Tackling Polypharmacy:
Safe and Sensible Solutions
for Frail Adults

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What we are going do

• Words and Meanings
  – Old v Frail

• Common Clinical Patterns

• Building prescribing strategies based on those concepts
  – Current
  – Future
Disclaimers

- Stopping drugs is **not** the primary goal

- Thinking openly and carefully is the goal
What is Polypharmacy

• >4
• >10
• ???

• More drugs than you need taking in to account
  – Side effects
  – Time to Benefit
  – Adherence
  – ++++++
Polypharmacy Projects
Prescribing in OLDER adults
Polypharmacy Projects

= 

More thought in prescribing in physiologically vulnerable adults
Key Concepts

• Frailty
  – a decreased ability to withstand illness without loss of function

• Age is next to useless
Functional Status v Age
Key Clinical Scenarios

1. Sudden change in function
2. Stepwise Decline
3. Slow dwindling
Functional history as important as Past Medical History
A/E Referral

76 year old lady.

• Fall at home. Daughter visited and could not get her up. NHS 24, ambulance arrived. Up but unsteady +++.
• No obvious fractures.
• Urinary Frequency.
• Appears confused.
• Can’t get her walking
• Normally Fit well.
• No other discharge alternatives.
  • Admit medical

Emergency Care Summary

Thyroxine 50mcg od
Perindopril 4mg od
Atenolol 50 mg o
Indapamide 2.5mg od
AdCal D3 1 tab bd
Alendronate 70mg weekly
Metformin 500mg tds
Gliclazide 80mg bd
Aspirin 75mg od
Warfarin
Simvastatin 40mg nocte
Cocodamol 30/500 2 tabs PRN
Detrusitol XL 4mg od
In this case

• “Independent and manages well”
  – Twice daily care since #NOF last year
  – Dosette box (?2)
  – Lives alone
  – Daughter visits daily
  – “Wheeled zimmer fantastic”

• Cognition
  – Not normally confused
  – “Long term memory excellent”
Mobility dipped? TIA
Husband dies. Not getting out as much

'Bad' UTI
Diagnosed Diabetes

Chest Infection
Hip #

UTI
Multimorbidity is common in Scotland

- The majority of over-65s have 2 or more conditions
- The majority of over-75s have 3 or more conditions

Honesty about Guidelines

• Done with a SINGLE disease in mind

• Based on studies in non-frail

• Are not made with the frail multimorbid in mind

• They are GUIDElines but
  – Can be VERY hard to ‘defy’ them
Why did you jump off a cliff?

Because the Guideline told me to.
The Scottish Solution

• 2009 – 2010
  – Projects in various Health Boards in Scotland

• 2011 -2012
  – Formation of a national action group to consider

• Released Oct 2012
Polypharmacy Guidance
October 2012

Developed by The Model of Care Polypharmacy Working Group

Quality and Efficiency Support Team
Scottish Government Health and Social Care Directorates

Version 1.2 – controlled only when electronic – to be updated September 2013

- National Guideline
- Resource
What did it consider

- Process of a drug review
- Lots of data!
- NNT from big trials
## Section 2: Clinical Guidance

### 2.1 Drug review process

This review should be undertaken in the context of holistic care considering each medication and its impact on the individual clinical circumstances of each patient. As part of this it is important to consider the cumulative effects of medications.

<table>
<thead>
<tr>
<th>Number</th>
<th>CRITERIA / CONSIDERATIONS</th>
<th>PROCESS/GUIDANCE</th>
<th>References / Further reading or Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Is there a valid and current indication? Is the dose appropriate?</td>
<td>Identify medicine and check that it does have a valid and current indication in this patient with reference to local formulary. Check the dose is appropriate (over/under dosing?)</td>
<td>e.g., PPIs- use minimum dose to control GI symptoms - risk of <em>c. difficile</em> and fracture - e.g. quinine use - see MHRA advice re safety - e.g. long term antibiotics</td>
</tr>
<tr>
<td>2</td>
<td>Is the medicine preventing rapid symptomatic deterioration?</td>
<td>Is the medicine important/essential in preventing rapid symptomatic deterioration? If so, it should usually be continued or only be discontinued following specialist advice.</td>
<td>e.g., Medications for Heart failure, medications for Parkinson’s Disease are of high day to day benefit and require specialist input if being altered. review of doses may be appropriate e.g. digoxin</td>
</tr>
<tr>
<td>3</td>
<td>Is the medicine fulfilling an essential replacement function?</td>
<td>If the medicine is serving a vital replacement function, it should continue.</td>
<td>e.g., thyroxine and other hormones</td>
</tr>
<tr>
<td>4</td>
<td>Consider medication safety Is the medicine causing: - Any actual or potential ADRs? - Any actual or potentially serious drug interactions?</td>
<td>Contraindicated drug or high risk drugs group?</td>
<td>Strongly consider stopping</td>
</tr>
<tr>
<td>5</td>
<td>Consider drug effectiveness in this group/person?</td>
<td>For medicines not covered by steps 1 to 4 above, compare the medicine to the ‘Drug Effectiveness Summary’ which aims to estimate effectiveness.</td>
<td>Ref. <em>Drug Effectiveness Summary</em> Ref. <em>NNT/NNH</em> Medication used for dementia patients - see Gold SF</td>
</tr>
<tr>
<td>6</td>
<td>Are the form of medicine and the dosing schedule appropriate? Is there a more cost effective alternative with no detriment to patient care?</td>
<td>Is the medicine in a form that the patient can take supplied in the most appropriate way and the least burdensome dosing strategy? Is the patient prepared to take the medication? UKMI Guidance on choosing medicines for patients unable to swallow solid oral dosage forms should be followed.</td>
<td>Consideration should be given to the stability of medications. Ensure changes are communicated to the patients’ Pharmacist: Would this patient benefit form Chronic medication Service?</td>
</tr>
<tr>
<td>7</td>
<td>Do you have the informed agreement of the patient/carer/welfare proxy?</td>
<td>Once all the medicines have been through steps 1 to 6, decide with the patient/carer/or welfare proxy what medicines have an effect of sufficient magnitude to consider continuation/discontinuation.</td>
<td></td>
</tr>
</tbody>
</table>

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For Each Drug

1. Is there a **valid and current indication**? Is the dose appropriate?

2. Is the medicine preventing rapid symptomatic deterioration?

3. Is the medicine fulfilling an **essential replacement** function?

4. Consider **medication safety**….Is the medicine causing
   1. -Any actual or potential ADRs?
   2. -Any actual or potentially serious drug interactions?

5. Consider **drug effectiveness** in this group/person?

6. Are the **form** of medicine and the **dosing schedule** appropriate? Is there a more **cost effective** alternative with no detriment to patient care?

7. Do you have the **informed agreement** of the patient/carer/welfare proxy?
1. Is it a toxic drug
   - Anticholinergics
   - Disasterous combinations

2. Is it good symptomatic relief/doing some tangible good
   - Pain killers
   - Heart Failure Drugs

3. Is it a population treatment
   - Likely benefit within expected lifespan.
High Risk Example
Risk of bleeding with combination antiplatelet / anticoagulation

- Taking warfarin as baseline [ie 1] risk of bleeding at one is as follows

- Aspirin 0.93 [0.88 - 0.98]
- Clopidogrel 1.06 [0.87 - 1.29]
- Aspirin + Clopidogrel 1.66 [1.34 - 2.04]
- Warfarin + Aspirin 1.83 [1.72-1.96]
- Warfarin + Clopidogrel 3.08 [2.32 - 3.91]
  13.9% bleed risk /patient year
- Warfarin + Aspirin + Clopidogrel 3.7 [2.89 - 4.76]
  15.7% bleed risk /patient year

Drug Effectiveness

• Secondary Prevention works

• ……but how much ?

– Selected Highlights
Population Treatments v Individual Benefit / Risk
Drug Effectiveness Example

ACE Inhibitors
Population treatments

v

Individual Benefit / Risk
Population treatments

v

Individual Benefit / Risk
Population treatments vs Individual Benefit / Risk
Population treatments v
Individual Benefit /Risk
Drug Effectiveness Example

ACE Inhibitors
Drug Safety

Sick day rules
STOP
- ACE inhibitors
- Angiotensin 2 Receptor Blockers
- NSAIDs
- Diuretics
- Metformin

**In Dehydrated Adults**
For example those suffering from more than minor vomiting/diarrhoea.

Restart when well (eg 24 to 48 hrs eating and drinking normally).

Adults with advanced heart failure can decompensate rapidly off drugs and adults with more than minor dehydration in this group need urgent specialist advice.
Key risk/benefit Questions

- [Postural] Blood Pressure too low?
- Blood Sugar [Hba1c] too low?
- Blood too thin [ed]?
- Kidneys too vulnerable?
Since Release Highland Guideline

• 4000+ reviews in Highland

• Projects in
  – NHS Forth Valley [1200 + analysed reviews]
  – NHS Lothian
  – NHS Tayside
  – NHS Grampian
  – NHS Lanarkshire
  – ..........

• Requests for Highland Guideline from
  – All the Scottish Boards
  – 3 PCTs in England
  – 2 in Wales
  – 2 in New Zealand
  – 1 in USA
  – NICE

• No adverse publicity - yet
Why did it not raise antibodies?

- 100% focus on Frailty and Co-morbidity not AGE alone
- 100% focus on SAFETY
- Honesty regarding what drugs we may be stopping
  - Cheaper
  - Won’t save £millions.
Future Work
GP-POLY trial

- NIHR Health Technology Assessment funded trial that will run in Fife and Forth Valley starting in 2013/14
- Evaluating GP-led medication review in people
  - Aged 80 and over
  - With multiple conditions
  - Targeting the frailest patients in whom prescribing is most complex
- All participating practices receive the intervention, but the date they start it is randomised
GP-POLY trial

• The intervention consists of:
  – An educational meeting held in the practice
  – Written & web-based material to support effective review
  – An informatics tool to identify patients and to record reviews for payment
  – An enhanced services style contract paying £350 up front for set-up costs and £40 per review completed
  – The review is done by the patient’s own GP, and has to be face to face in an extended appointment (prescribing is typically very complex)

• A practice with 5000 patients will have ~80 patients eligible for review
Summary

• NHS has developed effective ways of starting medications

• NHS must develop better ways of meeting the ongoing needs of those with multimorbidity or frailty.

• Polypharmacy projects are an effective and acceptable aid to this in respect to medication
Any Questions?