# Meeting agenda Day 1

<table>
<thead>
<tr>
<th>Time</th>
<th>Agenda Item</th>
<th>Content</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 - 9:30</td>
<td>Welcome and introduction</td>
<td>Overview of Malaria Consortium and Pneumonia Diagnostics project and introduction of participants</td>
<td>Karin Källander</td>
</tr>
<tr>
<td>9:30 - 10:05</td>
<td>Opening plenary</td>
<td>Pneumonia management in sick children – the current situation and opportunities</td>
<td>Wilson Were</td>
</tr>
<tr>
<td>10:05 - 10:20</td>
<td>Coffee break</td>
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<tr>
<td>10:20 - 11:00</td>
<td>Landscape analysis update</td>
<td>Presentation on the current landscape on pneumonia diagnostics as a result of the findings of the work done to date by Malaria Consortium</td>
<td>Kevin Baker</td>
</tr>
<tr>
<td>11:00 - 12:30</td>
<td>Respiratory rate – Session 1</td>
<td>Discussion on the specifics of respiratory rate measurement and agreement on the gold standard - Decision point</td>
<td>Moderator: Wilson Were</td>
</tr>
<tr>
<td>12:30 - 1:30</td>
<td>Lunch break</td>
<td></td>
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<tr>
<td>1:30 - 3:00</td>
<td>Respiratory rate – Session 2</td>
<td>Discussion on appropriate measurement parameters for respiratory rate - Decision point</td>
<td>Moderator: Shamim Qazi</td>
</tr>
<tr>
<td>3:00 - 3:30</td>
<td>Coffee break</td>
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<tr>
<td>3:30 - 4:30</td>
<td>Plenary 2</td>
<td>Role of POx in Clinical Management of Sick Children in Low Income Countries Inclusion of POx in IMCI and iCCM – WHO perspective</td>
<td>Jim Black, Shamim Qazi</td>
</tr>
<tr>
<td>4:30 - 6:00</td>
<td>Pulse oximetry – Session 1</td>
<td>Discussion on the specifics of oxygen saturation measurement and agreement on the gold standard - Decision point</td>
<td>Moderator: Debbie Burgess</td>
</tr>
<tr>
<td>6:00 - 6:15</td>
<td>Wrap-up</td>
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<td>Malaria Consortium</td>
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## Agenda for Day 2 of the Technical Consultation, 17 June 2014

<table>
<thead>
<tr>
<th>Time</th>
<th>Agenda item</th>
<th>Content</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 - 9.00</td>
<td>Recap of day 1</td>
<td>Recap of day 1 of the workshop</td>
<td>Karin Källander</td>
</tr>
<tr>
<td>9.00 - 10.30</td>
<td>Pulse oximetry – Session 2</td>
<td>Critical parameters that are needed in considering the use of POx for the diagnosis of pneumonia - <strong>Decision point</strong></td>
<td>Presenter: David Peel Moderator: Debbie Burgess</td>
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<tr>
<td>10:30 - 10:45</td>
<td>Coffee break</td>
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<tr>
<td>10:45 - 11:45</td>
<td>New developments</td>
<td>Discussion on diagnostic tools development outside of RR and POx and their evaluation</td>
<td>Udantha Abeyratne</td>
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<tr>
<td>11.45 - 12.30</td>
<td>Wrap-up</td>
<td>Highlights of meeting outcomes and next steps planning</td>
<td>Karin Källander / Kevin Baker</td>
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<tr>
<td>12:30 - 1:30</td>
<td>Lunch break</td>
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Malaria Consortium - Our mission

To improve lives in Africa and Asia through sustainable, evidence-based programmes that combat targeted diseases and promote child and maternal health
What is the Malaria Consortium?

A specialist organisation, that implements and improves public health programmes based on evidence

- Disease prevention
- Diagnosis & treatment
- Resistance management
- Elimination
- Health systems strengthening
- Poverty reduction
- Evidence
- Sustainable impact

Operational research, Technical assistance, and Implementation support

High risk/burden populations

Existing systems Government partners

NTDs

Child & maternal health & nutrition

Malaria

Monitoring & Evaluation/Surveillance

Prevention | Diagnosis | Treatment | Research
### Where is our expertise?

<table>
<thead>
<tr>
<th>What diseases?</th>
<th>What areas?</th>
<th>What approaches tools and techniques?</th>
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<tbody>
<tr>
<td>Malaria</td>
<td>Vector control</td>
<td>Community delivery</td>
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<tr>
<td>NTDs</td>
<td>Chemoprevention</td>
<td>Public health communications</td>
</tr>
<tr>
<td>Dengue</td>
<td>Diagnostics</td>
<td>Research uptake &amp; advocacy</td>
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<tr>
<td>Pneumonia</td>
<td>Case management</td>
<td>Data management</td>
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<tr>
<td>Diarrhoea</td>
<td>Clinical quality improvement</td>
<td>M&amp;E &amp; Surveillance</td>
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<tr>
<td>Malnutrition</td>
<td>Resistance management</td>
<td>mHealth</td>
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<td></td>
<td>Elimination</td>
<td>Capacity building</td>
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<td></td>
<td></td>
<td>Quantitative &amp; qualitative research</td>
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<td>Costing and economic impact evaluation</td>
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Current research areas

Topics
- Clinical studies
  - FEAST Uganda
- Surveillance
  - Serology (Ethiopia)
- Health services
  - Colour-coded blisters vs. std packaging
  - Rational use – antibiotics, Pneumonia case mgmt.
  - Barriers to IPTP uptake in Uganda
  - Community Dialogues for NTDs (Mozambique, Ghana)
- Operational and Implementation research
  - inSCALE
  - Net durability
  - Pneumonia diagnostics
- Combined longitudinal
  - Beyond Garki
Development of Malaria Consortium

1994 - 2000
- Began as DFID Malaria Resource Centre:
  - Global policy
  - DFID investment strategy
  - Project design and evaluation

2001 - 2002
- Initiated country support programmes
- Opened offices in Uganda and Ghana

2003 - 2005
- Registered as NGO
- Established in five countries
- Combined Technical support & implementation

2006 - 2007
- Grew to 14 Offices in Africa
- Delivered innovatively on malaria
- Expanded to other diseases
- Grew M&E and research capacity

2008 - 2009
- Widened scope to communicable diseases, NTDs, integrated childhood illness & health systems
- Launched large-scale delivery in Nigeria
- Launched Asia

2010 - 2015
- Expanding NTD work
- Testing innovations to improve delivery
- Promoting quality approaches and health system integration
- Building technical and M&E leadership
Income by country FY ending March 2014

- Nigeria, 40%
- Uganda, 33%
- South Sudan, 6%
- Mozambique, 6%
- Multi wide Africa, 4%
- Asia, 6%
- Other, 4%
Why pneumonia diagnostics?

15,470 CHW prescriptions in Mid-west Uganda
Title: Use of improved tools for measuring respiratory rate and oxygen saturation among community health workers: sub-Saharan Africa and Southeast Asia

Goal: To identify the most accurate, acceptable, scalable and user-friendly respiratory rate timers and pulse oximeters for diagnosis of pneumonia symptoms by CHWs and FLHFWs in four low-income countries – Cambodia, Ethiopia, South Sudan and Uganda

Timescales: November 2013 to June 2015 (six research stages)
Project objectives

• **Objective 1:** To systematically review the landscape for existing RR mobile phone apps, automated RR timing tools and POx devices appropriate for low resource settings

• **Objective 2:** To identify, using pre-defined criteria, the most promising and appropriate devices for field-testing in sub-Saharan Africa and Southeast Asia

• **Objective 3:** To establish the accuracy of the RR timing/classification device to diagnose symptoms of pneumonia and the POx devices to measure oxygen saturation, respectively, when used by CHWs and first level health workers in sub-Saharan Africa and Southeast Asia

• **Objective 4:** To explore the acceptability and usability of existing RR mobile phone apps, automated RR timing tools and POx devices as perceived by caregivers, CHWs and FLHFWs
Pneumonia Diagnostics project workflow

Device selection
- Landscape analysis
- Stage 1: Research
  - Stage 1 Research report
  - 12 Devices selected
- TPP process
  - 12 Devices selected
- Stage 2: Research
  - Stage 2 Research report

Device evaluation
- Stage 3: Accuracy evaluation
- Evaluation report
- Six devices
- Dissemination meetings

Field testing
- Stage 4: Pile sorting
  - Select 3 devices
- Stage 5: Field testing
  - Field test report
- Stage 6: Caregiver interviews
  - Caregiver perceptions report

Scientific Advisory Committee

Final report
Project timescales


Landscape analysis

Stage 1 – FGDs

Stage 2 – Pile sorting
Advisory Committee/Technical Consultation

Stage 3 – Evaluation

Stage 4 – Pile sorting

Stage 5 – Ongoing evaluation

Stage 6 – Parent’s interviews

Dissemination
Technical Consultation meeting objectives

• To facilitate discussion and agreement on the ‘gold standard’ measures for respiratory rate and pulse oximetry

• To facilitate discussion and agreement on appropriate accuracy measurements for both respiratory rate and pulse oximetry
Landscape analysis update

Kevin Baker
Landscape analysis

Based on initial landscape review done by PATH on over 150 possible RR timers

• Stage 1: Consultant engaged to update this work based on a defined set of criteria (Availability/suitability/usable/affordable)

• Consultant also included 40 POx devices as this was not included originally

• Objective was to help facilitate the creation of a shortlist of devices for field testing

• Analysis conducted using desk research and phone interviews
Landscape Analysis - findings

<table>
<thead>
<tr>
<th>Type</th>
<th>Count</th>
</tr>
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<tbody>
<tr>
<td>Possible RR Devices</td>
<td>158</td>
</tr>
<tr>
<td>Possible POx Devices</td>
<td>30</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>188</td>
</tr>
</tbody>
</table>

Study eligibility criteria:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability</td>
<td>88</td>
</tr>
<tr>
<td>Suitability</td>
<td>32</td>
</tr>
<tr>
<td>Usability</td>
<td>10</td>
</tr>
<tr>
<td>Affordability</td>
<td>45</td>
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Possible devices available for field testing: 13
Landscape analysis – learnings

• Complete product specifications very difficult to obtain
• Many devices are not suitable for our target audience – children under five
• More analysis needed from a technical perspective
• Some devices fall outside initial proposal scope – measurement of cough sounds/breathe/joint POx and RR devices