Reference Sources/Tools to Support the Medication Review Process

Contents (with hyperlinks to relevant references)

1. Drug review process
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4. Assessing potential risk of drug interactions
5. Information relating to shortened life expectancy or frailty
6. Information to support shared decision making with your patient

Approved by: NHSGGC Polypharmacy Subcommittee of ADTC
Date approved: December 2013
Date for review: December 2015
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>
</table>
| 1      | Is there a valid and current indication? | Identify medicine and check it has a valid and current indication in this patient with reference to GGC formulary. Check the dose is appropriate (over/under dosing?) | e.g. PPIs- use minimum dose to control GI symptoms - risk of *c. difficile* and fracture  
  e.g. quinine use- see MHRA advice re safety  
  e.g. long term antibiotics |
| 2      | Is the medicine preventing rapid symptomatic deterioration? | Is the medicine important/essential in preventing rapid symptomatic deterioration of high day to day benefit? If so, it should usually be continued or only be discontinued following specialist advice. | e.g. Meds for heart failure, Parkinson’s Disease  
  Require specialist input if being altered/stopped  
  Review of doses may be appropriate e.g. digoxin |
| 3      | Is the medicine fulfilling an essential replacement function? | If the medicine is serving a vital replacement function, it should continue. | e.g. thyroxine and other hormones |
| 4      | Consider medication safety  
  Is the medicine causing:  
  - Any actual or potential ADRs?  
  - Any actual or potentially serious drug interactions? | Contra-indicated drug or high risk drugs group  
  Poorly tolerated in frail patients? For guidance on frailty see Gold Standards Framework  
  Particular side effects? | Strongly consider stopping  
  Consider stopping  
  May need to consider stopping |
| 5      | Consider drug effectiveness in this group/person? | For medicines not covered by steps 1 to 4 above, compare the medicine to the ‘Drug Effectiveness Summary’ which aims to estimate effectiveness. | Ref. Drug effectiveness summary (NNTs).  
  Ref: National Polypharmacy Guidance further info re NNHs and medication use for patients with dementia  
  Ref: Gold Standards Framework for guidance re meds use in patients with shortened life expectancy/frailty |
| 6      | Are the form of medicine and the dosing schedule appropriate?  
  Is there a more cost effective alternative with no detriment to patient care? | 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. | Consideration should be given to the stability of medications  
  Ensure changes are communicated to the patients’ community pharmacist considering if this patient would benefit from Chronic Medication Service? |
| 7      | Do you have the informed agreement of the patient/carer/welfare proxy? | Once all the medicines have been through steps 1 to 6, decide with the patient/carer/or welfare proxies what medicines have an effect of sufficient magnitude to consider continuation/discontinuation. | |

NHSGGC Tools to support the medication review process December 2013
2. Drug effectiveness summary – NNTs (With thanks to NHS Highland) - See section 2.2 of the National Polypharmacy Guidance at http://www.qihub.scot.nhs.uk/media/459062/polypharmacy%20full%20guidance%20v2.doc for additional information)

ACE INHIBITORS

<table>
<thead>
<tr>
<th>Indication</th>
<th>NNT per annum</th>
<th>To do what</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elevated Vascular Risk [Normal LV]</td>
<td>280</td>
<td>Prevent one death [all causes]</td>
<td>Trial ran for 5 years</td>
</tr>
<tr>
<td>Impaired LV Function-mild/moderate</td>
<td>30</td>
<td>Prevent one death [all causes]</td>
<td>Likely symptomatic benefit</td>
</tr>
<tr>
<td>Combination therapy including ACE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACE + Indapamide</td>
<td>55</td>
<td>Prevent one stroke</td>
<td>Trial ran for 5 years</td>
</tr>
<tr>
<td>Secondary Prevention post MI &gt; 80 yrs [ACE + BB + ASP + STAT]</td>
<td>33</td>
<td>Prevent one Death</td>
<td></td>
</tr>
<tr>
<td>ACE + Beta blocker for impaired LV</td>
<td>14</td>
<td>Prevent one death</td>
<td>Likely symptomatic benefit</td>
</tr>
<tr>
<td>Impaired LV Mild/moderate ACE + BB</td>
<td>15</td>
<td>Prevent one Death</td>
<td>Likely symptomatic benefit</td>
</tr>
<tr>
<td>Impaired LV Severe ACE + BB + Spiro</td>
<td>7</td>
<td>Prevent one Death</td>
<td></td>
</tr>
<tr>
<td>ASPIRIN Primary Prevention</td>
<td>Enormous</td>
<td>Prevent one stroke or MI or Vascular Death</td>
<td></td>
</tr>
<tr>
<td>ASPIRIN Post Stroke/ TIA</td>
<td>100</td>
<td>Prevent one stroke or MI or Vascular Death</td>
<td>BNF caution in cardiac disease</td>
</tr>
<tr>
<td>DYPYRIDAMOLE In addition to ASPIRIN post stroke/TIA</td>
<td>100</td>
<td>Prevent one vascular event</td>
<td></td>
</tr>
<tr>
<td>CLOPIDOGREL post stroke or TIA</td>
<td></td>
<td>Equivalent to Dipyridamole + Aspirin</td>
<td>Prevent one vascular event</td>
</tr>
<tr>
<td>ATRIAL FIBRILLATION</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AF + another risk factor WARFARIN v ASPIRIN</td>
<td>40</td>
<td>Prevent one Stroke- no difference in mortality</td>
<td></td>
</tr>
<tr>
<td>AF (Secondary Prevention after Stroke) WARFARIN v ASPIRIN</td>
<td>16</td>
<td>Prevent one Stroke</td>
<td></td>
</tr>
<tr>
<td>ASPIRIN</td>
<td>No effect</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

HSFGGC Tools to support the medication review process December 2013
STATINS

<table>
<thead>
<tr>
<th>Condition</th>
<th>NNT per annum</th>
<th>To do what</th>
</tr>
</thead>
<tbody>
<tr>
<td>MI or Angina</td>
<td>80 to 170</td>
<td>Major Coronary Event.</td>
</tr>
<tr>
<td>Post Stroke (Atorva 80 v Placebo)</td>
<td>165</td>
<td>One Cardiovascular Event</td>
</tr>
</tbody>
</table>

**Tight HbA1c Control Strategies**

**Microvascular Risk**

- ADVANCE [HbA1c 7.3% v 6.5%] 333 One microvascular event [predominantly retinal] Trial ran 5 years
- UKPDS [HbA1c 7.9% v 7%] 200 One microvascular event [predominantly retinal] Trial ran 10 years

**Macrovascular Risk**

No difference at 10 years

**Metformin**

- Overweight / obese Diabetic 50 One MI or Diabetes event or Death 10 year follow up
- Standard < 140 BP control in diabetes any means 57 One Stroke or major diabetes event or death 8 year follow up

**Tight BP control in diabetes**

- BP 120 v BP 134 500 Prevent one stroke 4 years minimum for effect

<table>
<thead>
<tr>
<th>Condition</th>
<th>NNT per annum to prevent further #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Osteoporosis [Alendronate + Calcium/VitD]</td>
<td>2y Prevention Vertebral #</td>
</tr>
<tr>
<td>70 - 74 years</td>
<td>65</td>
</tr>
<tr>
<td>75 - 79 years</td>
<td>45</td>
</tr>
<tr>
<td>80 - 84 years</td>
<td>60</td>
</tr>
<tr>
<td>85 - 89 years</td>
<td>55</td>
</tr>
<tr>
<td>90+ years</td>
<td>40</td>
</tr>
</tbody>
</table>

**Notes for Osteoporosis**

NNT per annum to prevent further #
Potential symptomatic benefit re Vertebral #
Normally 2 years needed to see effect.

**High Risk Combinations**

These combinations are noted to be particularly high risk and should be looked for and stopped at every drug review.

<table>
<thead>
<tr>
<th>NSAI D</th>
<th>+ACE or ARB + Diuretic [‘Triple Whammy’ combo] +eGFR &lt;60 +diagnosis heart failure +Warfarin +age &gt;75 without PPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warfarin</td>
<td>+ another antiplatelet. +NSAID +Macrolide +Quinolone +Metronidazole +azole antifungal</td>
</tr>
</tbody>
</table>

**Drugs that are tolerated poorly in frail patients**

It is particularly important to clarify if patients on the following have a **Valid and Current Indication** and are still felt to be effective.

- Digoxin in higher doses 250 microgram + Antipsychotics
- Tricyclic antidepressants
- Benzodiazepines particularly long term
- Anticholinergics
- Phenothiazines [e.g. prochlorperazine]
- Combinations painkillers [e.g. co-codamol v paracetamol]

**STOP if dehydrated**

- ACE inhibitors
- Angiotensin 2 Receptor Blockers
- NSAIDs
- Diuretics
- Spironolactone , Eplerenone
- Metformin

For example those suffering from more than minor vomiting/diarrhoea. Restart when well (e.g. 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 review.
3. Guidance related to specific drugs or BNF sections

See Sections 2.5 and 2.8 of the National Polypharmacy Guidance at http://www.qihub.scot.nhs.uk/media/459062/polypharmacy%20full%20guidance%20v2.doc which provides guidance on specific drugs and BNF sections to target (based on a modified STOPP tool) and other factors to consider when conducting a review including:

- Medication most associated with admission due to adverse drug reactions
- Anticipatory care during intercurrent illness: drugs and dehydration
- Drugs which can be associated with rapid symptomatic decline if stopped
- Drugs for which specialist advice is strongly advised before altering
- Management of blood glucose control – effects of intensifying control
- Newer oral hypoglycaemics and heart failure
- Anticholinergic effects of commonly prescribed medication
- Specific considerations for patients with dementia
- Specific considerations for patients at risk of falls

The STOPP tool is a screening tool which can be used to identify potentially inappropriate prescribing for older people. See at http://www.em-consulte.com/showarticlefile/245669/main.pdf

The Anticholinergic Cognitive Burden Scale was developed with UK Medicines Research Council is used to assess potential risk of anticholinergic side effects of commonly prescribed drugs.

It is available at http://www.indydiscoverynetwork.org/AnticholinergicCognitiveBurdenScale.html

4. Assessing potential risk of drug interactions

See www.bnf.org for current advice on interactions which are potentially serious and where combined administration of the drugs involved should be avoided (or only undertaken with caution and appropriate monitoring)

See Sections 2.5 and 2.6 of the National Polypharmacy Guidance at http://www.qihub.scot.nhs.uk/media/459062/polypharmacy%20full%20guidance%20v2.doc which provides further guidance on high risk drug combinations to avoid

5. Information regarding shortened life expectancy and frailty

The following guidance contained in the prognostic indicators guidance from the Gold Standards Framework enables better identification of patients with shortened life expectancy. A full copy of this guidance is available at:

6. **Information to support shared decision making with your patient**

Shared decision making sheets (SDMS) are resources designed to facilitate a conversation about the reasons for choosing one treatment option over and above another treatment option between people with different types of expertise: professionals with access to evidence-based information on treatment effectiveness, disease outcome and patient’s clinical data; patients with access to their experience of illness, views about treatment and knowledge of how they (want to) live their lives. Both parties need to understand why the treatment chosen was the best one for the patient given that it may, or may not, be the most clinically effective option.

See [http://sdm.rightcare.nhs.uk/shared-decision-making-sheets/](http://sdm.rightcare.nhs.uk/shared-decision-making-sheets/) for visual aids

See [http://www.thennt.com/](http://www.thennt.com/) for a quick summary of evidence based medicine

See [http://www.nntonline.net/visualrx/](http://www.nntonline.net/visualrx/) which turns NNTs into visual aids to discuss with patients

See [http://www.choiceandmedication.org/cms/?lang=en](http://www.choiceandmedication.org/cms/?lang=en) for the choice and medication websites offer people information about medications used in the mental health setting to help people make informed decisions about medication