A pilot cluster randomisation clinical trial of the use of selective gut decontamination in critically ill children (Paediatric Intensive Care and Infection Control)

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Refresher Session
PICnIC is a feasibility study designed to determine whether it is possible to conduct a cRCT of SDD in critically ill children who are likely to be ventilated for $\geq 48$ hours.

Also, to explore the acceptability of key components of the study to healthcare professional and families of patients
Objectives

Pilot cRCT

• Ability to randomise PICUs

• Willingness & ability of healthcare professionals to screen and recruit

• Recruitment rate

• Adherence to SDD protocol

• Assess procedures for clinical ecological outcomes
Objectives

**Perspectives of PICU practitioner**

- SDD intervention, recruitment, consent procedures
- Clinical and ecological data collection
- Interest in definitive trial in the wider PICU community

**Perspectives of parents/guardians**

- Definitive trial that includes SDD intervention
- Recruitment and consent procedures, including information materials
- Patient-centred primary and secondary outcomes for definitive trial
**Trial Design**

**Timeframe** | **Weeks** | **Recruitment**
---|---|---
Ecology Surveillance | 1, 10, 20 | All patients admitted to PICU during designated weeks
Period One (Usual Care) | 2 - 9 | 144 patients - Usual Care
Period Two (Intervention and Usual Care) | 11 - 19 | 90 patients - Intervention 90 patients - Usual Care

*Week 11 shall be treated as a transition period*
• Six PICU sites

Period Two:  
3 sites Usual Care  
3 sites Intervention

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<tr>
<th>Week</th>
<th>Date</th>
<th>Activity</th>
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<tbody>
<tr>
<td>Week 1</td>
<td>20 September</td>
<td>Ecology Surveillance</td>
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<td>Week 2</td>
<td>27 September</td>
<td>Start of Period One</td>
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<td>Week 10</td>
<td>22 November</td>
<td>Ecology Surveillance</td>
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<td>First SDD delivery to randomised sites</td>
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<td>Week 11</td>
<td>29 November</td>
<td>Start of Period Two (transition week)</td>
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<td>Week 20</td>
<td>31 January</td>
<td>Ecology Surveillance</td>
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• Embedded questionnaires & interviews with parents / guardians

• Focus groups with PICU practitioners
Ecology Surveillance (weeks 1, 10, 20)

Screening and Enrolment

All patients admitted during the Ecology Surveillance Periods and have samples taken are enrolled and assigned an Ecology Surveillance Number.

Do not assign a number if samples have not been taken.

Please attempt to get consent for additional samples if routine/admission samples are missed.

Patients who have been previously enrolled into PICnIC should not be enrolled again.
Eligibility

Inclusion Criteria: All patients admitted to PICU regardless of ventilation status

Exclusion Criteria: None

Sampling for Ecology weeks

Taken on admission and then following consent, taken once more (e.g. on a Friday, if not taken in the previous 48 hours)

See SOP 012 - PICnIC Samples for further details on Laboratory Analysis
Period Two (week 11 -19)
Usual Care

Screening and Enrolment

A patient is screened and deemed eligible based on the inclusion/exclusion criteria.

On the log please include:
- Patients who fulfil all inclusion an no exclusion criteria
- Patients who fulfil all inclusion but meet one or more exclusion criteria
- Patients who fulfill all inclusion criteria and no exclusion criteria but are not enrolled (give reason).

See SOP 003 - Patient Screening and enrolment for further details

Period Two- Usual Care
Following eligibility confirmation, patients are enrolled into PICnIC and assigned a Study Number.

Please attempt to get consent for additional samples if routine/admission samples are missed.

Patients who have been previously enrolled into PICnIC should not be enrolled again.
Eligibility

Inclusion Criteria

- >37 weeks corrected gestational to ≤16
- Receiving mechanical ventilation, expected to last at least 48 hours
- Expected to remain on mechanical ventilation until the day after tomorrow (from the time of screening)

Exclusion Criteria

- Known allergy, sensitivity or interaction to polymyxin E (colistin), tobramycin or nystatin
- Known to be pregnant
- Death perceived as imminent

Sampling

Taken on admission then twice-weekly until discharge. For stays <7 days, should be taken at discharge
**Sampling**

Samples taken as part of routine care (e.g. admission samples) will be used without consent. These include:

- A nasopharyngeal swab
- A stool/rectal swab

If clinically indicated (processed as per routine local protocol):

- Urine
- Sputum/secretions from the endotracheal tube
- Wound swabs, if present

Any additional samples should be taken following consent

See SOP 012 - PICnIC Samples for further details on Laboratory Analysis
Consent

Consent will be required for:

- additional study-specific samples, before they are taken (expect if using bereaved CF)

- identifiable data being collected and processed for the embedded study (contact details for interviews)

- Monitoring of medical records
Consent

Consent **will not** be required for:

- samples that are collected as part of routine care (e.g. at admission)
- anonymised data collection and processing from routine sources (to be captured on CRFs)
Consent on MACRO

- Ensure to enter study number
- Record each aspect that was consented ‘yes’ or ‘no’
- Add date of consent/refusal

- Selecting ‘unable to approach for consent’ will blank all consent options out. Please provide reason.

- If parent/guardian was approached but you’re unable to get a completed consent form, choose ‘no’ options, add date and add a comment explaining this.

- If withdrawal occurs following consent, add date & reason.
Mixed methods embedded study

- Questionnaire and interviews with parents following consent

- Two focus groups with site staff - including doctors, nurses, pharmacists and allied health professionals

- Up to 10 telephone/online interviews will be conducted with practitioners who cannot attend the focus groups

- Online survey of staff

The researcher will contact you to arrange focus groups and interviews and online survey of staff.
Questionnaire/interview enrolment

Sites provided with questionnaires and stamped self-addressed envelopes addressed to Kerry Woolfall’s team at the Institute of Population Health at the University of Liverpool.

Please give a copy of the questionnaire to each parent/legal representative to complete (if consented).

If both parents are present, both will be asked to consent and complete a questionnaire. Completed questionnaires will be placed in a stamped self-addressed envelope and returned the PICnIC team member (e.g. within 12 hours) via post to the University of Liverpool team.

UoL researcher will be conducting interviews of the parents/guardians. A research team member at site will be contacted prior to the telephone interview to check the status of the child.
Case Report Forms

- Ecology Surveillance CRFs (for weeks 1, 10, 20)
  - surveillance & microbiology results

- PICnIC Period Two Usual Care
  - admission
  - weekly surveillance
  - HACI, microbiology results
  - antibiotic use
  - discharge
  - Safety monitoring

- SAE Reporting Form

See SOP 007 - Guidance for completion of Case Report Forms for further details
Safety Monitoring CRF

Should be completed for all patients enrolled during Period Two until discharge.

Only NG tube blockage needs to be completed (whether occurred or not).

If Severity = severe, life-threatening or fatal then SAE Reporting Form needs to be completed.

See SOP 007 - Guidance for completion of Case Report Forms for further details.
If Severity = severe, life-threatening or fatal then SAE Reporting Form needs to be completed

To be completed on paper CRF and uploaded and reported on Macro with 24 hours of the event.

Please inform trial team it has been uploaded (do not send copy via email)

SAE assessment section only to be completed if patient received SDD

See SOP 007 - Guidance for completion of Case Report Forms for further details
Period Two - Usual Care

Q&A