



Action Meningitis

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## ETAT

IMPLEMENTATION DATE: 2012 to 2018

### *Emergency triage assessment and treatment for primary care*

Forty-one thousand children died before reaching their fifth birthday in Malawi in 2013. Over half of these deaths were caused by illnesses (i.e. meningitis, sepsis, pneumonia, and diarrhea) that are both preventable and treatable with earlier recognition and intervention.<sup>1</sup> In the absence of systematic triage at the primary health care level in Malawi, a common challenge is the lack of early and accurate recognition of serious illness requiring urgent referral to a higher-level facility. Patients are seen on a first-come, first-served basis and severe illnesses are often missed as hundreds of children queue for hours.

### About ETAT

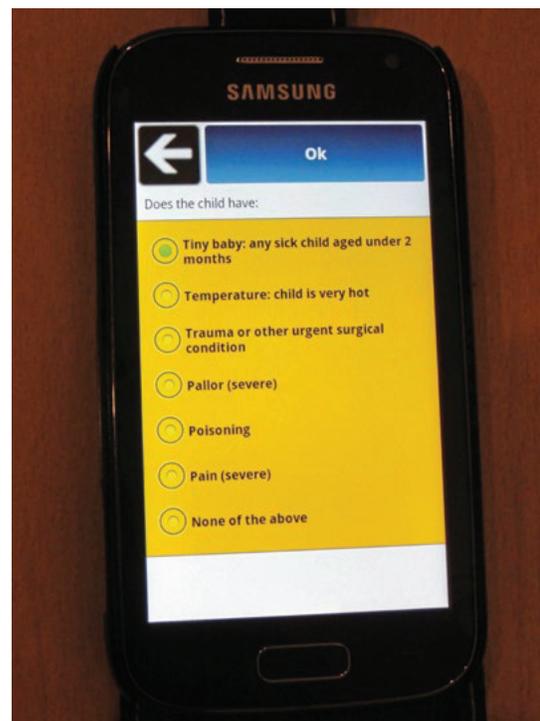
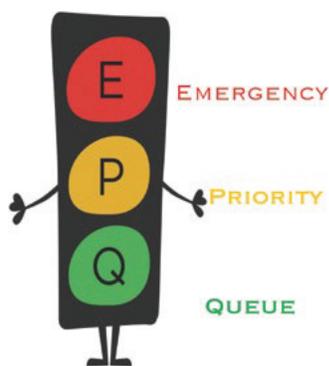
The Action Meningitis project helps tackle Malawi's high infant mortality rate by introducing triage into primary health clinics. Underpinned by 10 years of clinical research and working closely with the Ministry of Health (MOH), partners Meningitis Research Foundation and D-tree International have successfully integrated an mHealth point-of-care triage system at the primary care level. Using the World Health Organization Emergency Triage Assessment and Treatment

(ETAT) protocol, health care workers (HCWs) are enabled to detect vital signs of severe illness. ETAT complements existing protocols and strengthens the overall health care system through improved prioritization of care and resources. Children are given the attention and treatment they would otherwise miss due to overcrowding of clinics and lack of trained health care workers. A movie of the triage tool in use can be viewed online: [www.meningitis.org/action-meningitis](http://www.meningitis.org/action-meningitis).

### Evaluation and Results

In eight clinics, 192 HCWs have been trained in the use of ETAT using the mHealth tool. The HCWs delivered triage to 215,000 children within two years. Patient flows in clinics are radically improved, enabling swift treatment of sick

children or referral to a hospital. Qualitative and quantitative methods of data collection were used in both the baseline and endline studies to examine changes in clinical practice and knowledge among HCWs.



Quality of triage in all primary centers remained high (average  $92.2 \pm 7.08$  percent agreement with ETAT clinicians who re-examined the children). Frequent monitoring visits show there is good patient flow within clinics and that patients are being seen in order of priority.

Mobile phones are an important tool, ensuring that HCWs stick to protocol, acting as a prompt to identify severely ill children. Triage is quick on the phones, taking less than a minute to assess each child. On the few occasions when phones were unavailable (e.g. during use in training sessions), the HCWs still continued to apply the skills they had learned and triage children in the queue.

Clinic waiting times remain encouraging for introduction of a system that prioritizes according to severity of illness. Time taken to be seen by the clinician was on average significantly shorter for emergencies (nine minutes) than priorities (28 minutes) and longest for queue cases (31 minutes).

## Lessons Learned

- **Support from MOH** has been achieved through continued close collaboration on the ground at district and local level, as well as engaging at national level.
- **Local ownership is important** for sustainable impact, and project development is improved by regular consultation with a wide range of local stakeholders (including MH officials and frontline staff).
- **The project has been designed with existing resource constraints in mind.** Lower-cadre HCWs with no previous triage training are now empowered and responsible for prioritizing the sickest children, relieving overburdened clinicians.
- **High turnover of HCWs is endemic** in Malawi. A stakeholder meeting enabled discussion of staffing concerns. Recognition/appreciation came out as a highly motivational factor for all staff cadres. Community awareness activities (radio and theatre) are being used to give recognition to those staff carrying out triage.

## Conclusion

Better recognition, treatment, and referral of severely ill children at primary level is a key priority for reducing child mortality. The next step is to develop a scalable solution that can be adopted across the primary setting, and current partners are working closely with local, regional, and national-level health officials to develop, refine, embed, and extend the reach of the triage system.

Over the next three years, the Action Meningitis project will optimize the triage system so that it is fully appropriate for primary level staff, systems, and resources (ETAT was originally designed and developed in Malawi for the tertiary setting). Developments will be monitored and evaluated in the existing eight clinics while benchmarking in three new clinics before further implementation. Across the 11 health clinics 440 HCWs will be trained and the reach of triage will be extended to an additional 384,000 children. ■

**Geographic Coverage:** Blantyre and Chikhwawa District, southern Malawi

**Implementation Partners:** Meningitis Research Foundation; Malawi Liverpool Wellcome Trust; Things Prime; D-tree International; Malawi Ministry of Health

**Donors:** The Scottish Government Malawi Development Programme and others

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