Developing Criteria for a Paediatric Triage Tool
to aid prioritisation of patients by Clinical and Pharmaceutical Care Issues

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• Triaging adult patients by pharmaceutical care issues identifies those at higher risk and in most need of care/treatment
• The nature and type of medical errors & subsequent delivery of care differs considerably in children compared with adults
• Little information available on the use of ‘Triage Tools’ in the paediatric or neonatal setting
• Aim - To develop a paediatric triage tool and investigate the feasibility of its implementation into routine practice using a consensus approach amongst expert paediatric and neonatal clinical pharmacists.
• Delphi Methodology used – allows a consensus approach to be taken.
• Members of the Scottish Neonatal & Paediatric Pharmacy Group (SNAPP) invited to take part via email (N = 42)
• Statements describing scenarios to allow the prioritisation of paediatric and neonatal patients were created based upon clinical practice and the relevant literature
• Statements and scenarios formatted as a self administered questionnaires which was distributed via Qualtrics® (online survey platform)
• Five-point Likert scale response
• Comments box included for ‘justification’ of response

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neither Agree nor Disagree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Mean and mode responses calculated for each questionnaire item (statement). This identified them most popular response and the sample average.

Content analysis was undertaken to provide a textual background to subsequent themes.

NHS Lothian Pharmacy Quality Improvement Team Approval sought.
• I feel there needs to be something here – as we don’t know what the 24hrs, 48 hrs actually refers to in the next slide? Or the red/amber colours?

• Would it be helpful/make sense if part of the survey was shown here?
Results

- High risk medicines
- Daily aseptic need
- Unstable, chronic renal failure or acute, severe/moderate kidney injury
- Acute hepatic impairment
- Renal replacement
- ECMO or plasmapheresis
- Medicine is being withheld due to administration issues
- Prescribed continuous infusions

24 hourly

- Stable, chronic renal failure or acute, mild kidney injury
- Chronic hepatic impairment

48 hourly

72 hourly

- Stable patients with no acute issues
• Patients on psychotropic medicines should be reviewed daily
• Patient with a perceived discharge issue should be seen daily

• All paediatric & neonatal patients should be reviewed daily
• Stable patients can be reviewed at 14 days or re-referral
• Patients prescribed unlicensed / off-label medicine should be reviewed daily
• Patients prescribed >5 regular medicines should be reviewed daily
• Patients receiving renal replacement should only be seen daily if they are unstable
• Patients with stable or unstable renal failure should be reviewed daily only if changes to their medication have occurred
• Patients with acute, moderate and severe kidney injury should be reviewed daily only if changes to their medication have occurred
• Maximum of three days left between reviews – unlike adult practice where there can be to 14 days between review.
• Since multiple medicines are ‘unlicensed’ or ‘off-label’ in this patient group- it was not considered an important?? / suitable criteria
• Both medication and fluid continuous infusions require daily review
• Psychotropic medication classed as high risk due to unfamiliarity with that type of medication
• Varying requirement for review depending on degree of renal and kidney failure regardless of what medication is prescribed
• Polypharmacy in itself does not increase the need for review
Limitations & Further Work

• 75% of pharmacists on expert panel were based in a paediatric hospital - Generalisable?

• Statements referred to both paediatric and neonatal patients

• Lacking in a statistically robust approach to ‘item’ validation (i.e no factor analysis performed or content/scale item analysis).

• Response rate for round three was below the generally accepted level

• Further work will include piloting the tool on a small number of paediatric and neonatal patients
• Participants agreed that a triage tool would be beneficial in the paediatric and neonatal setting
• The tool would allow pharmacists to focus their expertise in areas of most need to maximise pharmacist skills and increase patient safety
• 18 criteria have been agreed upon which categorise patients into one of three groups: review 24 hourly, review 48 hourly or review 72 hourly
<table>
<thead>
<tr>
<th><strong>Prioritisation Codes:</strong></th>
<th><strong>Paediatric Clinical Pharmacy Triage Tool</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>For use Monday to Friday 8.45am - 5pm</td>
<td>Patients may fulfill criteria in more than one of the prioritisation criteria - in this situation, allocate to the highest level of code. In the absence of specific examples relevant to each individual patient, allocate based on clinical judgement.</td>
</tr>
<tr>
<td>Phar Review Daily</td>
<td></td>
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<tr>
<td>Phar Review Every 2nd day (48 hourly)</td>
<td></td>
</tr>
<tr>
<td>Phar Review Every 3rd days (72 hourly)</td>
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</tbody>
</table>

**Phar 1 Criteria:**

- **High risk medicine / medicine requiring TDM**
  - e.g. SACTs, cytotoxics, phenytoin, aminophylline, vancomycin, etc.

- **Unstable chronic renal failure**
  - est. CrCl ≤ 15ml/min/1.73m²

- **Severe or moderate, acute kidney injury**
  - est. eGFR 15-59ml/min/1.73m²

- **Patient receiving renal replacement therapy**

- **Acute hepatic impairment**
  - e.g. deranged liver function tests or clotting factors

- **Medication being withheld due to administration issues**
  - e.g. unable to swallow

- **Psychotropic medication for agitation and behavioural issues**

- **Potential for significant drug interaction**

- **Unresolved medicine issue**
  - e.g. medicine reconciliation incomplete, supply issue

- **Patient with daily aseptic need**
  - e.g. total parenteral nutrition, CIVAS

- **Patient receiving a continuous infusion**
  - N.B. includes both drug and fluid infusions

- **Patient receiving plasmapheresis**

- **Perceived discharge issue**
  - Expected discharge within 24 hours e.g. counselling

**Phar 2 Criteria:**

- **Stable chronic renal failure**
  - est. eGFR ≥ 15ml/min/1.73m²

- **Mild, acute kidney injury**
  - est. eGFR 60 - 89ml/min/1.73m²

- **Chronic hepatic impairment**
  - e.g. deranged liver function tests or clotting factors

- **Perceived discharge issue**
  - Expected discharge within 24 hours

**Phar 3 Criteria:**

- **Patient stable with no acute issues - review at 3 days or at re-referral**