

# **Durable Residual Wall Lining (DL) Installation Concepts and Acceptability as an IRS Replacement Tool for Malaria Vector Control**

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## **ABSTRACT**

### **Introduction**

Timing of indoor residual spray (IRS) applications for the start of the transmission season is critical. Sustainability of such programs is difficult because campaigns must be repeated annually or semi-annually in some regions. Durable Residual Wall Lining (DL) is an innovative technology that will eliminate the need for repeated spraying of walls over a period of 3-4 years after installation.

### **Project**

The objective of this project was to evaluate a variety of methods for attaching DL to various wall surfaces found in traditional, rural African housing. Assessments were made as to strength of attachment under various stresses and appearance after installation. The experiments took place in Anwona village near Obuasi, Ghana with the support and cooperation of AngloGold Ashanti's Malaria Control Center.

55 mechanical and adhesive products were tested for their ability to hold a static load (simulating long-term installation); weight concentrated in a small area (simulating a child hanging on the DL); ease of pulling or peeling the DL from the wall; impact on the wall when DL was removed; and finished look of DL once installation was complete.

### **Result**

Results showed 38% of the nails, 90% of the adhesive tapes, and 70% of the glues failed to meet minimum standards for fixing and holding DL in position. The best solution, across all characteristics measured, was the use of a plastic nail cap (20mm diameter) with local nails app. 3.5cm in length having a head 3mm to lock the cap in place.

Findings from the experiment and local observations were included in the DL Installation Manual, the final delivery of this project.

### **Key words**

Malaria vector control, Durable Wall Lining, IRS, DL Installation