New approaches to Polypharmacy: Oligopharmacy and Deprescribing

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MUS Team: Winner: RPS Pharmaceutical Care award 2013; Finalist: HSJ Patient safety in primary care award 2013;
Winner: UKCPA/Guild Conference Best Poster award 2013; Winner: UKCPA Pain award 2012;
Winner: UKCPA Respiratory award 2012
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 risk?- Frail older people

What is frailty?

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

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

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.
Deprescribing: getting the right balance

Life expectancy, comorbidity burden, care goals, patient preferences, benefits of medicines

ADRs, risks and harms of medicines
How to identify frailty?

The Simple “FRAIL” Questionnaire Screening Tool

3 or greater = frailty; 1 or 2 = prefrail
Fatigue: Are you fatigued?
Resistance: Cannot walk up 1 flight of stairs?
Aerobic: Cannot walk 1 block?
Illnesses: Do you have more than 5 illnesses?
Loss of weight: Have you lost more than 5% of your weight in the past 6 months?

What the literature show¹-³

- 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
Garfinkel et al 2010

Feasibility study of a systematic approach for discontinuation of multiple medication in older adults

- 70 community dwelling older adults (Feb 05-Jun 08)
- Follow up every 3-6 months
- Algorithm based on evidence for drug indication
- Algorithm identified 311 drugs (in 64 pts) to stop
- 256 drugs considered after family discussion
  - 81% discontinued
  - 2% restarted
  - 88% reported global improvements in health.
  - 100% success for benzodiazepines
The Good Palliative–Geriatric Practice algorithm


Discuss the following with the patient/guardian

An evidence-based consensus exists for using the drug for the indication given in its current dosing rate in this patient’s age group and disability level, and the benefit outweighs all possible known adverse effects

No/Not sure

Indication seems valid and relevant in this patient’s age group and disability level

No

Do the known possible adverse reactions of the drug outweigh possible benefit in old, disabled patients?

Yes

STOP DRUG

No

Any adverse symptoms or signs that may be related to the drug?

Yes

SHIFT TO ANOTHER DRUG

No

Is there another drug that may be superior to the one in question?

Yes

SHIFT TO ANOTHER DRUG

No

Can the dosing rate be reduced with no significant risk?

Yes

Reduce dose

No

Continue with the same dosing rate
O’Mahoney et al (of STOPP/START fame…)

Review of principles for best practice in oligopharmacy

• Focus is End-of-life or pre-terminal phase
• Differentiates btwn starting new drugs vs stopping existing drugs
• Suggests using STOPP tool to identify drugs for stopping
• Considers suitability/need for drug classes rather than indication for prescribing (cf Garfinkiel)
  – Drugs for primary and life extension
  – Drugs for secondary prevention except benefits
• Aim for <5 medicines, minimise tablet count and doses per day
• Optimise formulation and administration methods (liaise with community pharmacist) & refer for MUR where appropriate
Hilmer S 2012

Evidence based discussion for appropriate prescribing and deprescribing

- Differentiates between robust vs frail older people
- Considers appropriateness based on current poor evidence for commonly prescribed medicines in older people
- Drug assessment based on adherence, ADRs, indications and interactions
- Considers ethical principles
- Multidisciplinary support required for GP to deprescribe safely
## Key steps in optimising an older patient's medical therapy


<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient assessment</td>
<td>Complete medical and functional history from patient and/or carer. Where possible, estimate frailty, life expectancy and likely trajectory of decline</td>
</tr>
<tr>
<td>Therapeutic goals</td>
<td>Determine goals of care with patient and/or carer: symptom relief, optimisation of physical and cognitive function, preventive</td>
</tr>
<tr>
<td>Medication history</td>
<td>Obtain complete list of medicines and dosages including prescription, over-the-counter and complementary medicines</td>
</tr>
<tr>
<td>Correlate</td>
<td>Match the medical history with the medication history</td>
</tr>
</tbody>
</table>
| Assess medicines | Consider the following about the medications:  
- Adherence  
- Adverse reactions: present, risk  
- Indications: active, treatment target, time to benefit, consistent with goals of treatment  
- Interactions |
| Optimise medicines with net benefit | For medications to be continued or commenced, optimise dose and simplify administration regimen |
| Cease medicines without net benefit | For medications to be ceased, cease one at a time, starting with medicines most likely to be causing adverse events. Gradually wean medicines that are likely to cause adverse drug withdrawal events, such as central nervous system active medicines, beta-blockers and corticosteroids |
| Monitor | Monitor to assess adherence, adverse drug events or withdrawal events, achievement of goals of care |
# Summarising the literature

<table>
<thead>
<tr>
<th>Key steps</th>
<th>Garfinkel</th>
<th>O’Mahoney</th>
<th>Hilmer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Assess patient</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>2. Define overall patient goals</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>3. Identify inappropriate drugs from accurate list of medication</td>
<td>GP-GP Algorithm</td>
<td>STOPP tool</td>
<td>EBM/ethics</td>
</tr>
<tr>
<td>4. Assess each drug for specific risks vs. benefits in context</td>
<td>GP-GP Algorithm</td>
<td>Life extending $1^0/2^0$ prevention drugs</td>
<td>ADR, adherence, indication, interactions</td>
</tr>
<tr>
<td>5. Decide to stop or reduce dose</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>6. Communicate with GP</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>7. Monitor regularly and adjust accordingly</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>
A structured approach to reducing polypharmacy: Key stages

1. Assess patient
2. Define overall treatment goals
3. Identify inappropriate drugs from accurate medicines list
4. Assess each drug for specific risks & benefits in the context of individual patient
5. Decide to stop or reduce dose
6. Communicate with GP
7. Monitor regularly & adjust
Assess patient

With patient and carers

- Medical history
- Functional history
- Estimate frailty, life expectancy (NHS highland tool\textsuperscript{4}) & trajectory decline
Define overall goal

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

• Tools
  – Evidence/consensus guidance to support its use in older people
  – Estimates of risks/benefits
  – STOPP tool
  – GP-GP algorithm
  – MAI tool

• Clinical judgement and 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 outweighed 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
If shortened life expectancy, query....

• Drugs for primary prevention ⇒ No place
• Drugs for secondary prevention ⇒ ONLY if time to benefit exceeds life expectancy
  • Lipid lowering drugs
  • Prevention of fragility #
• ACEI, ARB, BB to prevent diabetic neuropathy/HF mortality
• Memantine for improved cognition
Decide to stop or reduce dose

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

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

• Prioritise
• Prepare a range of options for each drug
• Present in a simple format
• Face to face with prescriber is best
• Follow up with written summary, highlighting
  – Evidence base/rationale
  – Agreed action for each drug and monitoring
### Icarus Grid - Example

**Indication?**
- Continuing problem!
- Appropriate dose!
- Reduction possible?
- Uncontrolled symptoms?
- See again?

<table>
<thead>
<tr>
<th>Drug and Dose</th>
<th>Indication</th>
<th>Continuing Problem?</th>
<th>Appropriate Dose?</th>
<th>Reduction Possible?</th>
<th>Uncontrolled Symptoms?</th>
<th>See Again?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lisinopril 10mg daily</td>
<td>Hypertension</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes Reduce to 5mg daily</td>
<td>1 month Weekly BP till review</td>
</tr>
<tr>
<td>Simvastatin 40mg nocte</td>
<td>Secondary prevention cerebrovascular disease</td>
<td>CVA 5 years ago</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td>Consider stopping after discussion with staff and family</td>
</tr>
<tr>
<td>Amisulpride 50mg bd</td>
<td>Behavioural problems of dementia</td>
<td>No - Staff using behavioural management. No aggressive behaviour for 6 months</td>
<td>Yes</td>
<td>Yes</td>
<td>Reduce to 50mg daily (with aim to stop altogether if possible)</td>
<td>No</td>
</tr>
<tr>
<td>Citralopram 10mg daily</td>
<td>Depression</td>
<td>Yes</td>
<td>Consider increase to 20mg daily</td>
<td></td>
<td>High Cornell score. Prolonged tears on daily basis. Sad effect</td>
<td>1m</td>
</tr>
<tr>
<td>Levothyroxine 100mcg daily</td>
<td>Hypothyroidism</td>
<td>Yes</td>
<td>Needs TSH check last one 14 months ago</td>
<td></td>
<td></td>
<td>12m if TSH OK.</td>
</tr>
<tr>
<td>Fortisips tds</td>
<td>MUST tool high malnutrtion risk 12m ago</td>
<td>No</td>
<td>Has gained weight BMI&gt;20 eating well now fed by staff</td>
<td>Stop</td>
<td></td>
<td>Monitor weight monthly &amp; review 3m</td>
</tr>
</tbody>
</table>

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Barriers to change

- Pre-empt resistance, easier to maintain the status quo!
- Easy to start drugs but difficult to stop
- Little evidence/guidance on how to deprescribe safely → medico legal considerations
- Withdrawal in older people can be unpredictable/risky
- Time consuming re changing, monitoring/follow up
- GP reluctance to stop drugs
  - Started by specialists
  - Where there is a +ve guideline recommendation
- Consent and capacity issues in older people
Regular monitoring & adjust

• Be clear about what monitoring is needed and ensure its in place
• Look out for ADRs, toxicity, benefits
• Look out for non specific ADRs - geriatric syndromes
• Review as needed or at least 3-6 months
• Communicate with others about changes
Summary: Oligopharmacy and Deprescribing is everybody’s business

- 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.
- Pharmacists can lead the process but must work with MDT
  - 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

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

Further reading