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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.
Method

- 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
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

- Stable patients with no acute issues

72 hourly
Results cont’d

- Patients on psychotropic medicines should be reviewed daily
- Patients 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
Discussion

- 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.
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<thead>
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<th>Paediatric Clinical Pharmacy Triage Tool</th>
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**Prioritisation Codes:**
- **Phar 1 Criteria:**
  - High risk medicine / medicine requiring TDM
    - e.g. SACTs, ototoxic, phenytoin, aminophylline, vancomycin, etc.
  - Unstable chronic renal failure  est. CrCl ≤ 15m/min/1.73m²
  - Severe or moderate, acute kidney injury  est. eGFR 15-59m/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 ≤ 15m/min/1.73m²
- Mild, acute kidney injury  est. eGFR 60 - 89m/min/1.73m²
- Chronic hepatic impairment  e.g. deranged liver function tests or clotting factors
- Perceived discharge issue  Expected discharge within 28 hours

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