

POSTER PRESENTATION

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# Factors associated with utilization of community health workers in improving access to malaria treatment among children in Kenya

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## Background information

The success of community case management in improving access to effective malaria treatment for young children relies on broad utilization of community health workers (CHWs) to diagnose and treat fever cases. A better understanding of the factors associated with CHW utilization is crucial in informing national malaria control policy and strategy in Kenya. Specifically, little is known in Kenya on the extent to which CHWs are utilized, the characteristics of families who report utilizing CHWs and whether utilization is associated with improved access to prompt and effective malaria treatment. This paper examines factors associated with utilization of CHWs in improving access to malaria treatment among children under five years of age by women caregivers in two malaria endemic districts in Kenya

## Methods

This study was conducted in 113 hard-to-reach and poor villages in Malindi and Lamu districts in the coastal region classified as having endemic transmission of malaria. A cross-sectional household survey was conducted using a standardized malaria indicator questionnaire at baseline (n = 1,187) and one year later at end-line assessment (n = 1,374) using two-stage cluster sampling.

## Results

There was an increase in reported utilization of CHWs as source of advice/treatment for child fevers from 2% at

baseline to 35% at end-line, accompanied by a decline in care-seeking from government facilities (from 67% to 48%) and other sources (26% to 2%) including shops. The most poor households and poor households reported higher utilization of CHWs at 39.4% and 37.9%

**Table 1**

Characteristic	BASELINE	ENDLINE	P-Values
Sample size (N)	269	345	
Women caregiver education level			0.125
None	53.2 (143)	57.7 (199)	
Primary	43.5 (117)	41.2 (142)	
Secondary	3.4 (9)	1.2 (4)	
Woman caregiver age category			0.332
<=20 y	21.2 (57)	15.7 (54)	
21-30 y	44.6 (120)	47.1 (162)	
31-50 y	26.7 (72)	29.4 (101)	
51+ y		1.1 (4)	
Unknown	7.4 (20)	6.7 (23)	
Male household head	84.1 (216)	81.7 (282)	0.285
Household owns radio	40.9 (105)	32.8 (113)	0.041
Household owns bicycle	56.4 (145)	48.1 (166)	0.044
Household owns mosquito nets	81.3 (209)	89.3 (308)	0.006
Village size			0.531
<= 60 households	21.9 (59)	18.6 (64)	
61 to 100 households	24.5 (66)	27.8 (96)	
101 to 200 households	31.6 (85)	32.2 (111)	
>200 households	21.9 (59)	21.5 (74)	
Household wealth rank			0.335
Most poor	22.3 (60)	23.8 (82)	
Poor	54.3 (146)	57.7 (199)	
Least poor	23.4 (63)	18.6 (64)	

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**Table 2 Source of advice/treatment for children with fever in past 2 weeks among those who reported seeking advice/treatment**

Source of advice/treatment	Baseline (N=235)		Endline (N=298) <sup>1</sup>	
	n	%	n	%
CHW/Red Cross volunteer	5	2.1	103	34.6
Government health facilities	157	66.8	143	48.0
Private medical sector <sup>1</sup>	12	5.1	46	15.4
Other sources <sup>1</sup>	59	26.0	6	2.0

respectively, compared to the least poor households (17.0%). Households in villages with less than 200 households reported higher CHWs utilization as compared to households in villages having >200 households. Prompt access to timely and effective treatment was 5.7 times higher (95% CI 3.4-9.7) when CHWs were the source of care sought. Adherence was high regardless of whether source was CHWs (73.1%) or public health facility (66.7%).

**Table 3 Women caregiver, household and village characteristics associated with utilization of CHW services for child fever advice/treatment**

Characteristic	CHW (N=103)	Other (N=195)	p-value
Women caregiver education			
No formal education	57.3 (59)	56.4 (110)	0.885
Primary/secondary	42.7 (44)	43.6 (85)	
Women caregiver age group	N=98	N=178	
≤20 y	16.3 (16)	17.4 (31)	0.993
21-30 y	50.0 (49)	48.9 (87)	
31-40 y	29.6 (29)	29.2 (52)	
41+ y	4.1 (4)	4.5 (8)	
Attended ANC during last pregnancy	N=100	N=193	
	69.0 (69)	65.8 (127)	
IPT (2+ doses SP) during last pregnancy	N=56	N=111	
	82.1 (46)	84.7 (94)	
Knowledge of AL as new anti-malarial drug		N=194	
		29.9 (58)	
Identified sleeping under net as way to prevent malaria	84.5 (87)	78.0 (152)	0.179
Household wealth rank			
Most poor			
Poor			
Least poor			
Household size	N=102	N=194	
2 to 4	22.6 (23)	24.7 (48)	0.425
5 to 7	41.2 (42)	46.4 (90)	
8 or more	36.3 (37)	28.9 (56)	
Village size			
<60 households			
61-100 households	33.0 (34)	24.6 (48)	
101-200 households	34.0 (35)	30.3 (59)	
>200 households	10.7 (11)	27.7 (54)	
Visited by CHW in past 3 months	94.2 (97)	28.7 (56)	<0.001

**Table 4 A cross tabulation of timely provision of AL and source of the antimalarial**

Timing of AL treatment	CHW as source of advice/treatment		p-value
	Yes	No	
AL given within 24 hours	57.3 (59)	19.0 (37)	<0.001
AL given within 48 hours	79.6 (82)	36.4 (71)	<0.001
AL given at any time	90.3 (93)	45.1 (88)	<0.001

### Conclusion

The results of this study provide evidence that use of trained and supervised community health workers in community case management improved management of uncomplicated child fever cases in hard to reach villages in Malindi and Lamu District in Coastal Province of Kenya. In addition to this, poverty seems to be closely linked to child caregivers seeking services of community-based service providers, highlighting the impediment of poverty towards accessibility of cost sharing services

widely practiced in Kenyan public health facilities. Policy actions to address barriers to effective utilization of CHWs in healthcare delivery should be scaled up in such hard to reach communities. The government and partners should, therefore, invest more in mechanisms which support CHW utilization especially the roll out of the Community Health Strategy 2006 as part of successful control of malaria and other infectious diseases.

The potential for utilization of CHWs in improving access to malaria treatment at the community level is promising. This will not only enhance access to treatment by the poorest households but also provide early and appropriate treatment to vulnerable individuals, especially those living in hard to reach areas.

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