# The Role of Community Health Workers in Counting all Children
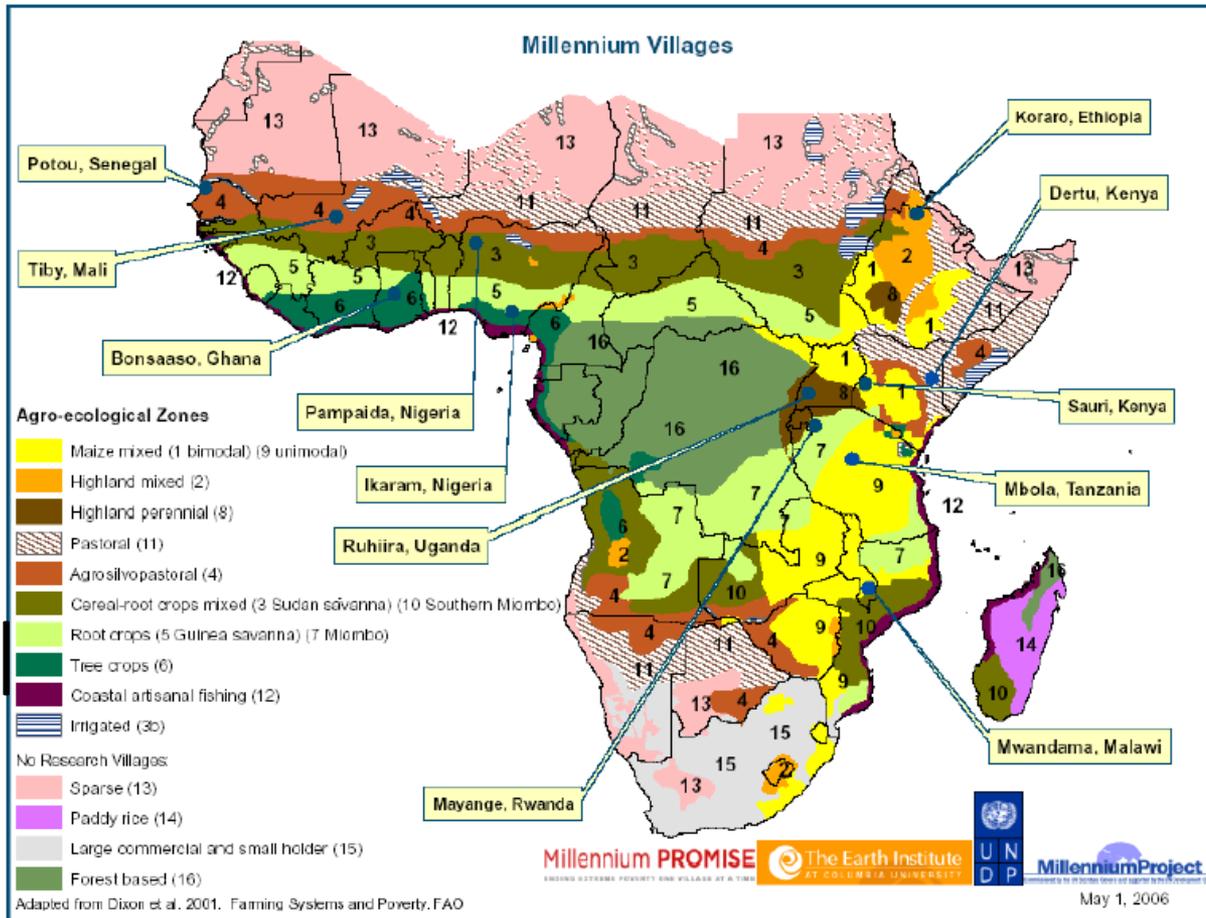
**Anne Liu, MSPH MS**
**Health Systems Manager**
**August 8, 2012 | Washington DC**
National Conference on Health Statistics

MILLENNIUM PROMISE  THE EARTH INSTITUTE COLUMBIA UNIVERSITY  MGV-Net Millennium Villages  ChildCount+ empowering communities to improve child & maternal health

- 14 Site Clusters
- 79 Villages
- 1300 Clinical Staff and CHWs
- 400,000 Community Members
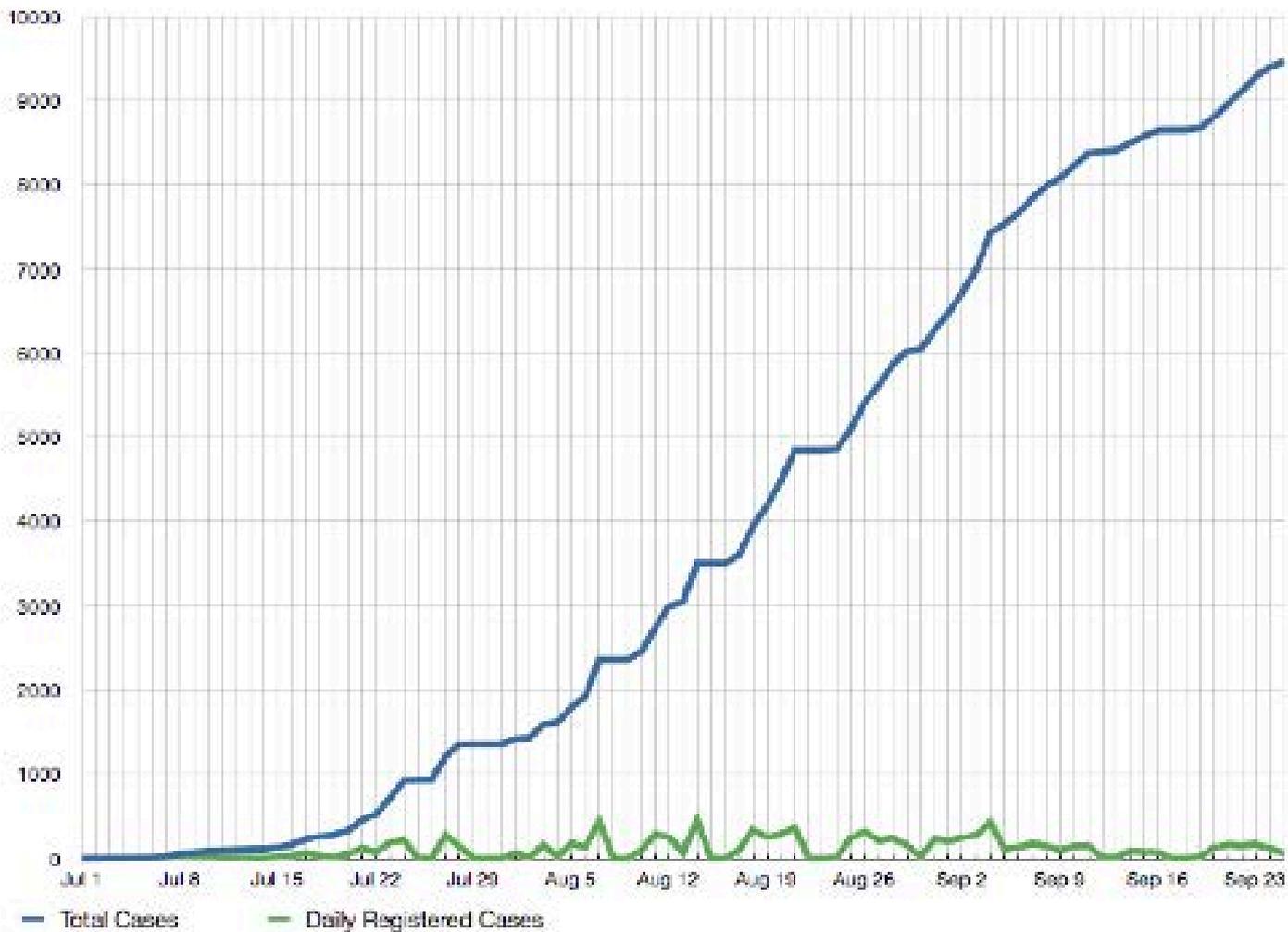
# Under 5 Registrations in the Millennium Villages
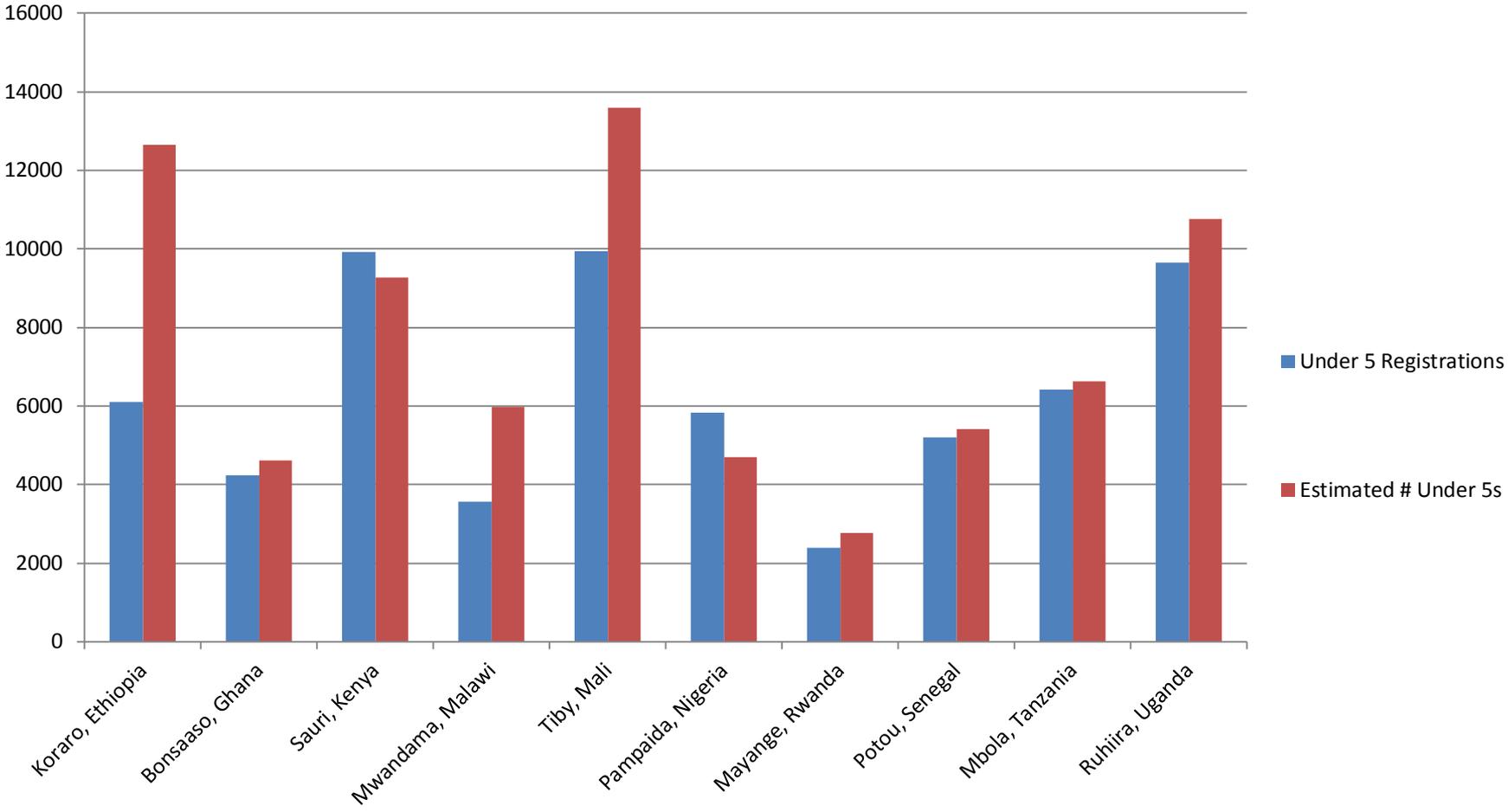
"Community health workers should be members of the communities where they work, should be selected by the communities, should be answerable to the communities for their activities, should be supported by the health system but not necessarily a part of its organization, and have shorter training than professional workers."

WHO 1989

"...any health worker carrying out functions related to health care delivery; trained in some way in the context of the intervention; and having no formal professional or paraprofessional certificated or degreed tertiary education."

Lewin et al 2005
Lehmann and Sanders 2007
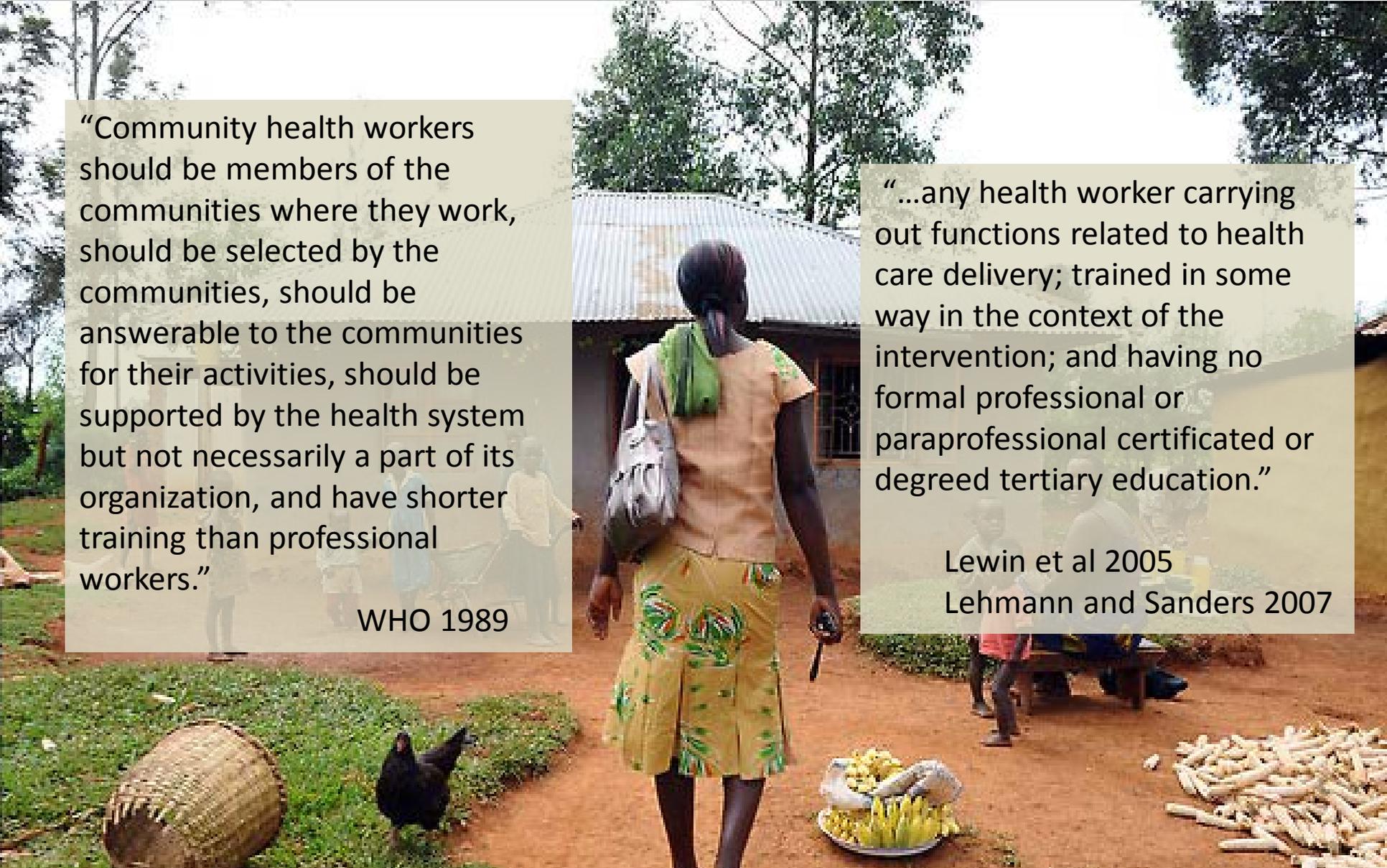
Who are the Community Health Workers?

Literate

Men and Women

All Ages

Locally-Based

Paid and Full-Time

Nominated by Community

**Figure 2: CHW Operations**

Information flow

PHC Facility

Supervisor

Community Representative

Supplies, such as:

*MUAC Tapes*

*ORS and Zinc packets*

*Artemisinin-based Combination therapies (ACTs) for malaria*

*Deworming Tablets*

*Antibiotics for pneumonia*

*Sputum containers for TB sputum collection*

*Bar of soap*

*Others*

CHW

Cell phone

Rapid Diagnostic Test Kit

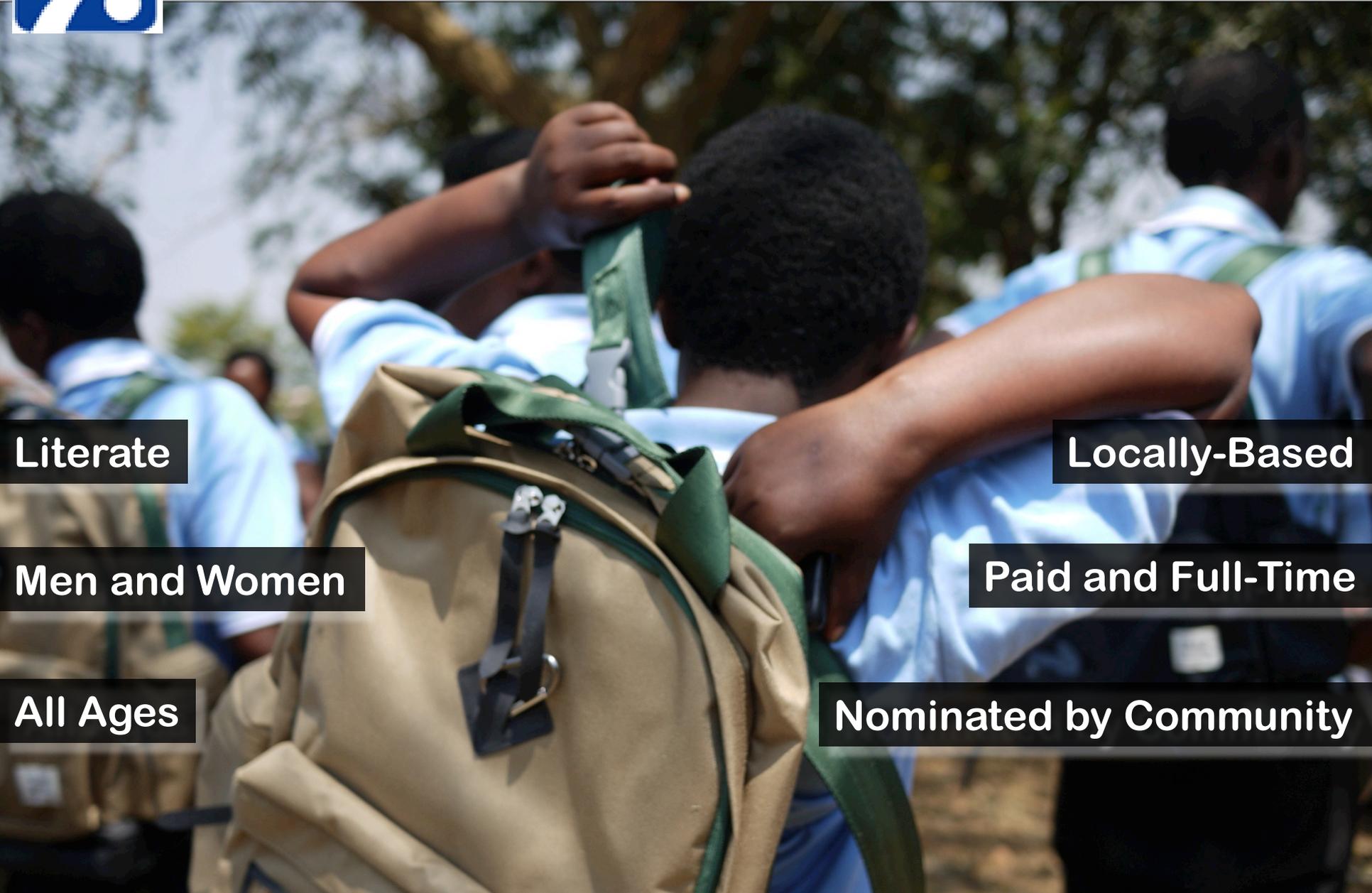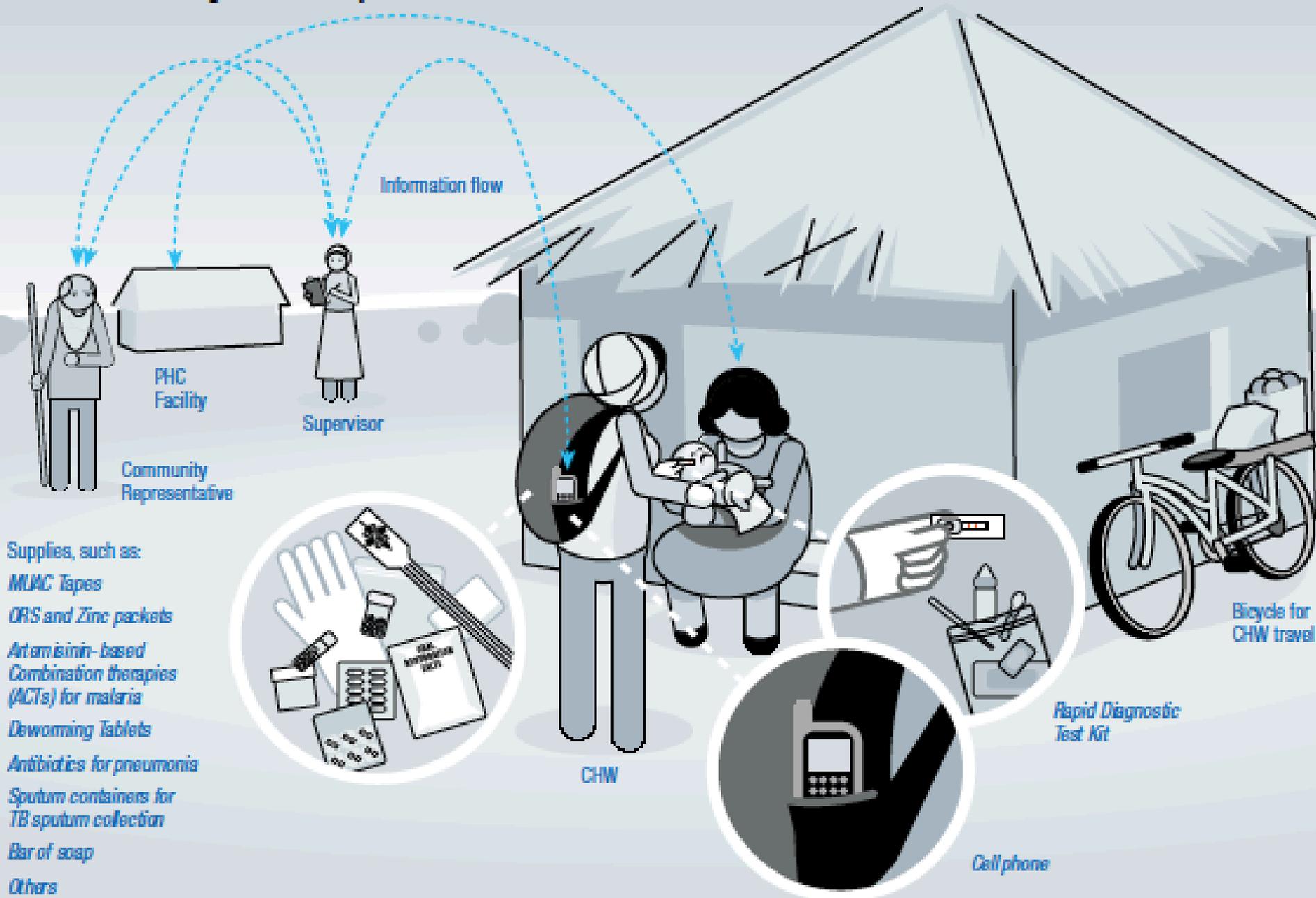Bicycle for CHW travel

# Millennium Villages CHW Program



CHW visits a household at least once every 90 days

Health Education

Health Surveillance and Referrals
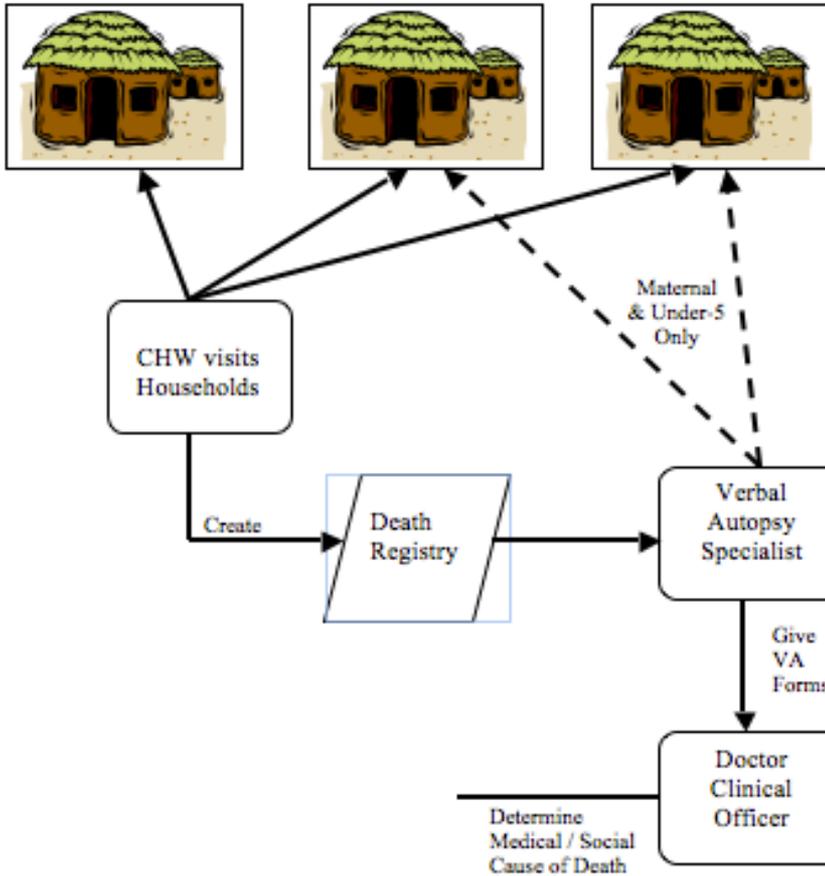
Community Case Management and Commodities Distribution

Health Data Collection by paper forms or phone

Feedback, Management, Prompts for Follow-up Visits

## ChildCount+ Form A: REGISTRATION

Focus on: Household Heads, Children Under 5, and Pregnant Women

CHW Name: _____

CHW Number: _____

GENERAL REGISTRATION: For any household member without a HEALTH ID that needs to be recorded in the CHW data system.

| Date | HEALTH ID | General Registration | Location Code | First Name | Family Name [Sur-name] | Sex (M-F) | Birth Date [DDMMYY] — or — Age [m,y] | Household Head HEALTH ID [H = Person Is HH Head] | Birth | Mother's HEALTH ID [U = Unknown] | Delivered in Health Facility? (Y-N-U) | Weight at Birth [in KG] | Mobile Phone | Mobile Phone Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ........ | | +NEW | | | | | | | +BIR | | | | +MOB | |
| ........ | | +NEW | | | | | | | +BIR | | | | +MOB | |
| ........ | | +NEW | | | | | | | +BIR | | | | +MOB | |
| ........ | | +NEW | | | | | | | +BIR | | | | +MOB | |
| ........ | | +NEW | | | | | | | +BIR | | | | +MOB | |
| ........ | | +NEW | | | | | | | +BIR | | | | +MOB | |
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| ........ | | +NEW | | | | | | | +BIR | | | | +MOB | |
| ........ | | +NEW | | | | | | | +BIR | | | | +MOB | |
| ........ | | +NEW | | | | | | | +BIR | | | | +MOB | |

## DEATH --or-- STILLBORN / MISCARRIAGE:

SB = Stillbirth;  MC = Miscarriage / Abortion

### Death with HEALTH ID

| HEALTH ID | Reg | Date of Death [DDMMYY] |
|---|---|---|
| | +DDA | |
| | +DDA | |
| | +DDA | |

### Death without HEALTH ID

| Reg | First Name | Family Name [Sur-name] | Sex | Birth Date [DDMMYY] or Age [m,y] | Date of Death [DDMMYY] | Household Head HEALTH ID |
|---|---|---|---|---|---|---|
| +DDB | | | | | | |
| +DDB | | | | | | |
| +DDB | | | | | | |

### Stillbirth / Miscarriage

| Mother's HEALTH ID | Reg | Date of Death [DDMMYY] | Type (SB-MC) |
|---|---|---|---|
| | +SBM | | |
| | +SBM | | |
| | +SBM | | |

ChildCount+ [ v2.1 ]

## How to prompt a VA

## Paper VA Form





## Android VA Form using ODK Clinic

**Figure 3. Daily SMS Based Health Reports and Registrations**
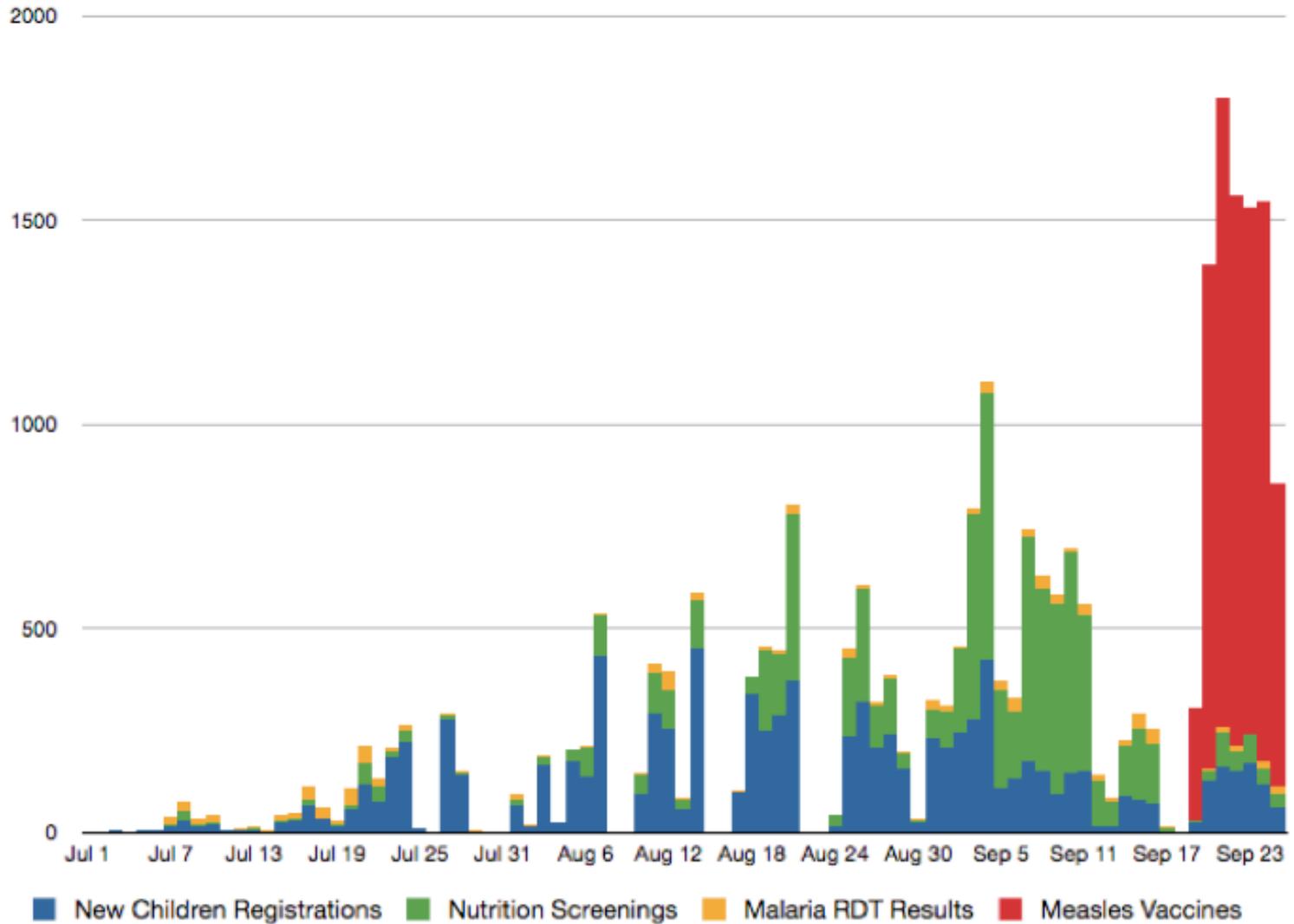
Legend: New Children Registrations · Nutrition Screenings · Malaria RDT Results · Measles Vaccines

Berg, Wariero, Modi 2009

# Millennium Villages CHW Program

CHW visits a household at least once every 90 days

Health Education

Health Surveillance and Referrals

Community Case Management and Commodities Distribution

Health Data Collection by paper forms or phone

Feedback, Management, Prompts for Follow-up Visits

**Health Coordinator**

**CHW Manager**

**HEALTH DATA**

**Senior CHW or Health Facilitator**

**Community Health Committee**

**Village Clinic**

**CHW Activities:**
**Household Visits and Service Delivery**

CHW visits a household at least once per month.

Health Education

Health Surveillance and Referrals

Community Case Management and Commodities Distribution

Feedback, Management, Prompts for Follow-up Vis...

Health Data Collection

*"The purpose of collecting and analyzing ChildCount+ data is to generate 'real-time' information to inform and guide health services delivery by identifying systemic problems and responding appropriately"*

*"ChildCount+ data should be viewed along-side clinic-based data and other sources (surveys, verbal autopsy, etc.)"*

# 5 GOALS FOR CHILDCOUNT+



**Malaria Rapid Diagnostic Test Report**

MRDT +28 Y N D CV

Code Patient ID Positive? (Y/N) Bednet? (Y/N) Symptoms

V = Vomiting, F = Fever, D = Diarrhea
A = Appetite Loss, CG = Chronic Cough
CF = Confusion, NR = Non Responsive
CV = Convulsions, UF = Unable to Feed

MRDT> Child +28, DIALLO Fatima M/13m has MALARIA. Child is less than 3. Please provide 1 tab of Coartem (ACT) twice a day for 3 days.

**SMS Health Reports**

**Nyawara Clinic**

| # | PROVIDER | TOTAL CASES | # NEW CASES | MRDT | MUAC | RATE | LAST ACTIVITY |
|---|----------|-------------|-------------|------|------|------|---------------|
| 1 | Solomon Wasambo | 116 | 17 | 10 | 112 97% (112/116) | 92% (129/140) | 1 days ago |
| 2 | Emily Aoko | 81 | 3 | 3 | 76 94% (76/81) | 100% (49/49) | 1 days ago |
| 3 | Josephine Otieno | 87 | 8 | 0 | 83 95% (83/87) | 86% (53/61) | 2 days ago |
| 4 | Jacob Ochieng | 73 | 5 | 1 | 66 90% (66/73) | 100% (35/35) | 1 days ago |
| 5 | Lawrence Ogoga | 55 | 11 | 4 | 3 5% (3/55) | 80% (37/46) | 1 days ago |
| 6 | Salome Abonyo | 71 | 2 | 1 | 30 42% (30/71) | 94% (16/17) | 2 days ago |
| 7 | Wycliffe Okol | 116 | 2 | 6 | 118 102% (118/116) | 100% (59/59) | 1 days ago |
| 8 | Peter Onyango | 99 | 3 | 0 | 86 87% (86/99) | 93% (44/47) | 1 days ago |
| 9 | Godfrey Nyateng | 73 | 4 | 1 | 71 97% (71/73) | 89% (68/76) | 1 days ago |
| 10 | Frederick Odhiambo | 109 | 52 | 0 | 81 74% (81/109) | 100% (166/166) | 1 days ago |
| 11 | Josephine Mutibu | 55 | 39 | 3 | 30 55% (30/55) | 89% (114/127) | 1 days ago |
| 12 | Lilian Okello | 65 | 1 | 3 | 68 105% (68/65) | 94% (52/55) | 2 days ago |
| 13 | Maurine Akinyi | 107 | 11 | 0 | 88 82% (88/107) | 84% (38/45) | 1 days ago |
| | Summary | 1107 | | 32 | 82 % (912/1107) | 93% (860/923) | |

**Monitor for malaria, diarrhea, and pneumonia**

**Record all births and death**

**Nutrition Screening Report**

MUAC +28 105 E V D

CODE Patient ID MUAC (mm) Edema (E/N) Symptoms

V = Vomiting, F = Fever, D = Diarrhea
A = Appetite Loss, CG = Chronic Cough
CF = Confusion, NR = Non Responsive
CV = Convulsions, UF = Unable to Feed

MUAC> Child +28 Fatimata Diallo F/13M has SAM+. Please bring child in for IMMEDIATE inpatient care.

**Screen for malnutrition every 90 days**

**Register every child**

**Child Registration**

new diallo fatimata f 110408 amie 324245
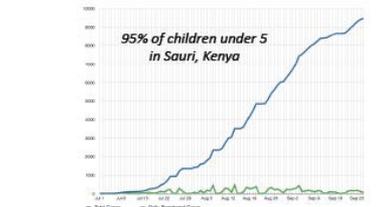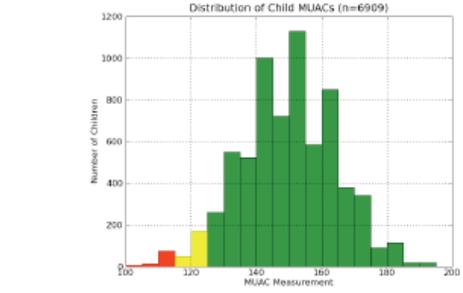
CODE Last First Gender(M/F) DOB(ddmmyy) Guardian Contact #

PATIENT REGISTERED> +28: DIALLO Fatimata. 4/13M. Mother: Amie, Village: Kangaba

*95% of children under 5 in Sauri, Kenya*

**CHW Child Reports**

Amyiko: Carolyne Ateka

**Full child immunization report**

MEASLES  +452  +5652  +324  +8425

| Vaccinated | Eligible | Coverage |
|------------|----------|----------|
| 7574 | 8083 | 94% |

Distribution of Child MUACs (n=6909)

**Register every child under age 5:** Create a "living" registry of all children under age five and pregnant women in a community.

*NEW LAST FIRST GENDER(M/F) Date Of Birth(DDMMYY) Parent*

```
new diallo fatimata f 080408 Amie
```

Once this message has been received, RapidSMS checks to see if this child exists in the system. If the child is not in the system, a new patient record linked to a CHW is created and a message is sent back to the CHW. For example:
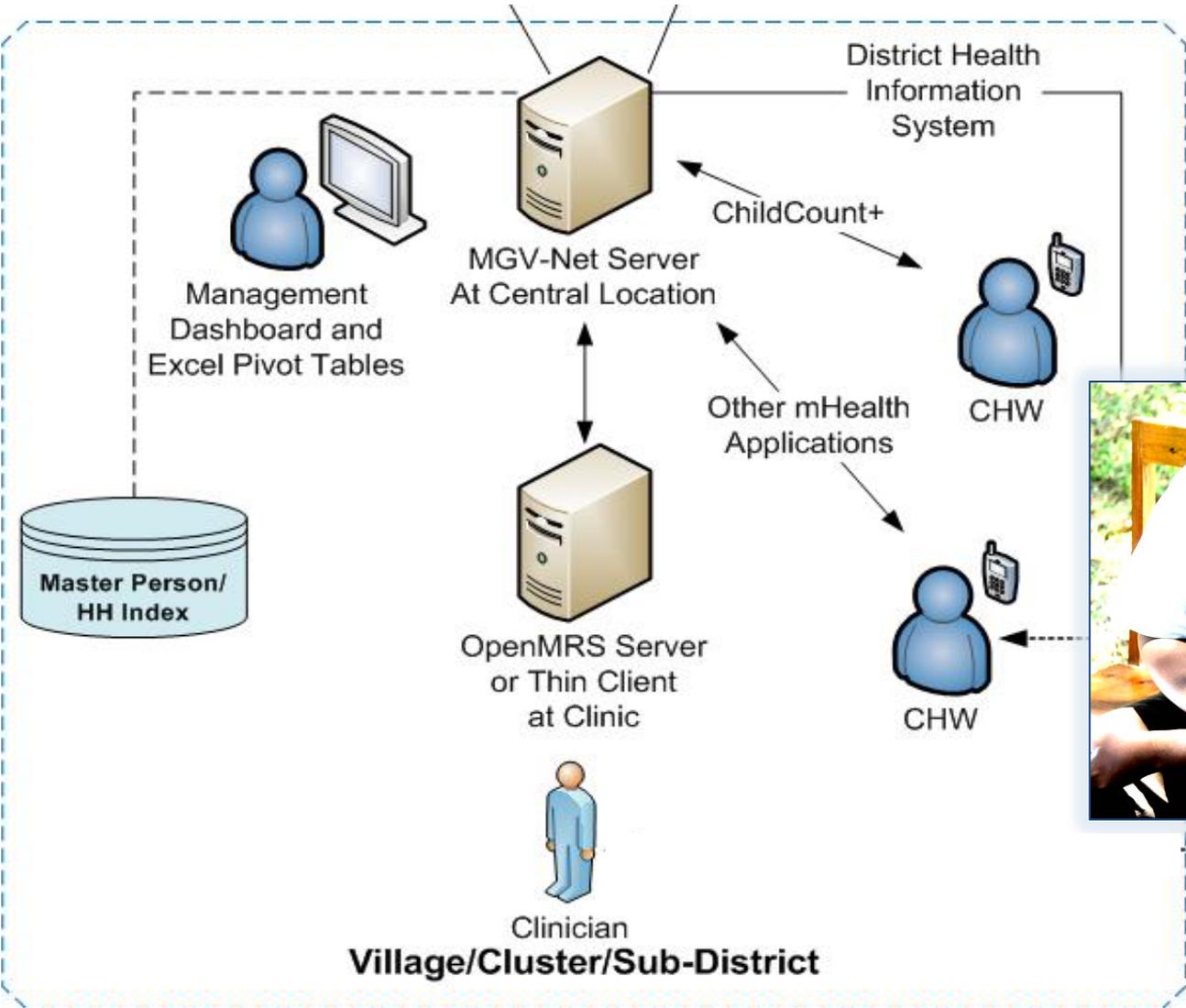
```
PATIENT REGISTERED> +28 DIALLO, Fatimata. F/13M.
Mother: Amie, Kangaba Village.
```

**Figure 4. Percentage of SMS messages rejected by system due to improper formatting**
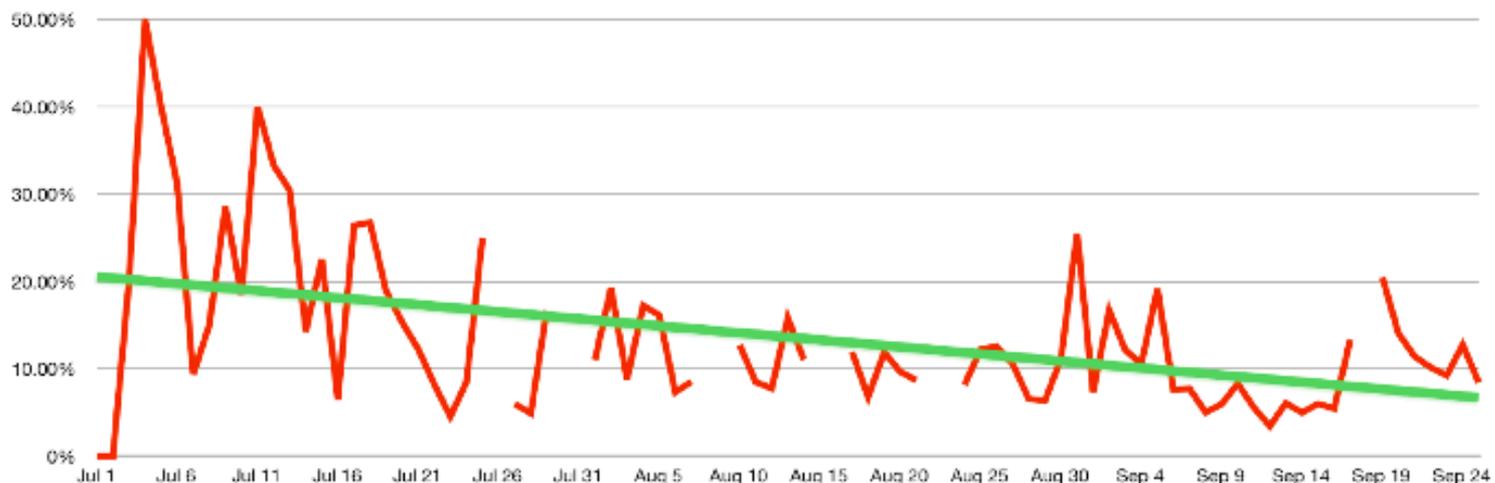
# SO HOW DO YOU SET UP CHILDCOUNT+?

## Requirements

- Network coverage
  Contracts for calls and SMS

- ID system for clients
  Working server

- CHWs trained on
  • Case management algorithms
  • ChildCount+ forms

- Supervision system
  Tech support

## ChildCount+ (CC+)

**Phone Distribution/ User Registration/ Supervisor training**
→ Phone replacement agreements with CHWs

**Training on phones & Client Registration SMS formats**
→ Agreement on program scope
Preparation of CC+ forms

**Registration of target Client by SMS**
→ Identification of target clients: ANC mothers? All Under-5s? All Women? Everyone?

**Training on SMS formats for case management algorithms, visits & other data**
→ SCOPE: Case Management: Diarrhoea/ Fever-malaria/pneumonia ; Surveillance: Nutrition/ ANC-PMTCT/ Immunization

**Usage, Feedback & Reports**
→ Trained Supervisors
Episodic standard reports
Interactive Database query by SMS
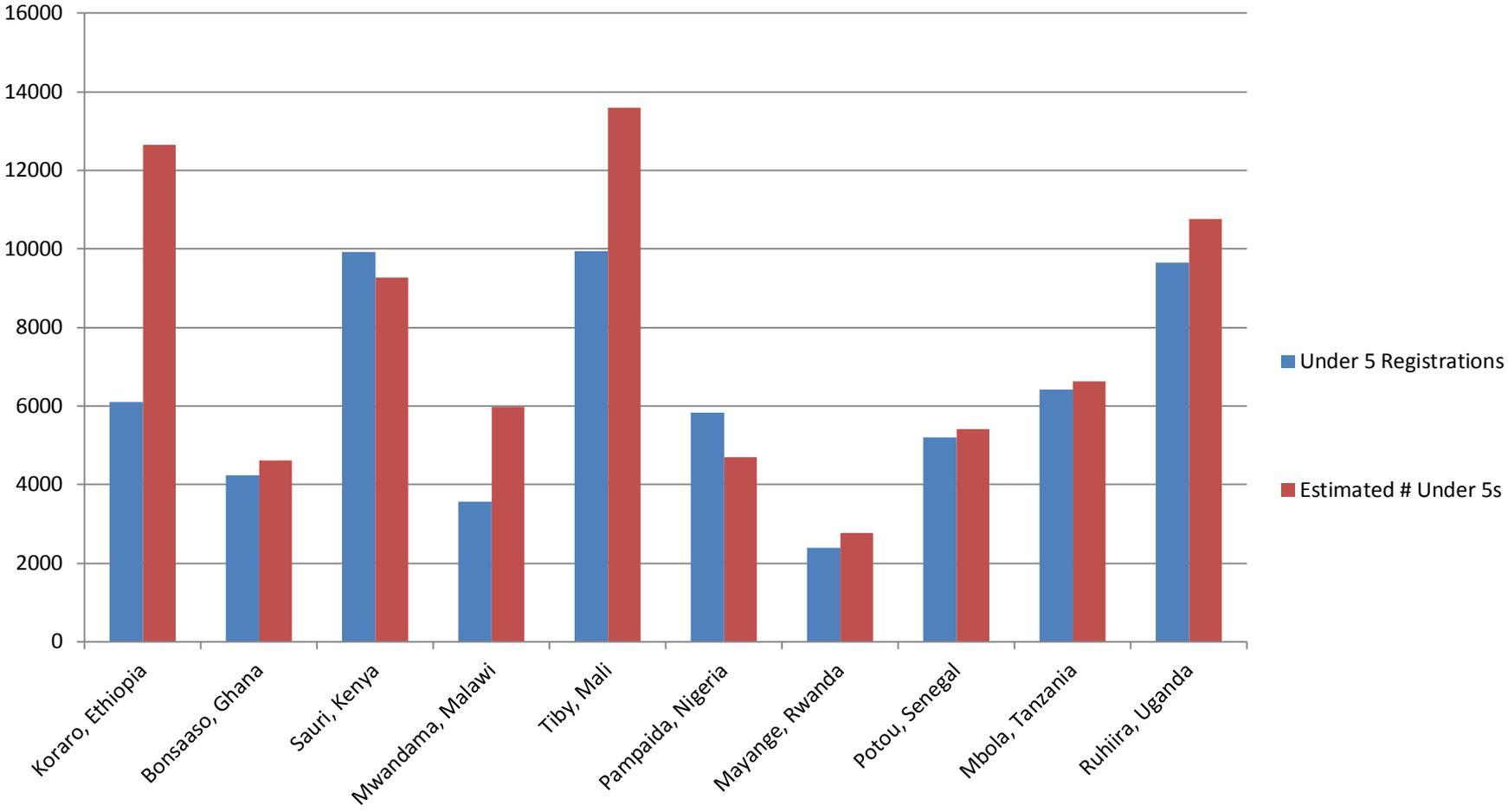Link to clinics & MGV-Net

# Kenya Report 2009



Matt Berg, Director of ICT

James Wariero, Regional Health Systems Adviser

Vijay Modi, Professor of Mechanical Engineering at Columbia University

# Under 5 Registrations in the Millennium Villages

**Health Coordinator**

Supervision / Inform Health Priorities

**CHW Manager**

Operations Management, Task-Setting, Performance Reviews

Community and Clinic Reports and Concerns

Performance Reports, Inform Health Priorities

**Senior CHW or Health Facilitator**

Technical and Supportive Supervision

Raw Health Data Transfer

**Community Health Committee**

"Social" Supervision

Updates on Community Health

**Village Clinic**

Prompts for Follow-Up Visit at Home

Referral for Advanced Care

**CHW Activities:**
**Household Visits and Service Delivery**

CHW visits a household at least once per month.

Health Education

Health Surveillance and Referrals

Community Case Management and Commodities Distribution

Health Data Collection

Feedback, Management, Prompts for Follow-up Visit

# ACKNOWLEDGEMENTS

**e/mHealth Team**
Matt Berg – Director of ICT, CC+ Founder
Casey Iiams-Hauser – eHealth Implementation Support
Mourice Barasa – Regional eHealth Coordinator
Richard Attendoh – Regional eHealth Coordinator
Bennett Nemser – MV Epidemiologist / Project Manager
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Nadi Kaonga – eHealth Project Coordinator
Ryan Burbach – eHealth Project Coordinator
Dr. Andrew Kanter – eHealth Adviser
Dr. Prabhjot Singh – Director of MV Systems Design

**CHW Team / Health Team**
Jackline Aridi – Regional CHW Adviser
Yombo Tankoano – Regional CHW Adviser
Ingrid Nanne – Regional CHW Program Coordinator
James Wariero – Regional Health Systems Adviser
Mosa Moshabela – Regional Health Systems Adviser
Dr. Sonia Sachs – Director of MV Health

**For More Information on CC+: www.childcount.org**

# THANK YOU

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