Identifying and reducing medication errors in mental health

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Overview

• What is the scale of medication errors in mental health
• How do we identify them
• Possible risk factors for medication error
• Medication errors reduction and picking up near misses: our experience
Research literature

• Lots of research about medication errors
• But very few studies looking at medication errors in mental health
• 3 literature reviews
  – Grasso et al, 2003
  – Maidment et al, 2006
  – Maidment et al, 2008
• 11 primary studies
  – 2 USA; 1 Japan; 8 UK (4 single tertiary non-NHS unit)
Mental health services are predominantly community based

- **Studies**
  - Most focus on in-patients
    - 7 exclusive, 4 mainly
  - Review found 0.4% errors community

- **NRLS**
  - 9.8% incidents from the community
  - 63.8% incidents from in-patient units
Analysis of NRLS data

• Thematic analysis of mental health & learning disabilities data
  – 7,734 reports in 2007 from MH & LD
  – 400 analysed in detail
    • Severe harm (n=23) & random sample of others (n=377)

• Difficult to analyse – data lacking
  • Potential cause – 3.25% (13/400)
  • Medication name - 221 (55.2%)
  • Difficult confirm error, or potential error
• Other events (36% of total) include -
  • Non–compliance - recording errors; CD register incorrect; dropping tablets, drug keys missing, drug sent to wrong unit etc.

• Very few knowledge-related errors
  – 28% related to medicines for physical health care

<table>
<thead>
<tr>
<th>Type of Error (Reporting &amp; Learning System)</th>
<th>n</th>
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</thead>
<tbody>
<tr>
<td>Other</td>
<td>2,792</td>
</tr>
<tr>
<td>Wrong / unclear dose or strength</td>
<td>1,069</td>
</tr>
<tr>
<td>Wrong frequency</td>
<td>895</td>
</tr>
<tr>
<td>Omitted medication</td>
<td>864</td>
</tr>
<tr>
<td>Wrong medicine</td>
<td>675</td>
</tr>
</tbody>
</table>
Risk factors

• Medication
  – Polypharmacy: physical meds & psychotropics common
  – Physical meds: admin errors OR 1.53 CI 1.18-1.99 (Stubbs et al; Maidment, 2013)

• Service Issues
  – Numerous care interfaces – Med Rec only 1ary to 2ary care ward (Kothari, 2014 - MPharm student project)
  – Medication management delivered by non-experts increasing risk (Maidment et al, 2006)
  – Self administration systems

• Patient Issues
Who are SEPT?

• in-house pharmacy service in South Essex since 2010
• based across 3 sites
• 9 pharmacists
• 3 medicines management technicians
Pharmacy-led medicines reconciliation

(April 2009 - Mar 2014)
Our research

DOI 10.1007/s11096-013-9875-8

RESEARCH ARTICLE

Medication reconciliation by a pharmacy technician in a mental health assessment unit

Kay Brownlie · Carl Schneider · Roger Culliford · Chris Fox · Alexis Boukouvalas · Cathy Willan · Ian D. Maidment

• 3 month prospective evaluation
• 20 bedded assessment unit
Our findings

• unintentional discrepancies occurred in more than half of admissions
• more than half involved drugs for physical conditions
• the vast majority involved omission of drugs
• if undetected the majority had the potential to cause moderate harm
Identifying errors

• medicines reconciliation by medicines management technicians
  – triage system operated by nursing staff
• clinical pharmacist ward visits
• participation in consultant ward rounds and MDT case conferences
• self-reporting of incidents
Incident reporting

Figure 6: Medicines-related incidents reported by quarter (April 2009 to March 2013)

Table 5: Risk Rating of Medicines-related Incidents

<table>
<thead>
<tr>
<th></th>
<th>No Harm</th>
<th>Low</th>
<th>Moderate</th>
<th>Severe</th>
<th>Death</th>
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</thead>
<tbody>
<tr>
<td>2012-13 Q1</td>
<td>182</td>
<td>26</td>
<td>7</td>
<td>0</td>
<td>0</td>
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<tr>
<td>2012-13 Q2</td>
<td>153</td>
<td>29</td>
<td>8</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2012-13 Q3</td>
<td>133</td>
<td>15</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2012-13 Q4</td>
<td>147</td>
<td>17</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>615</strong></td>
<td><strong>87</strong></td>
<td><strong>16</strong></td>
<td><strong>4</strong></td>
<td><strong>4</strong></td>
</tr>
</tbody>
</table>

NOTE: 4% of reported incidents did not indicate the NPSA rating

Figure 7: Medicines-related Incidents by Stage
High risk errors

• 18 ‘moderate’ harm errors over last 2 years
  – 5 x wrong dose/strength/frequency administered
  – 3 x administered to wrong patient
  – 3 x wrong dose/strength/frequency dispensed
  – 2 x prescribed when contraindicated
  – 1 x omitted dose
  – 1 x prescribed wrong medicine
Error reduction and near misses

- quarterly discussion at MMC
- medicines management audit programme
- doctors induction training
- qualified nurses training
- doctors educational programme
- Quality Strategy
Reviews


Primary studies


Primary studies (cont.)


Others


