Introduction / Rationale

• Bronchiolitis is the leading cause of infant hospitalisation.
  - Seasonal pressure on paediatric in-patient & HDU wards
  - Annual hospital cost: approx. $1.73 billion USA, £83.8 million UK
• Oxygen saturation targets vary between countries
• Lowering from 94% to 90% could reduce hospital costs (upfront)
  - What about re-admissions and A&E?
  - Longer term costs to NHS?
  - Out of hospital cost to parents?
• Could 90% oxygen saturation be cost-effective?
  - Compare new strategy (Modified) to current practice (Standard)
  - Interested in both Costs & Outcomes

BIDS Equivalence RCT

• Clinical Bronchiolitis (SIGN 91)
  - 8 UK Centres
  - Admission to hospital
  - 6 weeks to 12 months age
  - Internet randomisation
  - 615 infants in two winter seasons
  - Oct 2011 – March 2012
  - Oct 2012 – March 2013

Intervention

• Pulse Oximeter Masimo Rad-8
• Standard (94%) versus Modified (90%)
• 1:1 allocation, coded oximeters
• Follow-up to 6 months

Result

Groups balanced at baseline

• 308 Modified (90%), 307 Standard (94%)

Primary Outcome:

• Time to no cough was equivalent (15 days each group)

Secondary Outcomes:

• Time back to normal not equivalent (11 days Modified, 12 days Standard)
• Time to adequate feeding not equivalent (19.5 hours Modified, 24.1 hours Standard)

Conclusions

• Modified oxygen (90%) was cost saving compared to Standard (94%) without any detrimental effects on health
• Modified (90%) saves NHS £274 per person (95% CI: £684, £130)
• 90% oxygen target is a highly cost-effective (dominant) strategy
• Inclusion of societal costs favoured the modified 90% target arm
• Implications for management of Bronchiolitis: Lower oxygen saturation target to 90%