MALARIA CONSORTIUM
PROJECT BRIEF

Introducing a digital intervention to strengthen the Boma Health Initiative

Improving data accuracy and quality of care in South Sudan

Background

In South Sudan, approximately 44 percent of the population live more than five kilometres from the nearest health facility.[1] The burden of preventable illness for children under five remains extremely high. Pneumonia, malaria and diarrhoea are the leading causes of morbidity and mortality among this age group, with malnutrition being the underlying cause of around half of all child deaths.[2] Provision of community-based healthcare by trained community health workers is key to tackling these illnesses and achieving universal health coverage.

The Ministry of Health (MoH) adopted the Boma Health Initiative (BHI) in 2017, seeking to standardise community health services and improve access to essential primary healthcare services.[3] To achieve these goals, the BHI formalised the role of community health workers, known nationally as *boma* health workers (BHWs). In 2022, the BHI in Aweil South and Aweil Centre, supported by Malaria Consortium, treated 9,164 children under five for diarrhoea, 28,294 for malaria and 12,513 for pneumonia.

In a 2022 report, the United Nations Children's Fund (UNICEF) recommended prioritising the digitalisation of the BHI to address critical gaps in data and reporting.[4] While the programme has enhanced access to healthcare, improvements are needed

Country
South Sudan

Donor
Malaria Consortium US

Length of project
June 2023 – June 2025

Partners
Ministry of Health, South Sudan
HISP Tanzania

to achieve long-term sustainability and impact. Digitalisation has the potential to improve integrated community case management of childhood illnesses and increase child survival.[5]

Project outline and objectives

In partnership with South Sudan's MoH, Malaria Consortium is developing a new digital health tool that will support the implementation of the BHI, including the provision of integrated community case management of childhood illnesses for children aged 2–59 months. This tool will facilitate the collection of accurate health data. We will implement this digital intervention alongside the existing BHI programme in Aweil South and Aweil Centre. Of the 25,750 children under five who live in Aweil South, 46 percent currently have access to the BHI programme.

The specific objectives of this project are to:

- develop and implement a digital health tool that supports BHWs in Aweil South and Aweil Centre to deliver high-quality healthcare to children in their communities, particularly for the treatment of diarrhoea, respiratory tract infections (RTIs) and malaria
- assess the impact of the digital intervention compared with standard practice by carrying out a cluster-randomised control trial (cRCT) in both target counties
- determine the project's suitability for scale-up through a feasibility and acceptability study, and a cost analysis.

Activities

To develop and implement the digital health tool, Malaria Consortium will:

- hold workshops with key stakeholders to co-design the features and content of the digital tool (MoH, monitoring and evaluation health department, BHI secretariat, UNICEF, World Health Organization and others)
- develop the digital tool through stakeholder collaboration, and test in the field to identify and address any issues
- train 200 BHWs and 15 BHW supervisors to use the tool
- hold quarterly data review meetings at state level, using dashboard visualisations of the data collected from the digital tool.

To assess the impact and acceptability of the tool compared with standard practice, and to determine its feasibility for scale-up, we will:

- develop and approve a study protocol to measure:
  - quality of healthcare, defined as the receipt of appropriate diagnosis, treatment and, where necessary, referral, by a child aged 2–59 months who has had an episode of diarrhoea, malaria or RTI
  - reporting and quality of BHI data
  - motivation and retention of BHWs.
- conduct an intervention trial in both target counties, sampling 25 children per cluster across 35 clusters in each trial arm (70 in total). This sample size should provide sufficient power to detect a 15 percent or greater improvement in the management of febrile illness in the intervention arm (we assume that 50 percent of children in the control arm will also receive appropriate treatment, based on a similar trial in Uganda)[6]
- provide training to research assistants
- hold focus group discussions and key informant interviews with stakeholders and thematically analyse the outputs
- conduct a cost analysis
- produce evidence for advocacy and scalability.

References

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3. South Sudan Ministry of Health. The community health system in South Sudan: The Boma Health Initiative. A community anchored health system for sustainable health sector development. Fifth Draft. Juba: South Sudan Ministry of Health; 2015.
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5. Soremekun S, Källander K, Lingam R, Branco A-CC, Batura N, Strachan DL, et al. Improving outcomes for children with malaria, diarrhoea and pneumonia in Mozambique: A cluster randomised controlled trial of the inSCALE technology innovation. PLOS Digital Health, 2023; 2(6): e0000235
6. Källander K, Soremekun S, Strachan DLI, Hill Z, Kasteng F, Kertho E, et al. Improving community health worker treatment for malaria, diarrhoea, and pneumonia in Uganda through inSCALE community and mHealth innovations: A cluster randomised controlled trial. PLOS Digital Health, 2023; 2(6): e0000217.

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Cover image: A *boma* health worker conducts community sensitisation and mobilisation on malaria in Panthow village, Aweil South, Northern Bahr el Ghazal state, South Sudan

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