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### Introduction of a novel neonatal warming device in Malawi: an implementation science study

**Abstract:**

**Background:** Neonatal hypothermia significantly contributes to infant morbidity and mortality in low-resource settings like Malawi. Kangaroo mother care (KMC) is essential but faces challenges in providing continuous thermal support. The Dream Warmer is a neonatal warming device that was developed to complement KMC. We studied its implementation outside a research environment. **Methods:** Using an implementation science approach, we conducted a prospective interventional cohort study in two hospitals and four health centres in Malawi. Through audits and surveys, we assessed its effect on neonatal hypothermia as well as healthcare provider (HCP) and parent attitudes regarding thermoregulation. **Results:** The Dream Warmer raised no safety concerns and effectively treated hypothermia in 90% of uses. It was positively received by HCPs and parents, who reported it had a favorable effect on the care of small and sick new born. Challenges identified included a scarcity of water and electricity, lack of availability of the device and HCPs forgetting to prepare it in advance of need or to use it when indicated. Feedback for future training was obtained. **Conclusion:** The Dream Warmer's strong safety and effectiveness performance is consistent with results from strict research studies. Training materials can be adapted to optimize integration into daily practice and provide educational content for parents. The Dream Warmer is a safe and effective device to treat neonatal hypothermia, particularly when KMC is insufficient. We gained an understanding of how to optimize implementation through robust HCP and family education to help combat hypothermia. Keywords: Implementation science, KMC, LMIC, neonatal hypothermia, new born.

### Biography

**Mc Geofrey Mvula** is a healthcare professional affiliated with Partners in Health (PIH) in Sierra Leone. He has contributed to various research initiatives aimed at improving maternal and neonatal health in low-resource settings.In a study published in November 2024, Mvula co-authored a secondary data analysis assessing the long-term impact of a nurse-midwife mentorship intervention in neno district, Malawi. The research focused on maternal and neonatal complications, highlighting the effectiveness of mentorship programs in enhancing healthcare outcomes. Additionally, Mvula has been involved in implementing the Dream Warmer, a neonatal warming device designed to complement Kangaroo Mother Care (KMC) in Malawi