Malaria Social and Behavior Change Evidence Discussion Series:

Assessing the impact of combining community mobilization with supportive supervision to improve malaria case management behaviors

Wednesday, March 6, 9–10 a.m. EST

Moderator: Shelby Cash, Public Health Analyst, Malaria Branch of the Centers for Disease Control and

Prevention, U.S. President's Malaria Initiative

Presenter: Ashis Das, Public Health Specialist, World Bank





Discussion tips and reminders

- This discussion will be recorded.
- We will share audio and presentation slides after the discussion.
- Everyone is on mute during the introduction and presentation.
- During the presentations, submit questions by typing in the chat box in the lower right corner of your screen.
- During the discussion near the end, click the raised hand icon to speak.



Discussion overview

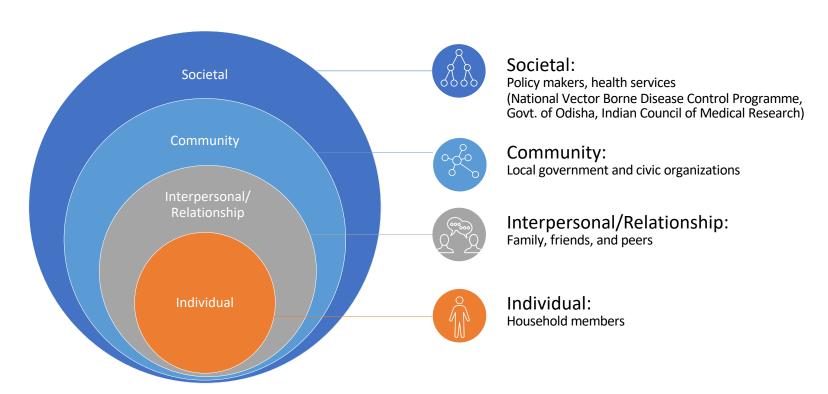
- Study overview
- Methods
- Results
- Programmatic implications
- Discussion



Malaria Social and Behavior Change Communication (SBCC) Evidence Database

Country:	Malaria Area:	Communication Intervention:	Study Design :	Audience Segmentation :	
Bangladesh	Case management	Interpersonal communication	Cluster randomized control trial	Caregivers of children under 5	
Belize	Malaria in pregnancy	Community engagement	Post-assessment only	Children	
Benin	LLIN/ITN	Provider training	Post-assessment only with control group	Community mobilizers	
Burkina Faso	☐ IRS	Caregiver training	Pre- and post-assessment	General public	
Cambodia		Mass media	Pre- and post-assessment with control group	Households	
China		Social marketing	Randomized control trial	Malaria Tested/Treated/Patients	
Colombia		□ mHealth	Mixed methods	Men	
Ecuador		Print media		Providers/Prescribers	
Ethiopia				Pregnant women	
Ghana				Other	
India					
Kenya					
Liberia	T CLEAR FILTERS				
Madagascar					
Malawi					
Mali					
Mozambique					
Myanmar					
Nicaragua					
Niger					
Nigeria					

Socio-ecological model lens





Supportive supervision:

Ensured availability of rapid diagnostic test (RDT) kits and artemisinin-based combination therapy (ACT), field visits to community health workers (CHWs), and orientation on community and health center engagement



Community mobilization:

Street theater performance, mobile public address campaign, cinema shows, engagement with village health and sanitation committees



Interpersonal/Relationship:

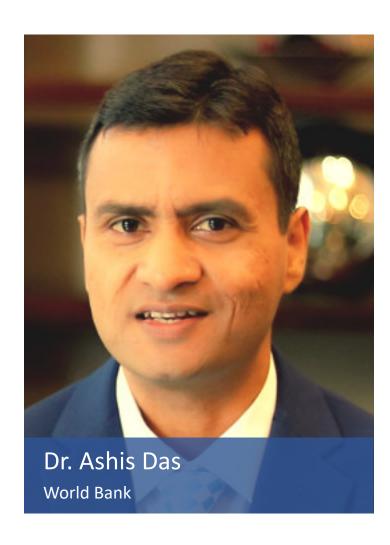
Engagement with women's self-help groups



Individual:

Door-to-door household visits

Presenter



Study overview

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Please use the following questions to guide your reading of the article ahead of the discussion.

Background: This study is set in an area of Odisha, India with low net use and care-seeking from traditional healers and unqualified providers was prevalent. Respondents of a preceding qualitative study expressed a lack of trust in community health workers due to frequent drug stock-outs. While global evidence provides guidance about how to work with communities and health workers to improve malaria prevention behaviors, no such evidence existed in India. Study authors set out to determine if specific guidance would, indeed, improve malaria case management in Odisha, India.

- 1. Formative data: What evidence did authors collect and use to come to the conclusion that these approaches might be effective? What factors did authors of this study suggest might improve malaria case management?
- 2. Behavioral objectives: Which behaviors did the study interventions set out to influence?
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- 4. Measuring impact: Which behavioral or health outcomes were measured and how were they measured?
- 5. Study design: What kind of study design was used (cross-sectional, longitudinal, pre-post, etc.) What steps were taken to avoid study bias? How representative was the study sample of the population who received the intervention(s)?
- 6. Study analysis: Which intervention appears to have been more successful? How confident can we be that behaviors being practiced are a result of the interventions, and not as a result of confounding factors?
- 7. Generalizability: Were the groups surveyed in this study representative of Odisha state as a whole? Can lessons learned in this study be applied beyond the populations studied?

For more articles showing the impact social and behavior change communication has had on malaria outcomes, as well as infographics and factsheets, visit the malaria social and behavior change communication evidence database.

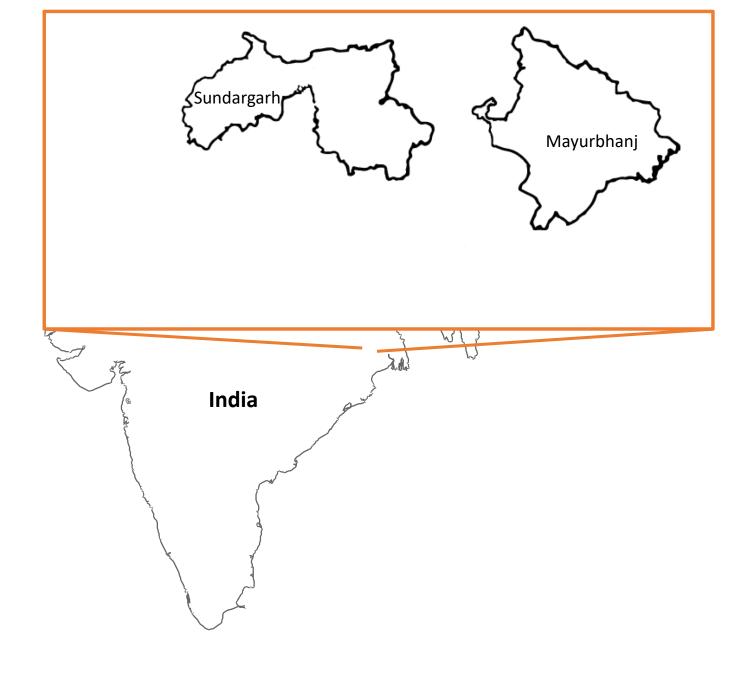
Objectives

Our goal was to test the effect of two complementary community-based interventions:

- Community mobilization promoting long-lasting insecticidal net (LLIN) use and prompt care seeking for fever from a community health worker
- 2. Supportive supervision of community health workers on effective malaria case management

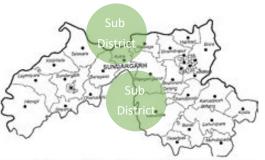
Comparison

 The study was carried out in the Mayurbhanj and Sundargarh districts of Odisha state.



Sampling

- Make a list of all sub-districts in both endemic districts
- Pick two subdistricts in each—at random



Banei Baragaon Bhasma Biramitrapur Bisra Bondamunda Brahmani Tarang Chandiposh Dharuadihi Gurundia Hatibari Hemgir Kamarposh Balang Kinjirkela Kolda Kutra

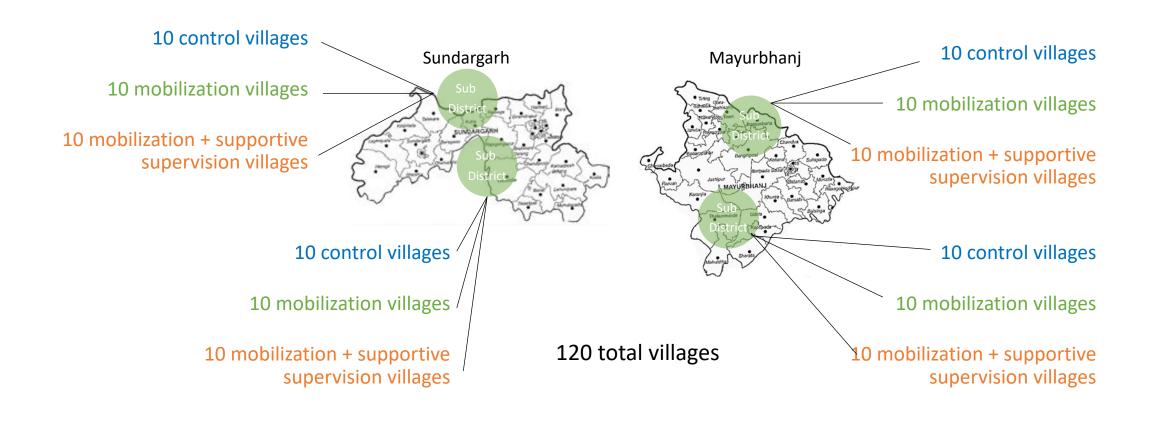
Lahunipara
Lathikata
Lephripara
Mahulapada
Raghunathapali
Raiboga
Rajagangapur
Raurkela (ITS)
Raurkela (M)
Sundargarh
Sundargarh Town
Talasara
Tangarapali
Tikaetpali



Badampahar Bahalda Baisinga Bangiriposi Baripada (M) Baripada Sadar Baripada Town Barsahi Betanati Bisoi Chandua Ghagarbeda Gorumahisani Jamda Jashipur Jharpokharia Kaptipada

Karanjia
Khunta
Koliana
Mahuldiha
Muruda
Rairangpur
Rairangpur Town
Raruan
Rasagobindapur
Sharata
Suliapada
Thakurmunda
Tiring
Udala

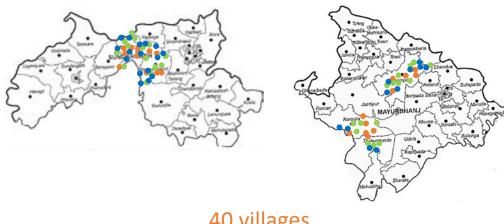
Sampling



Study overview

Three approaches compared:

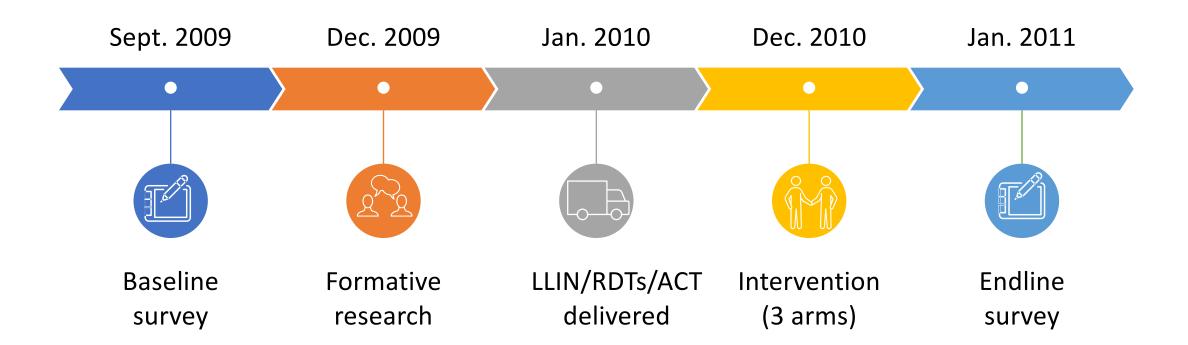
- Supportive supervision with community mobilization
- Community mobilization
- Routine government activities (control)



40 villages40 villages40 villages

120 total

Study overview



Methods

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Study design, intervention, data collection, analysis

Type questions in the chat box

Methods

- Cross-sectional household survey (pre and post)
 - Household and individual-level questionnaires collecting sociodemographic and health data
 - Full household questionnaire collected data on all fever cases in the past two weeks. Ten (10) cases were randomly selected from each village and interviewed for individual-level information
 - Individual fever questionnaire collected information on treatment-seeking from fever in the last two weeks
 - Sample size determined by proportion of fever cases tested for falciparum malaria within 24 hours and proportion of households correctly utilizing at least one LLIN
- Three intervention arms, two arms intervention, one control

Methods

- Data analyzed as an intention-to-treat analysis with treatment at the cluster (village level)
- Differences in outcomes between intervention and control clustered examined with <u>logistic regression</u>
 - Helpful when controlling for confounding variables and useful with large datasets and studies designed to establish risk factors
- As socio-economic status was not different between the three arms, results presented are unadjusted

Results

Changes in short- and long-term outcomes

Type questions in the chat box

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Key results: LLIN use (total population)

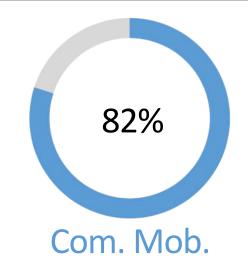
	Supportive supervision + community mobilization	Community mobilization	Control	Supportive supervision + community mobilization versus control		Community mobilization versus control	
	n/N (%)	n/N (%)	n/N (%)	Odds ratio (95% CI)	p value	Odds ratio (95% CI)	p value
Bed net ownership							
Households with at least one bed net	760/768 (99.15)	774/781 (99.1)	750/755 (99.34)	0.633 [0.206, 1.945]	0.425	0.737 [0.233, 2.33]	0.604
Slept last night under a bed net							
Total population	3,571/4,224 (84.54)	3,589/4,354 (82.43)	3,219/4,093 (78.65)	1.485 [1.328, 1.661]	0.000	1.274 [1.143, 1.419]	0.000
Children under 5 years	451/466 (96.78)	488/508 (94.29)	461/500 (90.68)	2.544 [1.383, 4.688]	0.003	2.064 [1.186, 3.592]	0.010
Women of Childbearing Age (15-49 years)	998/1,031 (96.79)	990/1,035 (95.65)	934/991 (94.09)	1.846 [1.191, 2.859]	0.006	1.343 [0.899, 2.005]	0.149

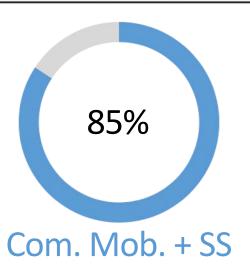


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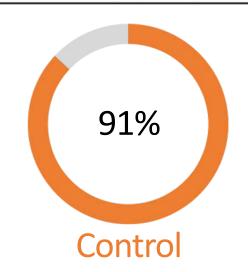


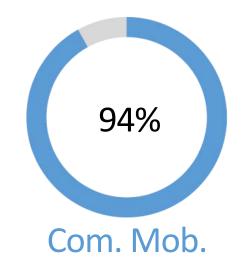


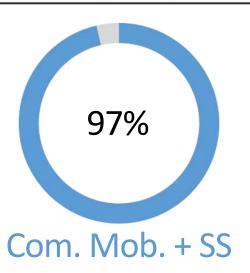


Key results: LLIN use (children under 5)

	Supportive supervision + community mobilization	Community mobilization	Control	Supportive supervision + community mobilization versus control		Community mobilization versus control	
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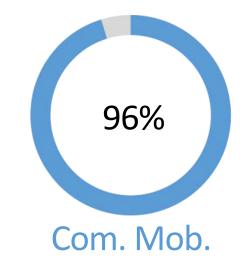


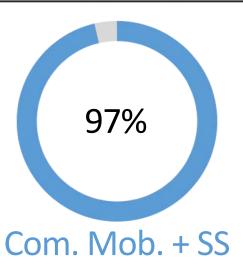


Key results: LLIN use (women 15–49)

	Supportive supervision + community mobilization	Community Control Supportive supervision + community mobilization versus control		+ community mobilization	supervision + community		rsus
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Key results: Diagnosis from a trained provider (total population)

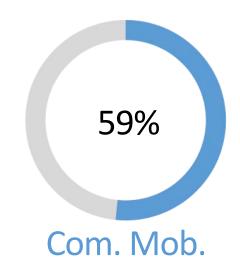
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Prompt fever diagnosis	(<24 hrs) by a trained provider	_		_			÷,
Total	229/378 (60.58)	226/381 (59.32)	183/365 (50.14)	1.529 [1.143, 2.045]	0.004	1.450 [1.086, 1.937]	0.012
Children under 5 years	43/68 (63.24)	47/74 (63.51)	32/68 (47.06)	1.935 [0.975, 3.840]	0.059	1.958 [1.001, 3.832]	0.049
Women	61/99 (61.61)	81/126 (64.29)	49/106 (47.22)	1.867 [1.070, 3.258]	0.028	2.094 [1.235, 3.549]	0.006

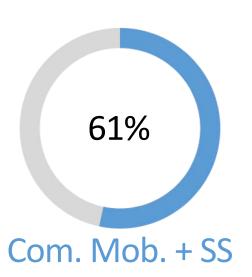


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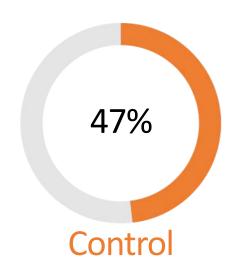


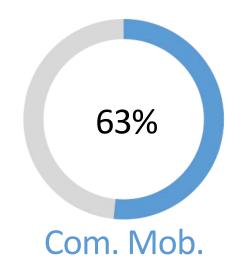


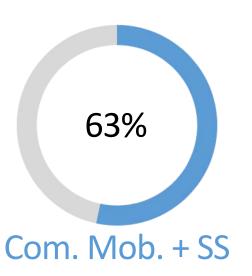


Key results: Diagnosis from a trained provider (children under 5)

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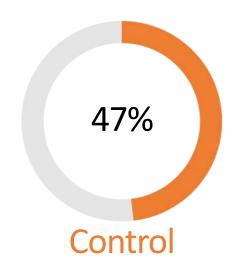


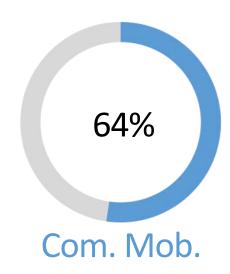


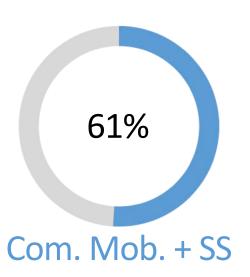


Key results: Diagnosis from a trained provider (women 15-49)

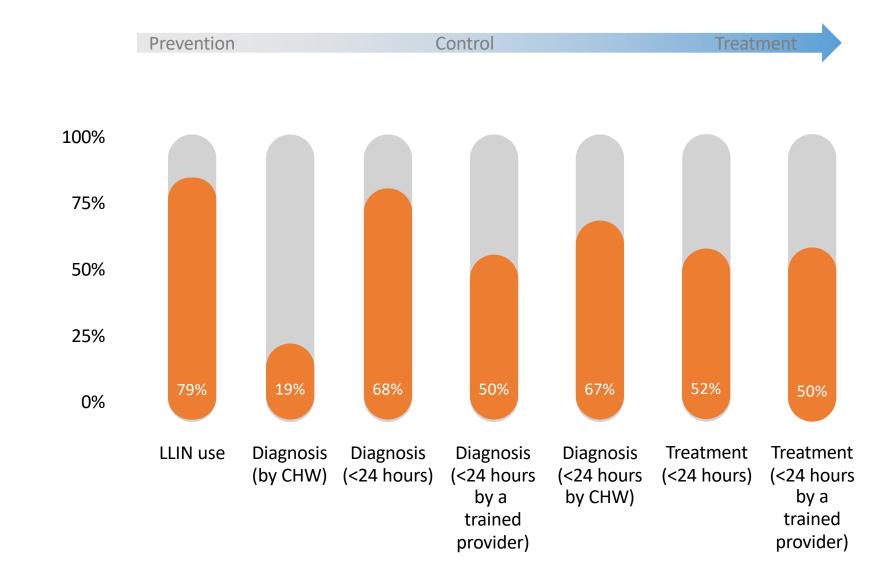
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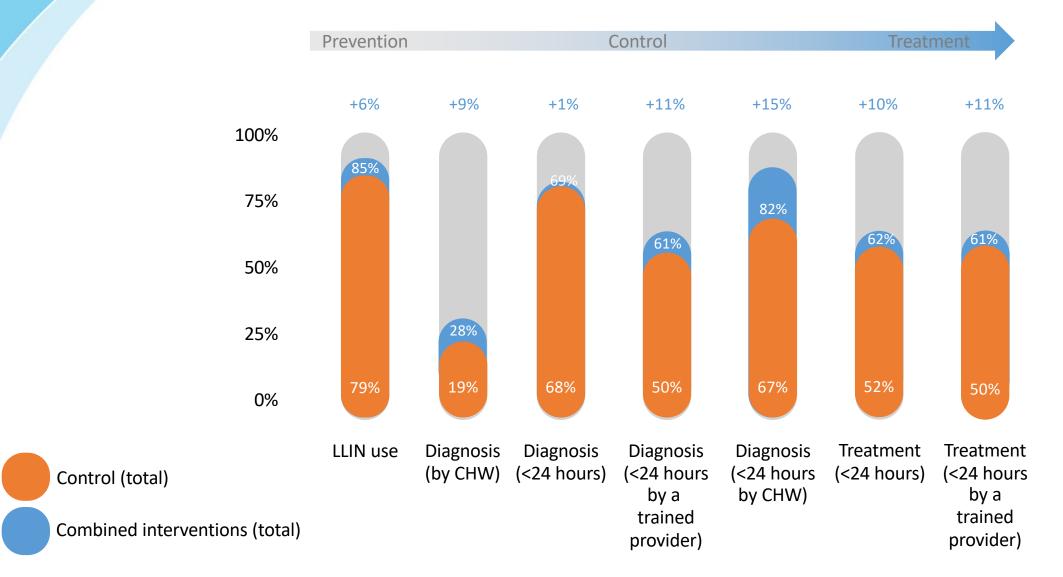


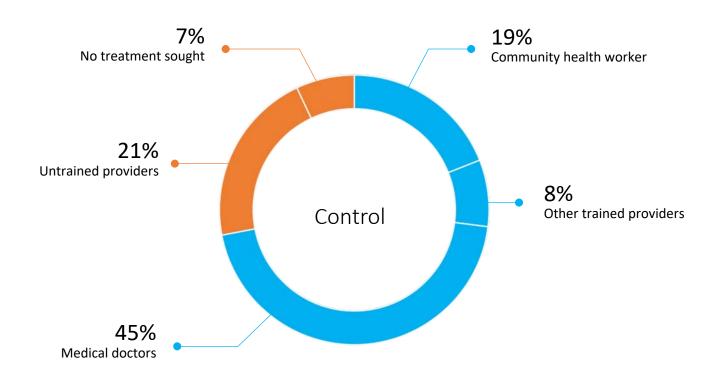
Key results: Control vs. combined interventions

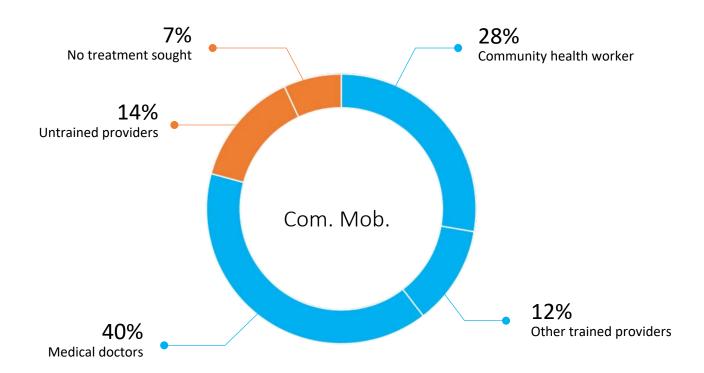


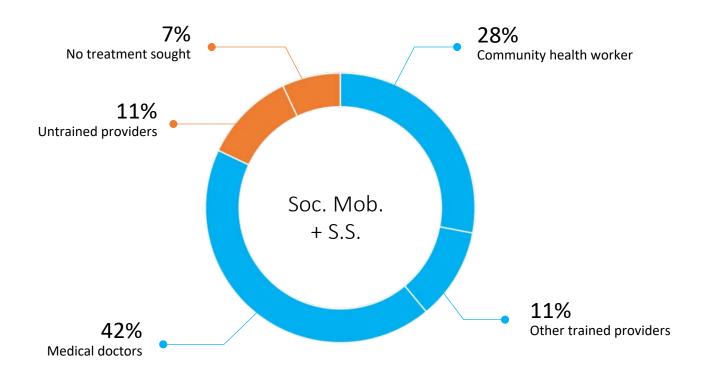
Control (total)

Key results: Control vs. combined interventions











Programmatic implications

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- 7. Generalizability: Were the groups surveyed in this study representative of Odisha state as a whole? Can lessons learned in this study be applied beyond the populations studied?

For more articles showing the impact social and behavior change communication has had on malaria outcomes, as well as <u>infographics</u> and <u>factsheets</u>, visit the <u>malaria social and behavior change</u> <u>communication evidence database</u>.

Strengths, weakness, validity, methodological challenges

Type questions in the chat box

Programmatic implications

- Pairing community-level SBC with trained and routinely supported health personnel generates demand where quality services are available: this saves money and improves outcomes
- This supportive intervention on malaria case management by CHWs can shift care-seeking behavior and bed net use in desirable ways

Strengths

- Pre- and post-intervention cross-sectional surveys
 - Describes change between two points in time
- Control and intervention group comparison
 - Provides a counterfactual (what happens with no intervention): stronger evidence that change occurred as a result of an intervention
- Cluster randomization
 - Limits bias: stronger evidence that change is not due to confounding factors
- Similar socio-demographic characteristics
 - Differences between control and intervention are not related to wealth, sex, education, etc.
- Similar access to LLINs and CHWs
 - Differences between control and intervention are not due to higher or lower access to nets or community health workers

Lessons learned

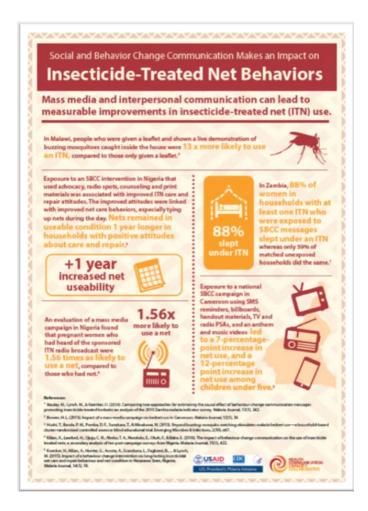
- Formative research helped in the design of key messages and a delivery strategy adapted to local social and cultural norms
- Globally proven methods (RDT, ACT, and LLIN) introduced with locallyadapted delivery strategies to achieve public health goals
- CHWs were empowered with supervision and communication skills to build trust with the communities
- Shifting uncomplicated fever patients away from facilities to communities with competent CHWs can increase efficiency of the health system and reduce costs for patients

Discussion

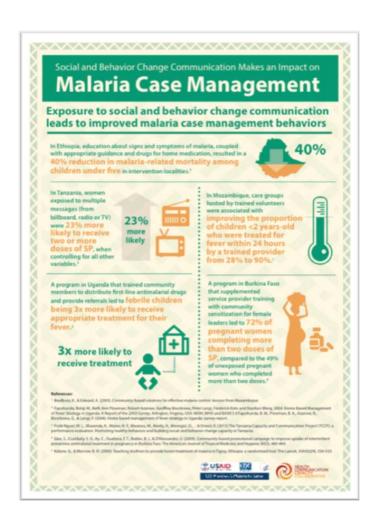
Q&A with participants

Please type your questions in the chat box or raise your hand

Malaria SBCC Evidence Database: Infographics

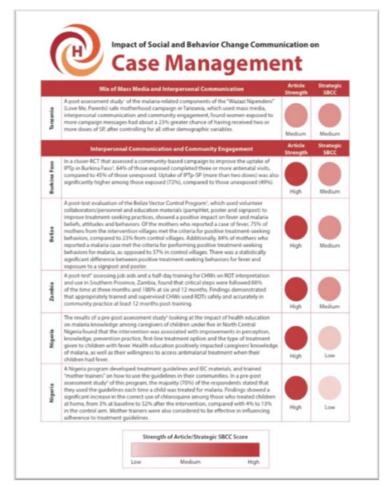






Malaria SBCC Evidence Database: Fact sheets







Thank you!

- Questions, comments, follow-up:
 - Ashis Das: adas8@worldbank.org
 - Mike Toso: miketoso@jhu.edu
- Please answer a few poll questions on the final screen
- We will send an email with today's slides and the discussion recording shortly







This presentation is made possible by the generous support of the American people through the United States Agency for International Development (USAID) and U.S. President's Malaria Initiative (PMI) under the terms of Cooperative Agreement #AID-OAA-A-17-00017. Breakthrough ACTION is based at Johns Hopkins Center for Communication Programs (CCP). The contents of this presentation do not necessarily reflect the views of USAID, PMI, the United States Government, or Johns Hopkins University.