

Cost-Effectiveness Analysis of Alcohol Handrub for The Prevention of Neonatal Bloodstream Infections: Evidence from HAI-Ghana Study

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Background: Published evidence of the cost-effectiveness of alcohol-based handrub (ABH) for the prevention of neonatal BSI is limited in Sub Saharan Africa.

Objective: To evaluate the cost-effectiveness of ABH for the prevention of neonatal BSI in a neonatal intensive care unit (NICU) setting in Ghana using data from HAI-Ghana study.

Effect measures

- 1) Number of neonatal BSI avoided.
- 2) Number of neonatal BSI-attributable mortality avoided.
- 3) Extra number of LOS & costs avoided with the intervention.

Methods

- ✓ Setting: NICU in the Korle-Bu Teaching Hospital, Ghana.
- ✓ Design: Before and during intervention.
- ✓ Perspectives: Patient and provider perspectives.
- ✓ Procedure: Consolidated health economics evaluation reporting standards (CHEERS).
- ✓ Cost were calculated in local currency and converted to 2019 PPP in US dollars.

Note: For more on baseline data, refer to baseline publication on DOI: <https://doi.org/10.1007/s41669-020-00230-x>

Comparators

Before: Conventional hand hygiene

Multimodal hand hygiene with soap and water before and after touching patients plus regular disinfection of baby cots.

During: Optimal hand hygiene

Multimodal handwashing with 70% formulation of alcohol-based handrub at patient bedside before and after touching a patient plus regular disinfection of baby cots.



Results

The intervention reduced

- Neonatal BSI-attributable mortality by 73% i.e. from 26 to 7 deaths before and during the intervention, respectively.
- Extra LOS by 50% i.e. from 10.2 days to 5.1 days
- Patient cost of neonatal BSI by 41.7% i.e. from \$1,026 to \$598.63
- Hospital cost by 48.5% i.e. 1,010 to \$520.

Conclusion: The study shows positive gains with the intervention in terms of value and costs.