**Introduction**: Critical illness has been shown to affect the pharmacokinetics of antibiotics, which can lead to ineffective antibiotic therapy and the potential emergence of resistant bacteria. The lack of studies describing antibiotic pharmacokinetics in critically ill children has led to significant off-label dosing. In part this is due to the ethical and physical burden of drawing frequent, large-volume blood samples (>0.5 mL) from children.

**Aims**: Validate the use of CMS for collecting blood for dosing studies by comparing cefazolin concentrations to conventional blood sampling (CONV).

**Methods**: Paired capillary microsamples (0.05 mL) and conventional blood samples were collected from 6 patients (6 mo-6 yrs) receiving cefazolin (total of 40 paired samples) and admitted to the Pediatric Intensive Care Unit (Queensland Children’s Hospital, QCH). LC-MS/MS was used to analyse the samples using a validated quantitative bioanalytical method that met FDA criteria.

**Funding**: [Reference not provided in the image]

**Results**: CMS yields reliable results for paediatric pharmacokinetic studies. This is preliminary data from the Paediatric Infection Micro-sampling study (PIMs) currently underway at the QCH.

**Implications**: Finger prick sampling yields reliable data for paediatric pharmacokinetic drug studies. This will facilitate dose optimization studies and advance the clinical application of individualized dosing possible in the future for paediatric patients.

**References**:
3. FDA: Guidance for industry bioanalytical method validation (3001, 3014).

**Funding**: [Reference not provided in the image]