ICT4Children
mHealth for Acute Malnutrition

Presentation outline

• The problem and context
• Key features of CMAM mHealth application
• Lessons learned from 5 country experiences
• Future priorities
Background

- 50 million children suffer from wasting
- Severe wasting causes up to 2 million preventable deaths/year
- Community-based management of acute malnutrition (CMAM) is the global approach used to treat wasting
- CMAM treatment uses ready-to-use foods, provided at home, with weekly visits to the health centre
## CMAM mHealth application features

<table>
<thead>
<tr>
<th>Challenge in CMAM programming</th>
<th>Application feature</th>
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<tbody>
<tr>
<td>Complex treatment protocol and low protocol adherence</td>
<td>Response-triggered decision tree algorithms</td>
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<td>Low literacy, numeracy of health workers and language barrier with local population</td>
<td>Text, voice, and pictures prompt HWs along the treatment protocol</td>
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<td>Difficulties in tracking an individual during treatment and between different treatment programmes</td>
<td>Automated referral initiation and tracking</td>
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<td></td>
<td>• Automatic reminders for follow-up</td>
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<td>• Referral notifications</td>
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# CMAM mHealth application features

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<td>Infrequent, inconsistent counselling on improved nutrition, health and hygiene practices</td>
<td>Integrated multimedia for targeted counselling</td>
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<td>Paper-based system slow, unresponsive and poor quality—not available for decision makers</td>
<td>Real-time monitoring through automatic generation of reports</td>
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<td>Unresponsive stock management system: Frequent stock outs of therapeutic and / or supplementary food at health facilities</td>
<td>Reminders and alerts to supervisors and supply chain</td>
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Paper Registers
Let’s have a look

Managing patient data

• Registration
• Individual child record
Improving worker performance

Prompts and decision support

Assessing danger signs

For the vomiting danger sign to be positive, the child vomits every time it eats or drinks anything.

Observe: If in doubt, offer the child a drink and observe what happens after. Does it vomit everything? If yes, the danger sign is present. If the child retains fluid, the sign is absent.

Does the child have oedema?

- No
- Single positive +
- Double positive ++
- Triple positive +++

Assessing diarrhea

Does the child have diarrhea?

Diarrhea is present if the child has had 3 or more loose or watery stools in the last 24 hours.

- Yes
- No
Respiratory Rate Counter

Press each Breath

Breaths: 18
Seconds: 23.5

Start Over

Automatic Calculation of fast breathing according to standards for child’s age

Assessing cough
Age 12 months
Breath count: 67 breaths per minute
Classification:
- rapide breathing
- The child has: Pneumonie simple.
Diagnosis and action

Child's height is 70.3cm, weight is 6.5kg and MUAC is 109mm

This child qualifies for OTP, please refer the child for treatment.

☐ OK. Please continue.

Child is being admitted into OTP for MUAC < 115mm

Treatment calculation and stock monitoring

**ACTIONS**
- Action 5 - Moderate ARI: Amox + treat

Give oral antibiotic (amoxycillin tablet—250 mg).

Give twice daily for 5 days:

*Age 12 months up to 5 years—1 tablets (total 10 tabs)

**How many tablets of Amoxycillin did you give to the mother?**

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5 country experience

• Contextualized and piloted the app in Chad, Niger, Mali, Kenya and Afghanistan
• Partners: MoH, Dimagi, International Medical Corps in Chad, Save the Children in Kenya, Mobile Network Operators, Ministries of Health
• Reached 104 health facilities, 191 health workers
• Implementation (2014–2015), final evaluations 2016
Key Learning

- With training and support, good health worker acceptability
- High level of beneficiary acceptance
- Data completeness, protocol adherence and beneficiary tracing were improved across the 5 countries
- Technology barriers: battery life, screen size, network coverage
- Country contextualization and testing was much more complex and time consuming than anticipated
Key Learning

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Future Priorities

• Review and understand what is feasible for health workers in low resource settings with high patient caseloads. Simplify protocols?
• Building and field testing integrated app: iCCM + acute malnutrition
• Linking application to national HMIS systems
• Capacity building to support app uptake and use of application (performance reports, supervision functions)
Acknowledgements

• Implementing Partners: Save the Children, International Medical Corps
• Funders: USAID/OFDA, Government of Canada

Field Exchange Publication:
http://www.ennonline.net/fex/54/mobilehealthapp

http://www.wvi.org/mHealth and http://wvi.org/nutrition/cmam
“This project had probably the highest impact potential of any project I have worked on. If you go to these project sites, you immediately see why the intervention is needed… When you observe the nurses, you see the mistakes they make using paper forms, and the off-the-fly decisions they make that have serious impact on the child’s health. So you could see, from the beginning, how the app would really add structure and eliminate a lot of mistakes. And we have been able to see real value on the ground, real value added to such an important programme.”

CARLA LEGROS, PROJECT MANAGER, DIMAGI WEST AFRICA