Practical Medicines Management

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Pharmac Seminar Series
Medicines in Healthcare
August 2015
“Even people who have access to drugs may not receive the right medicine in the right dosage when they need it. Many people buy, or are prescribed and dispensed drugs that are not appropriate for their needs. Some use several drugs when one would do. Others use drugs that carry unnecessary risks. The irrational use of drugs may unnecessarily prolong or even cause ill-health and suffering, and results in a waste of limited resources” Reference WHO
This session

• Process components of medicines management and optimisation not covered in other sessions;
  – Medicines reconciliation & history
  – Adherence
  – Detecting & reporting ADRs/ADEs
  – Practical implementation considerations

• NICE Medicines Optimisation Guidelines March 2015
Medicines Reconciliation

• Globally recognised tool/process for medicines optimisation

• Usual context is on admission to hospital ...

  ...BUT...

• Potential value
  – highlighting ADEs or non-adherence
  – Identify changes/errors and additions
  – prevent inappropriate prescribing decisions
# Medicines Reconciliation

## Sources of Information:

<table>
<thead>
<tr>
<th>Primary</th>
<th>Secondary</th>
<th>Tertiary</th>
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</thead>
<tbody>
<tr>
<td>Patient</td>
<td>GP (verbal or letter)</td>
<td>Clinical notes</td>
</tr>
<tr>
<td>Family/Caregiver</td>
<td>Pharmacy (Name)</td>
<td>Medication charts</td>
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## Date and Time Admitted: [date]

<table>
<thead>
<tr>
<th>Key worker:</th>
<th>Smoker:</th>
<th>Yes</th>
<th>No</th>
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## Medicine (including regular, PRN, herbal, vitamins):

<table>
<thead>
<tr>
<th>Dose</th>
<th>Route</th>
<th>Frequency</th>
<th>Discrepancy</th>
<th>Intentional</th>
<th>Comments/Reason for Change</th>
<th>Continue on discharge</th>
<th>Discharge notes</th>
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<td>Yes/No</td>
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</table>

I have reviewed and reconciled patient’s medications

Prescriber Signature: [signature]

Date and Time: [date]

History taken by: [Name, designation, pager]

Signature: [signature]

Date and Time: [date]

### MEDICINES RECONCILIATION FORM
Implications in practice:

• PMS medication lists
  – Referrals
  – Alerts for safety monitoring/TDM
• (Re)prescribing post discharge
• Non-prescribed/CAMs/Supplements
• ePrescription service
• (Cases)
Adherence

• Terminology
• **Adherence** describes the degree to which behaviour aligns with agreed recommendations from a health care provider (WHO 2003)
• Magnitude of poor adherence to treatment of chronic conditions in developed countries is striking averaging approx 50%
• The impact of poor adherence grows as the burden of chronic disease grows
• Consequences are poor health outcomes and increased health-care costs
Dimensions Affecting Adherence

Health system/HCT-factors

Social/economic factors

Condition-related factors

Therapy-related factors

Patient-related factors

Availability of effective therapies, integrated & collaborative care pathways, ability of HCT to communicate effectively with each other and patient

Poverty, illiteracy, access to affordable healthcare, social support, cultural appropriateness

Symptoms severity, mental illness, co-morbidities, perceived effectiveness of treatment for condition

Resources, knowledge, attitudes, beliefs and perceptions

Complexity of treatment regimen, duration, previous failures, frequent changes, immediacy of beneficial effects, side effects, cost, etc

Perceived effectiveness of treatment for condition

Perceived effectiveness of treatment for condition
Adherence Interventions

• "Increasing the effectiveness of adherence interventions may have a far greater impact on the health of the population than any improvement in specific medical treatments“ (Haynes RB, CDSR 2001)

• Cochrane Review Updated Nov 2014

• “Emerging” technology solutions
Adherence – How can we help?

• Awareness/screening
• Patient centred strategies
• Simplify regimens
• Written back-up
• Cases
Example Adherence Questions

- Are you still taking this medicine?
- Can you show me your daily medication routine/system? (NB inhalers)
- Do you have any concerns or problems that you think may be caused by your medication?
- We know many people forget to take medicines from time to time; overall how often does this happen to you?
- Do you ever take your medication differently to how it is prescribed?
- What do you do if you miss doses of your medicines?
- Can you tell me why you are on this medicine and how do you think it is working for you?
- Do you have any problems taking or using your medicines?
- What do you take for a headache? Or aches and pains?
- If you get indigestion, heart burn, constipation etc. what do you take for it?
- Do you take any non-prescribed medicines, vitamins, supplements, herbal products, things you buy from the health food shop or supermarket?
Medicines Record Cards

Instructions:
Carry this card at ALL times when you
• Visit your doctor/GP
• Visit your chemist
• Are admitted to emergency
department/hospital
• Visit your dentist or any other specialist e.g.
anesthetist

Ask your Doctor or Pharmacist to update this
card when your medicines are changed.

Make sure you have adequate supply of
medicines. Contact your GP/Practice Nurse or
Pharmacist before your medicines run out.

Keep ALL your medicines in a cool, dry, safe
place AWAY from children.

Please return ALL unwanted medicines to your
community pharmacist.

It is very important to let the doctor and
pharmacist know if you are taking any herbal
supplements.

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<tr>
<th>MEDICINE RECORD CARD</th>
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<tbody>
<tr>
<td>Name:</td>
</tr>
<tr>
<td>Address:</td>
</tr>
<tr>
<td>Phone:</td>
</tr>
<tr>
<td>DOB:</td>
</tr>
<tr>
<td>NHI:</td>
</tr>
<tr>
<td>GP &amp; Contact number:</td>
</tr>
<tr>
<td>Allergies/Sensitivities:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Patient Name</th>
<th>21-Jan-15</th>
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</thead>
<tbody>
<tr>
<td>NHI</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MEDICINE</th>
<th>BREAKFAST</th>
<th>LUNCH</th>
<th>DINNER</th>
<th>BEDTIME</th>
<th>ADVICE</th>
<th>USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lantus insulin</td>
<td>30 units</td>
<td>Use via subcutaneous injection</td>
<td>For diabetes. Long acting insulin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Novorapid insulin</td>
<td>6 units</td>
<td>6 units</td>
<td>10 units</td>
<td>Use via subcutaneous injection</td>
<td>For diabetes. Short acting insulin</td>
<td></td>
</tr>
<tr>
<td>Warfarin/Coumadin 2mg &amp; 1mg tablets</td>
<td>Take dose according to INR monitoring (currently 2mg daily)</td>
<td>To help prevent blood clots</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Losartan 50mg hydrochlorothiazide 12.5mg</td>
<td>1</td>
<td>For heart/blood pressure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diltiazem CD 240mg (Cardizem CD)</td>
<td>1</td>
<td>Swallow whole with a glass of water. Avoid grapefruit and its juice. For heart/blood pressure</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Atorvastatin 40mg (Zarator)</td>
<td>1</td>
<td>Avoid grapefruit and its juice.</td>
<td>To lower cholesterol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pantoprazole 20mg (Dr Reddy’s)</td>
<td>1</td>
<td>Swallow whole</td>
<td>To reduce stomach acid</td>
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Whanganui Regional Health Network on 06 348 1999
Practical management - ADEs

- Adverse event vs Adverse Drug Reaction
ADRs & AEs

• Adverse Drug Reaction – response which is noxious and unintended, occurs at doses normally used in man

• Adverse Events – any untoward medical occurrence that may present during treatment with a medicine, not necessarily caused by the medicine
Practical management - ADRs

- Adverse drug events (ADEs)
  - Adverse drug reaction
  - Not receiving medicine
  - Medication error
  - Consequence e.g. falls
  - Lack of monitoring

- Adverse drug reactions (ADRs)
  - Due to the drug properties specifically
  - Allergies are a specific sub-group of ADRs
Pharmacovigilance in NZ

- Medsafe  →  CARM  →  MARC
- NZ Pharmacovigilance Centre (UoO)
  - CARM - ADRs
  - MERP – AEs
  - Psychoactive substances monitoring
  - (IMMP) – closed Dec 2013
  - Paediatric system (Des Kunac)

- Medicines Adverse Reactions Committee

Please report your ADRs to CARM
Adverse drug reactions

- Type A (Augmented)
  - Predictable [pharmacokinetic / dynamic / genetic principles apply]
  - Dose dependent [relative]
  - > 70% of ADRs

- Type B (Bizarre)
  - Unpredictable
  - Idiosyncratic
  - Immunologic
  - Any dose
Adverse drug effects - Process

- Is it really an adverse effect
  - Onset
  - Type A - Predictable (dose related / idiosyncratic) vs Type B - bizarre

- What to do
  - Stop or switch?
  - How fast?
    - Severity

- Confirm
  - Re-challenge
Back to the case …

discussion

- **Statins**
  - muscle aches; memory loss

- **Hyponatraemia**
  - Omeprazole, chlorthalidone, cilazapril, citalopram

- **Post MI (6 months) and hair loss**
  - Atorvastatin, metoprolol, cilazapril

*Is it an ADR (or interaction), what to do, how to do it, monitoring, confirming*
CARM Reports NZ 2014

![Pie chart showing percentages of reports by profession.
- Nurses: 40%
- GP: 16%
- Hospital Doctor: 8%
- Hospital Pharmacist: 7%
- Other HCPs: 4%
- Community Pharmacists: 2%
- Other: 4%
- Public: 4%]
What to Report

• Any suspected ADRs to any medicine, vaccine, CAM, psychoactive substance
• “Serious suspected reactions & reactions of clinical concern” including those that are fatal, life-threatening, disabling, incapacitating, result in prolonged hospitalisation (even if well recognised)
• Newly introduced medicines and vaccines – spontaneous reporting of suspected reactions even if it is not certain the drug has caused it (valuable for recognising possible new hazards)
• Suspected drug interactions
• If in doubt, report!
Medication Changes: Practical Implementation Considerations

- Prescribing Decisions/changes impact patients in many ways that can lead to ↓ adherence and outcome
- Consider
  - financial cost of changes
  - Literacy/ability to manage complex actions and consequences
  - Social factors
  - Clinical aspects – e.g. side effects from increased doses or loss of efficacy from reduced doses
- Cases & Solutions