



## Kybele Worldwide's Obstetric Triage Implementation Package (OTIP®)

*A proven, nationally scaled maternal survival innovation - a model for global replication*

### The Problem

The proportion of births that occur in busy hospitals in low- and middle-income countries (LMICs) is rapidly increasing. Yet maternal mortality remains high — an LMIC average of 205 per 100,000 births against the 2030 SDG target of 70 — because persistent quality gaps continue to drive preventable deaths.

The **'third delay'** in receiving care — waiting in hospitals — can quickly lead to preventable, life-threatening obstetric complications, which cause nearly 80% of maternal deaths. In many LMICs, hospitals operate on a first-come, first-served basis rather than triaging patients based on need. Often, when women arrive to give birth, they are already in a compromised state. Emergency obstetric conditions are time-sensitive, yet women often wait hours before being assessed. **Timely assessment and treatment can make the difference between life and death.**

### The OTIP Solution

OTIP applies the concept of triaging into a **scalable, low-cost, system-integrated** package designed for hospitals in low-resource settings. OTIP **empowers midwives** to act without waiting for a doctor and to escalate care when critical — crucial for contexts with few doctors.

OTIP enables midwives in high-volume hospitals to rapidly assess incoming maternity patients and prioritize those most at risk. Dedicated **triage areas** are established where a midwife uses a **standardized assessment form** and **acuity chart** to identify risk and plan care. Patients receive **color-coded wristbands** to signal their level of urgency, and are monitored using a **Modified Early Obstetric Warning System (MEOWS)** chart to ensure timely attention if their condition deteriorates. Together, these tools have transformed patient flow and emergency response in maternity units.

OTIP is designed for resource-constrained environments. It does not depend on continuous donor funding or complex infrastructure. It is low-cost, simple, and adaptable — easily integrated into the fabric of hospital systems. Once embedded, hospitals run OTIP independently.

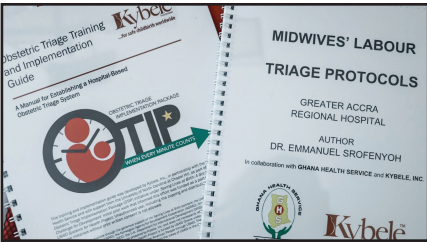


### The Journey So Far

**OTIP was co-created by Kybele and the Ghana Health Service (GHS)** with support from Grand Challenges Canada. Initially tested and refined in one facility, it was introduced in a further eight facilities to test scaling approaches, before GHS scaled it nationally to all high-volume public facilities.

**OTIP now covers 110 health facilities, impacting over 70% of all hospital births in Ghana.** It has been fully institutionalized into national policy, pre-service midwifery curricula, and national data systems. Clinical champions were trained to lead rollout, supervise peers, and mentor new staff. Hospitals now continue OTIP without direct support from Kybele.

Critically, the model is financially self-sustaining. Recurrent costs of just \$0.62 per birth are now fully absorbed into GHS's routine domestic budget — proof that advanced care reform can outlast donor funding cycles.



## OTIP's Impact

Rigorous econometric analysis of the national scale-up demonstrated a **48% relative reduction in institutional maternal mortality** ( $p=0.03$ ) - an absolute reduction of 55 maternal deaths per 100,000 births.

<b>48%</b>	<b>5 min</b>	<b>127:1</b>
Reduction in institutional maternal mortality (econometrically validated)	Median arrival-to-assessment time, down from 70 minutes	Benefit-to-cost ratio at sustained national scale

Across the national scale-up across 76 public hospitals:

- 98% of women were triaged within 10 minutes – the international standard best practice, with 94% banding accuracy and 97% MEOWS compliance
- **\$739 modeled cost per maternal death averted** at a **benefit to cost ratio of 127:1** at sustained national scale

## OTIP's Future

Two recent systematic reviews have shown that OTIP is the only obstetric triage system scaled nationally in a LMIC. OTIP has been successfully piloted in Liberia demonstrating transferability beyond Ghana. Studies across countries have identified the rising importance of the third delay in maternal mortality - and the need for an implementation-ready package like OTIP.

Ministries of Health in Ethiopia, Lesotho, and Uganda have formally requested Kybele's support to adapt and scale OTIP. Kybele is aiming to support **10 countries to adapt and introduce OTIP by 2030 - averting thousands of preventable maternal deaths across millions of hospital births.**

The pathway is clear and proven: **catalytic investment enables local adaptation and generates the country-specific evidence that Ministries need to release domestic financing for national scale.** Ghana demonstrates that once embedded, these reforms sustain themselves - protecting the most vulnerable families from preventable loss, without ongoing donor dependence.

*The first half of last year, we lost three mothers, but this year, after the introduction of OTIP, we've not had any mortality. Last year by now, we had about 44 still births. Now we are down almost 50%.*

Dr. Alexander Adjei  
 Acting Medical Superintendent  
 Shai-Osudoku District Hospital

*We would like to express our heartfelt appreciation to the initiative taken by KYBELE for introducing this obstetric triage implementation program. It's really been impactful.*

Dr. Ibrahim Friko  
 Head of Obstetrics & Gynecology  
 Holy Family Hospital Techiman