Case Studies in Polypharmacy

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Many drugs are often continued beyond the point at which they are beneficial and may actually cause harm *(DTB 52:2014)*

Polypharmacy itself should be conceptually perceived as a "disease" with potentially more serious complications than those of the diseases these different drugs have been prescribed for *(Doron Garfinkel 2010)*

Who is at the highest risk from polypharmacy?

Frail older people

housebound
older.people.assessment.units
care.homes
elderly.wards
intermediate.care
social.care.package
matrons.caseloads

- **Aged over 75, often over 85**, with multiple diseases, which may include dementia. *(British Geriatric Society)*
- **Reduced functional reserve**
  ⇒more vulnerable to developing complications while in hospital
- **Less resilient to external stressors** and take more time to recover
- **Frequent hospital admissions** with geriatric syndromes such as falls, immobility and confusion

Medicines optimisation

An **Outcome focused** approach to **safe** and **effective** use of medicines that takes into account the **patient's values, perception** and **experience** of taking their medicines

UKMi Executive September 2012

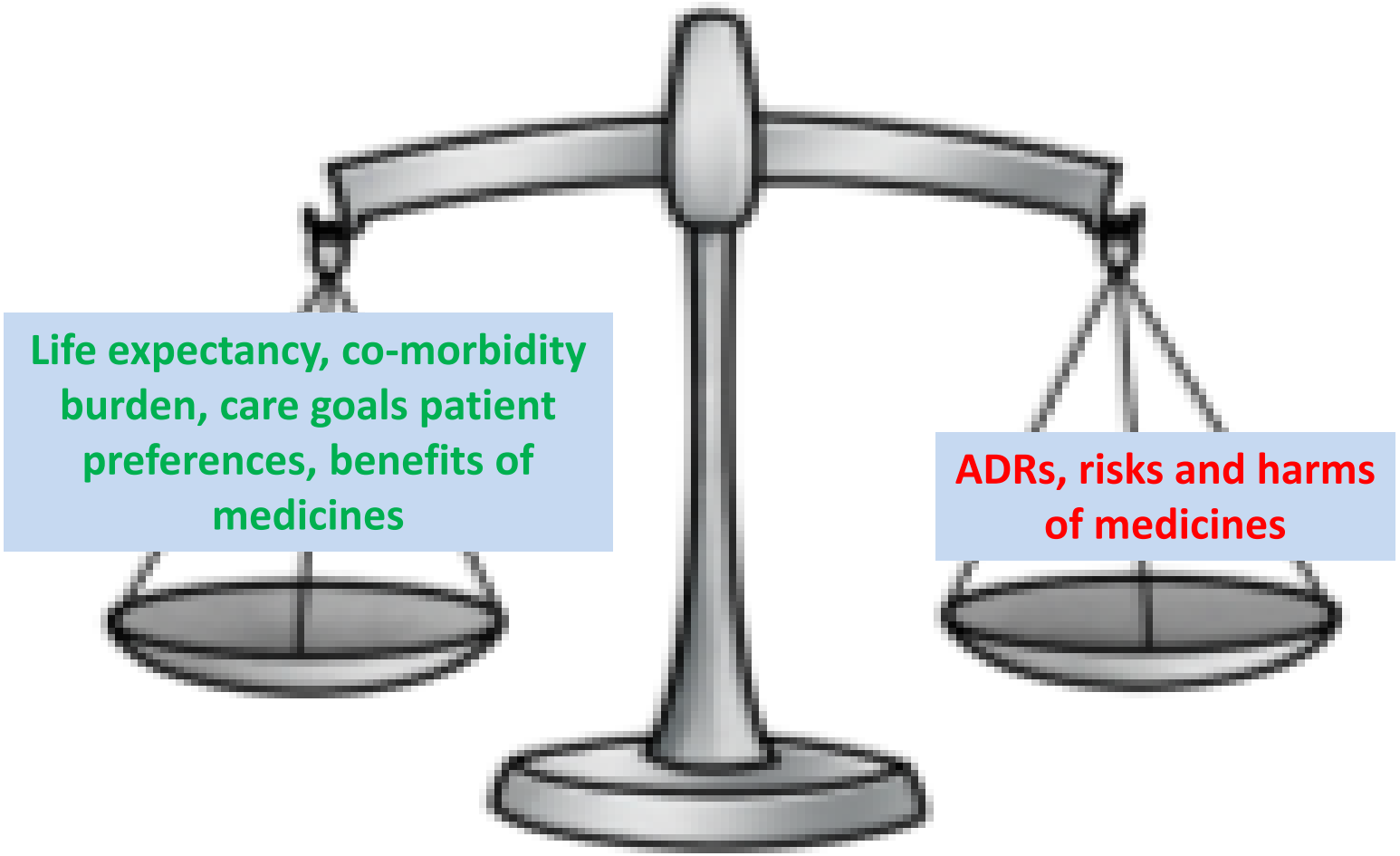
Deprescribing

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

Oligopharmacy

- Deliberate avoidance of polypharmacy i.e. less than 5 prescription drugs daily (*O'Mahoney)*

Deprescribing: getting the right balance



What the literature show[1-3]

- No long term outcome data
- .....BUT, reduces drug usage/costs & unlikely to cause harm
- Must involve patients, carers & multidisciplinary working
- There's enough evidence to stop certain drugs
- Many challenges and barriers
- Clinical and communication skills are important
- Must be done sequentially, slowly over a period of time
- Time consuming & dynamic process requiring extensive communication, frequent monitoring and review,
- Structured approach needed (7 steps)

What the literature show[1-3]

7 key steps

1. Assess patient
2. Define overall patient goals
3. Identify inappropriate drugs from an accurate list of medication
4. Assess each drug for specific risks vs benefits in context
5. Decide to stop or reduce dose
6. Communicate with GP/prescriber
7. Monitor regularly and adjust accordingly

Summarising the literature

Key steps	Garfinkel	O'Mahoney	Hilmer
1. Assess patient	☑	☑	☑
2. Define overall patient goals	☑	☑	☑
3. Identify inappropriate drugs from accurate list of medication	GP-GP Algorithm	STOPP tool	EBM/ethics
4. Assess each drug for specific risks vs. benefits in context	GP-GP Algorithm	Life extending $1^0/2^0$ prevention drugs	ADR, adherence, indication, interactions
5. Decide to stop or reduce dose	☑	☑	☑
6. Communicate with GP	☑	☑	☑
7. Monitor regularly and adjust accordingly	☑	☑	☑

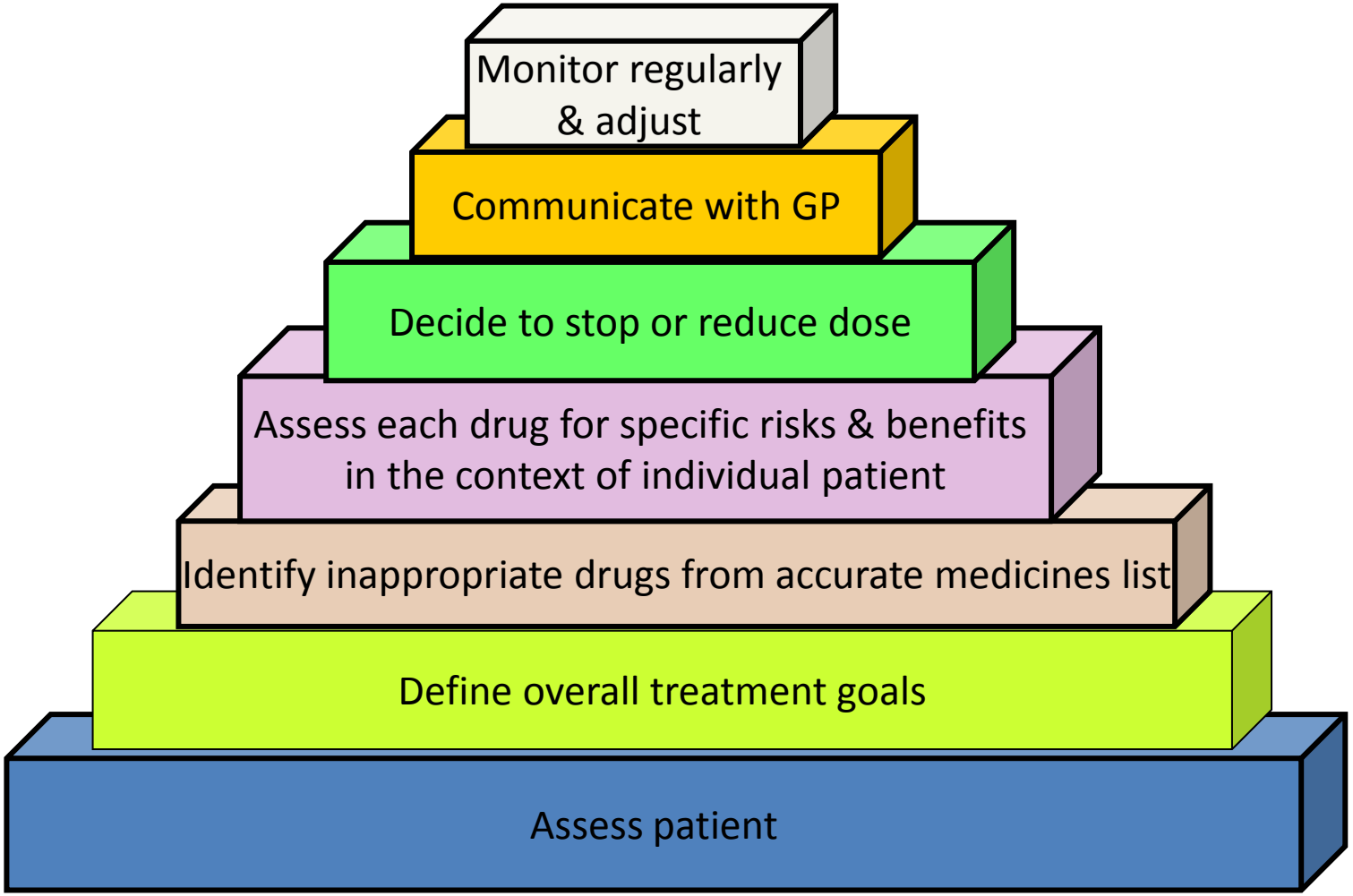
Barriers to deprescribing

- Easier to maintain the status quo!
- Easy to start drugs but difficult to stop
- Little evidence/guidance on how to deprescribe safely $\Rightarrow$medico legal considerations
- Withdrawal in older people can be unpredictable/risky
- Time consuming re changing, monitoring/follow up
- Reluctance to stop drugs
  - Started by specialists
  - Where there is a +ve guideline recommendation
- Consent and capacity issues in older people
- Poor patient engagement and feedback about actual drug effects

Key points for NMPs when prescribing for older people [4-5]

- Prescribe, but also know when to deprescribe
- All good prescriptions must come to an end $\Rightarrow$think about withdrawal when you initiate drug therapy
- A significant aspect of medicines optimisation process must include the notion of stopping medicines or deprescribing
- Ensure the drugs you prescribe in your specialist role are consistent with patient's other medicines (what is the advantage over existing therapies)

A structured approach to reducing polypharmacy: Key stages



Case example 1

Patient Profile			
Identifier	XX1	**Age**	77
Sex	Female	**Allergies/ADRs**	NKDA
Self administering?	Yes	**Care package**	No
Blister pack/ compliance aids used	MDS Volumatic spacer	**Cognitive impairment?**	No

Medical History			
Epilepsy	Partial thyroidectomy	Psoriasis	
Hypertension	Auto-immune anaemia	Vertigo/dizziness	
COPD	Diverticular disease	BMI 15.2	
Hypothyroidism	Osteoarthritis	?? renal function	

Background information (e.g. reasons for referral, care package, DN involvement etc)
Known poor adherence, has blister pack MDS, low BMI, takes multiple antihypertensive agents. BP: July 2012 -210/100, Sept 2012- 198/103mmHg Recently taken azithromycin and prednisolone –Rescue for chest infection

Assess patient

With patient and carers

- Medical history
- Functional history
- Estimate frailty, life expectancy (NHS highland tool[4]) & trajectory decline

Define overall care goals

In frail older patients, the main priorities are

- Symptom control
- Maintaining function
- Addressing end-of-life issues
- *Maintaining dignity*

Identify inappropriate drugs from an accurate list of medication

Evidence based tools

- Consensus guidance to support use in older people
- Estimates of risks/benefits[6]
  - Drugs for 1^0 prevention $\Rightarrow$ No place
  - Drugs for 2^0 prevention $\Rightarrow$ ONLY if time to benefit exceeds life expectancy
  - If shortened life expectancy query e.g. Lipid lowering drugs, Prevention of fragility #, Memantine for improved cognition
- STOPP/ START tool[7]
- GP-GP algorithm[1]
- MAI tool[8]

Clinical judgement/experience

- Does each drug have a matching indication, is indication still valid?
- Does the drug produce limited benefit for that indication
- Is it a high risk drug?
- Are the benefits overweighed by unfavourable ADRs in OP

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 Het al. Scale, nature, preventability and causes of adverse events in hospitalised older patients. Age Ageing 2012;

Assess each drug for specific risks & benefits in the context of patient circumstance

- EACH medicine is tailored to the patient's
  - Defined overall goal
  - Circumstances
  - Clinical reality and social situation
  - Morbidities
  - Experience, preferences and ability to comply
  - Life expectancy

Decide to stop or adjust or prescribe

Discontinue

- Stop one at a time
- Gradually
- Consider rebound
- Enlist help of peers or specialists

Adjust or Continue

- Optimise therapy
- Reduce dose/frequency/ prn
- Substitute with a safer drug, formulation, schedule
- Wait and see

- COMMUNICATE
- MONITOR regularly as needed or @least 3-6 monthly
  - Be clear about what and ensure its in place
  - Look out for ADRs, geriatric syndromes, benefits,

Outcome and monitoring

Medication	12 drugs
1. Amlodipine ~~10~~ 5mg daily	Monitor BP & compliance
1. Candesartan 32 mg daily	
1. Atenolol/Chlortalidone 100mg/25mg	Stopped
1. Doxazosin 8mg twice daily	Stopped
1. Moxonidine 300mg daily	Stopped
1. Dosulepin 75mg daily	Stopped
1. Betahistine 8mg three times daily	Continue and see
1. Carbamazepine MR 200mg three times daily	
1. Levothyroxine 75microg daily	
1. Adcal D3 2 tablets daily	
1. Zolendronic acid infusion	
1. Peppermint oil capsules, 2 ~~tds~~ prn	Prn,
1. Seretide 500 microg accuhaler 1 puff twice daily	
1. Tiotropium 18 microg daily	
1. Salbutamol 100 microg MDI 2 puffs four times daily	Aerochamber supplied
1. Salbutamol 2.5mg nebules four times daily	stopped
1. Carbocysteine 750mg three times daily	Continue and see

Case Example 2

Patient Profile			
Identifier	XX2	**Age**	83
Sex	M	**Allergies/ADRs**	
Self administering?	No	**Care package**	Yes, carer stays till 3.30 daily
Blister pack/ compliance aids used	Yes, Venalink	**Cognitive impairment?**	yes

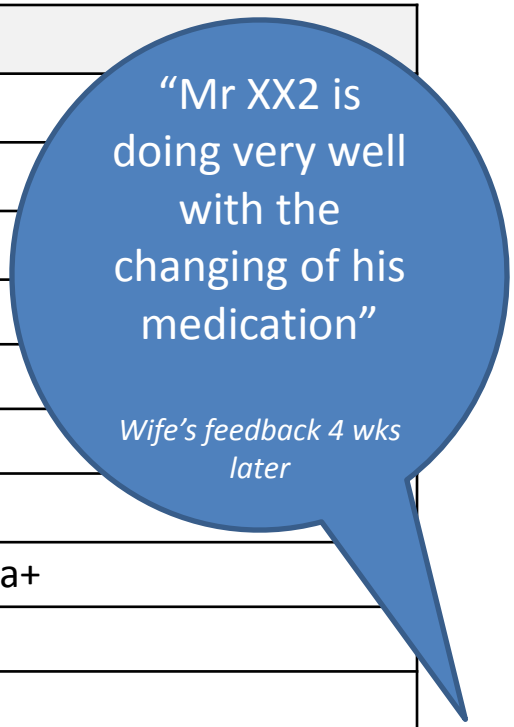
Medical History			
Mini stroke x2	T2DM	Falls	COPD
	Dementia -worsening	BPH	Hypertension (difficult to control)

Background information (e.g. reasons for referral, care package, DN involvement etc)

- Signs of worsening dementia- Refusing medicines and getting aggressive to health staff providing care e.g. refusing insulin from district nurse and therapist assessments
- Some swallowing difficulties and he says takes too many medicines
- Recent chest infection, just completed course of doxycycline and prednisolone
- Hx doxasosin 1mg & bendroflumethazide commenced Dec12, gliclazide – All stopped
- Recent BP- 139/69 lying HR 69, 139/80 standing HR 79

Outcome and monitoring

Medication	**13 drugs**
bisoprolol 5mg tablets od	
metformin 500mg m/r tablets bd	
amlodipine 10mg tablets od	
losartan 10mg tablets od	U&E request, monitor BP
bendroflumethazide 2.5mg od	Stopped
paracetamol 500mg tablets 2 qds prn	Stopped
aspirin 75mg disp tablets	
sertraline ~~50~~ 100mg tablets om	Monitor for change, ADRs, Na+
atorvastatin 10mg tablets on	Request cholesterol
calceos tablets 2bd	Adcal dissolvable 1bd
insulatard penfil bd	
tamsulosin 400mg 1 on	Stopped, watch and see
laxido orange sachets 1bd	Stopped
WSP 50:50 apply od	
tiotropium 18 inhaler od	
salbutamol 100 inhaler 1-2p qds prn	
	Add lansoprazole 15mg om



Summary

- Structured approach integrated with clinical judgement is required.
- Acknowledgment that some meds may be restarted – it's a trial
- Full engagement of patient, family, carers is imperative and honesty all round
- MDT working is a must
  - Share the workload with specialists
  - Patients, relatives, carers, community pharmacists, OTs, nurses etc can monitor drug effects and feedback
- Focus on patients with the highest medication related risks and morbidities
- For individual patients, focus on the drugs with the highest risks or highest benefits

References and further reading

1. Garfinkel D, Mangin D. Feasibility study of a systematic approach for discontinuation of multiple medications in older adults: addressing polypharmacy. *Arch. Intern Med* 2012;170:1648-54.
2. O'Mahony, O'Connor. Pharmacotherapy at the end-of-life. *Age and ageing* 2011;40;419-22
3. Hilmer SN, Gnjidic D and Le Couteur D.Thinking through the medication list. *Australian Family Physician* 2012 Vol 41 no 12, p924
4. Describing deprescribing. doi: 10.1136/dtb.2014.3.0238. *DTB published online March 6, 2014*
5. Montastruc JL, Montastruc F. Prescribe, but also know how to "deprescribe". Prescrire Int. 2013; 22: 192.
6. NHS Highland. Polypharmacy: Guidance for prescribing in frail elderly 2011
7. Gallagher P et al. Screening tool of older people's potentially inappropriate prescriptions. *Int J Clin Pharmacol Ther* 2008;46:72-83
8. Hanlon J et al. Medication Appropriateness Index- MAI. *J Clin Epidemiol* 1992;45:1045-51

Thank you for listening