



Multi-Intervention Evaluations: Improved Survival for Mothers and Newborns

The Solar Suitcase was included as a key intervention in several comprehensive maternal-newborn programs, including programs by AMREF Uganda, Pathfinder Nigeria, Pathfinder Uganda, Pathfinder Tanzania, Pathfinder Ethiopia, Jhpiego Tanzania, One Heart World-Wide Nepal, and Hamlin College of Midwives Ethiopia. These comprehensive programs have led to improved maternal health services, greater utilization, and in some cases significant reductions in maternal and newborn mortality. Outcomes from one of these programs are reported here.

Saving Lives at Birth (SLAB) Grand Challenge

SLAB was a three-year project in South Western Uganda, launched in 2013, and supported by Grand Challenges Canada. The project was implemented by AMREF Health Africa in collaboration with We Care Solar and White Ribbon Alliance (WRA).

Intervention: (1) Solar Suitcases equipped with fetal Dopplers, headlamps, phone chargers, and laptop computer; (2) Education to improve skills of health workers; (3) Introduction of electronic Health Management Information System (HMIS); and (4) Community sensitization to increase community awareness and demand for maternal-newborn services.

Study Size: 100 primary health facilities in Southwest Uganda with 48,385 deliveries over 3 years

Data Analysis: Baseline and endline surveys, interviews, focus groups, analysis of program records by Atonte Cordial Group in Uganda

Key Findings:

1. 24-hour lighting was a critical factor for care, especially at the time of delivery and post-partum.
2. With improved lighting from Solar Suitcases, health workers were able to stay on duty longer.
3. Mothers no longer had to pay for kerosene, candles, or torches.
4. Phone-charging allowed community health workers to more easily make emergency referrals.
5. The fetal Doppler aided in the detection of fetal distress.
6. Solar Suitcase and laptop computers increased staff motivation and confidence, resulting in less absenteeism at the health facilities.

There was a **66 percent increase in skilled deliveries** over the study period, including a **rise in nighttime deliveries by 80 percent** compared to baseline.

As a result of the combined interventions, **health facility based perinatal deaths decreased by 73.5 percent** (from 10.9 deaths per 1,000 live births in July to December 2012 to 2.9 deaths per 1,000 live births in July to December 2015).

The rate of **facility-based maternal deaths dropped by 53 percent** during the same period (33.8 deaths per 100,000 live births at baseline to 15.8 deaths per 100,000 by the last year of the project).