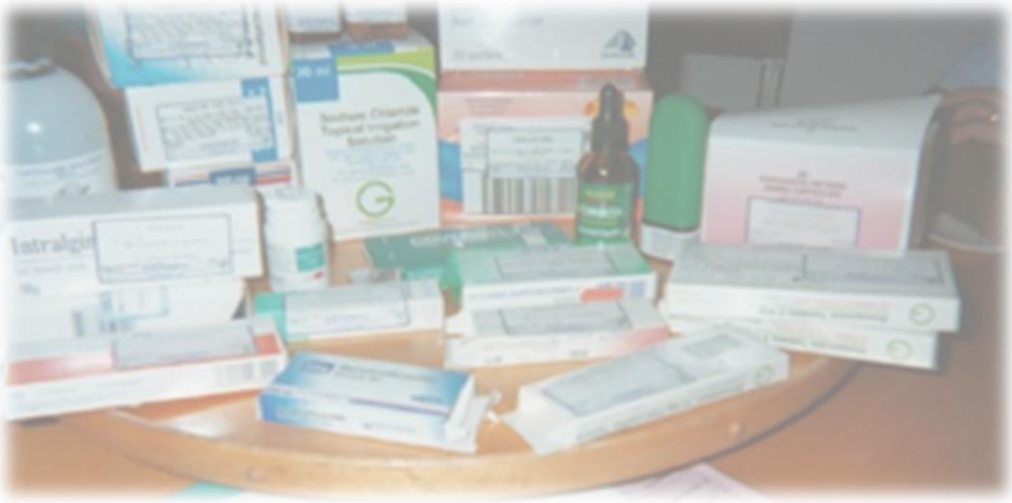
Personalised evidence-based medicine to minimise polypharmacy Part 1

Lelly Oboh, Consultant Pharmacist (Care of Older People), NHS Specialist Pharmacy Service
Rakhi Aggarwal, Primary Care Lead, NHS Specialist Pharmacy Service

Dedicated to Professor Nina Barnett FRPharmS 1965-2023 who championed and modelled patient centred care in pharmacy.

Truly, one of the best of us!

Overview



- Polypharmacy basics
- Problematic polypharmacy and overprescribing – Wicked problems!
- Interventions to tackle problematic polypharmacy -SMR
- The Principles – A patient-centred, evidence-based approach
- The SMR Process - Resources, tools, guidance and tips
- Personalising research evidence –Shared decision making
- Questions and Reflections

Useful terms

Polypharmacy

The concurrent use of multiple medications by one individual

Problematic Polypharmacy

Multiple medications are prescribed inappropriately, or where the intended benefit of the medication is not realised

Kings Fund 2013

Overprescribing

Use of a medicine where there is a better non-medicine alternative OR use is inappropriate for that patients' circumstances and wishes

National Overprescribing Review (NOR) Report 2021

Deprescribing

The **complex** process required for the safe and effective cessation (withdrawal) of inappropriate medication. Takes into account the patient's physical functioning, co-morbidities, preferences and lifestyle

DTB 2014;52:25, *DTB 2016;54:69-70*

Older people and polypharmacy

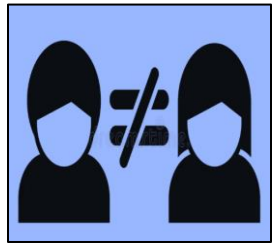
- Ageing population with over 85yrs doubled by 2045
- 10% people over 65yrs and up to 50% over 85yrs live with **frailty**

- Increased healthcare costs
- 30-50% non-adherence
- Inefficiencies

- **30%** of over 65yrs currently in hospital today will die within 12 months *Clark D 2014*
- Average life expectancy in severe frailty <3.5yrs *Herr M et al 2017*, care homes residents 1-2yrs *BGS 2020*

- Increased drug waste £300m/yr *UCL 2010*
- High carbon footprint

- 1:10 over 65s take 8+ medicines increasing to 1:4 over 85s *Age UK 2019*
- 1:10 medicines prescribed in primary care may be inappropriate *NOR 2021*



- Ageing and frailty
- Gender, Ethnicity
- Deprivation, literacy

NOR 2021, *IqbalA et al 2023*

- Taking 10 or more medicines- increase risk of hospitalisation by 300% *NOR 2021*
- 37% older people experienced medicines related harm (52% preventable, 81% serious) post discharge.
- 29% patients used healthcare- hospital readmissions and GP consultations Parekh N et al 2018

Polypharmacy and Age

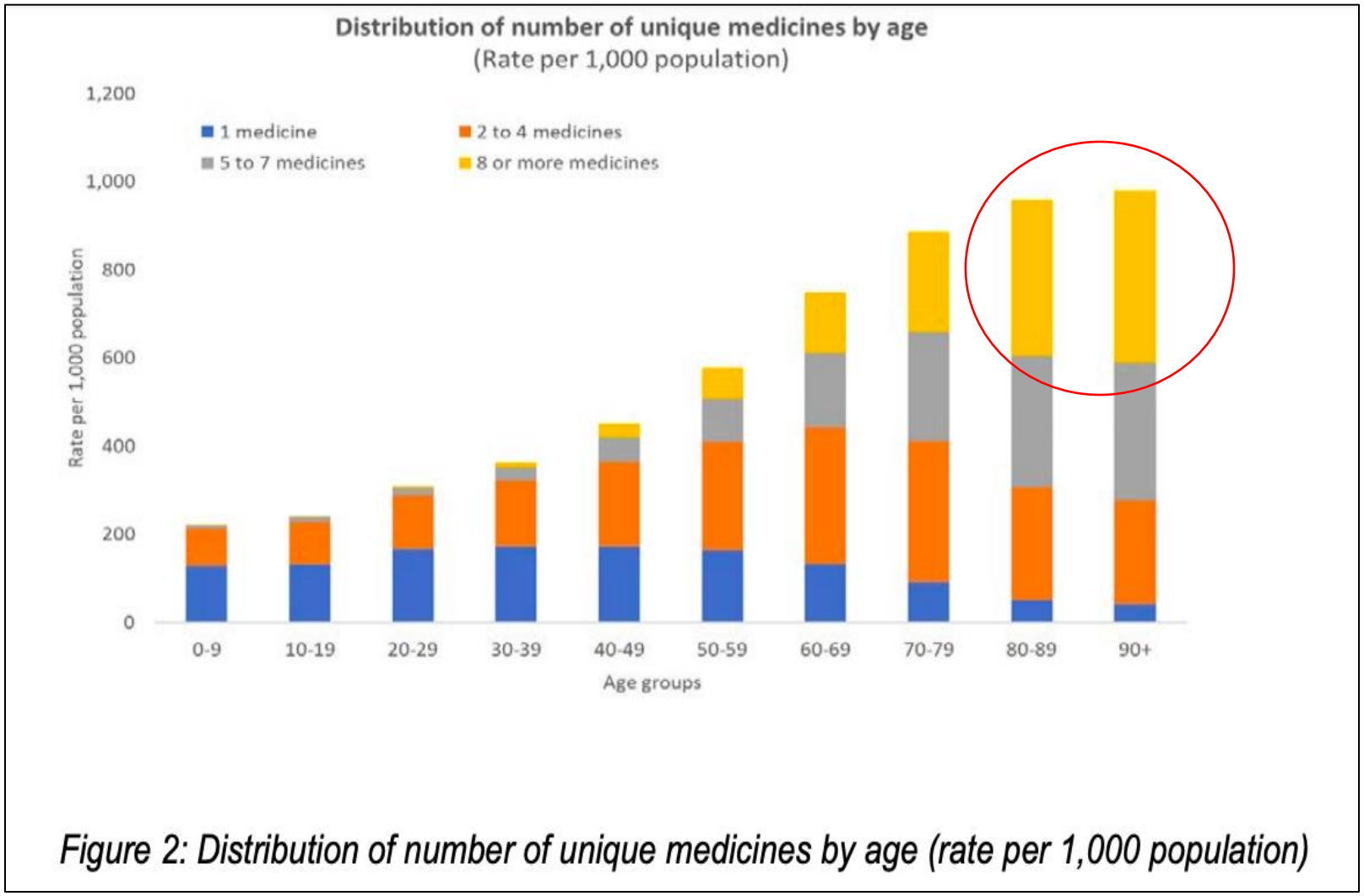
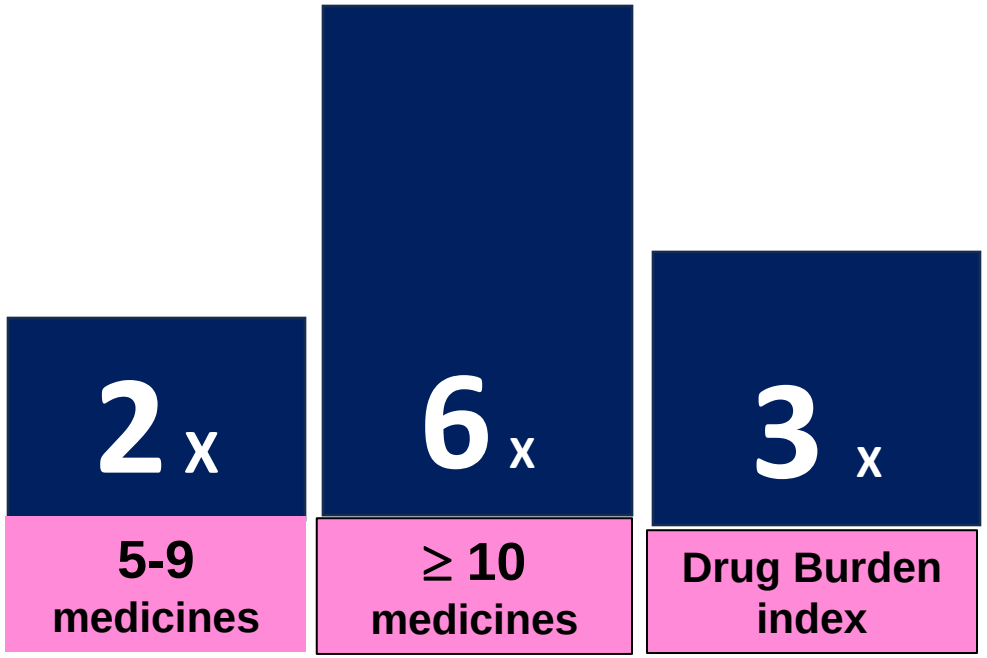


Figure 2: Distribution of number of unique medicines by age (rate per 1,000 population)

- Polypharmacy increases with age
- Over a third of people 80yrs and over are on ≥8 medicines

[National Overprescribing Review Report 2021]

Polypharmacy and frailty



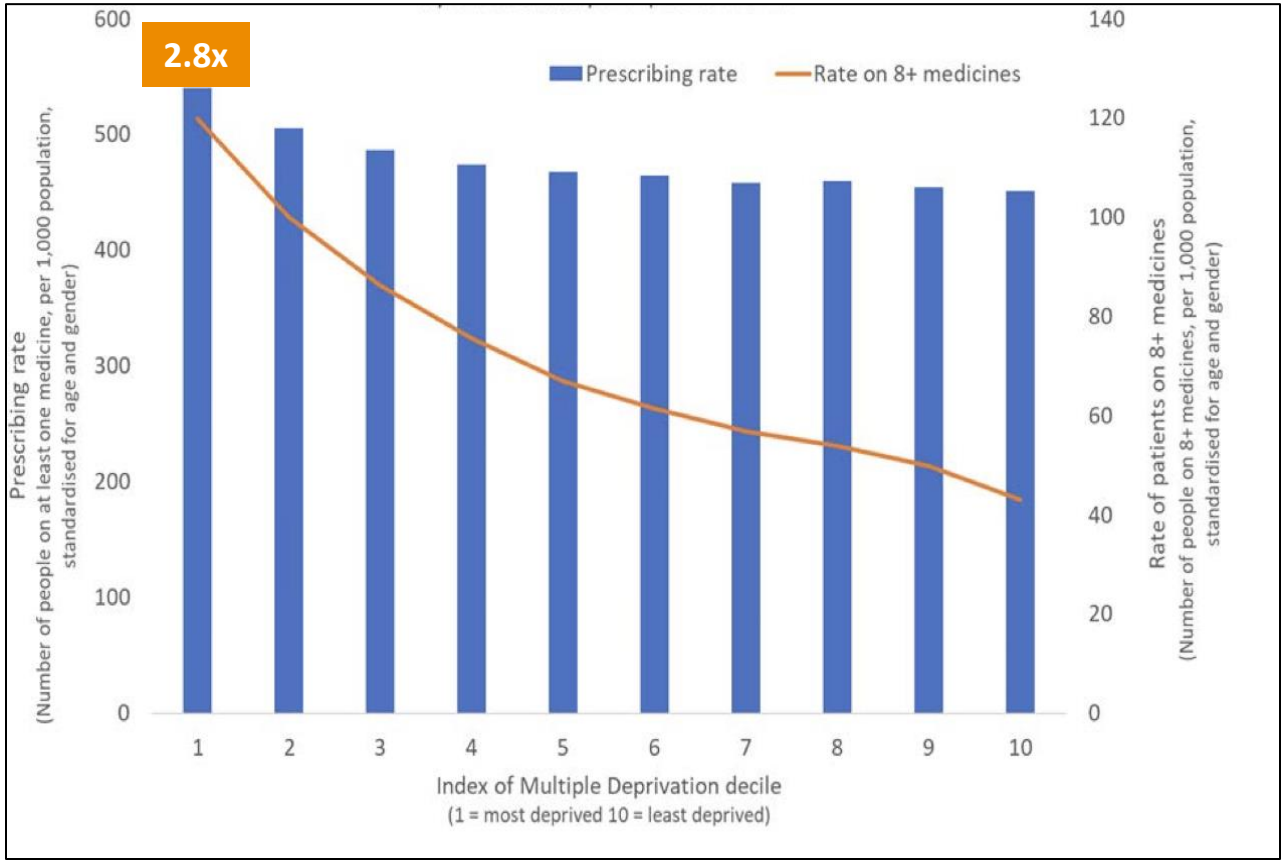
Versus

Independent and combined effects of frailty and polypharmacy increase risk of mortality

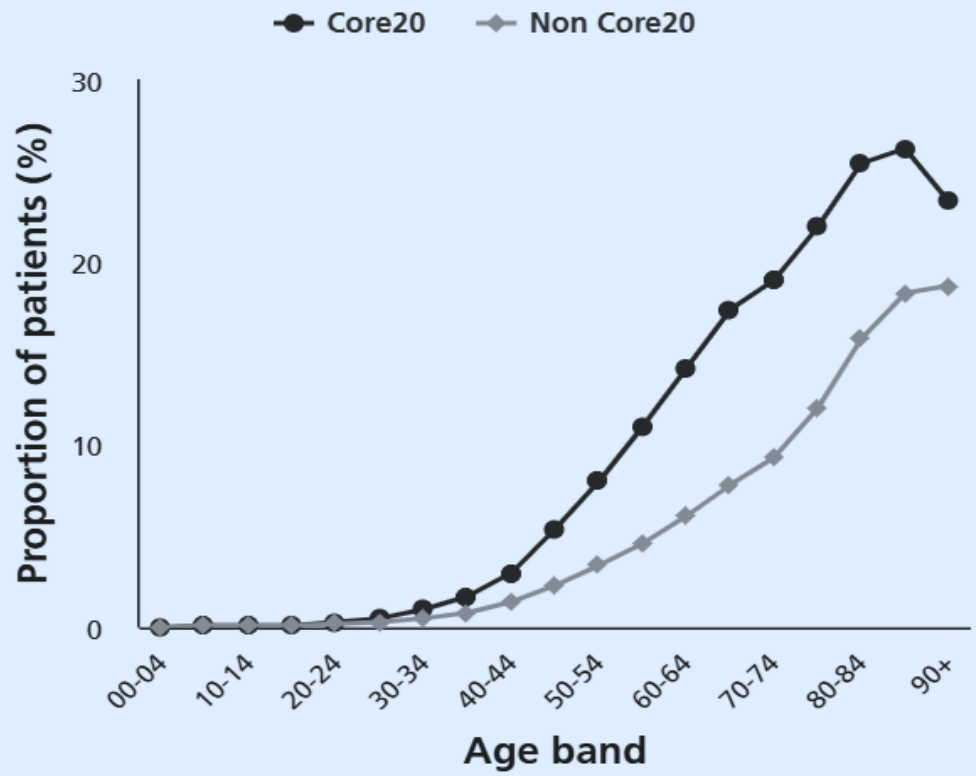
High-Risk Prescribing and Incidence of Frailty Among Older Community-Dwelling Australian Men. Gnjidic D 2012 https://doi.org/10.1038/clpt.2011.258

Polypharmacy and Deprivation

Prescribing rate and rate of people on 8 or more medicines by Index of Multiple Deprivation decile, standardized by age and gender



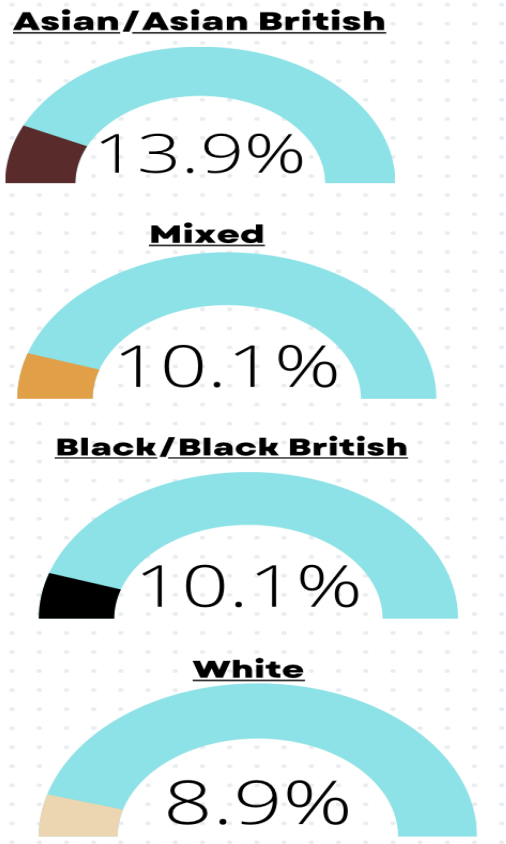
Core20 vs Non-Core20: Proportion of patients on 10 or more unique medicines by age band (2021/22) ***NHSBSA***



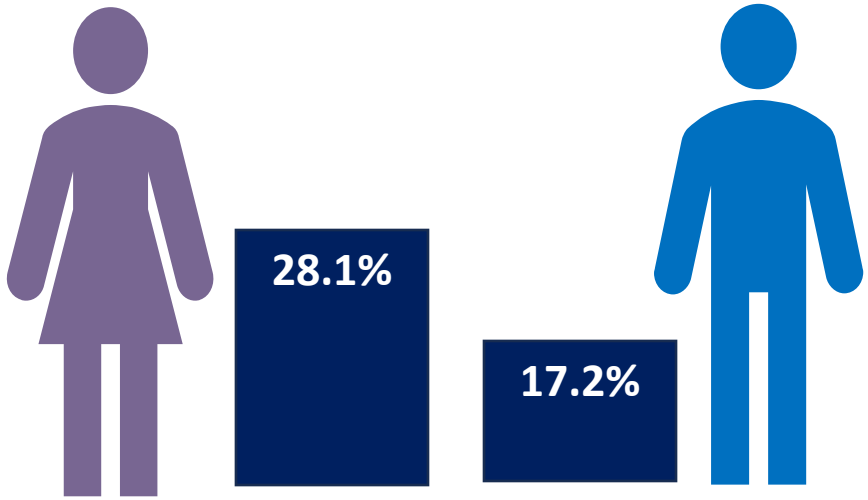
National Overprescribing Review Report 2021

Polypharmacy and ethnicity/gender/literacy

Age-standardised proportion of patients on Polypharmacy (≥ 8) by ethnicity *(NOR 2021)*

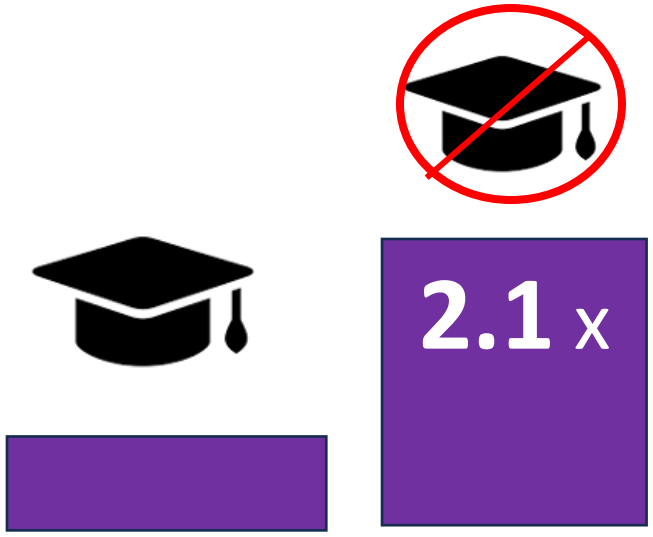


Prevalence of polypharmacy (≥ 5) among people ≥65 years old residing in Spain by gender



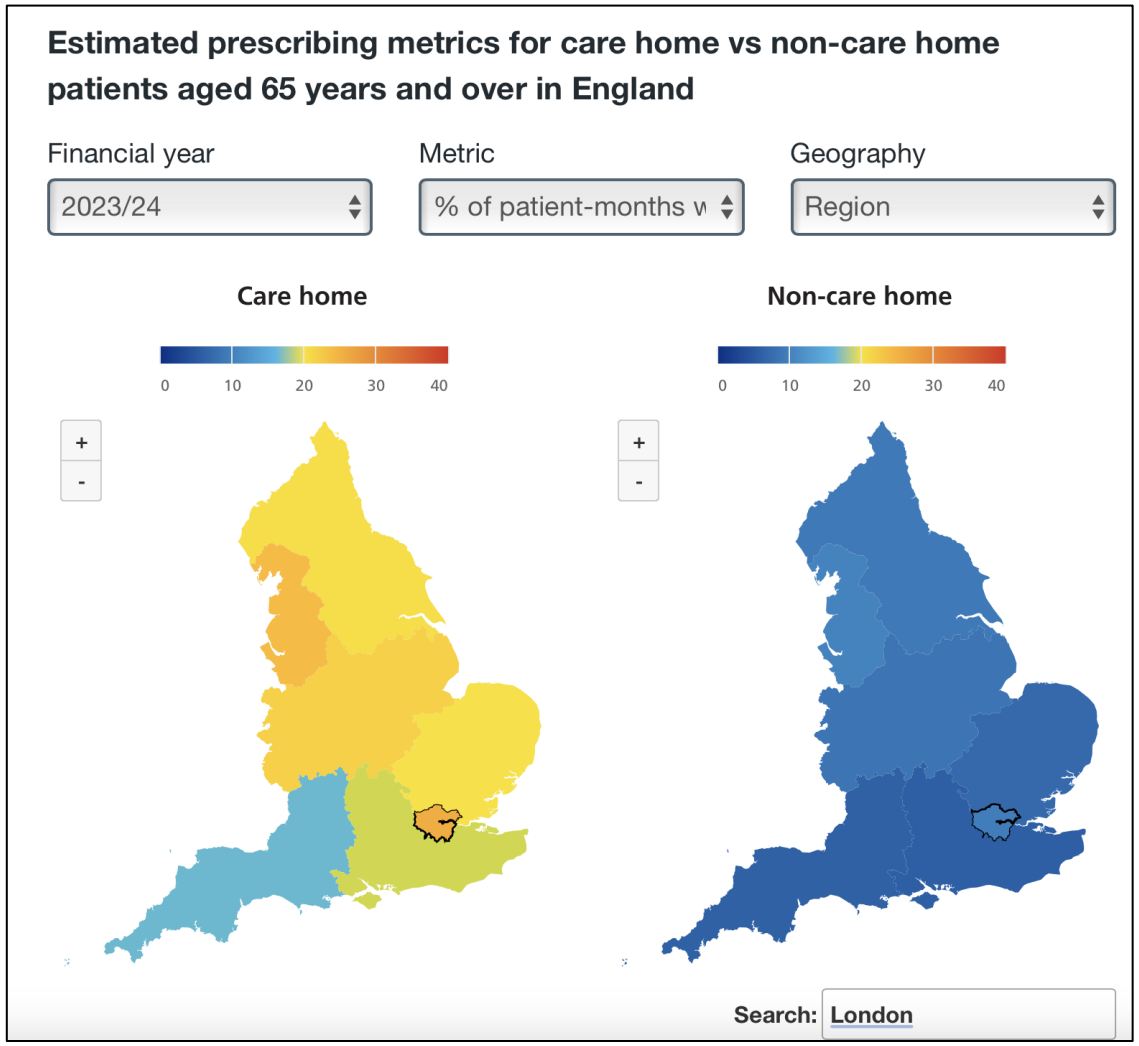
Polypharmacy and associated factors: a gender perspective in the elderly Spanish population Cebrino J et al. doi: 10.3389/fphar.2023.1189644.

Prevalence of polypharmacy (≥ 5) by educational background



Iqbal A et al 2023
https://doi.org/10.1186/s12877-023-03835-z

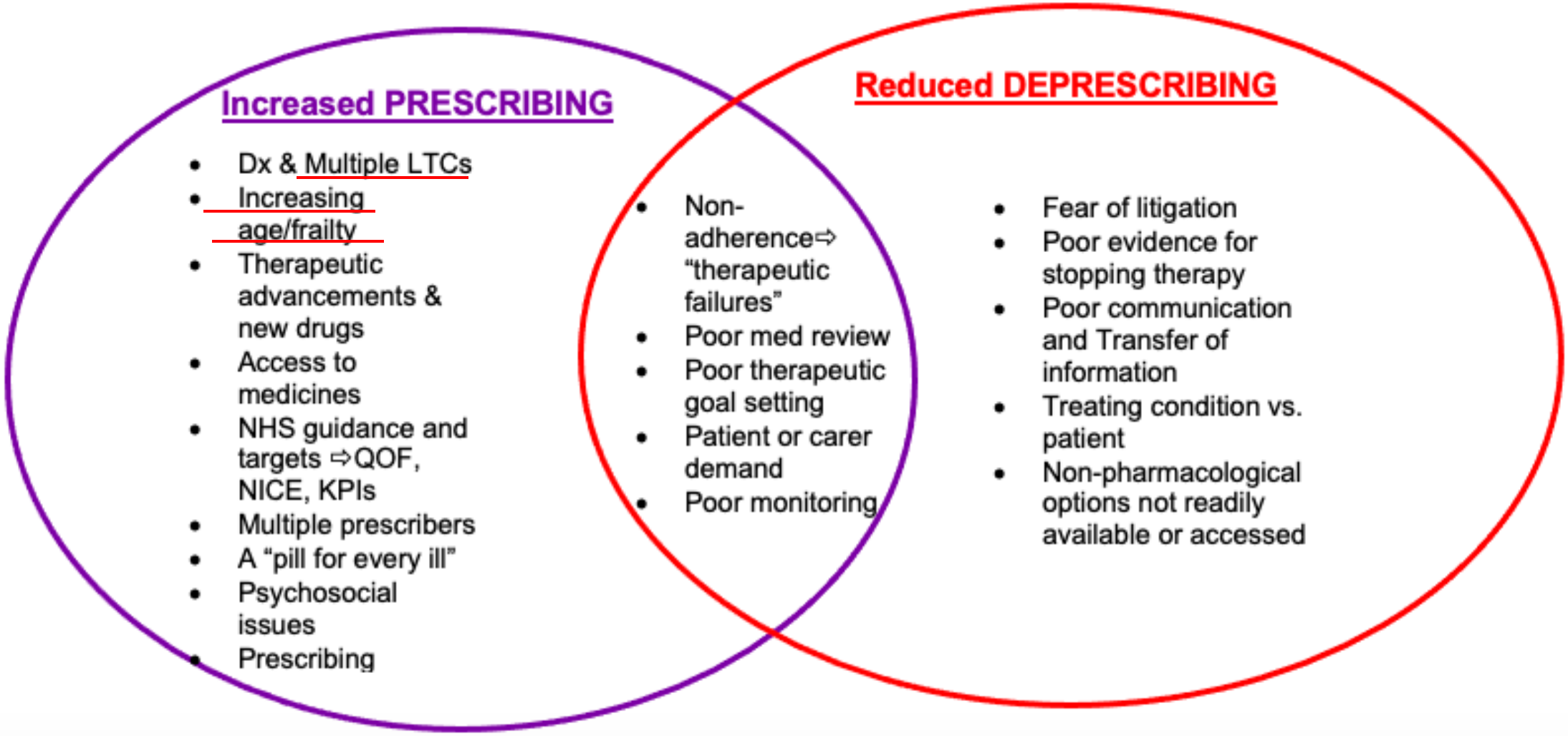
Polypharmacy in care homes



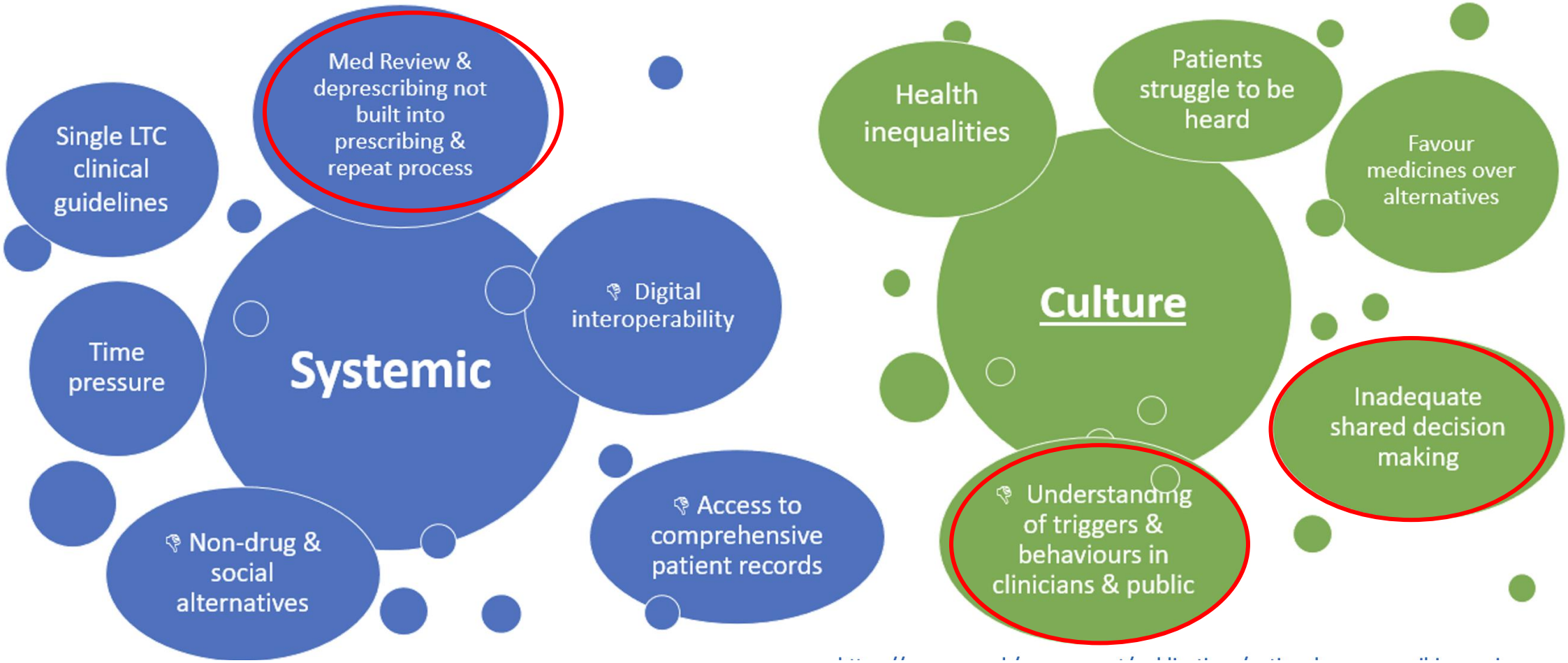
NHSBSA prescribing report in England Care homes ≥65yrs

- **323K residents** prescribed 40m items, £396m/yr
- **Total prescriptions:** 66% female 65+yrs, 40% females 85+yrs
- **Prescribing in 60-69yrs:** x3 vs. non-care homes
- **Prescribing in 90+yrs** : similar
- Nursing > residential > non care homes
- **Drugs:** > falls risk increasing drugs, Vitamin D and pain-relieving drugs, < DAMN drugs
- **London Region:** highest average drug cost and items /patient/month and 10+ medicines.

Polypharmacy drivers at patient:clinician interface



Overprescribing drivers at system interface



Specialist Pharmacy Service

THINK overprescribing

Ms Getrude Gowan, 79yo mild frailty, polypharmacy
Admitted re- Fall at home, no fracture, found by neighbour

NHS

Lifestyle
- Retired cleaner
- Ex-smoker 20 yrs
- Little exercise
- Alcohol 20 units/week

Current MHx
- Hip pain, Total knee replacement
- GI reflux
- Hypothyroidism
- Nocturnal polyuria
- Hypertension

Test results
- Normal X ray
- Normal MRI
- BMI 23.5 kg/m2
- BP 123/74 mmHg (sitting)
- Total Chol 4.5 mmol/l
- B12 slightly low 1 yr ago
- TFT in range
- U&Es & blood tests- in range

Current Function
- Brief Pain Inventory - Ave pain score=6 , Ave interference score=4
- No inflammation or swelling of joints, some stiffness on remaining in the same position for long time
- Good range of movement
- No neuropathic symptoms
- Some symptoms of postural hypotension on standing

Most Recent Consultations
- Pain management stable and she was feeling tired (on cyanocobalamin)
- Feels tiredness is impacting on looking after her granddaughter
- Dizzy on standing

Current Medication

14 medicines and 24 pills taken daily ☹

1. ~~Co-codamol 30/500mg qds~~	Hip Pain
2. ~~Amitriptyline 10mg 2 on~~	? Hip pain
3. ~~Gabapentin 600mg tds~~	? Hip Pain
4. ~~Senna 7.5mg 2 at night~~	? drug induced constipation
5. ~~Movicol sachets 1 od~~	?drug induced constipation
6. ~~Bendroflumethazide 2.5 mg od~~	Hypertension (BP 123/74)
7. Simvastatin 40 mg on	? CVS risk
8. Levothyroxine 25 mcg od	Hypothyroidism
9. ~~Omeprazole 20 mg od~~	Reflux
10. ~~Solifenacin 10mg od~~	Nocturnal polyuria
11. ~~Hylo-forte 0.2% eye drops~~, as dir by ophthalmology (last seen 3 yrs ago)	Dry eyes ?drug induced
12. Alendronic acid 70mg wkly on Sunday	bone health/osteoporosis
13. Adcal D3 1 bd	bone health/osteoporosis
14. ~~Cyanocobalamin 50mcg od~~	?B12 deficiency/tiredness

Opportunities to reduce problematic polypharmacy for your patient

START WELL
Prescribing

- Drug Hx and medicines reconciliation
- Non-drug options
- Deprescribing

CONTINUE WELL
Structured Med Review

- Medicines reconciliation
- (De)prescribing
- Monitoring & follow up

END WELL
Deprescribing

- Medicines reconciliation
- Monitoring and follow up
- Transfer of information
- Transfer of care

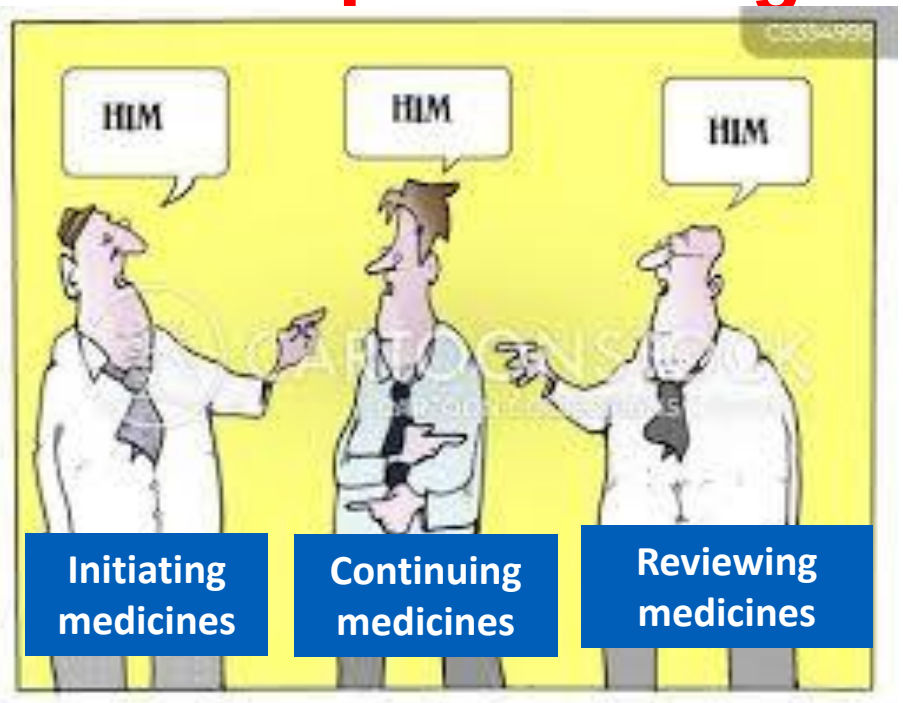
Reducing problematic polypharmacy is everybody's business

Ms Hamper, 21 medicines, non-adherence, severe frailty, limited life expectancy (UCP), worsening cognition, fatigue strong personal beliefs about medicines.

Rx Sodium Valproate 200mg od

- Initiated 28yrs ago re epilepsy, no further notes
- Not taken for over 1yr
- Patient's reason→ Hx bleeding through mouth/nose- documented evidence
- Patient refusing in spite of risk:benefit conversations
- Prescribing continued across settings (2^0, 1^0, hospice)
- What matters most? → avoid bleed, reduce polypharmacy
- Muddled medicines errors
- Cost per year – £15.64

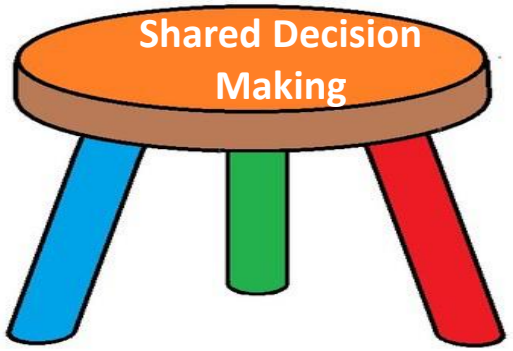
Who is responsible for deprescribing?

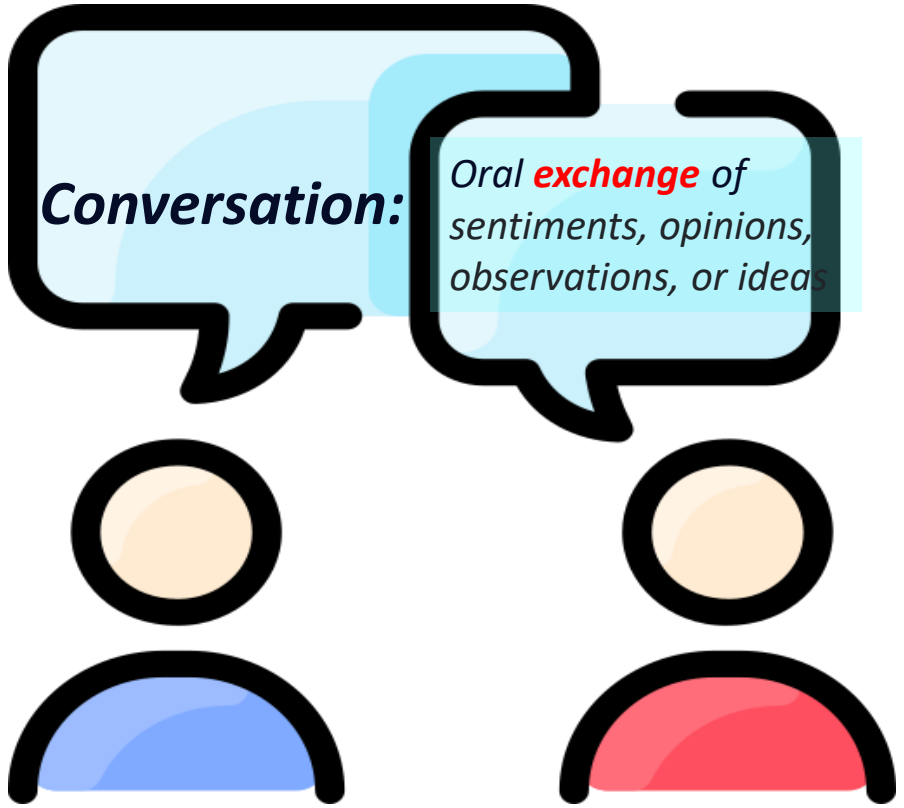


Principle for tackling problematic polypharmacy: A patient centred approach

✓ **Patient's circumstances, goals, values & wishes**

Choice, control, values, experience (chaos of life)

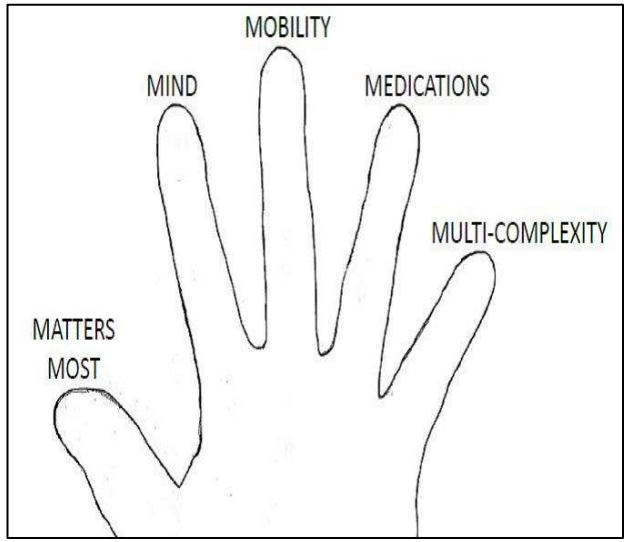




✓ **Clinical judgement of practitioner** Expertise, situational awareness, tacit knowledge

✓ **Best available research evidence** Guidelines, tool

(De)Prescribing through the frailty lens

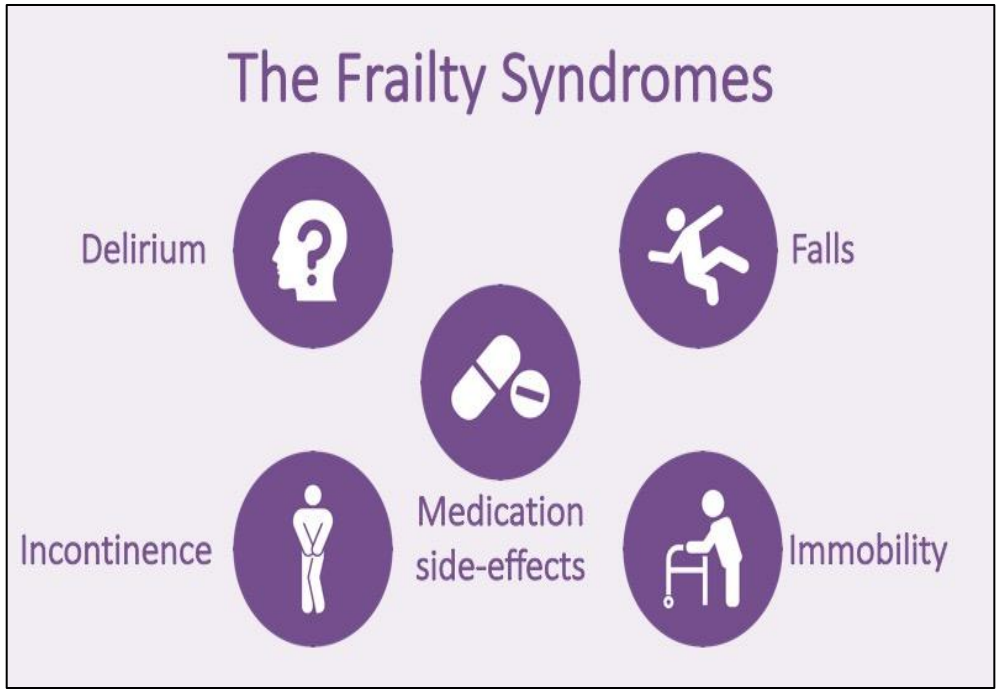


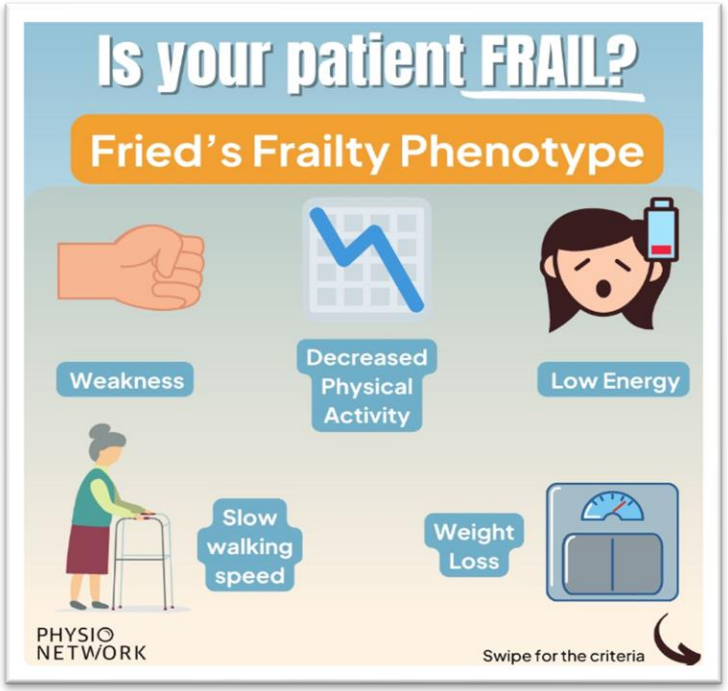
🚫 **Biomedical**

Biopsychosocial ✅

…treat what matters, focus less on prolonging life and more on what makes each patient want to live another day. ***Dr Marie Savard 2019***

(De)Prescribing through the frailty lens





"There is a risk of significant harm to patients with frailty if health interventions are planned for them in the absence of recognition of their frailty

BGS Fit for Frailty 1 2014

Actively seek and manage the impact of medicines on frailty syndromes and phenotype

The SMR process

STRUCTURED MEDICATION REVIEW (SMR) 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

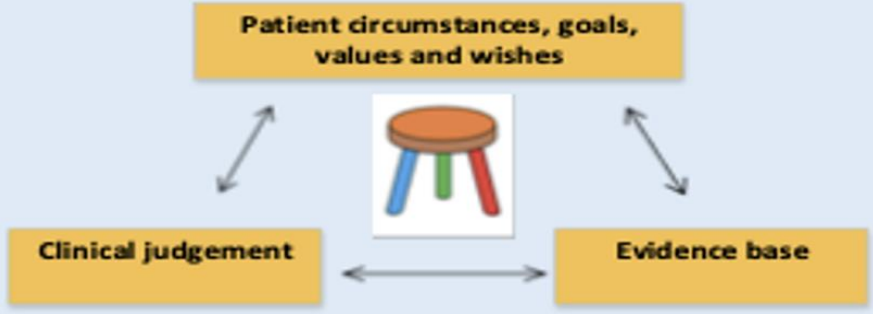
- ☐ Reason for referral/risk or problem identified
- ☐ Frailty score
- ☐ Relevant MHx – LTCs, acute/major, COVID status/ isolation
- ☐ Relevant previous consultations
- ☐ Recent hospital admission
- ☐ Latest investigations and test results
- ☐ Additional useful info e.g. social care package, learning disabilities, dementia, dexterity, housebound, safety issues
- ☐ Patient's capacity to be involved with decision making or Person with power of attorney (POA)
- ☐ Advance care plan (CMC)
- ☐ Face to face, phone, video consultation

Medicines information

- ☐ Acute medicines
- ☐ Repeat medicines
- ☐ Recently stopped/started
- ☐ Non prescribed medicines and supplements
- ☐ Allergies
- ☐ Multiple compartment aids
- ☐ Potentially inappropriate/high risk drugs

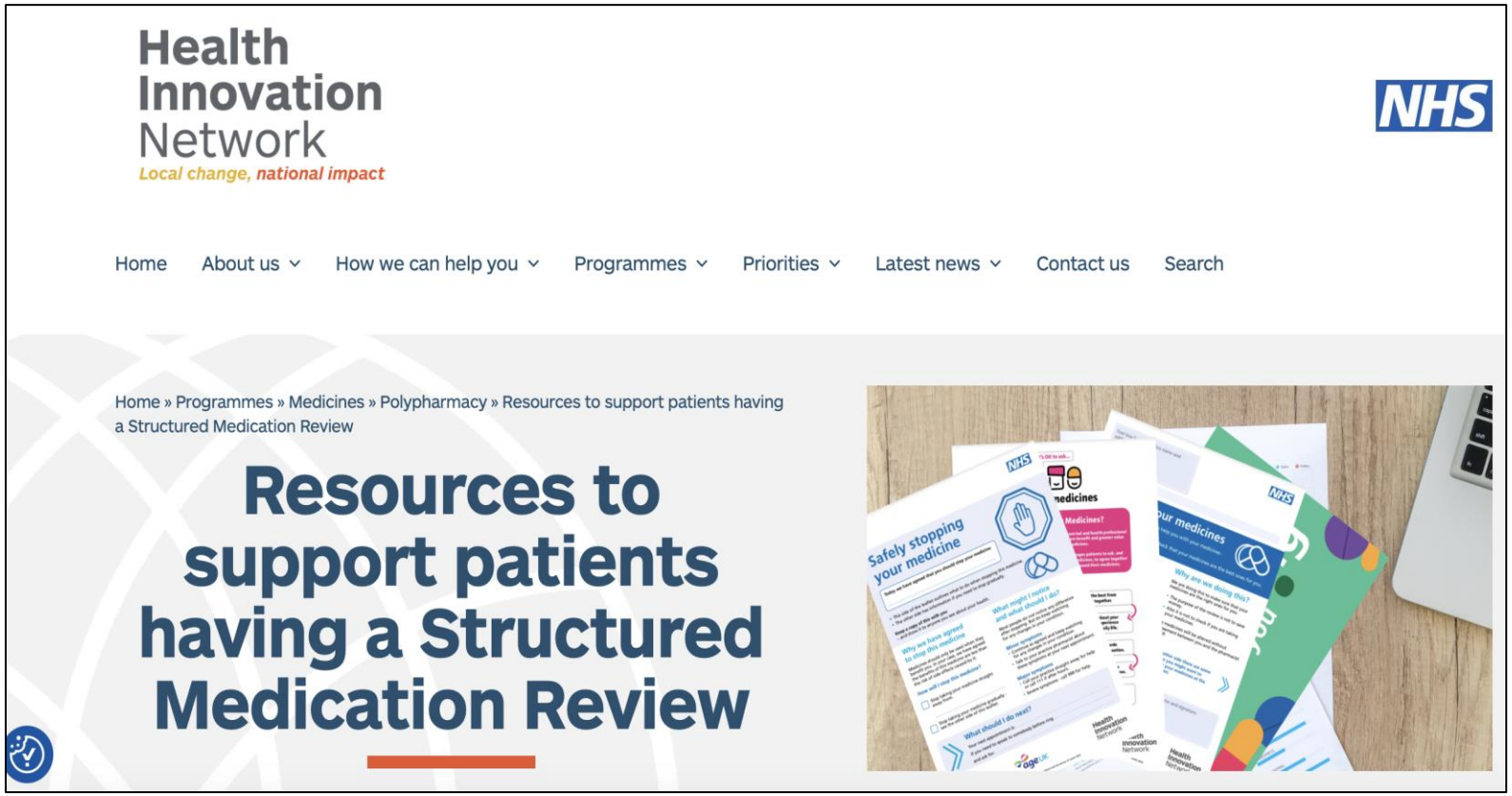
SMR consultation template checklist

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 & Interpret research evidence in context of individual patient situation and goals
6. Use your clinical judgement to ensure medicines 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 (Incl. changes, support, follow up, monitoring, sign posting, referral, safety netting)



Lelly Oboh, Consultant pharmacist, care of older people 31/3/21 vs 1.0

Inviting and empowering the patient for the SMR consultation



- Resources available in many languages
- Patient invitation letter
- **‘Me and My Medicines’** or **‘Are Your Medicines Working?’** information for patients
- Safely stopping your medicine patient leaflet

Finding evidence for potentially inappropriate medicines Tools to support medication review NHS SPS

Specialist Pharmacy Service

NHS

These practical tools aid medication review by identifying inappropriate medicines, guiding deprescribing, and empowering patients via shared decision making.
Updated 17 Jan 2025

www.sps.nhs.uk

Contents

Identifying inappropriate medicines

Anticholinergic Burden (ACB) Calculator

The ACB calculator calculates the anticholinergic cognitive effect burden score and suggests alternative options with a lower burden.

Medichec

Medichec is a free app that identifies medicines with anticholinergic cognitive effects, highlighting their extent and the cumulative impact of multiple medications.

Medichec also identifies medicines that are reported to cause QTc prolongation, hyponatraemia, bleeding risk, dizziness, drowsiness, and constipation. It then ranks them according to the frequency of reported adverse effects.

Medicines and Falls

The National Falls Prevention Coordination Group's medicines and falls guide offers guidance on medication reviews for people at risk of falls. It highlights falls risk increasing drugs (FRIDs) and medicines linked to fractures.

Medstopper tool

The Medstopper tool is a US online deprescribing tool which ranks medicines based on their potential to improve symptoms, reduce the risk of future illness and likelihood of causing harm. It also provides information about reducing and tapering or stopping medicines.

STOPPFrail tool (v2)

The STOPPFrail tool (version 2) highlights potentially inappropriate medicines in patients aged 65 years and older, living with frailty and with a limited life expectancy. It supports prescribers by offering a structure to deprescribing and can be used in all healthcare settings.

STOPP/START tool (v3)

The STOPP/START tool (version 3) provides a list of potentially inappropriate medicines in patients aged 65 years and older based on specific criteria. It supports prescribers to identify and reduce inappropriate prescribing.

Personalising the research evidence

Inability to apply existing knowledge to a new and complex situation contributes more often to the occurrence of adverse events in older than younger patients. *Merten H et al. Age Ageing 2013*

- The conversation with the patient/carer/MDT
- Shared decision making, weighing risks and benefits, using your clinical judgement
- We are FIRST and FOREMOST in service to our patient
- Shifting from the evidence about the population in the study to the **PERSON** in front of you

Look, Talk and Listen to your patient

Tools for shared decision making

Tools to support medication review NHS SPS

These practical tools aid medication review by identifying inappropriate medicines, guiding deprescribing, and empowering patients via shared decision making.

Updated 17 Jan 2025

Contents

Conversational tools

Ask 3 Questions

The Advancing Quality Alliance Ask 3 Questions leaflet helps patients prepare for shared decision-making by considering:

- What are my choices?
- What are the pros and cons of each option for me?
- How do I get support to help me make a decision that is right for me?

BRAN

Choosing Wisely UK promotes shared decision making conversations between clinicians and patients using BRAN questions:

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

It is a collaborative process to select tests, treatments and care management or support packages, based on clinical evidence and patients' informed preferences and values.

Three-talk model

The NICE three-talk model guides shared decision-making through three steps:

- introducing choice
- describing options using patient decision support
- helping patients explore their preferences and make decisions.

Health Innovation Network resources

The Health Innovation Network has developed patient information materials in multiple community languages to help patients prepare for and understand SMR consultations.

Case example (1)

Mr Lee, decorator, recent discharge re sub-dural haematoma, craniotomy, behavior disturbances

- Zero to 9 meds (12 doses)
- Poor executive function and ADEs (sleepy all day) - non adherence, reduced independence, Niece helps, Memrabel device

- Not taking some meds and feels better for it

Leviracetam 1g tabs 8am & 8pm

Quetiapine 100mg tabs 8pm

Quetiapine 25mg tabs 8am

A case to continue prescribing or deprescribe?

What Matters Most

Case example (2)

90yr old, lives alone, mostly independent, recurrent falls. Recent hospital discharge re falls, No #

- Worsening frailty (temporarily housebound)
- Limited independence, confused & forgetful re medicines, non adherent. Nil PoC –refused
- 11x medicines, loose medicines on floor
- Matters most: Wants to go outdoors, GI symptoms
- **Alendronic acid 70mg tablets 1 weekly (<2 yrs), 0% adherence**
- **Donepezil 10mg od**

A case to continue prescribing or deprescribe?

Explaining risks and benefits

Bisphosphonates

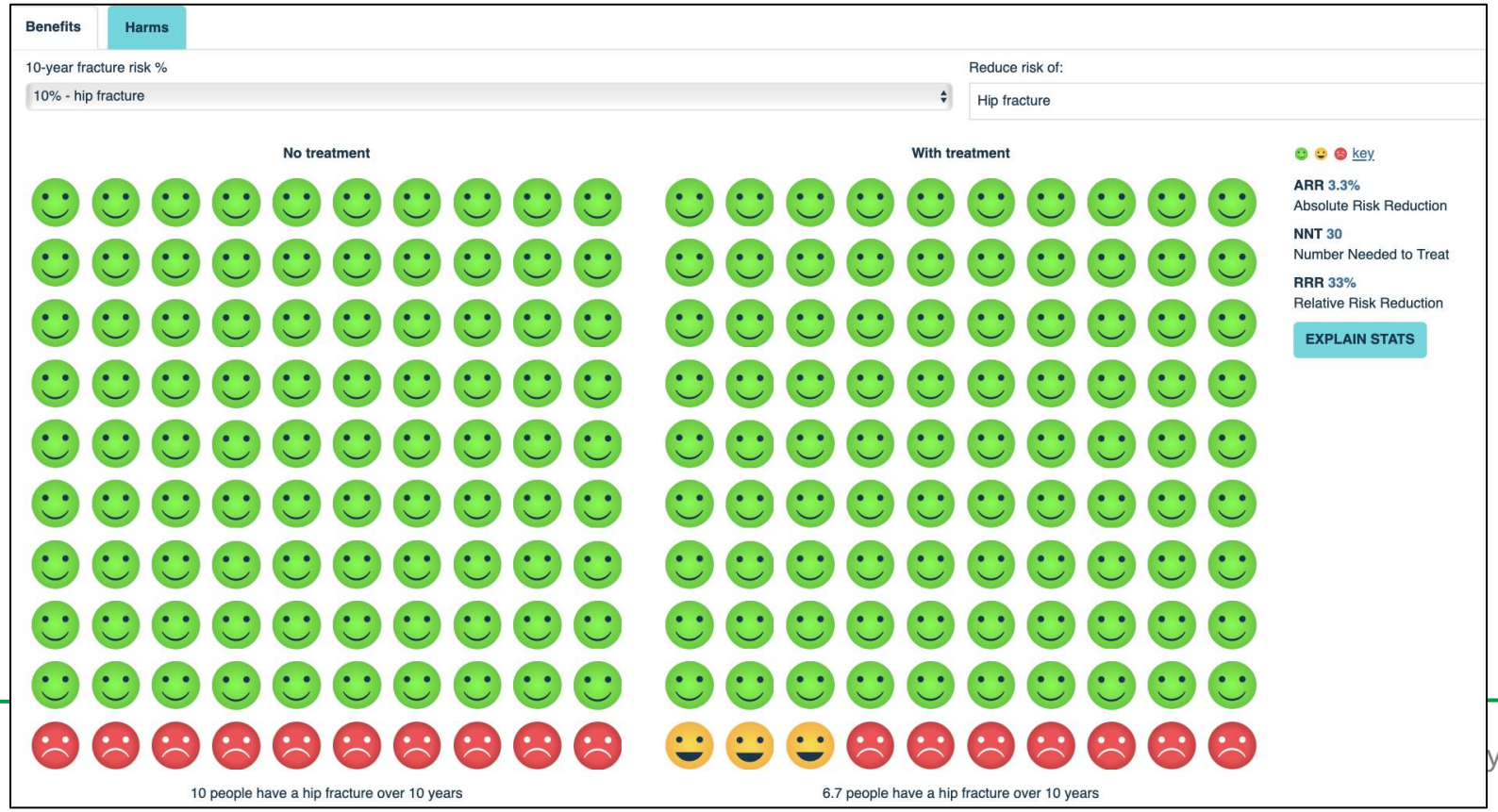
The benefits of bisphosphonates on fracture prevention for an individual depend on their baseline risk of fracture.

An individual's 10-year risk of fracture can be calculated using either the FRAX or QFracture scores:

- estimates of the benefits of treatment are outlined in the graphics below

Bone mineral density increases by approximately 3% over 2 years with bisphosphonate treatment[1].

If 100 people with this baseline risk of a hip fracture take a bisphosphonate, 3.3 fewer will have a hip fracture over 10 years compared to those who do not take a bisphosphonate



Example of how to use SDM tool re de(prescribing) Alendronate

BRAIN tool for shared decision making

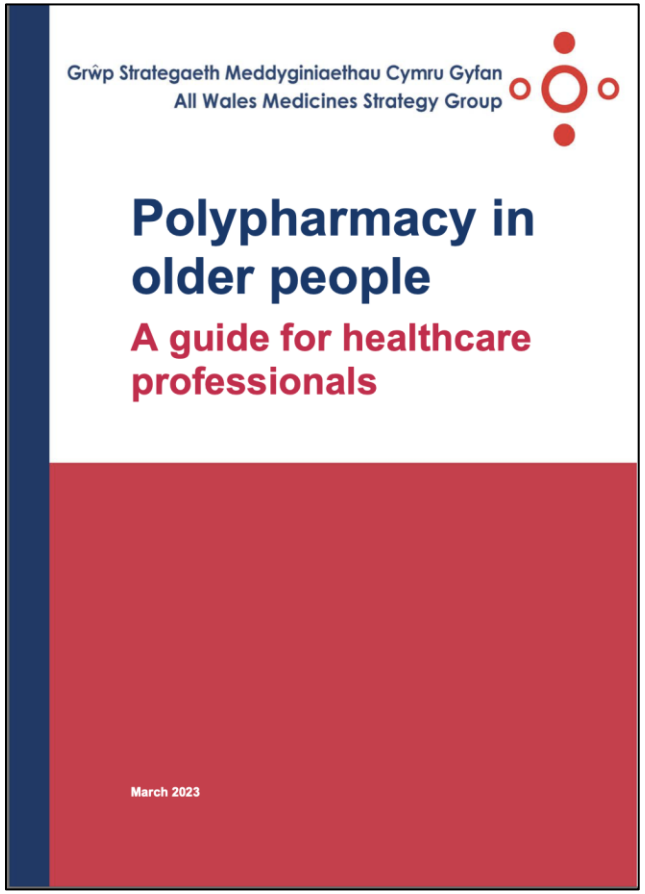
- What is the decision I need to make: ***Whether or not you want to take your Alendronate (Bone health) tablets***
- How much time do I have to make the decision: ***2-4 weeks***
- Who is involved in making the decision: ***me, my niece***
- What are my values that affect this decision: ***Improving my independence going outdoors & preventing falls/ fracture***

Benefits *How will this benefit me or my care giver*	• ***Taking alendronate will reassure me and my niece that I am less likely to have a fracture if I fall when I go outdoors*** • ***Allow me to go outdoors*** • ***If I have a hip fracture I may be unable to go outdoors***
Risks *How might this pose a risk or problem to me or my care giver*	• ***I have to follow the special instructions or it may cause horrible side effects like burning my throat*** • ***I'm worried that the acid may upset my stomach***
Alternatives *What are my options in the short and long term (non drug, other drugs, do nothing, other ideas)*	• ***Continue taking just vitamins D which may also help but not as much*** • ***Once a month tablet*** • ***injection at hospital every 3 months,***
Intuition *How do I feel and think about these options*	• ***feeling less anxious about upsetting my stomach***
Next steps e.g *I would like to ask my family, more time to think it through, more information, wait, 2nd opinion ….*	• ***I'd like to try Alendronate***

Your decision : ***clinician will ask the chemist to dispense in a separate bottle to take first thing in morning***

Agree a care plan and document

- (De)Prescribe, continue, non-drug, wait and see
- Contact prescriber, other clinicians, for advice/information if needed
- Use credible protocols to deprescribe *e.g* *NHS Wales Polypharmacy guide* , *CaDeN*, *Prescqipp Deprescribing algorithms*
- Clearly document important discussions- what was agreed and actions to be taken *e.g PRSB website*
- Use SNOMED CODES for SMR and SDM



Care co-ordination and follow up

- Monitor and follow up (What? When?)
- Coordinate support needed and make referrals if needed e.g. social prescribing link worker, community pharmacy
- Communicate with relevant others, with consent
- Transfer of information (Reason? Duration? Review timescale)

TIPs on managing complexities associated with deprescribing

- Start with the patient not the disease/drugs
- Aim to make better and reduce vs eliminate all risks.
- Absence of research evidence for deprescribing - Combine SDM, general therapeutics and common sense.
- Ask others, use data from multiple sources (including care givers) and solicit expert advice.
- You are not an inexhaustible resource; know your scope and limitations.
- Solutions to complex problems are found within the MDT
- Master the art of communicating risks and benefits.
- Mind your language- Reframe (de)prescribing as a ‘trial’
- Get a caseload, start small. Practice makes perfect!
- Book 30 minutes for initial SMR and shorter follow-up time
- Schedule dedicated time for clinical supervision (experienced pharmacist or GP).
- Regular peer review and self-reflection for complex cases- quality of your interpretation, application and decisions beyond ‘guideline’

Practice applying the principles and tools from this session in a couple of consultations in preparation for session 2 (4th March 2025)

Thank you for listening