Dear Colleague

APPROPRIATE PRESCRIBING FOR PATIENTS AND POLYPHARMACY GUIDANCE FOR REVIEW OF QUALITY, SAFE AND EFFECTIVE USE OF LONG-TERM MEDICATION

Introduction

NHS Scotland has a very good track record in delivering high standards of care and the safe, effective and efficient use of medication is no exception. All clinicians are asked to consider the appropriateness of long term prescribing not only when reviewing existing treatments but also when starting new medicines (see Annex 1: Algorithm for improving drug therapy in patients). It is recognised that there is a challenge of providing safe and effective healthcare with a population that is aging and suffers from multiple – morbidities.

Background

Medication is by far the most common form of medical intervention. Four out of five people aged over 75 years take a prescription medicine and 36 per cent are taking four or more\(^1\). However, it is suggested that up to 50 per cent of drugs are not taken as prescribed, many drugs in common use can cause problems and that adverse reactions to medicines are implicated in 5 - 17 per cent of hospital admissions\(^2\).

Research has demonstrated that patients on multiple medications are more likely to suffer drug side effects and that this is more related to the number of co-morbidities a patient has than age\(^2\). There is a clear and steady increase in the number of patients admitted to hospital with drug side effects\(^3\). Patients admitted with one drug side effect are more than twice as likely to be admitted with another. There may be the situation where the potential harm of the drug outweighs any possible benefit. Drug side effects can also be more common as a result of altered pharmacodynamics and pharmacokinetics in the elderly. This can lead to a situation where adults can suffer from side effects that can lead to hospital admission.

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\(^2\) Co-morbidity and repeat admission to hospital for adverse drug reactions in older adults: retrospective cohort study M Zhang et al BMJ 2009;338:a275

\(^3\) Adverse drug reactions as cause of admission to hospital: prospective analysis of 18 820 patients M Pirmohamed et al, BMJ 2004;329:15-19
We are pleased to present the Polypharmacy Guidance for 2012. This is the first iteration of a national approach to address the issues resulting from the use of multiple medicines in the frail and elderly population. The aim is to improve therapeutic care by reducing the risk of adverse drug reactions associated with polypharmacy.

The direct link to the document is:

It is important to highlight that this report contains both management information for boards to use locally and guidance information for clinicians to undertake the review.

Management information included is the evidence based rationale behind this approach to addressing polypharmacy. In addition there is included a set of tools that can be used by NHS Boards to form the guidance documents to allow clinicians to implement change.

A quick reference guide for clinicians has also been produced and this can be accessed at:

Annex 2 illustrates the process to be undertaken when carrying out medication reviews

**Actions**

It is recommended that the Polypharmacy Guidance 2012 is considered by boards for Prescribing Action Plans and in addition:

(i) NHS boards Drug and Therapeutics Committee should ensure that boards have plans in place to review patients identified as high risk by multidisciplinary teams

(ii) NHS boards collect the information required to allow for evaluation on the impact of reviews for patients as detailed in the guidance.

Yours sincerely

**Harry Burns**

**Bill Scott**

**SIR HARRY BURNS**

Chief Medical Officer

**PROFESSOR BILL SCOTT**

Chief Pharmaceutical Officer
ALGORITHM FOR IMPROVING DRUG THERAPY IN PATIENTS

Is there an evidence-based guideline/consensus exists for using the drug for the indication and its current dosage, in this patient’s age group, and the benefits outweigh all possible known adverse effects?

- NO/NOT SURE
  - Does the indication seem valid and relevant in this patient’s age group?
    - NO: Stop drug
    - YES: Continue with the same drug and dosage
  - Do the known possible adverse reactions of the drug outweigh possible benefits in this patient’s age group?
    - NO: STOP drug and consider need for another drug
    - YES: Continue with drug but reduce dosage
  - Are there any adverse symptoms or signs that may be related to the drug?
    - NO: Continue with the same drug and dosage
    - YES: Stop drug
  - Is there another drug that may be more appropriate to the one in question?
    - NO: Continue with the same drug and dosage
    - YES: Stop drug and consider need for another drug
  - Can the dosage be reduced with no significant risk?
    - YES: Continue with drug but reduce dosage
    - NO: Continue with the same drug and dosage

This algorithm is an adaptation of an algorithm detailed in *Resolving Polypharmacy in the Disabled Elderly; IMAJ; Volume 9; June 2007 p 431*
Annex 2: 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.difficle</em> and fracture e.g. quinine use- see <a href="https://www.mhra.gov.uk">MHRA advice re safety</a> e.g. long term antibiotics</td>
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<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>
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<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><strong>Contraindicated drug or high risk drugs group?</strong></td>
<td>Strongly consider stopping</td>
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<td></td>
<td></td>
<td><strong>Poorly tolerated in frail patients? For guidance on frailty see <a href="https://www.goldnationalframework.org.uk">Gold National Framework</a></strong></td>
<td>Consider stopping</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Particular side effects?</strong></td>
<td>May need to consider stopping</td>
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<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. <a href="https://www.goldnationalframework.org.uk">Drug Effectiveness Summary</a> Ref NNT/NNH Medication used for dementia patients- see <a href="https://www.goldnationalframework.org.uk">Gold SF</a></td>
</tr>
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<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: <em>Would this patient benefit form Chronic medication Service?</em></td>
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<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 proxies what medicines have an effect of sufficient magnitude to consider continuation/discontinuation.</td>
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