LEVEL 3 MEDICATION REVIEW FOR PATIENTS ON 10 OR MORE REPEAT MEDICINES

This Polypharmacy Medication Review is one of the workstream options to fulfil the requirement of QOF Med 10; ‘The practice agrees three actions related to prescribing and subsequently provides evidence of change’.

The purpose of choosing to target this area as one of the QOF Medicines Management Actions is to ensure consistency and to standardise medication review for patients within Aneurin Bevan Health Board and to recognise the problems associated with poly-pharmacy, especially in the frail elderly patient.

The practice will be required to complete 10 medication reviews in patients on 10 or more medications and to complete an intervention template for each patient, providing information on the number and type of medications being reviewed, the nature of any interventions made and whether the patient is frail or a palliative care patient.

The reviews must be submitted to the locality pharmacy team by 31st March 2014.
The Clinical Medication Review

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 We also know that up to 50 percent of drugs are not taken as intended. Whilst not doubting the efficacy of medicines, in clinical use, some medicines do little good and at worst cause some considerable harm. Adverse reactions to medicines are implicated in 5 -17 percent of hospital admissions ². In addition it is also estimated that about 20 percent of GP claims received by the Medical Protection Society are due to medication errors; in the majority of these, prescribing is at fault. ³

The medication review is increasingly recognised as a cornerstone of medicines management, improving patient safety, improving concordance and reducing waste. The National Service Framework for Older People specifies that all people over 75 years should have their medicines reviewed at least annually or 6 monthly if taking four or more. ⁴ Within primary care the GMS contract ¹ sets targets for medication reviews within the Medicines Management section and QOF guidance states; “it is expected that at least a level 2 medication review will occur” i.e. the minimum standard is a treatment review of medicines with the full notes but not necessarily with the patient present. However QOF guidance goes on to say that “all patients should have the chance to raise questions and highlight problems about their medicines” and that “any changes resulting from the review are agreed with the patient”.

The level 3 review, ⁵ undertaken in the presence of the patient, is therefore seen as the gold standard and is a holistic review of the patient and all medication to check concordance, effectiveness, tolerability and appropriateness, and to decide whether treatment should be continued, changed or stopped. ⁶

The underlying principles of any medication review, whether using the patient’s full notes or face to face are:
1. All patients should have the chance to raise questions and highlight problems about their medicines.
2. Medication review seeks to improve or optimise impact of treatment for an individual patient.
3. The review is undertaken in a systematic way by a competent person.
4. Any changes resulting from the review are agreed with the patient.
5. The review is documented in the patient’s notes.
6. The impact of any change is monitored.

The ‘NO TEARS’ tool ⁷ is a useful prompt to aid efficient medication review and maximise the potential of the 10 minute consultation ⁸ (Appendix 1).

- Need and Indication
- Open Questions
- Tests and Monitoring
- Evidence and Guidelines
- Adverse Events
- Risk reduction or prevention
- Simplification and switches
Why is reviewing poly-pharmacy patients important?

Research has demonstrated that patients on multiple medications are more likely to suffer side effects, often leading to hospital admission, and this is related more to the number of co-morbidities rather than age. Patients admitted with one side effect are more than twice as likely to be admitted with another side effect. This may lead to a situation where patients may be suffering side effects from drugs from which they derive little or no benefit or where the potential for harm outweighs the potential for benefit.

The ABHB guidance for “Prescribing in Frail Adults” (Appendix 2) applies the NOTEARS medication review process (Appendix 1) in conjunction with a process for making safe and sensible decisions in situations where extra thought and consideration is needed. Patient groups include

1) Patients who are taking a large number of drugs (poly-pharmacy)
2) Patients who are taking high risk medications, more likely to cause harm. The most common drug groups associated with admission due to ADRs are NSAIDs, diuretics, warfarin, ACE, antidepressants, beta-blockers, opiates, digoxin, prednisolone, clopidogrel
3) Patients with shortened life expectancy, where life expectancy is shorter than the time required for the medication to provide significant effects
4) Frail and elderly, who may be particularly at risk of adverse drug reactions

The algorithm (Appendix 2; p2) recommends the questions that need to be considered during the review

a) Is there an evidence-based guideline or consensus for treatment?
b) Do benefits outweigh all the possible known side effects?
c) Is the drug replacing a vital hormone?
d) Is the drug preventing rapid symptomatic deterioration?
e) Is the drug expected to give day to day symptomatic benefit?
f) Is the drug being given for a condition that has resolved or that is no better despite treatment?
g) Could the drug be stopped or the dose be reduced without significant risk?

References

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
7) Using the NO TEARS tool for medication review, T Lewis, BMJ 2004;329:434
9) Co-morbidity and repeat admission to hospital for adverse drug reactions in older adults: a retrospective cohort study, M Zhang et al, BMJ 2009; 338; a275

INTERVENTION RECORDING

1. Identify 10 patients who are prescribed 10 or more repeat medications and invite to practice for a clinical medication review.

2. Only items, which can be considered as active medications, should be included when assessing the numbers of medications (Appendix 3) but all items will need to be considered when the review is undertaken.

3. Conduct the review ensuring the basic principles outlined in the ‘NO TEARS’ tool and Poly-pharmacy guidance are covered.

4. Document the review in the patient record using read code 8B3V using free text where applicable to record any interventions and implement any necessary changes.

5. Using one template form (Appendix 4) per patient, record the number of medications and whether the patient is frail or on the palliative care register.

6. List each drug where an intervention has been made and tick the box to indicate the nature of the intervention for that particular drug (for more than 3 drugs in each section please use an additional sheet)

7. On completion, please submit the 10 review sheets to the locality pharmacy team no later than 31st March 2014
Appendix 1: The NO TEARS Mnemonic to Aid Medication Review in a 10 Minute Consultation

N  Need and Indication
O  Open Questions
T  Tests and Monitoring
E  Evidence and Guidelines
A  Adverse Events
R  Risk reduction or prevention
S  Simplification and switches

Need and indication –
- Does the patient know why they take each drug?
- Is each drug still needed?
- Is the diagnosis refuted?
- Is the dose appropriate?
- Was long term therapy intended?
- Would non-pharmacological treatments be better?

Open questions –
- Allows patients to express views,
- Helps to reveal any problems they may have.

Test and Monitoring –
- Assess disease control.
- Any conditions under-treated?
- Use appropriate reference for monitoring advice e.g. BNF, Shared care protocols, NPHS Wales monitoring guidelines

Evidence and Guidelines –
- Has the evidence base changed since initiating drug?
- Are any drugs now deemed ‘less suitable’?
- Is dose appropriate? (Over or under-treatment, extreme old age)
- Are other investigations now advised e.g. echocardiography?

Adverse Events –
- Any side effects?
- Any over the counter or complementary medicines?
- Check interaction, duplications or contra-indications.
- Don’t misinterpret an adverse reaction as a new medical condition.

Risk Reduction or Prevention –
- Opportunistic screening.
- Risk reduction e.g. Falls – are drugs optimized to reduce the risks?

Simplification and Switches –
- Can treatment be simplified?
- Explain any cost effective switches.
Appendix 2; Polypharmacy: Guidance for Prescribing in Frail Adults

Why is reviewing polypharmacy important?
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% are taking four or more. However, it is suggested that up to 50% of drugs are not taken as prescribed. Many drugs in common use can cause problems and adverse reactions to medicines are implicated in 5 - 17% of hospital admissions. Research has demonstrated that patients on multiple medications are more likely to suffer drug side effects. This is more related to the number of co-morbidities a patient has than age. There is a clear and steady increase in the number of patients admitted to hospital with drug side effects. Patients admitted with one drug side effect are more than twice as likely to be admitted with another. This can lead to a situation where adults may be suffering side effects (that may even lead to hospital admission) from drugs that they derive little or no benefit from, or where the harm of the drug outweighs any possible benefit.

These guidelines aim to provide guidance on how to make a safe and sensible decision in situations where extra thought and considerations are needed.

Patient groups include:

1. Patients who are taking a large number of medications (polypharmacy)
   • Drug review process - A review should be conducted holistically by 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 each medication. It is essential to ensure that the patient is capable of taking the medicine and that compliance is satisfactory. The “NO TEARS” tool can be used to simplify and aid the review process.
   • High risk medication - Medications that are most likely to cause significant harm to the patient should be reviewed

2. Patients with indications of shortened life expectancy (where life expectancy is shorter than the time that medication would take to give significant effect)
   • It is important to identify these patients and to consider the expected benefits of the medication prescribed. Should they be included on the palliative care register?

3. ‘Frail’ and elderly patients
   • Frail elderly patients appear to be particularly at risk of ADRs and this group are also likely to be receiving several medicines

The NO TEARS tool

- Need and indication
- Open questions
- Tests and monitoring
- Evidence and guidelines
- Adverse events
- Risk reduction or prevention
- Simplification and switches

Acknowledgements: This guidance is based on guidance developed by NHS Highland/NHS Scotland

Status: Awaiting approval from MTC
Approved by: Emyr Jones
Owner: Emyr Jones
Issue date: 7th March 2013
Review date:
Life expectancy and frailty have an impact on the benefit of therapy especially for risk reduction treatment.~

Is there an evidence-based guideline/consensus for using the drug:
- for the indication
- at the current dosage
- in this patient’s age group

And does the benefit outweigh all the possible known adverse effects?

No/ Not sure

Is the drug replacing a vital hormone?
(e.g. levothyroxine)

Yes

Reduce dose and monitor the patient’s symptom control*

No

Is the drug important in preventing rapid symptomatic deterioration?
(e.g. medications for Parkinson’s Disease)

Yes

Can the dose be reduced with no significant risk?

No

Is the drug expected to give day to day symptomatic benefit?
(e.g. painkillers, antidepressant)

No

Consider stopping the drug*

Yes

Is the drug being given for a condition that has resolved or is no better despite using the drug?
(e.g. BP, oedema, pain, dyspepsia, agitation)

* Careful tapering of the dose may be required with some medication to prevent a withdrawal syndrome

~ This may be a prompt to consider inclusion on the palliative care register in certain patients
Medication most associated with admission due to adverse drug reaction

In a 2004 UK study the most common drug groups associated with admission due to adverse drug reaction (‘ADR’) were:
1. NSAIDs 29.6%
2. Diuretics 27.3%
3. Warfarin 10.5%
4. ACE 7.7%
5. Antidepressants 7.1%
6. Beta blockers 6.8%
7. Opiates 6.0%
8. Digoxin 2.9%
9. Prednisolone 2.5%
10. Clopidogrel 2.4%

Drugs and Dehydration
It may be indicated to WITHOLD the following in patients diagnosed with severe dehydration (e.g. those suffering from more than just minor vomiting/diarrhoea):
- ACE inhibitors/Angiotensin 2 Receptor Blockers
- NSAID’s
- Diuretics
- Metformin

These can then be restarted when the patient has improved
Adults with advanced heart failure can decompensate rapidly off drugs and will need specialist advice.

High risk drug combinations to avoid
The following are highlighted as being particularly high risk combinations and should be avoided where possible and clearly justified when considered necessary. This list is NOT exhaustive, and the safety of other drugs has to be considered depending on individual circumstances.

NSAID
+ ACE Inhibitor or Angiotensin 2 Receptor Blocker + Diuretic [‘Triple Whammy’ combo]
+ existing renal disease – avoid if possible
+ diagnosis heart failure
+ Warfarin
+ age >75 without PPI

Warfarin
+ another antiplatelet. It is noted that although specific indications for this exist, in a frail group of patients the risk is high and combination should be challenged. (It is important to check who initiated the combination)
+ NSAID
+ Macrolide
+ Quinolone
+ Metronidazole
+ azole antifungal

Heart Failure diagnosis
+ Glitazone
+ NSAID
+ Tricyclic antidepressant
**Central nervous system and psychotropic medication**

- **Hypnotics and anxiolytics** - discuss reducing long-term therapy with the aim of stopping
- **Antidepressants** - Review combinations e.g. tricyclic antidepressants for analgesia used in combination with other antidepressants for depression
- **SSRIs** are in general better tolerated in people with dementia who also have depression
- **Metoclopramide** - review long-term use
- **Vertigo** - review long-term use of drugs such as prochlorperazine and cinnarizine
- Consider cumulative GI effects when co-prescribing SSRI’s+NSAID’s/ aspirin

**Endocrine system**

- **Metformin** – use with caution in renal impairment due to risk of lactic acidosis
- **Oral corticosteroids** for long term use – maintenance dose should be kept as low as possible with withdrawal considered where feasible. When possible local treatments e.g. inhalations, creams etc should be used in preference
- **Bisphosphonates** - has treatment been taken for > 5 years?

**Cardiovascular system in general**

- **Anticoagulants** - do patients have an active indication for anticoagulant therapy? Is monitoring robust? Is the INR within the recommended therapeutic range? Are there frequent falls (>1 per week)?
- **Antiplatelets** - does the patient have a history of coronary, cerebral or peripheral symptoms/events? - If not – consider stopping. Ensure aspirin/clopidogrel combination reviewed as per cardiology advice. Reduce aspirin to evidence-based doses.
- **Statins** – Re-evaluate risk profile for primary/secondary prevention
- **Diuretics** for dependent ankle oedema - consider alternative ways of managing oedema, consider medication causes e.g. CCB
- **Digoxin** in the presence of CKD - consider reducing the dose, or stopping
- **Peripheral vasodilators** - e.g. Cilostazol, pentoxifylline, clinical effectiveness not often established
- **Quinine** - Review long-term use - see MHRA advice
- **Anti-anginal medication** - Consider reducing particularly if mobility has decreased with less need for medication

**Gastrointestinal system**

- **PPIs and H2 antagonists** - consider reducing the dose or stopping, especially if antibiotics are required (remember increase in risk of C. difficile).
- **Laxatives** - reduce overuse if possible. Opioids stopped?

**Urogenital system**

- **α-blockers / 5α reductase inhibitors** for BPH in men with long term urinary catheters - consider stopping
- **Antimuscarinics**. e.g. solifenacin. Is there still a valid indication?

**Other Factors To Consider When Conducting A Review**

**Analgesic medication**

- **Strong opioids** - Long term use of for mild-moderate pain – review diagnosis (is pain neuropathic or otherwise not responsive to opiates) and effectiveness - discuss stepping down therapy
- Consider non-pharmacological treatment such as gentle exercise, relaxation or TENS
- Check compliance with long-term analgesia
- Check effectiveness - step up or step down analgesia using the WHO analgesic ladder available
- Check safety - reduce use of NSAIDs and opioids and amitriptyline if possible. Prescribe laxatives with opioids.
Drugs That are Tolerated Poorly in Frail Patients

• Digoxin in higher doses 250microgram+
• Antipsychotics (although note caution re rapid symptomatic decline).
• Tricyclic antidepressants
• Benzodiazepines particularly long-term
• Antimuscarinics (e.g. solifenacin)
• Phenothiazines (e.g. prochlorperazine)
• Combinations painkillers (e.g. co-codamol v paracetamol).

Drugs associated with falls in the elderly

• Benzodiazepines and other sedatives and hypnotics/ antidepressants/ antipsychotics/ Antihypertensives/ diuretics / sedating antihistamines/ antimuscarinics/ Drugs used to treat nausea and dizziness

Frailty

Frailty is defined as a ‘reduced ability to withstand illness without loss of function’. Gold standard framework defines this further as:

• Multiple co-morbidities with signs of impairment in day to day functioning.
• Combination of at least 3 of:
  - Weakness
  - Weight loss
  - Slow walking speed
  - Self-reported exhaustion
  - Low physical activity

Indications of Shortened Life Expectancy

Prescribing in Palliative Care

It is important to consider the risk/benefit of the medication being prescribed particularly with change in prognosis/patient goals with the aim of improving the quality of life.

It is recommended that the guidance contained in the prognostic indicators guidance in the Gold Standards Framework is followed to identify patients nearing the end of life. The full guidance can be accessed at: http://www.goldstandardsframework.org.uk/Resources/Gold%20Standards%20Framework/General/Prognostic%20Indicator%20Guidance%20October%202011.pdf

Triggers which can be used to identify main patients include:

1. Where the answer to the question ‘Would you be surprised if this person were to die in the next 6 to 12 months?’ is No.


3. Specific clinical indicators related to certain conditions - often associated in patients requiring help with multiple activities of daily living either at home or in care home due to:
   • Advanced organ failure.
   • Cancer
   • Multiple co-morbidity giving significant impairment in day to day function.
   • Advanced dementia.

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Useful links


- [http://wales.pallcare.info/](http://wales.pallcare.info/) Palliative Care website for Wales. Provides information on:
  - Advance Care Planning - follow link wIPADS for information about Advancce Care Planning (ACP), including identifying appropriate patients for ACP, communication skills, Best interests decisions, Advance Decisions to Refuse Treatment (ADRT) and Guidance about resuscitation decisions. Follow the link 'Anticipatory Prescribing' for information about the Just in Case box and prescribing for Palliative patients.


- [http://www.wales.nhs.uk/sites3/page.cfm?orgid=814&pid=49439](http://www.wales.nhs.uk/sites3/page.cfm?orgid=814&pid=49439) ABHB Palliative Care prescribing guidelines & resources (Follow the link to Palliative Care Emergency Medicine Packs for specific information about the Just in Case scheme in ABHB)

- [http://howis.wales.nhs.uk/sitesplus/866/page/48377](http://howis.wales.nhs.uk/sitesplus/866/page/48377) Specialist Palliative Care Service in ABHB (contains Educational resources and Clinical tools including an opioid calculator):

References:
4. Using the NO TEARS tool for medication review, T Lewis, *BMJ 2004;329:434*
Appendix 3:

ITEMS TO BE OMITTED FROM REPEAT COUNT WHEN CHOOSING PATIENTS

There are certain items that can be prescribed which do not contain active drugs. These do not need to be included in the numbers of repeat medications, but when conducting a full clinical medication review all repeat items and regular acutes should be included in the review particularly if cost and or over ordering is an issue.

Items that may be omitted from the repeat count are:

- Emollients creams and bath additives
- Syringes, pen needles, lancets, test strips and needle clippers
- Dressings
- Stoma bags and appliances etc
- Catheters and bags etc
- Urostomy bags etc
- Rubefacients
- Lubricating eye drops and gels
- Hosiery
- Gluten free products
- Spacer devices
Appendix 4: Clinical Medication Review Intervention Form
(Please complete one form per patient)

Patient ID........................................

No of Medications (min 10) .............  Frail  Y  N  Palliative care  Y  N

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<td>Drug level monitoring</td>
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NO INTERVENTIONS MADE (Please tick)