

Duke Validation

Eight years of monitoring and evaluation data demonstrate that LifeNet International's work in local health clinics significantly improves the quality of care patients receive. We are delighted to share findings from the Evidence Lab at Duke Global Health Institute, which conducted a 15-month longitudinal study that validated LifeNet's improvements in quality of care at a subset of partner facilities in Uganda. The study **“provides evidence that the LifeNet clinical training intervention significantly improved maternal and neonatal healthcare quality.”**

The LifeNet Way

LifeNet provides hands-on training, mentoring, and quality assurance for local health facilities in sub-Saharan Africa. When LifeNet improves knowledge and provides access to the right tools, health workers are equipped to provide high-quality care and promote patient wellbeing.

Our model improves and saves lives. At an average cost per improved patient visit of just \$1.

Before LifeNet Intervention

Data gathered during evaluations prior to LifeNet intervention reveal gaps in knowledge among facility health workers and insufficient care:

- On average, **3%** of health workers can treat a postpartum hemorrhage—the leading cause of death for mothers in Africa.
- Just **7%** can perform infant CPR.
- Only **10%** follow medical protocols for hand washing—which is critical to preventing infection.

After LifeNet Intervention

LifeNet's internal quality assessments document dramatic improvements in healthcare quality thanks to LifeNet interventions:

- **88%** of health workers demonstrate ability to treat a postpartum hemorrhage and save a mother's life.
- **80%** of health workers can perform infant CPR
- **79%** of health workers follow the medical protocols for hand washing.

Sample of Duke Validation Study Findings



545% increase in adherence to hand washing protocols



238% increase in adherence to sterile cord clamping after birth



66% decrease in *observed** infant mortality



LifeNet's quality improvement saves lives.

Going Global, Locally: Transforming the Continuum of Care

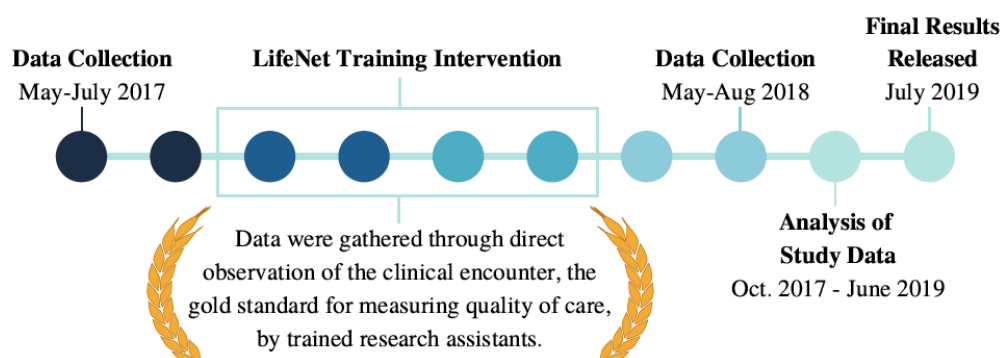
By the end of 2023, LifeNet will implement validated interventions in local health facilities across 10 African countries, ensuring high-quality care for 10 million patient visits yearly at an annual cost of \$10 million: just \$1 per improved patient visit. Community health facilities are essential points of primary care for patients. When community health workers refer patients to local health facilities, patients can be treated for their ailments and referred to higher-level hospitals. Patients rely on these local health facilities for their wellbeing. **When we transform the quality of care in a community's health facility, we save lives.**

*Due to the low numbers of reported deaths, additional data or further studies would be required to more accurately measure changes in this area. This study was not statistically powered to detect differences in mortality.

Our study provides evidence that the LifeNet clinical training intervention **significantly improved maternal and neonatal healthcare quality** at six primary care clinics in Uganda

BACKGROUND & METHODS

The Duke Global Health Institute (DGHI) Evidence Lab conducted a 15-month quasi-experimental longitudinal study of the effects of a modified 10-month long LifeNet training intervention on improvements in quality of care and maternal and neonatal mortality in six LifeNet partner clinics in the greater Masaka area, Uganda. 24 indicators of care quality were measured during the study.



STUDY RESULTS

Aim One: Estimate the effects of LifeNet training on adherence to global standards on clinical quality measures among health facility staff [statistically powered to detect differences].

The most likely interpretation of these data is that **measurable improvements in clinical quality are related to the LifeNet training.**

Our study provides evidence that the LifeNet clinical training intervention significantly improved maternal and neonatal healthcare quality across six primary care clinics in Uganda, at least over a relatively short-term period. In 16 of the 24 indicators measured, we observed a statistically significant increase in adherence to best practices over the study period. The majority of these 16 indicators also showed a clinically significant increase in adherence.

It is important to note that since we were unable to utilize a randomized controlled design, results should be carefully considered in that we cannot assess causality. With this said, the timing of changes in outcomes and the significance of the changes across many indicators specific to LifeNet's training, considered alongside the *ad hoc* information we collected on other interventions occurring at study clinics, leads us to believe **the most likely interpretation of these data is that measurable improvements in clinical quality are related to the LifeNet training.**

SAMPLE OF STUDY RESULTS

INDICATOR	BASELINE	ENDLINE	MEASURES OF EFFECT		
	Adherence % (N)	Adherence % (N)	Percentage Increase in Adherence	Adherence Difference	Adherence Ratio*
Hand washing					
Provider washed hands at least once right before initial vaginal examination, and/or during the first stage of labor, and/or prep for delivery	6.8% (177)	37.1% (205)	545%	30.3%	5.45
Sterile cord clamping					
Delayed cord clamping (>= 1 minute)	31.1% (196)	74.0% (246)	238%	42.9%	2.38
Partograph use					
Partograph used in real-time to monitor labor	10.4% (221)	40.2% (264)	386%	29.7%	3.86
APGAR					
Provider was observed to conduct APGAR score at 1 or 5 min.	10.8% (204)	64.5% (259)	597%	53.7%	5.97
Provider was observed to conduct APGAR score at 1 and 5 min.	2.0% (204)	32.8% (259)	1,640%	30.9%	16.4

Figure 1: subset of statistically and clinically significant increases in the prevalence of clinical best practices over the study period

Adherence ratio is interpreted as the likelihood that a provider adhered to the procedure when comparing the post and the pre-periods. For example, PR=5.45 is interpreted as a provider was 5.45 times more likely to adhere to handwashing after the intervention, than before the intervention.

Aim Two: To describe the effect of LifeNet’s clinical training modules on both pre-discharge neonatal mortality and maternal mortality [not statistically powered to detect differences].

Pre-discharge Neonatal & Maternal Mortality

This study was not statistically powered to detect differences in maternal and neonatal mortality. However, the data observed documented a decrease in neonatal mortalities at the conclusion of the LifeNet training intervention. The following mortality data on pre-discharge deaths were observed during the course of the 15-month study. While these data suggest that the mortality rate declined over this period, due to the low numbers of reported deaths, additional data or further studies would be required to more accurately measure changes in this area.

Baseline	7 neonatal deaths per 261 deliveries	27/1000 neonatal mortality rate
Endline (Post LifeNet Intervention)	3 neonatal deaths per 319 deliveries	9/1000 neonatal mortality rate

**Note: There were no pre-discharge maternal deaths observed during the baseline but there was one maternal death at endline when a woman was discharged in poor condition and died upon arrival at the referral hospital.*