

# Studying the acceptability and usability of two pneumonia diagnostic aids in Ethiopia

In 2016

# 16%

of under-five deaths were due to acute respiratory infections in Ethiopia

We trained health extension workers (HEWs) to use one of two new aids for classifying fast breathing, a symptom of pneumonia

**PHILIPS CHARM**  
Respiratory rate



**337**  
under-fives assessed  
(May–Aug 2018)

**MASIMO RAD-G**  
Respiratory rate & oxygen saturation



**259**  
under-fives assessed  
(Sept–Dec 2018)

We **observed** 260 HEWs in 143 health posts each complete two child consultations with a new device

USABILITY



HEWs correctly adhered to all eight assessment and classification steps:

ChARM **74%**  
Rad-G **88%**



HEWs successfully acquired a reading on first attempt:

ChARM **92%**  
Rad-G **81%**



HEWs successfully acquired a reading:

ChARM **3.17 mins**  
Rad-G **5.42 mins**



HEWs successfully acquired readings within three attempts:

ChARM **99%**  
Rad-G **92%**

ACCEPTABILITY

We **interviewed** HEWs, health facility workers and caregivers



Caregivers were accepting of the devices



HEWs felt that the devices had encouraged caregivers to visit health posts

Our findings support the usability and acceptability of these devices in this setting. We recommend further studies on performance, cost-effectiveness and implementation of RR and RR-SpO2 devices to inform policy decisions in countries with a high burden of childhood pneumonia.

# Studying the acceptability and usability of a pneumonia diagnostic aid in Nepal

In 2015

# 15%

of under-five deaths were due to acute respiratory infections in Nepal

We trained female community health volunteers (FCHVs) to use a new aid for classifying fast breathing, a symptom of pneumonia

**PHILIPS CHARM**  
Respiratory rate



# 253

under-fives assessed  
(Aug–Dec 2018)

We **observed** 130 FCHVs each complete two consultations with this aid

Their adherence to World Health Organization case management guidelines was lower than their adherence to device instructions for use; overall, adherence did not improve over time

USABILITY



FCHVs correctly adhered to all eight assessment and classification steps **53%** of the time



FCHVs successfully acquired a reading on first attempt **83%** of the time



FCHVs successfully acquired a reading within **4.26 mins**



FCHVs successfully acquired readings within three attempts **99.6%** of the time

We **interviewed** FCHVs and caregivers

ACCEPTABILITY



Caregivers were accepting of the device



FCHVs felt the device had made it more likely that caregivers would bring sick children for check-ups

Focused training on all pneumonia case management steps is needed for FCHVs with low literacy before new automated devices are introduced.