The impact of pharmacists on the acute medical unit

Vanessa Marvin, Deputy Chief Pharmacist
Chelsea & Westminster Hospital
Introduction

• Prescribing and the junior doctor
• Ward / AMU pharmacists
• Other teams
• Medicines reconciliation
• Medication errors
• Prescribing role
Prescribing and the Junior Doctor

• Prescribing is one of the more difficult areas for junior doctors to get right, especially in first few months (EQUIP study, 2009; Matheson 2009)

• Different prescribing systems, ‘drug charts’ and inconsistent support contribute to this

• Limited amount of ‘prescribing technique’ can be taught as undergrad – even if pharmacology is taught well

• Induction and encouragement to ‘get to know your pharmacist’ are well rehearsed locally
Ward / AMU pharmacists

• Most hospitals will have a ward pharmacist or team pharmacist at least Monday to Friday
• Every new prescription item seen and checked by a pharmacist M-F and screened in the context of all other medicines and diagnosis
• Liaises with the prescriber and the nurse re administration especially complex IVs etc
• Systematic review has shown that clinical pharmacists improve patient care (Kaboli et al 2005) and are cost effective (Campbell, 2007)
Inclusion in the team

• Specialist pharmacists are included in MDTs – they can sort out problems before they ‘reach’ the patient

• Pharmacists on consultant led ward-rounds make a significant contribution – a positive intervention every 8 mins on average at Imperials Trust (Miller et al 2011)

• Current CLAHRC project at CWH looking at whether they can speed up the discharge process on AAU by being there
Other ‘teams’

- Antibiotic specialist pharmacist
- Anticoagulant pharmacist
- Proton Pump Inhibitors: local CQUIN
- Cardiology pharmacists eg titrating to target doses of heart failure meds in Dudley (PJ 18 June 2011 p 727)
Role of the pharmacist in antibiotics

- Antibiotic pharmacist and medical microbiologist review antibiotic prescriptions daily M-F
- Ward pharmacists provide feedback to the infection control team
- Participate in the National point prevalence surveys and promoting public awareness of problems of overuse and resistance
- Lead on implementing policies and writing pocket guides on prudent use of antibiotics
Impact of antibiotic pharmacists

- At CWH we have shown a 25% reduction in the use of ‘high risk’ restricted antibiotics since 2006
- Annual spend on antibiotics has actually decreased by 13% 10/11 compared with 09/10
- Quality of prescribing high & guideline advice followed in > 90% of cases
- All non-adherence is followed up individually
- Rates of MRSA and *c. diff* remain low
Anticoagulant pharmacist

• Variable roles in different Trusts
• At CWH our pharmacist is part of the clinical governance team as well as haematology
• Aim to have ‘no hospital associated preventable VTE’
• Co produced posters etc and implemented ‘no more clots campaign’ (Yarranton et al 2010)
‘Encouragement’ to complete risk assessments on all admitted patients
Anticoagulation counselling

• All patients started on warfarin are seen by a pharmacist, given counselling and started on their yellow book
• All patients started on low molecular weight heparins are given counselling further information about injecting and sharps bins
• Advice is given about blood tests and dietary advice as appropriate to reinforce information given by others
Proton Pump Inhibitors

• 40% of PPIs on medical wards are ‘not-indicated’ (Ahrens 2010) Use linked with c.Diff etc
• Pharmacists developed and implemented: compulsory addition of the indication on prescription if initiating PPI tool for identifying patients on admission who might benefit from a ‘PPI holiday’ now part of the meds reconciliation process
• Reduced inappropriate use locally by 30%
Impact of the interventions

PPI and Ranitidine usage (DDD/1000 OBD) for the Trust by month

- Intervention 1: p = 0.043
- Intervention 2: p = 0.010

p = 0.664
p = 0.291
Medicines reconciliation

- CQC 2009 study showed that info shared between GPs and hospitals when a patient moves between services is ‘often patchy, incomplete or not shared quickly enough’
- NPSA and NICE recommend full reconciliation asap after admission and within 24h on AMU
- A published audit from Bristol highlighted that Drs do not receive specific training in medicines reconciliation or drug history (Davies 2010)
Medicines reconciliation on admission

• Pharmacists aim to reconcile medicines for all acute admissions within 24 hours (level 2)
• Level 1 we use the drug history documented by the clerking Dr and check these meds are prescribed appropriately on the inpatient chart
• Level 2 requires pharmacy team to check this history using another source (phone GP if this isn’t the method used by clerking Dr) and check that any omissions are deliberate and documented as such
Drug histories

- The history when taken by pharmacy staff includes prompts to find if the patient takes OTC medicines, herbal and other items.
- It includes details on dose times, liquids vs solid doses, difficulty with packaging – ‘adherence’ issues.
- Checks are made on allergies etc.
- Changes are noted, entries made in the notes and this can be referred to throughout the stay & communicated to the GP at discharge.
Medicines reconciliation on AAU

- 91% of CWH admitted patients have their drug history checked and documented within 24h
- 75% of patients have all their medicines reconciled and **error-free** on the inpatient drug chart within 24h of admission
- The remainder are completed at the next pharmacist’s visit (≤72h) unless transferred or discharged within this time (at weekends)
- Errors of omission in this context are subject of an NPSA Rapid Response alert
Medicines reconciliation at discharge

Documentation of any change from admission medicines is crucial eg:

– held due to hypotension
– dose reduced due to renal function
– liquids required in place of tablets

So we can close the loop and inform the GP of what and why before writing the repeat prescription

Pharmacists can additionally help by explaining changes to the patient and carer (‘chemist’?)
How we started out

Percentage of patients whose discharge prescriptions were fully reconciled and error free (Apr-Aug '09)

- Meds rec form& EPR introduced
- Project awareness session on AMU
- New intake of doctors

Week number
% of patients
Meds rec form&
EPR introduced
Project awareness 
session on AMU
New intake 
of doctors
Sustainable improvements now embedded

Medicines Reconciliation completed within 24 hours on AAU
Medicines reconciliation teamwork

• Pharmacists ‘invaluable’ (PJ 15 May 2010 p469)
• We now consider it an essential role for pharmacists - Drs in the AAU should expect this support
• Current CLAHRC project aiming to improve further - making sure reconciliation is sustained throughout the hospital stay and then at transfer or discharge all communications are complete and timely for the patient, carer, GP and other secondary care providers
Interventions to prevent Medication Errors

- Ward pharmacists ‘intervene’ on over 180 items per day prescribed for ~ 480 inpatients at CWH
- 7 (4%) were categorised as having avoided major/serious harm & 76 (41%) moderate
- The avoidance of monetary cost to the Trust may be calculated at £9,900 to £22,100 per day
- Meds Rec errors alone as calculated by the Clinical Pharmacist Network if not corrected by pharmacists ‘cost’ £106 each (Dodds 2011)
Medication Errors

• Lapse in attention or failure to apply relevant ‘rules’ (such as reduce a dose in renal failure) are common underlying causes (Dean 2002)

• Prescribing rules were also referred to in the EQUIP study along with ‘miscommunication on the part of a third party and deficiency of (often complex) knowledge’

• Strategies for reducing errors include organisational (such as ward pharmacy services) and process changes such as IT (Bates 1998 & Bates 2000)
Medication counselling

• Side effects
• Complex protocols
• MI helpline
• Medicines adherence
• Patient focus groups have suggested inpatients would like to know a pharmacist is available to talk to
## Improving the patient experience

<table>
<thead>
<tr>
<th>Week ending</th>
<th>25-Jul</th>
<th>1-Aug</th>
<th>8-Aug</th>
<th>15-Aug</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of responses</td>
<td>63</td>
<td>85</td>
<td>83</td>
<td>89</td>
</tr>
<tr>
<td>1. Have you felt involved as you wanted to be in decisions about your care and treatment?</td>
<td>74%</td>
<td>86%</td>
<td>90%</td>
<td>90%</td>
</tr>
<tr>
<td>2. Have you had the opportunity to talk to someone about any worries or fears?</td>
<td>87%</td>
<td>87%</td>
<td>89%</td>
<td>90%</td>
</tr>
<tr>
<td>3. Have you been given enough privacy when discussing your condition or treatment?</td>
<td>88%</td>
<td>86%</td>
<td>93%</td>
<td>91%</td>
</tr>
<tr>
<td>4. Have you been told about medication side effects to watch out for after you leave hospital?</td>
<td>79%</td>
<td>83%</td>
<td>88%</td>
<td>94%</td>
</tr>
<tr>
<td>5. Have you been told who to contact if you are worried about your condition after you leave hospital?</td>
<td>85%</td>
<td>85%</td>
<td>92%</td>
<td>90%</td>
</tr>
</tbody>
</table>
Improving the patient experience

"Place under your tongue and swallow. Then spit it out when no one’s looking."
Reducing the medical prescribing load

- Patient group directions written by pharmacists in conjunction with specialist medical and nursing staff reduce the need for specific prescribing and dispensing especially in the ED.
- Although seen more in chronic conditions, pharmacist prescribers are now established in medical clinics eg Oncology, HIV and Cardiology.
- TTO transcribing
Dr Education and training

• Education and Training Pharmacists run a local in depth induction session for new doctors
• We train junior doctors to prepare and administer injectable drugs (Chung 2010)
• Specific computer-based training sessions have been developed to guide doctors to use electronic prescribing information sources (Jubraj 2010)
• We’ve disseminated the information on Dr training nationally so others can use our model
Summary

• Pharmacist are a support to new doctors via wards and teams

• Specific areas covered for every patient seen are:
  – Antibiotics
  – Anticoagulants
  – PPIs
  – Drug histories
  – Medicines reconciliation
  – Side effects counselling

In house education programmes prepare doctors for safer prescribing
References

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