviews are possible within current consultation times.
- This process has changed my practice which has improved patient care.
- Most patients were keen to reduce their medication burden & active shared decision making occurred.

ALWAYS THINK – WHY IS THIS PATIENT TAKING A PPI?



Polypharmacy QI Posters

Programme(s):
Medicines Optimisation

The AHSN Network [Polypharmacy Programme](#) is working with healthcare professionals to address problematic polypharmacy by supporting easier identification of patients at potential risk from harm from multiple medications.

Our evidence-based polypharmacy Action Learning Sets (ALS) are being rolled out across England to support GPs, pharmacists and other healthcare professionals who undertake prescribing or medication reviews to understand the complex issues around stopping inappropriate medicines safely.

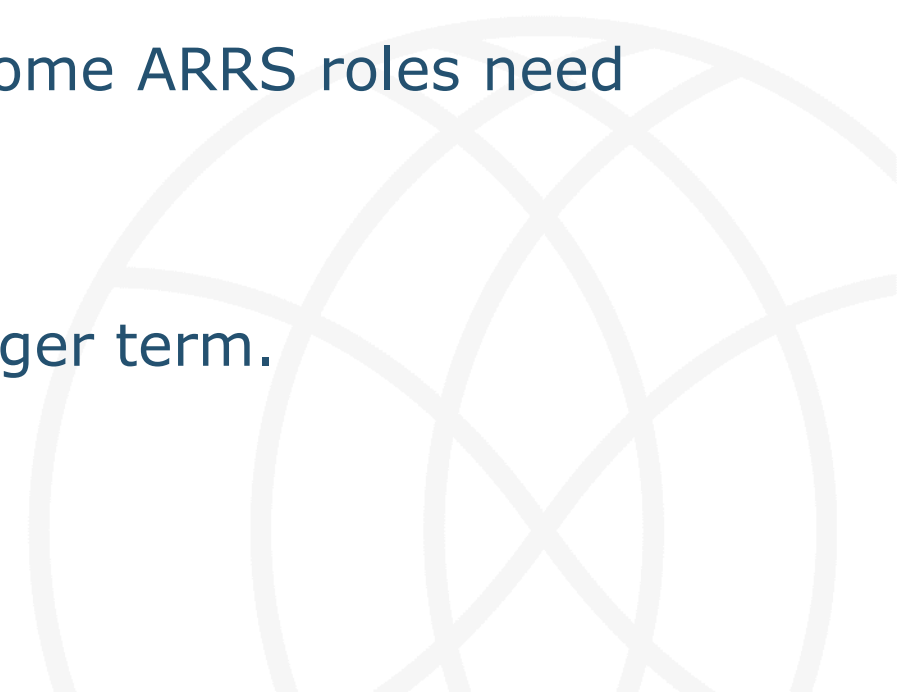
To drive and accelerate changes in practice, delegates complete a quality improvement project to address problematic polypharmacy in their workplace. These quality improvement poster summaries can be viewed in SlideShare via the links below, or downloaded directly from the Resources section to the right.

View on SlideShare:

[Audit of care home medication reviews](#)

View the posters online at:
<https://healthinnovationwessex.org.uk/projects/606/polypharmacy-qi-posters>

So, what have we learnt?

- Confidence to stop medicines is a significant issue
 - Shared Decision Making is the key
 - Primary care has the data and the tools but both clinicians and patients need a lot more support to do this well.
 - Geriatricians see the impact of overprescribing and are essential to support primary care (ICBs)
 - PCNs are hugely variable in their make up and some ARRS roles need much more support
 - We need to engage secondary care in this.
 - Funding to carry on needs to be secured and longer term.
 - We need a deprescribing network.
- 

What about polypharmacy and Health Inequalities ?

Iqbal et al. *BMC Geriatrics* (2023) 23:149
<https://doi.org/10.1186/s12877-023-03835-z>

BMC Geriatrics

RESEARCH

Open Access

Are there socioeconomic inequalities in polypharmacy among older people? A systematic review and meta-analysis

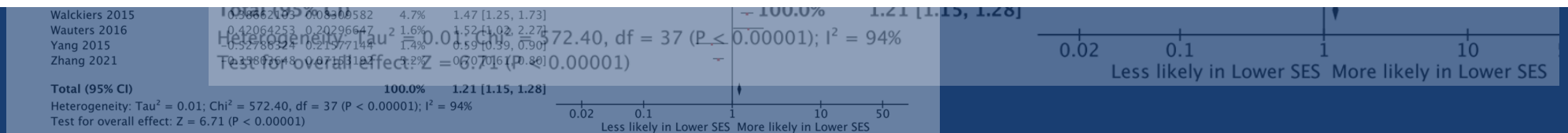


Anum Iqbal^{1*}, Charlotte Richardson², Zain Iqbal³, Hannah O'Keefe⁴, Barbara Hanratty⁵, Fiona E. Matthews⁵ and Adam Todd²



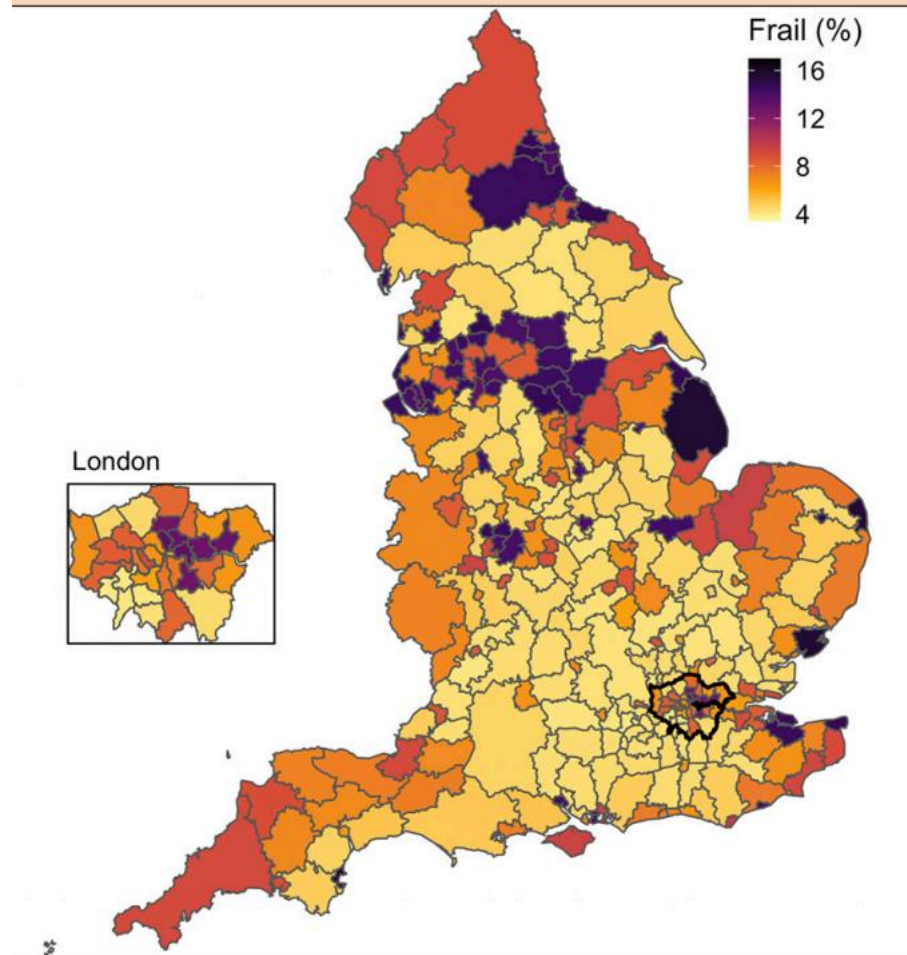
Study or Subgroup	log[Odds Ratio]	SE	Weight	Odds Ratio	Odds Ratio
				IV, Random, 95% CI	IV, Random, 95% CI
Aljawadi 2022	0.19366572	0.08061203	4.8%	1.21 [1.04, 1.42]	
Almeida 2017	-0.34031996	0.39234405	0.5%	0.71 [0.33, 1.54]	
Al-Qerem 2018	0.3383258	0.36098621	0.6%	1.40 [0.69, 2.85]	
Aoki 2017	0.45497948	0.20777268	1.5%	1.58 [1.05, 2.37]	
Badawy 2020	0.42322362	0.19376859	1.7%	1.53 [1.04, 2.23]	
Bazargan 2017	0.43840926	0.28639608	0.9%	1.55 [0.88, 2.72]	
Bui 2021	-0.31643149	0.17594658	2.0%	0.73 [0.52, 1.03]	
Carmona-Torres 2018	0.47374587	0.04439405	6.5%	1.61 [1.47, 1.75]	
Chakrabarti 2015	0.20113757	0.11875716	2.2%	1.22 [1.07, 1.39]	

People living with lower educational backgrounds were 21% higher likely to be in receipt of polypharmacy compared to those with higher educational backgrounds



Frailty and Deprivation

Figure 3. Estimated prevalence of frailty among people aged over 50 in each local authority district in England, 2020



There are widespread geographic inequalities in healthy ageing in England, with older people in urban and coastal areas disproportionately frail relative to those in rural and inland areas.

Interventions aimed at reducing inequalities in healthy ageing should be targeted at urban and coastal areas, where the greatest benefit may be achieved.

Journal of Frailty Aging 2022;11(2)163-168
file:///Users/clare/Downloads/jfa.2021.55.pdf

The Polypharmacy ALS <https://vimeo.com/852300976>





Limited spaces

Polypharmacy Action Learning Set (ALS)

9:30am – 12pm noon; 10, 17 and 31 January 2024

Join our Polypharmacy ALS to understand and build your confidence in the complex issues surrounding stopping inappropriate medicines safely.

This course is for GPs and other primary care prescribers located in the Wessex, Oxford, West of England and South West health innovation network regions. **Delegates must attend all three sessions.**

The Polypharmacy ALS will also help Primary Care Networks to deliver the medicines optimisation elements of the Directed Enhanced Services contract, and contributes to the Quality and Outcomes Framework (QOF).

Find out more and book now:

PolypharmacySouthALS-Jan24.eventbrite.co.uk



Health Innovation
Wessex



Health Innovation
West of England



Health Innovation
Oxford & Thames Valley



Health Education England



Limited spaces

Polypharmacy Action Learning Set (ALS)

9:30am – 12pm noon; 21 February, 13 and 27 March 2024

Join our Polypharmacy ALS to understand and build your confidence in the complex issues surrounding stopping inappropriate medicines safely.

This course is for GPs and other primary care prescribers located in the Wessex, Oxford, West of England and South West health innovation network regions. **Delegates must attend all three sessions.**

The Polypharmacy ALS will also help Primary Care Networks to deliver the medicines optimisation elements of the Directed Enhanced Services contract, and contributes to the Quality and Outcomes Framework (QOF).

Find out more and book now:

PolypharmacySouthALS-Feb24.eventbrite.co.uk



Health Innovation
Wessex



Health Innovation
West of England



Health Innovation
Oxford & Thames Valley



Health Education England



Limited spaces

Action Learning Sets

28 March, 11 April and 25 April

We invite you to join our Action Learning Sets (ALS) to help build GP and prescribing health care professionals confidence in the complex issues surrounding stopping inappropriate medicines safely.

The ALS will also help PCNs deliver the Medicines Optimisation elements of the Directed Enhanced Services and Investment and Impact Fund contracts.

Delegates will need to attend all three sessions.

Find out more and book now:

<https://events.weahsn.net/>

PolypharmacyActionLearningSetCohort14

Health Innovation
Network

Polypharmacy: 
getting the balance right



Limited spaces

Action Learning Sets

6 March, 20 March and 3 April 2024

We invite you to join our Action Learning Sets (ALS) to help build GP and prescribing health care professionals confidence in the complex issues surrounding stopping inappropriate medicines safely.

The ALS will also help PCNs deliver the Medicines Optimisation elements of the Directed Enhanced Services and Investment and Impact Fund contracts.

Delegates will need to attend all three sessions.

Find out more and book now:

www.events.weahsn.net/

PolypharmacyActionLearningSetCohort13

Health Innovation
Network

Polypharmacy: 
getting the balance right