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Acceptability of selected respiratory rate counters and pulse oximeters for use by frontline health workers in the detection of pneumonia symptoms in children in sub-Saharan Africa and Southeast Asia

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Introduction

Diagnosis of pneumonia by community health workers (CHWs) and first level health facility workers (FLHFWs) is presumptive and based on counting respiratory rate (RR). This process can be challenging and misclassification of the observed RR is common.

Malaria Consortium's Pneumonia Diagnostics project is identifying the most accurate and acceptable respiratory rate (RR) counters and pulse oximeters (POx) to support CHWs and FLHFWs in the detection of pneumonia symptoms in Cambodia, Ethiopia, South Sudan and Uganda.

The project has three activity stages: device selection, accuracy evaluation and field evaluation. This poster focuses on the field evaluation activities.

Figure 1: Structured assessment with community health worker using devices during routine practice in Aweil, South Sudan

Objectives

- Assess the performance of CHWs and FLHFWs in using nine devices to detect the signs and symptoms of pneumonia in children under five years.
- Assess the acceptability and usability of devices to CHWs/FLHFWs and also caregivers.
- Document the utility of devices in routine care when used by CHWs/FLHFWs to detect the signs and symptoms of pneumonia in children under five years.

Figure 2: Field evaluation - Structured assessment flow

Methods

- Diverse sample of 20 CHWs and five FLHFWs per country were provided with one RR counter and POx from a range of nine devices (selected in earlier project stages).

- CHWs/FLHFWs will use their device sets in routine practice between October and December 2015 (Figure 1). During this period research assistants (RAs) will conduct at least 15 filmed structured assessments with each CHW/FLHFW using their devices during consultations (Figure 2).

- Focus group discussions with the CHWs/ FLHFWs, as well as semi-structured interviews with a sample of 25 caregivers in each country, will also be conducted to document device perceptions.

- Structured assessments and interviews will determine the primary outcome of usability and acceptability. Recordings will be analysed for accuracy in device utilisation procedures and reactions of the caregiver and child. Data will be analysed using a combination of qualitative and quantitative methodologies.
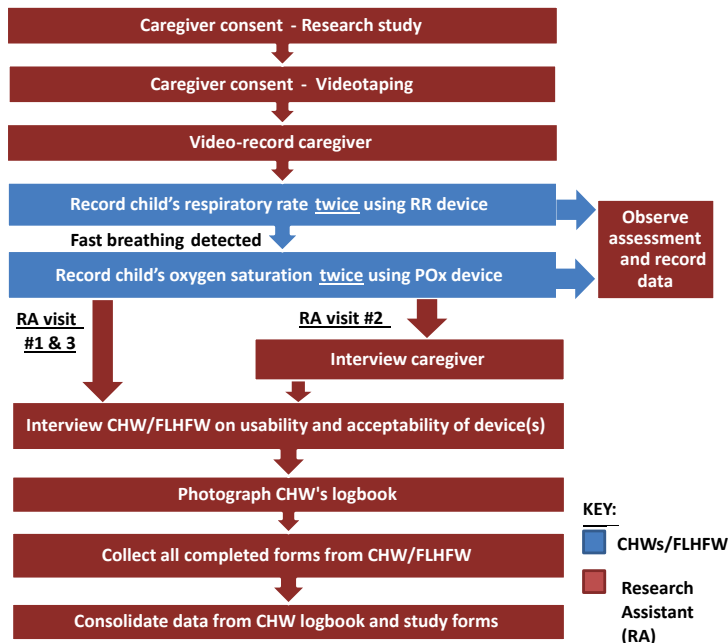
Results

Data collection is still ongoing, with results anticipated in February 2016. Important project process focused learnings include the need for standardisation across four country research sites requiring the development of standardised protocols, operating procedures, and data collections tools.