

**Outcome & Evaluation:** 12 months after the first set of trainings, 16 out of the 18 volunteers were still part of the group, many of whom are actively reaching out to community members suffering from mental health disorders.

**Going Forward:** The project was replicated in Arusha, Tanzania and Mombasa, Kenya to assess replicability. The success in Arusha and Mombasa has paved the path for a full roll out East Africa wide. Discussions are now underway for MHFA curriculum to be translated in Swahili and adapted to the East African culture. A training of trainers' workshop will then take place to train trainers who will train volunteers in communities across East Africa and assist each community in setting up their own mental wellbeing groups and structures. The biggest challenge the project has faced is combating the stigma surrounding mental health.

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### Housing quality as a potential risk factor for locally acquired malaria infection in Swaziland

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**Background:** Poor housing quality may confer greater risk of malaria infection by means of increased mosquito exposure; however, evidence in low transmission settings is lacking. In this study, surveillance data was used to examine the relationship between housing quality and locally-acquired infection in the low transmission setting of Swaziland.

**Methods:** A retrospective analysis was conducted utilizing data collected from passive and active surveillance. Subjects included malaria index cases diagnosed at health facilities as well as their household and community screened in active case detection from August 2012 to March 2015. Subjects with recent history of travel and/or residing beyond 500m from the index case were excluded. Using bivariate and multivariable logistic regression, adjusted for household-level clustering, the relationships between infection (testing positive by Rapid Diagnostic Test (RDT), microscopy, or loop-mediated isothermal amplification (LAMP)) and housing quality, as well as other epidemiological factors were analyzed. Housing quality was assessed by individual components (wall, roof and window type) as well as a composite housing quality index.

**Findings:** Cases included 280 index cases and 131 RDT or LAMP positive individuals identified in active surveillance. These cases were compared to 8668 non-infected household members and neighbors of index cases. In the multivariable model, poor quality external wall and windows were associated with higher infection odds (OR 3.74 95%CI 1.53–9.16 and OR 1.70 95%CI 1.03 – 2.80). There was a trend in the association with poor quality roof,

but the relationship was not significant. Using the composite housing index, compared to good quality housing, moderate and poor quality housing were associated with higher infection odds (OR 1.92 95%CI 1.27–2.91 and OR 2.68 95%CI 1.40–5.13). In the composite housing model, coverage of vector control interventions was independently associated with protection. Compared to no vector control (neither sleeping under an insecticide treated bed net (ITN) nor a sprayed structure), coverage with either an ITN or spraying conferred protection (OR 0.67 95%CI 0.44–1.01), as did coverage with both interventions (OR 0.10 95%CI 0.13–0.72).

**Interpretation:** Housing quality, especially wall material, is an important determinant of locally-acquired infection in Swaziland, suggesting improved housing as a potential control and elimination strategy in low transmission settings.

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### Measuring facility capability to provide routine and emergency delivery care to mothers and newborns: an appeal for utilisation of metrics allowing adjustment for delivery caseload of facilities

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**Background:** Emergency obstetric care (EmOC) indicators and signal functions for emergency newborn care (EmNC) and routine delivery care can be used to assess the capability of health facilities to provide comprehensive delivery care. We aimed to develop and illustrate the usefulness of a statistical method that accounts for differences in delivery caseload between facilities to standardise patient volume.

**Methods:** Using the 2010 Kenya Service Provision Assessment dataset, we examined facilities' capabilities by applying EmOC indicators in addition to suggested EmNC and routine care functions. We required facilities to possess equipment and/or medications necessary for each signal function. Our analyses accounted for complex survey sampling. To better contextualise the results, we analysed the data in terms of delivery caseload, with the number of deliveries in the facility in the previous 12 months factored into the survey weight value. These results are reported as percentage of deliveries, instead of percentage of facilities, signalling a shift in focus of metrics from facilities to individual deliveries.

**Findings:** Of the 695 facilities in the survey, 403 (58%) provided delivery care and were included in the analysis. Nearly half (46%) of deliveries occurred in a facility that was capable of providing 9–11 of the 11 routine delivery care functions; 46% and 12% occurred in a facility equipped to provide basic emergency obstetric and newborn care, respectively. Less than 2% of deliveries occurred in a facility equipped to provide the full spectrum of emergency and routine delivery care.