



The Millennium Global Village-Network: Lessons for eHealth Across the Continuum of Care

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Millennium Villages Project

- Partnership between the Earth Institute
Columbia University, UNDP, Millennium Promise
and national governments.
- Primarily operates in 10 countries in 14 agro-
ecological zones in Sub-Saharan Africa
- Integrated development at \$120 pc/y
- Covers about 500,000 people
- Each cluster of villages has around 40,000
people and 3-6 clinics



Millennium Villages

- Koraro, Ethiopia
- Bonsaaso, Ghana
- Dertu, Kenya
- Sauri, Kenya
- Gумалира, Malawi
- Mwandama, Malawi
- Tiby, Mali
- Timbuktu, Mali
- Ikaram, Nigeria
- Pampaida, Nigeria
- Mayange, Rwanda
- Potou, Senegal
- Mbola, Tanzania
- Ruhiira, Uganda

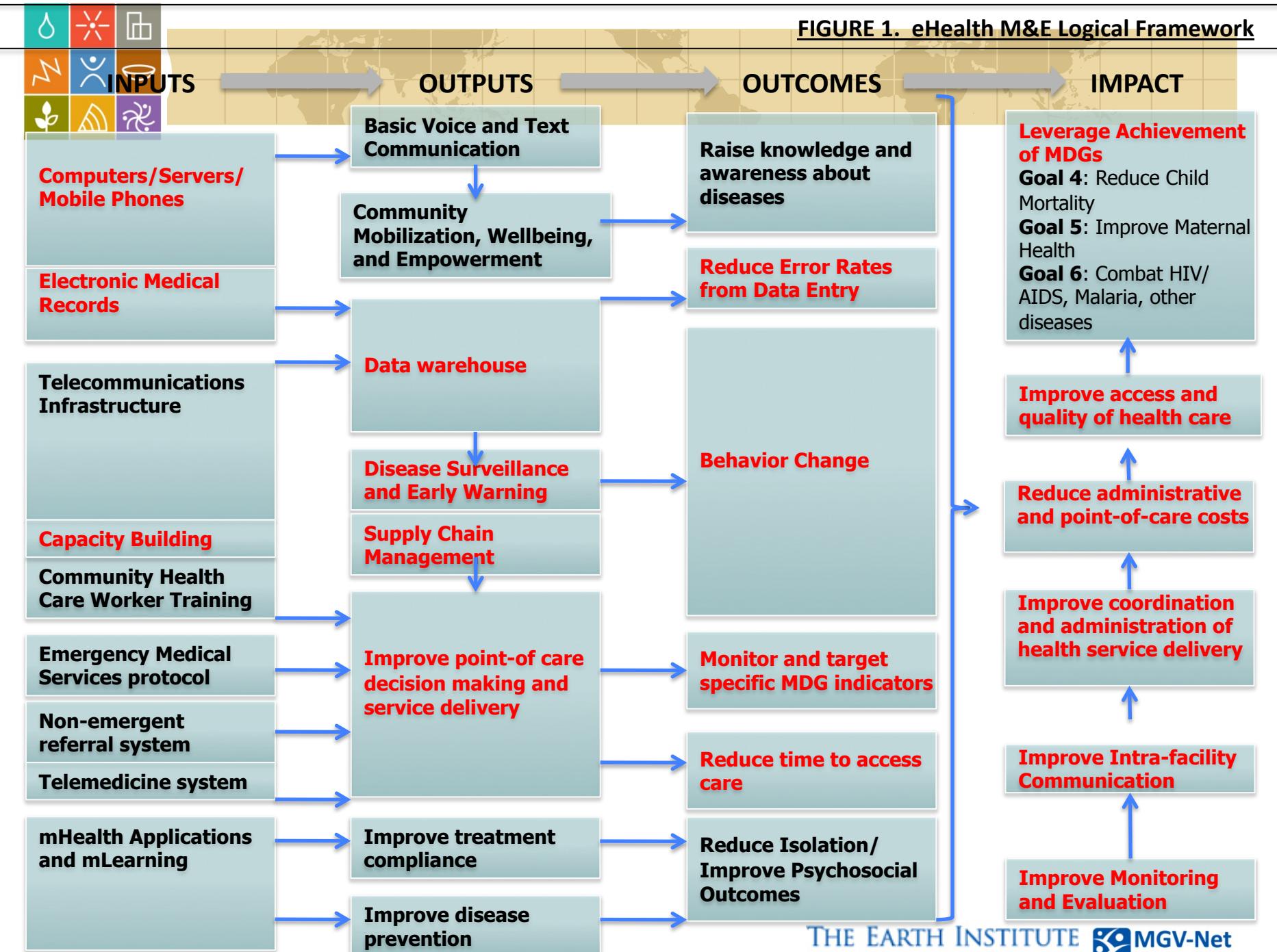


Role of Health Information



- Three of eight MDGs are health-related
- MVP establishes one clinic per 5000 people
- 1 CHW for 100 HH
- Improve care
- Assess impact and effectiveness of program

FIGURE 1. eHealth M&E Logical Framework





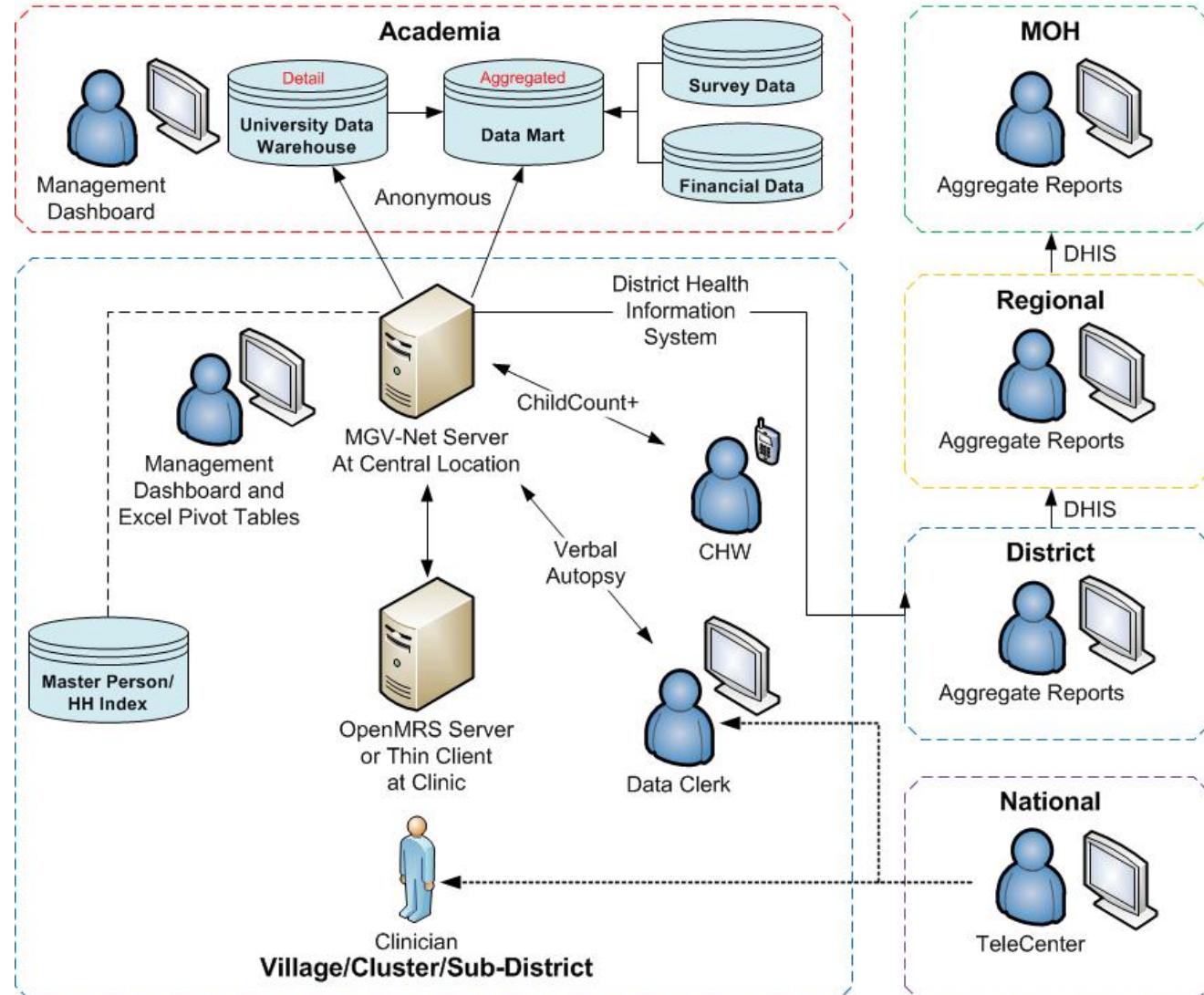
Vision: MGV-net Information System

- Bottom-up
- Patient-centered
- Locally-owned/
maintained
- Integrated/
interoperable
- Provide local value
- Global reach
- Sustainable





Millennium Global Village-Network Including ChildCount+ and VSVA



MGV-Net

THE EARTH INSTITUTE
COLUMBIA UNIVERSITY  MGV-Net
Millennium Villages

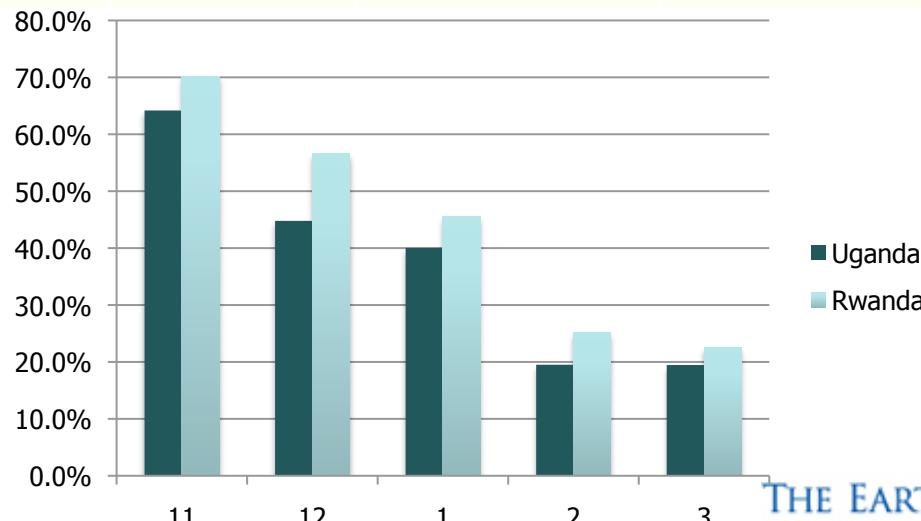


Monthly Serial Number	Registration number		New Patient						Seen within 4 weeks of appointment	Treatment / Advice	Service fee/ Card charge
	New	Revisit	Name	Address	Age	Sex	Diagnosis	Code			
1	2	3	4	5	6	7	8	9	10	11	12
567	7145		Mukhopadhyay	9½ F			Malaria	32		Spt & Start pmtkts	
568	7146		Mukherjee	24 F			Urti	8		Cutn & bt.	
569	7147		Chong	25 F			Tiy	31		Flagell & Start.	
570	7148		Sarkar	20 M			Sore throat	11		DCW & bt	
571	7149		Majumdar	32 M			Wounds	36		Albend + dd.	
572	7150		Mukhopadhyay	1 M			Urti	8		Citrin bt pmtkts	
573	7151		Mukhopadhyay	3 F			Conjunct	23		TEO refer to ZCH	
574	7152		Mujamadi	20 F			Dysper	46		Magnes & tds PCM & tds	
575	7153		Mukhopadhyay	29 F			Urti	8		Cutn & bt pmtkts	
576	7154		Hawkins	7 F			Malaria	36		spiral pmtkts	
577	7155			11	35 M		Urti	8		DCW & bt	
578	7156			-	11 F		Aneemia	15		Fls & bt	
579	7157		Gandi	25 F			Urti	49		Magnes & tds PCM & tds	
580	7158		Patolla	30 M			Urti	8		DCW & bt pmtkts	
581	7159		Patolla	16 M			Malaria	36		spiral pmtkts	
582	7160		Patolla	27 M			Urti	8		DCW & bt pmtkts	
583	7161		Patolla	18 F			Urti	8		Caln & tds AEG & tds	
584	7162		Gandi	1 M			Urti	11		Caln & bt	
										spiral pmtkts	
585	7163		Hawkins	6 F			Urti	49		Magnes & tds PCM & tds	
586	7164		Ganguly	1 M			Urti	11		Cutn & bt pmtkts	



Comparable and Timely Data

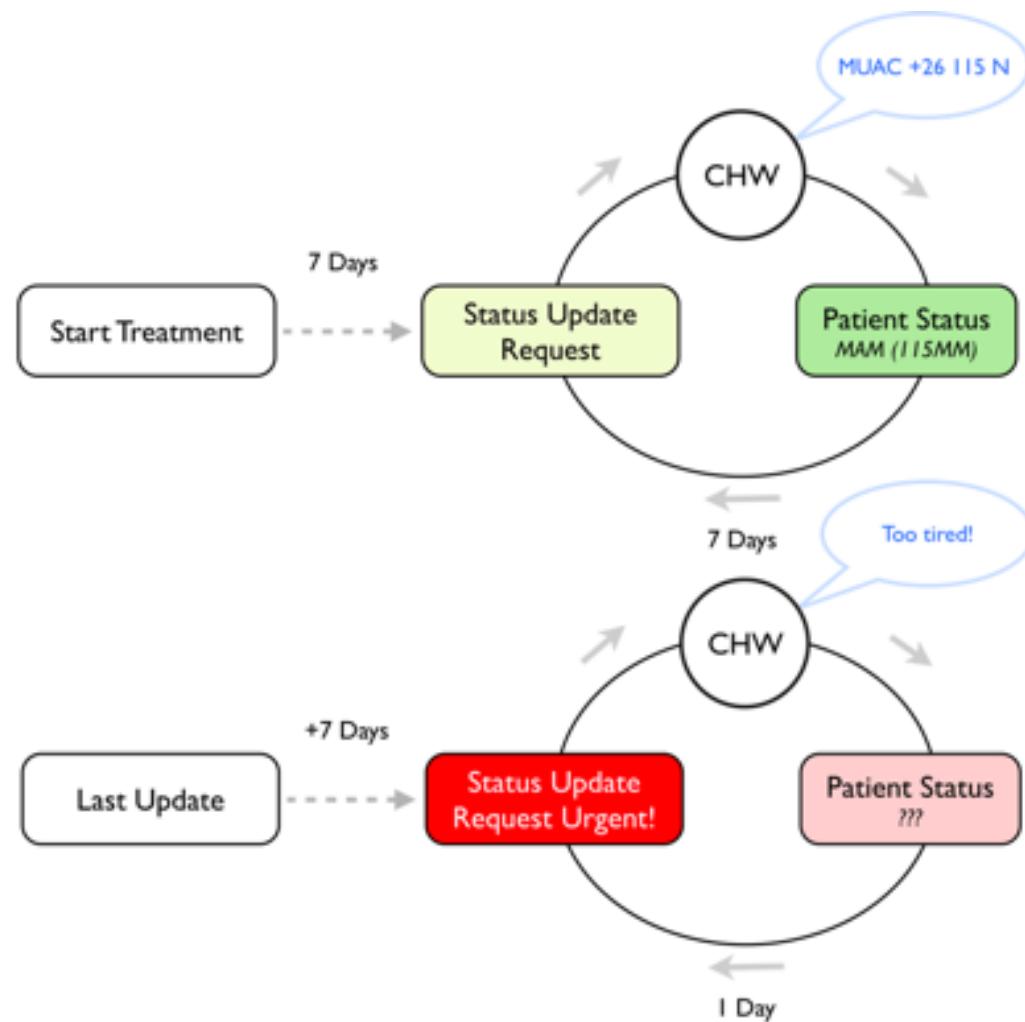
		Nov. – Jan Ave.	Feb. – April Ave.	% Change
% of patients treated	< 5	50.0%	24.4%	-51.3%
	= 5	35.4%	12.3%	-65.4%
% suspected	< 5	73.7%	73.5%	0.4%
	= 5	58.3%	53.3%	-8.5%
% suspected, treated	< 5	67.2%	32.3%	-51.0%
	= 5	60.2%	22.6%	-62.4%
Coartem		377	165	-56.3%





ChildCount+ Demo

- [Childcountplus_sm.mov](#)
- [http://www.childcount.org/modules/
pmtct/](http://www.childcount.org/modules/pmtct/)





THE MILLENNIUM VILLAGES PROJECT

EMERGENCY CALL CENTER LOG

ADULT LOG (>12 years)

Emergency Dispatcher	<input type="checkbox"/> Dispatcher
Patient information	
Name _____	Age _____
Receipt of call _____/_____/_____ _____:_____	Caller ID Name _____ <input type="checkbox"/> Health C <input type="checkbox"/> CHW <input type="checkbox"/> Villager <input type="checkbox"/> Other _____ Contact number _____

Emergency Call Log			
Question	Answer	OpenMRS Sub-Answer	OpenMRS Concept ID
Emergency Dispatcher	Dispatcher 1 Dispatcher 2 Dispatcher 3 Dispatcher 4	Dispatcher ID	159634 Dispatcher ID
Patient Name			
Patient Age			
Patient Sex			
Village			
Cell			
Date/Time Call			
Caller			
	Health Care worker	5619 Health care provider	
	CHW	1555 Community Health Worker	
	Villager	1604 Resident of MVP Cluster	
	Other	5622 Other non-coded	
Contact number			
Caller location			
	Community	13	
	Kabuyanda HC	10	
	Kabugu HC	9	
	Ntungu HC	11	
	Kanyawamaizi HC	8	
	Nyakatunda HC	7	
	Ruhiira HC	12	
Action Taken			
	Dispatched ambulance	159639 Dispatch action taken	
		1672 Ambulance dispatched	
		Recommended motorcycle	
	Recommended boda-boda	159638 transport	
	Non-urgent referral to HC	1648 patient referred	
	Medical Advice given	159636 medical advice given	



3G 11:36 AM

ODK Clinic > List Patients

li



4622NT-8	Sep 18, 2003	
Linda Ebei Rirei		
5972EG-4	Aug 27, 2003	
Levin Lieta Konjir		
6785NT-1	Sep 18, 2003	
Lister Vyenda Ng'Ogtie		
8754TU-7	Oct 12, 2003	
Lissy Chelanga Yapsoi		
3500TU-9	Sep 24, 2003	
Phoeba Litonde Akesa		
9313BF-2	Sep 09, 2003	
Lina Kipkasi Shivairo		



Looking up Patients...



Currently logged in as Doctor Super User | [Log out](#) | [My Profile](#) | [Help](#)

[Home](#) | [Find/Create Patient](#) | [Dictionary](#) | [Cohort Builder](#) | [Administration](#)

Patient Search

Find Patient(s)

Patient Identifier or Patient Name: Include Verbose

Results for "jane". Viewing 1-1 of 1

Identifier	Given	Middle	Family Name	Age	Gender	Birthdate	Resides in Cluster	Telephone Number
1. 1DMS	Jane		Doe	28		≈ 01/01/1982	YES	555-1212

[Add New Patient](#)

or

Create Patient

To create a new person, enter the person's name and other information below first to double-check that they don't already have a record in the system.

Name

Birthdate or Age
(Format: mm/dd/yyyy)

Gender Male Female

[Create Person](#)



Prior Encounters...



Currently logged in as Doctor Super User | [Log out](#) | [My Profile](#) | [Help](#)

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Jane Doe

28 yrs (~Jan 1, 1982)

Health ID: **1DM5**

Clinic ID: 44444

Last encounter: **Verbal Autopsy @ Unknown Location, Feb 24, 2010**

[Overview](#) | [Regimens](#) | [Encounters](#) | [Demographics](#) | [Graphs](#) | [Forms](#) | [XForms](#)

Encounters

All Encounters

Edit	View	Encounter Date	Encounter Type	Provider	Form	Location	Enterer
		02/24/2010	CHERA Visit	Doctor Super User	CC+ Household Visit Form	Sauri Clinic	Doctor Super User
		02/24/2010	Verbal Autopsy	Jonathan Dick	Verbal Autopsy Adult Form	Unknown Location	Doctor Super User
		02/23/2010	CHERA Visit	Doctor Super User	CC+ Individual Visit	Sauri Clinic	Doctor Super User
		02/19/2010	Verbal Autopsy	Doctor Super User	Verbal Autopsy Neonatal Form	Kabuyanda HC4	Doctor Super User
		02/18/2010	Verbal Autopsy	Doctor Super User	Verbal Autopsy Adult Form	Kabugu HC3	Doctor Super User
		02/07/2010	CHERA Visit	Doctor Super User	CC+ Over 5 Form	Marenyo Clinic	Doctor Super User
		02/07/2010	CHERA Visit	Doctor Super User	CC+ Individual Visit	Kabugu HC3	Doctor Super User
		02/07/2010	CHERA Visit	Doctor Super User	CC+ Individual Visit	Sauri Clinic	Doctor Super User
		02/05/2010	CHERA Visit	Doctor Super User	CC+ Over 5 Form	Sauri Clinic	Doctor Super User
		02/05/2010	CHERA Visit	Doctor Super User	CC+ Under 5 Form	Sauri Clinic	Doctor Super User
		02/05/2010	CHERA Visit	Doctor Super User	CC+ Over 5 Form	Kanywamaizi HC3	Doctor Super User
		02/05/2010	Verbal Autopsy	Doctor Super User	Verbal Autopsy Neonatal Form (French)	Kabuyanda HC4	Doctor Super User
		01/22/2010	CHERA Visit	Doctor Super User	CC+ Over 5 Form	Sauri Clinic	Doctor Super User
		01/10/2010	CHERA Visit	Doctor Super User	CC+ Over 5 Form	Kabuyanda HC4	Doctor Super User
		01/02/2010	CHERA Visit	Doctor Super User	CC+ Under 5 Form	Kanywamaizi HC3	Doctor Super User
		01/02/2010	CHERA Visit	Doctor Super User	CC+ Under 5 Form	Marenyo Clinic	Doctor Super User
		01/02/2010	CHERA Visit	Doctor Super User	CC+ Under 5 Form	Kabugu HC3	Doctor Super User



View Prior Encounters



Currently logged in as Doctor

[Home](#) | [Find/Create Patient](#) | [Dictionary](#) | [Cohort Builder](#) | [Administration](#)

CC+ Household Form

Demographic Information

Jane

Doe

BIRTHDATE 01/01/1982

SEX F

HealthID 1DMS

ENCOUNTER DATE 24/02/2010

LOCATION ID Sauri Clinic

PROVIDER ID Doctor Super User

HH Visit-All Households

Any household member available for visit/interview YES

TOTAL CHILDREN UNDER 5YO VISITED IN HOME 3.0

EDUCATION/COUNSELING ORDERS NUTRITION COUNSELING

BEDNET COUNSELING

FAMILY PLANNING COUNSELING

OTHER NON-CODED

ALCOHOL COUNSELING

TOBACCO USE COUNSELING



French

Jane Doe | 28 yrs | Health ID: 1DM5 | Clinic ID: 44444
Rencontre: CHERA Visit le 24/02/2010 at Sauri Clinic
Fiche: CC+ Household Visit Form [\[Close Window \]](#) [\[Modifier \]](#)

4.0 Any household member available for visit/interview: **Oui**

4.1 TOTAL CHILDREN UNDER 5YO VISITED IN HOME: **3.0**

4.2 **SUIVI NUTRITIONNEL**
Education/Conseil: **CONSEIL POUR L'UTILISATION DES MOUSTIQUAIRES**
CONSEIL POUR LE PLANNING FAMILIAL

5.0 TOTAL WOMEN 15-49YO SEEN IN HOUSEHOLD: **4.0**

5.1 TOTAL WOMEN 15-49YO SEEN IN HOUSEHOLD USING MODERN FAMILY PLANNING METHOD: **3.0**

6.0 Long-lasting insecticidal mosquito nets (LLINs): **3.0**

6.1 NUMBER OF SLEEPING SITES IN PATIENT'S HOUSEHOLD: **4.0**

English

Jane Doe | 28 yrs | Health ID: 1DM5 | Clinic ID: 44444
Encounter: CHERA Visit on 02/24/2010 at Sauri Clinic
Form: CC+ Household Visit Form [\[Close Window \]](#) [\[Edit \]](#)

4.0 Any household member available for visit/interview: **YES**

4.1 TOTAL CHILDREN UNDER 5YO VISITED IN HOME: **3.0**

4.2 **NUTRITION COUNSELING**
EDUCATION/COUNSELING ORDERS: **BEDNET COUNSELING**
FAMILY PLANNING COUNSELING

5.0 TOTAL WOMEN 15-49YO SEEN IN HOUSEHOLD: **4.0**

5.1 TOTAL WOMEN 15-49YO SEEN IN HOUSEHOLD USING MODERN FAMILY PLANNING METHOD: **3.0**

6.0 NUMBER OF FUNCTIONING BEDNETS IN THE HOUSEHOLD: **3.0**

6.1 NUMBER OF SLEEPING SITES IN PATIENT'S HOUSEHOLD: **4.0**



Shared Terminology and Resources

- www.maternalconceptlab.com
- www.openmrs.org
- www.childcount.org



Challenges and Lessons Learned



- Human capacity
- Clinician engagement
- Reliable electricity, computers, connectivity
- Need interoperability
- Need maturity model
- Gov't policies