Implementation of iCCM in Homabay County
"Where we are"

Preliminary results

31st May 2016

The study objective

- **The main objective** is to determine whether trained, supervised and well supplied community health workers in hard to reach areas such as Homabay County can correctly perform iCCM and increase the proportion of children under five years receiving antibiotics for pneumonia, artementher-lumefantrine for malaria and zinc and oral rehydration therapy for diarrhoea by 20% compared to the current standard of care.

Secondary Objective

- To determine the proportion of children treated for pneumonia defined as rapid breathing and or chest indrawing who do not respond to treatment (experience treatment failure – defined as any of the following:

  - Appearance of any signs of pneumonia with danger signs such as inability to breastfeed or drink, or vomiting everything, convulsions, lethargy or unconsciousness, severe respiratory distress e.g. head nodding

  - Change of antibiotic treatment or use of additional antibiotics beyond those prescribed and dispensed by the CHV

….treatment failure

- Persistence of fever greater than 38°C with lower chest indrawing on day 3 (after 48 h of initiation of treatment)

- Persistence of fever greater than 38°C with fast breathing on day 3 (after 48 h of initiation of treatment)

- Either fever greater than 38°C or lower chest indrawing or fast breathing alone at day 6
- Death

IMPLEMENTATION DESIGN

- We are employing an adaptive design

  - An Adaptive Design (ADs) allows us to address uncertainty about choices made during planning.
  - ADs allow a review of accumulating information during a implementation to possibly modify implementation characteristics

- A pre and post evaluation was done to ascertain effect. Monthly and quarterly audits were also done

- Both qualitative and quantitative methods was utilized

Use of Mobile Phone Technology in iCCM

1. Commodity management and inventory tracking among CHVs and CHAs/CHEWs.

2. Disease case confirmation and Follow up at the community

3. CUs and CHVs data compilation and transmission

4. Link facility cases reporting

5. Community feedback

6. performance evaluation

4 Prong-Implementation

1
- Sensitization of national, district, health centre and community teams on iCCM

2
- Training of the CHVs, CHAs and health care workers (including IMCI

3
- Quality of Care ascertainment, Supervision and motivation of CHVs
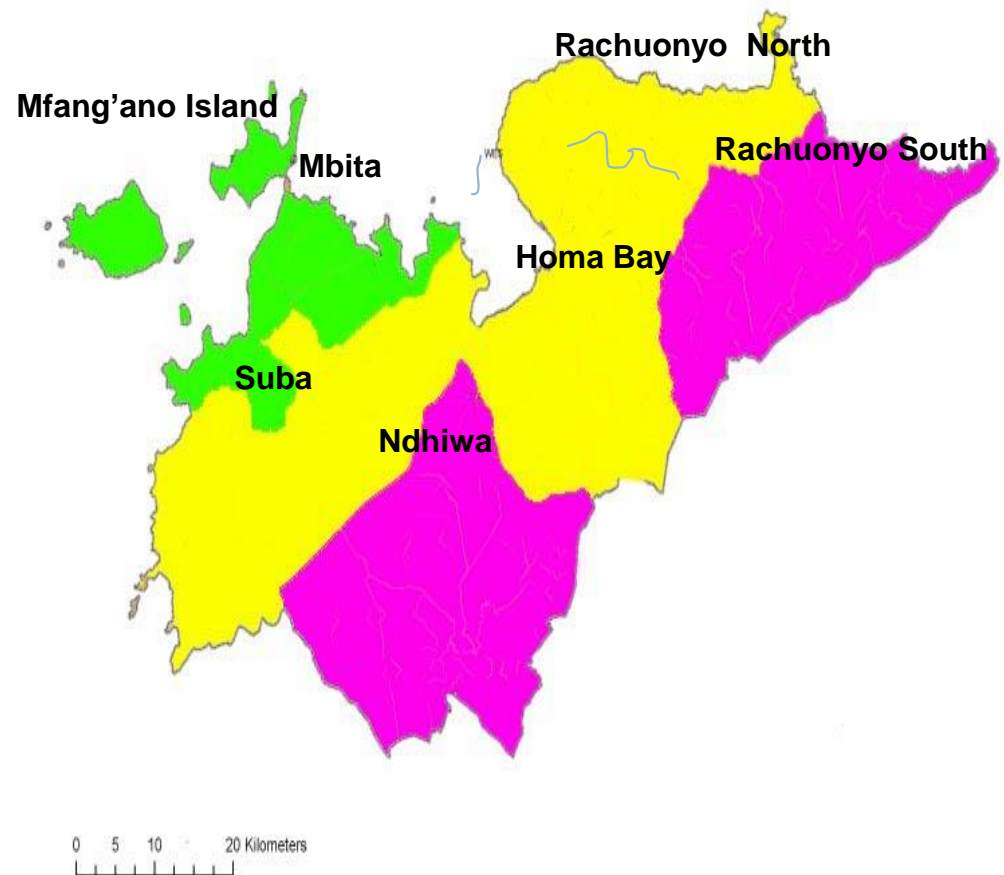
4
- Commodity provision and accountability and
- U**se of technology in diagnosis, monitoring and evaluation**

Current iCCM Coverage in Homa Bay County

- Currently
  - Coverage is 100%
  - 8 Sub counties
  - 245 Community units
  - 152 Link facilities
  - 96 TOTs trained
  - 200 CHEWs trained
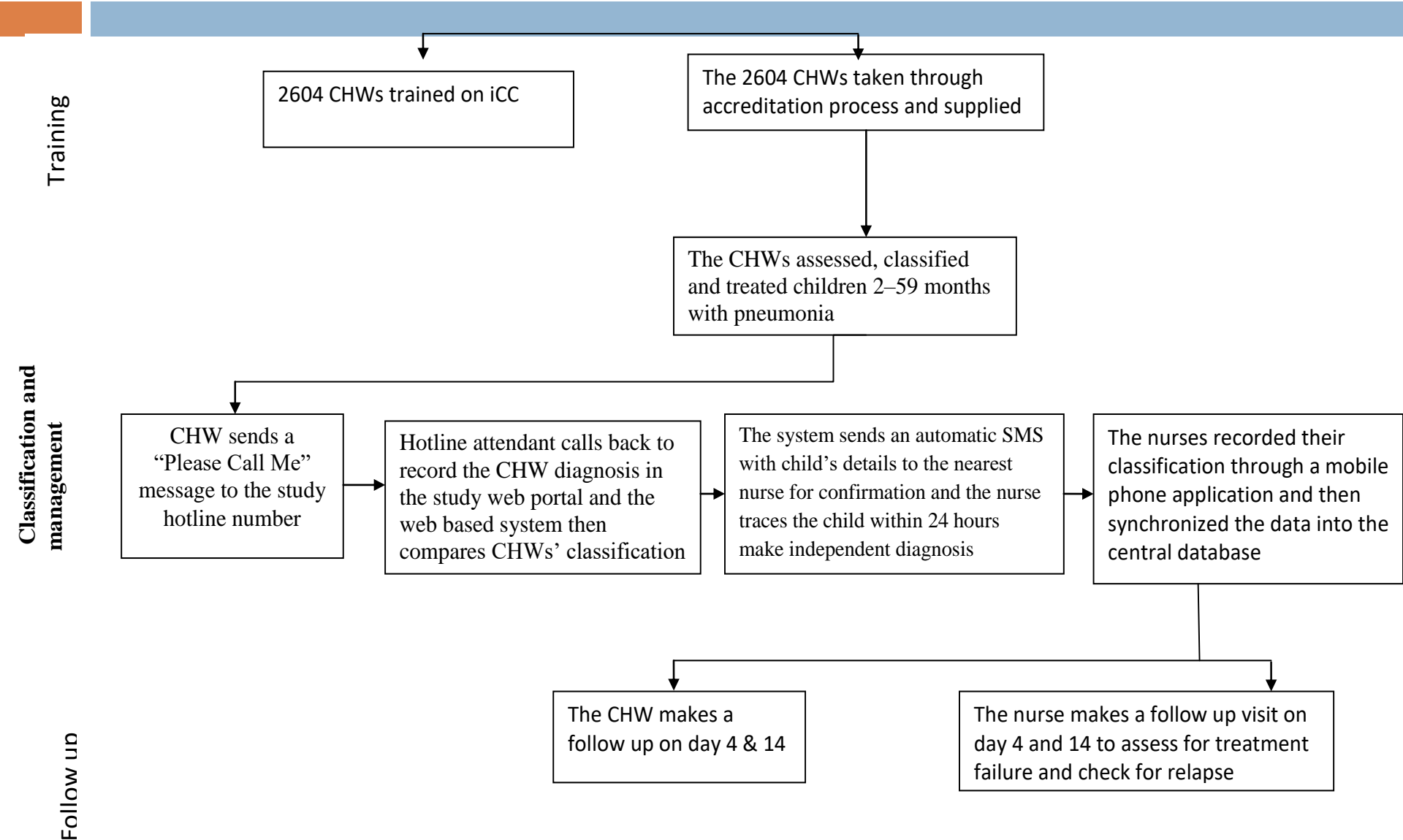 - 2604 CHVs trained
  - 2604 CHWs accredited

Rachuonyo North

Mfang'ano Island

Rachuonyo South

Mbita

Homa Bay

Suba

Ndhiwa

0 5 10   20 Kilometers

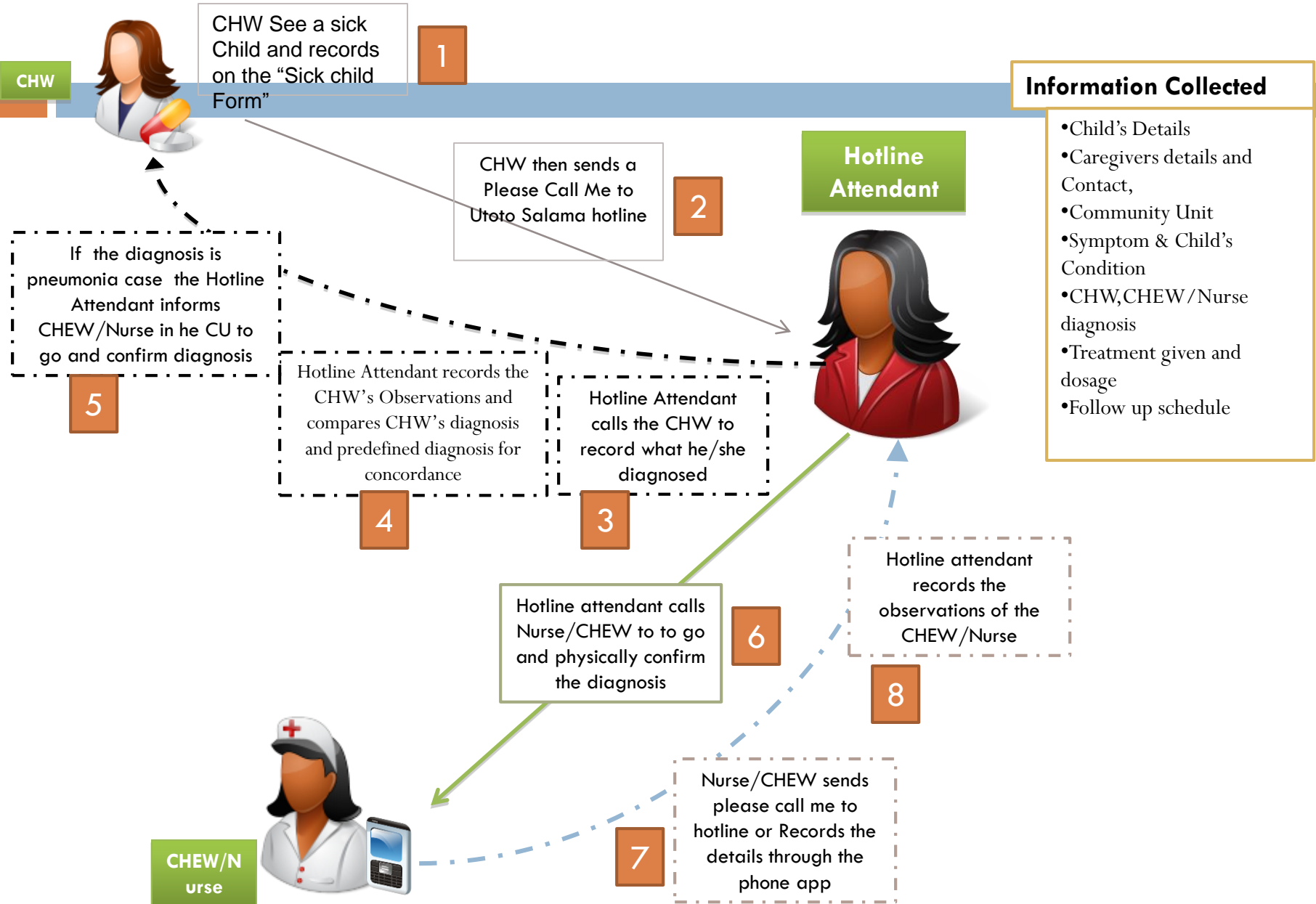**Map of Homa Bay County**

Achievement - Case management by CHVs

- **24,399** pneumonia cases managed
- **49,192** fever cases seen
- **19,743** Malaria cases treated with AL by CHVs
- **54,358** diarrhea cases treated with ORS and Zinc
- **9,932** under 5's referred for immunization

Pneumonia management

iCCM STUDY METHODOLOGY DIAGRAM

QUALITY OF CARE – Sick Child recording

CHW

CHW See a sick Child and records on the "Sick child Form" **1**

CHW then sends a Please Call Me to Utoto Salama hotline **2**

Hotline Attendant

Information Collected

- Child's Details
- Caregivers details and Contact,
- Community Unit
- Symptom & Child's Condition
- CHW,CHEW/Nurse diagnosis
- Treatment given and dosage
- Follow up schedule

If the diagnosis is pneumonia case the Hotline Attendant informs CHEW/Nurse in he CU to go and confirm diagnosis **5**

Hotline Attendant records the CHW's Observations and compares CHW's diagnosis and predefined diagnosis for concordance **4**

Hotline Attendant calls the CHW to record what he/she diagnosed **3**

Hotline attendant calls Nurse/CHEW to to go and physically confirm the diagnosis **6**

Hotline attendant records the observations of the CHEW/Nurse **8**

CHEW/N urse

Nurse/CHEW sends please call me to hotline or Records the details through the phone app **7**

Demographic Characteristics of the CHWs

CHV characteristics	N=1756 n (%)
Gender (Female)	1222 (70%)
Age (years)	
<35	444(25%)
35-44	680 (39%)
≥45	401 (23%)
Missing	231 (13%)
Education Level	
Primary or less	531(30%)
Secondary	968 (55%)
Tertiary	37 (2%)
Missing	220 (13%)

Concordance between CHWs and the QA Nurse

Fast Breathing Concordance				
Mean (SD) CHW BR	Mean (SD) Nurse BR	Mean Difference	CCC (95%CI)	P. Value
48 (6.3)	46 (6.4)	2.7	0.65 (0.64-0.66)	<0.001
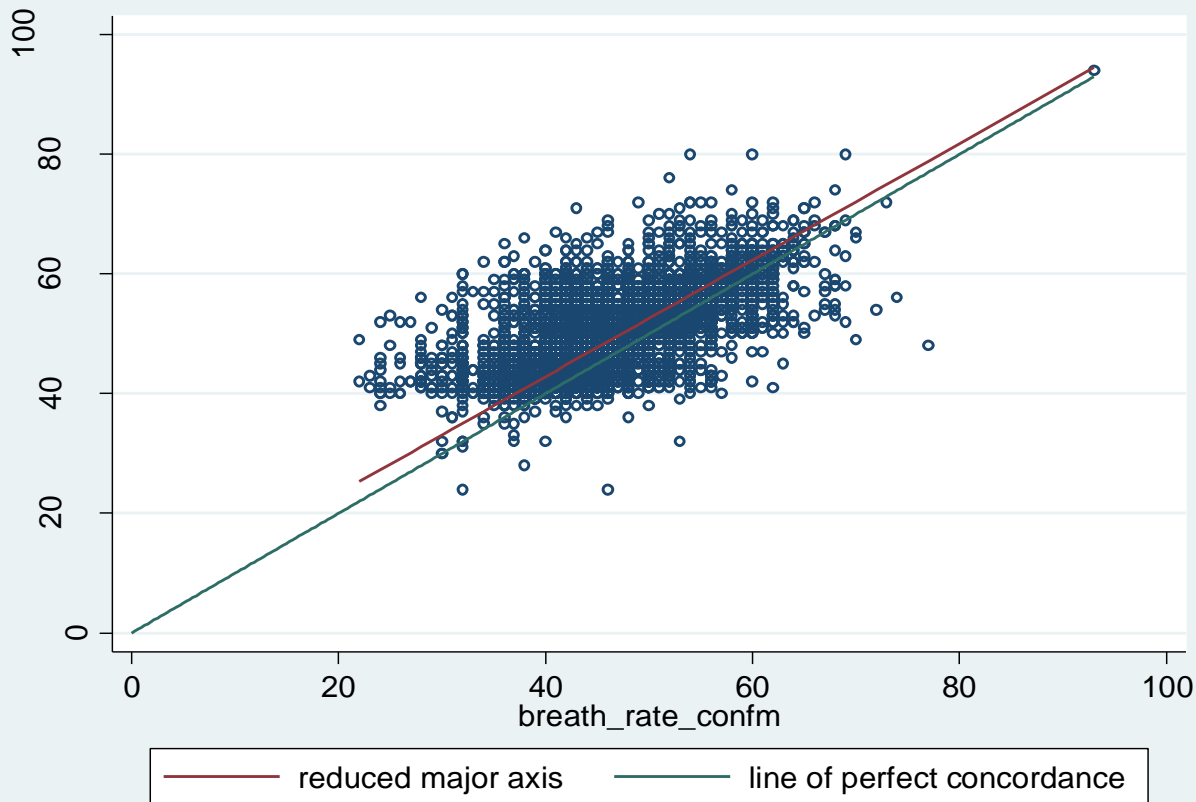
- Mean breathing rate by CHWs was slightly higher than that counted by the nurses, 48 (SD 6·3) vs· 46 (SD 6·4)

- On average the difference was 2·7 breaths per minute with a fairly good concordance correlation coefficient of 0·65 (95% CI 0·64 - 0·66; p-value <0.001).

Concordance in assessment of chest indrawing between CHWs and nurses

Chest in-drawing

CHW	Nurse		Total	Agreement	Expected agreement	Kappa (k) (95% CI)	P-value
	No	Yes					
No	7,756(92%)	468(29%)	8,224	89%	72%	0.60 (0.57-0.62)	<0.001
Yes	678 (8%)	1,150 (71%)	1,828				
Total	8,434	1,618	10,052				

iCCM pre and post evaluation result

Background

☐ The Integrated Community Case Management (iCCM) end line survey was designed to provide data to evaluate the achievements of iCCM program which aimed to increase the proportion of children receiving appropriate treatment for pneumonia, diarrhea and malaria in Homabay County by 20% from the baseline.

☐ The survey collected information on demography, care seeking behaviors, preventive health measures especially for malaria, diarrhea and pneumonia, knowledge of danger signs, adherence to treatment and utilization of CHVs services

Survey design for the iCCM baseline 2013 and end line 2015

CHARACTERISTICS	ICCM BASELINE & END LINE
Target populations	Caretakers of children aged 0 - 59 months
Implementation Sites	8 sub counties in Homa Bay county: Rangwe, Homa Bay, Mbita, Suba, Ndhiwa, Rachuonyo North Kasipul and Kabondo
Sampling frame	2009 Kenya population and Housing Census
Sampling design	Two-stage stratified cluster sample, where the first stage included selection of enumeration areas (EAs) from 2009 Kenya Population and Housing Census and the second stage is the selection of households proportionate to the enumeration areas size
Mode of data collection	Electronic data capture by the use of mobile phones
Questionnaire	Household questionnaires and under 5 questionnaire
Interviews	Interviews among caretaker of children aged 0-59 months and women aged 15 - 49 years

Data Processing

- Data cleaning was conducted for questionnaire data using SAS version 9.2

- Individual participant identification details were stripped from the final database prior to analysis to ensure anonymity of survey participants.

- This report presents the results of univariate and bivariate analysis and not adjusted for confounding factors.

Pneumonia – Prevalence and care seeking

- The overall pneumonia prevalence in Homa Bay County dropped from 8.2% in the baseline to 6.8 percent in the end line. The prevalence varied greatly with Suba Sub County highest with 13.9 percent

- 73.6 percent of the caregivers of children with suspected pneumonia sought care from appropriate provider (Health facility or CHV)

- All the regions realized significant increase from the baseline in the proportion of children who received antibiotics for the management of suspected pneumonia

Pneumonia – Treatment

- There was an overall increase of 20.8 percent from the baseline in the proportion of children 0 – 59 months who received antibiotics for the management of pneumonia.

- About 60% of children with symptoms of pneumonia in the last two weeks reported to have received antibiotics

Distribution of children aged 0 – 59 months who received antibiotics for pneumonia at baseline and end line
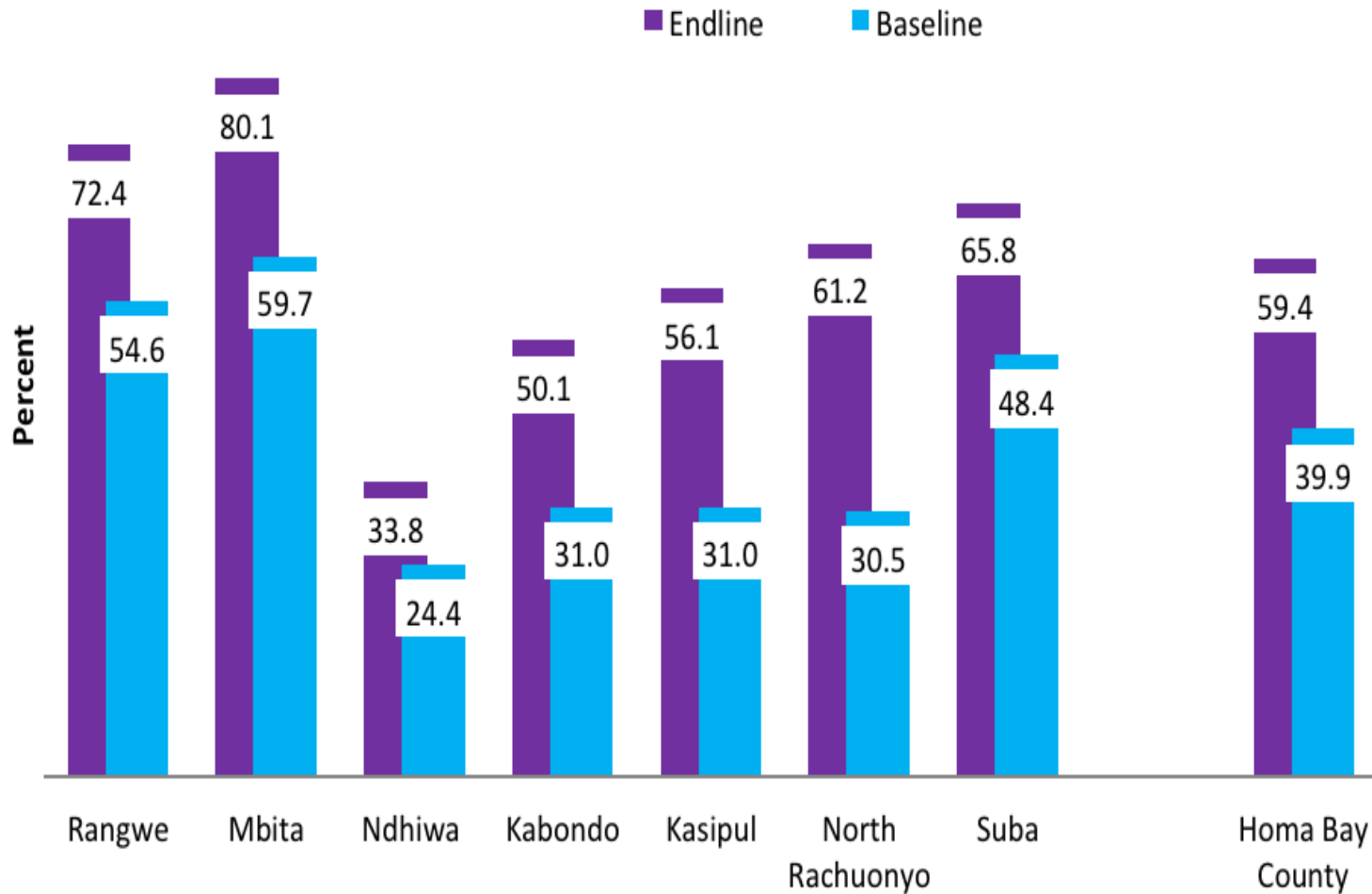
KEY HIGHLIGHTS

- At least over 80% of CHVs were able to correctly classify malaria, diarrhea and pneumonia cases – this percent is likely to increase with experience

- Most CHVs (over 96%) who prescribed Amoxicilin and Coartem gave correct frequency and duration

- About 60% of the sick children the CHVs reached were from rural areas

- Significant increase from the baseline in the proportion of children who received appropriate treatment for; **diarrhea 49.2%** (received combined ORS/zinc), antibiotics for **pneumonia 20.8%,** about **10% ACT for malaria** and over **50% for Vitamin** A supplementation.

Highlight of End line result against the baseline
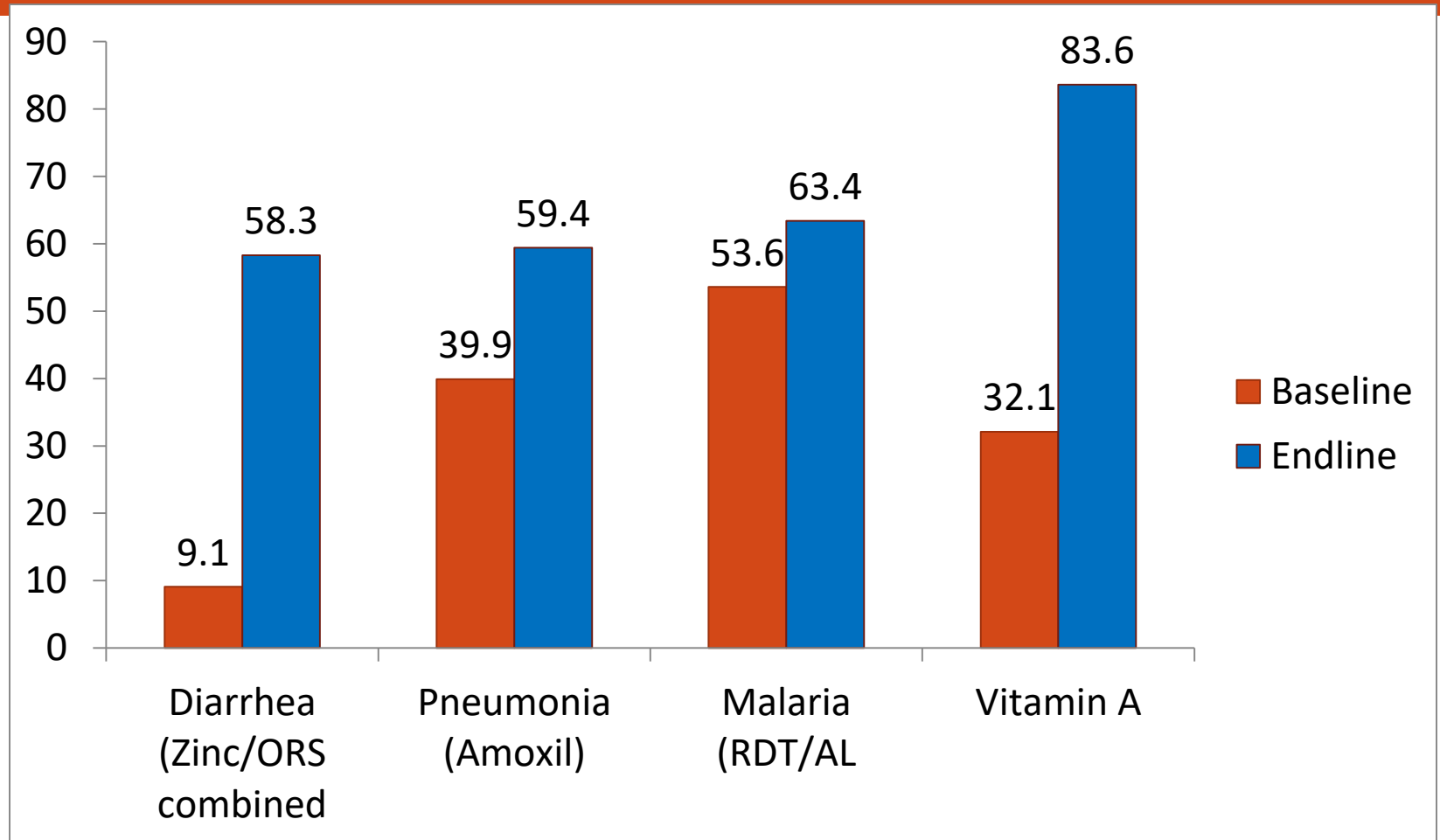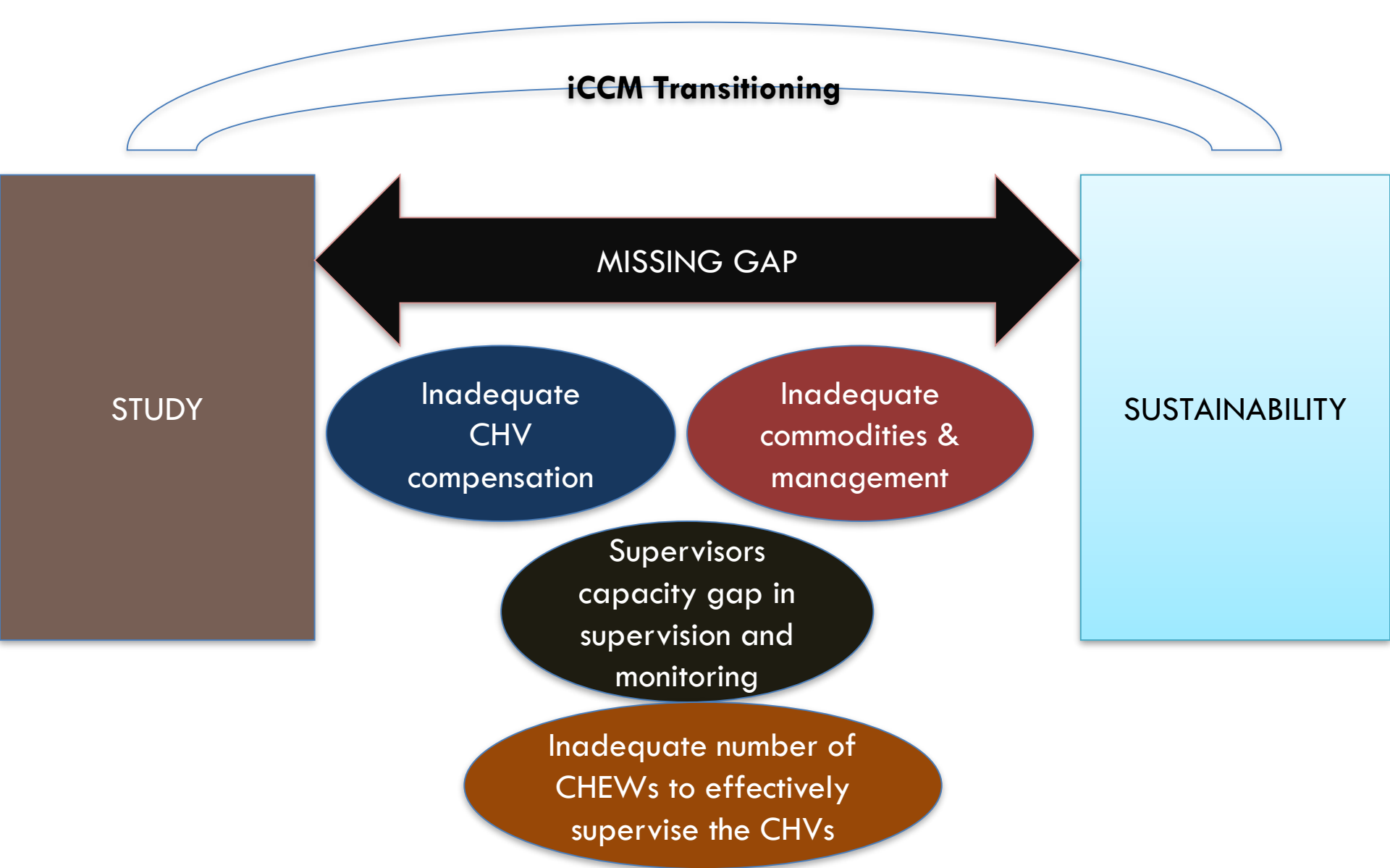
Conclusion

- Our findings demonstrate that CHVs can manage pneumonia (Not very severe) even in high-mortality settings such as Sub-Saharan-Africa. This strategy will greatly increase access to lifesaving treatment for childhood pneumonia if it is included in ongoing integrated community case management programs.

Lessons learnt

- CHVs cannot effectively carry out their mandates of managing iCCM diseases at community level without adequate training.

- The mechanisms of performance review and clinical accreditations of CHVs after training in built in iCCM is critical in producing competent CHVs.

- Success of iCCM cannot be assured without proper functioning mechanisms of providing essential commodity supplies and job aid to CHVs.

….Lessons learnt

- For sustained impact of iCCM other issues that need to be address include:

  - Motivation among the CHWs

  - Supervisory skills of CHAs

  - Availability of data showing the effect of the program to all in the health system

  - Availability of data to monitor case load and enable commodity availability

  - Need to leverage mobile phones for health more intensely as an enabler not an intervention

iCCM Transitioning

STUDY

MISSING GAP

SUSTAINABILITY

Inadequate CHV compensation

Inadequate commodities & management

Supervisors capacity gap in supervision and monitoring

Inadequate number of CHEWs to effectively supervise the CHVs

Barriers to optimal iCCM uptake that seriously hamper efforts to sustain iCCM by CHVs

How the findings are being used

- Findings have already informed a change in the national policy for first line antibiotics from cotrimoxazole to amoxicillin

- Plans are to use findings to influence change in national policy to allow CHWs to treat pneumonia (i.e. implement iCCM)

"When we walk with the timers and thermometers, the household members are pleased because they know we can help"….

Homabay CHVs

THANK YOU