Empowering Health Systems with Portable PCR Technology: The Role of the Biomeme Franklin three9 in Diagnosing Neglected Tropical Diseases

Melissa Edmiston
Vice President of Programs

Hope Rises
INTERNATIONAL

Formerly American Leprosy Missions

hoperises.org

The Global Burden of Neglected Tropical Diseases

1.7 billion people worldwide affected by NTDs

30–50% skin NTDs

Leprosy, Buruli ulcer, cutaneous leishmaniasis, yaws

Impoverished and underserved communities

Hope Rises
INTERNATIONAL

Why Diagnosing NTDs Remains Difficult

1. **Delayed diagnosis** (health seeking, misdiagnosis)

2. **Limited access** (logistics and availability)

3. **Resource constraints** (infrastructure, expertise)

Hope Rises
INTERNATIONAL

Biomeme Franklin three9

- **Portable, battery-powered PCR device**

- **Smartphone-operated**

- **Delivers lab-quality results in hours**

- **Ideal for remote and resource-limited settings**

Transforming Diagnostics in the Field

- **Rapid diagnosis at the point of care**

- **Highly accurate**

- **Empowers local health workers**

- **Early treatment = Better outcomes**

Real-World Impact: Kembo's Story

- 3-year-old child with non-healing scalp ulcer

- Biomeme Franklin™ three9 used for on-site testing

- Confirmatory Diagnosis: 1 Hour

- Immediate treatment started, preventing severe tissue damage

Hope Rises
INTERNATIONAL

What We Learned from the Field

Cost – Needs funding and sustainable financing

Training – Health workers need basic PCR knowledge

Integration – Must align with existing public health systems

Success depends on **community trust and partnerships**

Hope Rises
INTERNATIONAL

Tech + Faith-Based Health = Health Equity

- **Expanding Access**

- **Empowering faith leaders and health workers**

- **Catalysing early diagnosis, treatment and hope**

- **Advancing health equity**

Hope Rises
INTERNATIONAL

Future Directions & Call to Action

- **Scale Up-** Assay development and field evaluation

- **Partnerships**- ministries of health, NGOs, faith-based networks

- **Funding**- research and deployment

- **Training**- health workers community members

- **Advocacy**- Portable PCR a standard global health tool

Hope Rises
INTERNATIONAL

Thank You !!

Hope Rises
INTERNATIONAL
Formerly American Leprosy Missions