Malaria: Studies Reporting Behavioral Factors Outcomes

Title	Authors	Journal & Link	Location	Population	Intervention Description	Outcomes	Design	Sampling Method	SOE Score [1]	SMBC [2]
Access to artemisinin-based anti-malarial treatment and its related factors in rural Tanzania	**Khatib RA, Selemani M, Mrisho GA, Masanja IM, Amuri M, Njozi MH, Kajungu D, Kuepfer I, Abdulla SM, de Savigny D**	Malaria Journal, 2013, 12(155): 1-8 http://www.malariajournal.com/content/12/1/155	Kilombero-Ulanga and Rufiji Districts in Tanzania	Rolling household surveys from 2009-2011	Social marketing of ACTs and private and accredited drug dispensing outlets (ADDOs) were implemented in certain districts	**Behaviorial Factors** No significance difference in 24 hour access to ACT outlets for households experiencing fever between a district with ADDOs plus social marketing and one without.	Quasi-experimental	Probability	4	0
Narrowing the treatment gap with equitable access: Mid-term outcomes of a community case management program in Cameroon	**Littrell M, Moukam LV, Libite R, Youmba JC, Baugh G**	Health Policy and Planning, 2013, 28 (7): 705-716 http://heapol.oxfordjournals.org/cgi/pmidlookup?view=long&pmid=23144228	East region of Cameroon	Households with children under 5	Community case management for childhood ilnesses. CCM package provided community-based diagnosis, treatment and referral for suspected malaria with artemisinin combination therapy (ACT) and diarrheal disease with ORS and zinc through community health workers (PSI)	**Behaviorial Factors** Awareness, access and attitudes towards CHW services among caregivers improved with intervention **Behaviors** Children living in intervention vs comparison areas were significantly more likely to receive treatment at a public health facility or through a CHW for fever and diarrhoea Appropriate treatment was significantly higher among children in intervention vs comparison areas including: antimalarial treatment for fever , ACT for fever , ORS for diarrhoea and zinc for diarrhoea	Quasi-experimental	Purposive	4	1: Behavior, Method mix
Improvements in access to malaria treatment in Tanzania following community, retail sector and health facility interventions: A user perspective	**Alba S, Dillip A, Hetzel MW, Mayumana I, Mshana C, Makemba A, Alexander M, Obrist B, Schulze A, Kessy F, Mshinda H, Lengeler C**	Malaria Journal,2010, 9(163): 1-16 http://www.malariajournal.com/content/9/1/163/	Ifakara, Tanzania	Treatment-seeking survey of people who had suffered a fever case in the previous 14 days	Social marketing for improved treatment seeking	**Behaviorial Factors** Improvements in understanding causes of malaria (from 62% to 84%); higher treatment coverage with anti-malarials (86% to 96%) **Behaviors** Increases in health facility attendance as first treatment option for patients older than five years (27% to 52%); more timely use of anti-malarials (80% to 93-97% treatments taken within 24 hrs).	Observational	Probability	4	3: Behavior, Segmentation, Methods mix

Notes

1. Strength of Evidence Score 2. Social Marketing Benchmark Criteria

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Household ownership and use of insecticide treated nets among target groups after implementation of a national voucher programme in the United Republic of Tanzania: Plausibility study using three annual cross sectional household surveys	**Hanson K, Marchant T, Nathan R, Mponda H, Jones C, Bruce J, Mshinda H, Schellenberg JA**	British Medical Journal, 2009, 339: 1-10 http://www.bmj.com/content/339/bmj.b2434	Tanzania	Household survey	Social marketing combined with the National Voucher Scheme targeting mothers of young children at antenatal clinics	**Behaviorial Factors** ITN ownership increased from 18% to 36% **Behaviors** Among infants under 1 year of age, use of an ITN increased from 16% to 34%	Observational	Probability	4	3: Exchange, Segmentation, Methods mix
Distribution systems of insecticide-treated bed nets for malaria control in rural Burkina Faso: Cluster- randomized controlled trial	**Müller O, De Allegri M, Becher H, Tiendrebogo J, Beiersmann C, Ye M, Kouyate B, Sie A, Jahn A**	PLoS ONE, 2008, 3(9): e3182 http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2527521/	Burkina Faso	Households	Subsidized ITN distribution through social marketing with or without free ITN distribution (free distribution took place through antenatal clinics)	**Behaviorial Factors** ITN ownership increased in SM with free distribution areas more than in SM only areas from baseline to follow-up **Behaviors** Increases in Bednet use in previous night was similarly higher in both groups from baseline to follow-up; use among pregnant women and children under five increased in SM with free distribution from 44% to 50% and in SM only from 37% to 44%.	Experimental	Probability	6	3: Behavior, Segmentation, Methods Mix
Health microinsurance, social marketing, and disease prevention: Perspectives from the field	**McCord J, Rivers K**	Intl Journal of Public Administration, 2007, 30: 791–812 http://www.tandfonline.com/doi/abs/10.1080/01900690701226935#.UtBtqtJDtQg	Kisiizi and Ishaka in southwestern Uganda	Microinsurance organization clients over the age of 18	Comparison of health microinsurance organization clients who only had basic health education verus those exposed to social marketing of SmartNet ITN	**Behaviorial Factors** knowledge, perceptions, barriers, sources of information; perceptions of ITNs were more positive and rates of ownership were higher among those exposed to social marketing	Observational	Purposive	1	4: Behavior, Customer orientation, Theory, Method mix
The impact of a hybrid social marketing intervention on inequities in access, ownership and use of insecticide-treated nets	**Agha S, Van Rossem R, Stallworthy G, Kusanthan T**	Malaria Journal, 2007, 6(13): 1-11 http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1794246/	Eastern Province, Zambia	Household survey of men and women ages 15-49	ITN subsidy and social marketing intervention to increase knowledge, access, and use of ITNs as part of the Roll Back Malaria Campain. Distribution was through public health facilities.	**Behaviorial Factors** Knowledge of malaria and ITNs, access to ITNs, beliefs about malaria protection, ownership (number of ITNs in the household) **Behaviors** Usage of ITNs (respondent usually sleeps under a net)	Quasi-experimental	Probability	5	7: Customer orientation, Behavior, Insight, Exchange, Competition, Segmentation, Methods mix

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Lessons learned from bednet distribution in Central Mozambique	**Brentlinger PE**	Health Policy Plan, 2007, 22(2):103-10 http://heapol.oxfordjournals.org/content/22/2/103.long	Sofala and Manica, Central Mozambique	Household survey	Commericial shopkeepers and community leaders were trained to promote and sell ITNs in 19 sites between 2000-2004	**Behaviorial Factors** ITN ownership;	Observational	Probability	3	2:Exchange, Methods mix
Sustained high coverage of insecticide-treated bednets through combined catch-up and keep-up strategies	**Grabowsky M, Nobiya T, Selanikio J**	Tropical Medicine and International Health, 2007, 12(7): 815–822 http://onlinelibrary.wiley.com/doi/10.1111/j.1365-3156.2007.01862.x/abstract	Ghana	Households with at least one child less than 5 years of age	Mass, free distribution (Catch-up) of insecticide-treated bednets (ITNs) during measles vaccination campaigns, followed by antenatal clinic-based social marketing for routine Keep-up on ITN coverage and use	**Behaviorial Factors** 95.7% of children slept in a household that had a net, 86.1% slept in a household that had a campaign net **Behaviors** 59.6% of children slept under an ITN	Observational	Probability	4	4: Behavior, Exchange, Segmentation, Method mix
Comparison of coverage with insecticide-treated nets in a Tanzanian town and villages where nets and insecticide are either marketed or provided free of charge	**Maxwell CA, Rwegoshora RT, Magesa SM, Curtis CF**	Malaria Journal, 2006, 5(44): 1-6 http://www.malariajournal.com/content/5/1/44/	Northeast Tanzania	Household survey of men and women	Social marketing of ITNs and insecticide	**Behaviorial Factors** % of households that purchased a net, % of households with intact treated nexts **Behaviors** % of households reporting usage in urban and rural areas that had social marketing were compared to areas with free distribution	Observational	Purposive	2	0
Socially marketed insecticide-treated nets effectively reduce Plasmodium infection and anaemia among children in urban Malawi	**Mathanga DP, Campbell CH, Taylor TE, Barlow R, Wilson ML**	Tropical Medicine and International Health, 2006, 11(9): 1367-1374 http://onlinelibrary.wiley.com/doi/10.1111/j.1365-3156.2006.01684.x/abstract	Ndirande, Blantyre, Malawi	Children age 6-59 months	ITN social marketing by PSI	**Behaviorial Factors** Knowledge of ITNs **Behaviors** 42% of children reported ITN use the previous night **Health** 42% of children reported ITN use the previous night	Observational	Probability	4	2: Segmentation, Methods mix

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Reduction of childhood malaria by social marketing of insecticide-treated nets: A case-control study of effectiveness in Malawi	**Mathanga DP, Campbell CH, Taylor TE, Barlow R, Wilson ML**	The American journal of tropical medicine and hygiene, 2005, 73(3): 622-625 http://www.ajtmh.org/content/73/3/622.long	Blantyre, Malawi	Case-control study of children under age 5 with history of fever within last 48 hours	ITN social marketing (PSI)	**Behaviorial Factors** ITN coverage **Health** Individual effectiveness of ITN use was 40% (95% confidence interval [CI] 10–60%) when cases were compared with clinic controls and 50% (95% CI 0–60%) in comparison with community controls; 1,480 malaria cases averted by the intervention in a population of 15,000 children	Quasi-experimental	Probability	5	2: Segmentation, Methods mix
Spatial effects of the social marketing of insecticide-treated nets on malaria morbidity	**Abdulla S, Gemperli A, Mukasa O, Armstrong Schellenberg JR, Lengeler C, Vounatsou P, Smith T**	Tropical Medicine and International Health, 2005, 10(1): 11–18 http://onlinelibrary.wiley.com/doi/10.1111/j.1365-3156.2004.01354.x/abstract	Tanzania	Households	Social marketing of ITNs	**Behaviorial Factors** Coverage, distribution pattern and resultant spatial effects **Behaviors** Percent of children using a treated net **Health** Prevalence of parasitaemia, mild anaemia (Hb <11 g/dl) and moderate/severe anaemia (Hb <8 g/dl) in children under five; children living in areas of moderately high ITN coverage were	Observational	Probability	4	0
The economics of social marketing: The case of mosquito nets in Tanzania	**Kikumbih N, Hanson K, Mills A, Mponda H, Schellenberg JA**	Social Science & Medicine, 2005, 60: 369–381 http://www.sciencedirect.com/science/article/pii/S0277953604002291	Kilombero and Kilosa, Uganda	Household survey of men and women	Kilombero and Ulanga insecticide-treated net (KINET) project used social marketing to promote Zuia Mbu nets and insecticide treatment kits	**Behaviorial Factors** Knowledge about ITNS and insecticide treatment, coverage (proportion of households with at least one net) **Health** About half as likely to have moderate/severe anaemia	Observational	Probability	3	4: Customer orientation, Behavior, Segmentation, Methods mix

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Mosquito nets and the poor: Can social marketing redress inequities in access?	**Nathan R, Masanja H, Mshinda H, Schellenberg JA, de Savigny D, Lengeler C, Tanner M, Victora CG**	Tropical Medicine and International Health, 2004, 9(10):1121–1126 http://onlinelibrary.wiley.com/doi/10.1111/j.1365-3156.2004.01309.x/abstract	Rural Tanzania	Households	Social marketing of treated nets over three year period	**Behaviorial Factors** Ownership increased 37% to 73%; among poorest households ownership of at least one net increased 20% to 54%	Observational	Probability	3	5: Customer orientation, Insight, Competition, Segmentation, Methods mix
Insecticide-treated bednet use, anaemia, and malaria parasitaemia in Blantyre District, Malawi	**Holtz TH, Marum LH, Mkandala C, Chizani N, Roberts JM, Macheso A, Parise ME, Kachur SP**	Tropical Medicine and International Health, 2002, 7(3): 220–230 http://onlinelibrary.wiley.com/doi/10.1046/j.1365-3156.2002.00846.x/abstract	Blantyre District, Malawi	Households with at least one child less than 5 years of age	Social marketing of ITNs by PSI	**Behaviorial Factors** Bednet ownership was low (20.5% of households) **Behaviors** Only 3.3% of rural children under 5 had slept under a net the previous night, compared **Health** Health: rural children under 5 in households without nets experienced a statistically significant higher prevalence of malaria parasitaemia [RR 4.9] than children in households with at least one bednet	Observational	Probability	4	6: Behavior, Customer orientation, Insight, Exchange, Segmentation, Methods mix
Impact of malaria morbidity of a programme supplying insecticide treated nets in children aged under 2 years in Tanzania: Community cross sectional study	**Abdulla S, Schellenberg JA, Nathan R, Mukasa O, Marchant T, Smith T, Tanner M, Lengeler C**	British Medical Journal, 2001, 322: 270-273 http://www.bmj.com/content/322/7281/270	Tanzania	Children under age 2	Social marketing of ITNs and insecticide	**Behaviorial Factors** Net ownership of treated nets increased 10% to 61% **Behaviors** with 24.0% of urban children **Health** Prevalence of parasitemia and haemoglobin levels; prevalence of anemia decreased from 49% to 26%; Treated nets had a protective efficacy of 62% on prevalence of parasitaemia and of 63% on anaemia.	Observational	Probability	4	1: Methods mix

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Effect of large-scale social marketing of insecticide-treated nets on child survival in rural Tanzania	**Schellenberg JR, Abdulla S, Nathan R, Mukasa O, Marchant TJ, Kikumbih N, Mushi AK, Mponda H, Minja H, Mshinda H, Tanner M, Lengeler C**	Lancet, 2001, 357(9264): 1241-7 http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(00)04404-4/fulltext	Kilombero and Ulanga Districts in southwestern Tanzania	Case-control study among children age 1 month to 4 years and a demographic surveillance system survey of households	ITN social marketing	**Behaviorial Factors** Insecticide-treated net coverage of infants in the study area rose from less than 10% at baseline to more than 50% 3 years later. **Health** 18 months after launching, 46% of 312 families with children aged under 5 years reported that their children were sleeping under treated nets	Quasi-experimental	Purposive	4	6: Behavior, Customer orientation, Insight, Exchange, Segmentation, Methods mix
Socially-marketed rapid diagnostic tests and ACT in the private sector: Ten years of experience in Cambodia	**Yeung S, Patouillard E, Allen H, Socheat D**	Malaria Journal, 2001, 10(243): 1-14 http://www.malariajournal.com/content/10/1/243	Cambodia	Providers and households	Social marketing of RDTs and ACT	**Behaviorial Factors** Providers knowledge of RDTS and ACT, product availablity, sales/selling price; Consumer awareness of RDTS and ACT **Behaviors** 18 months after launching, 46% of 312 families with children aged under 5 years reported that their children were sleeping under treated nets	Observational	Purposive	2	7: Behavior, Customer orientation, Insight, Exchange, Competition, Segmentation, Methods mix
KINET: A social marketing programme of treated nets and net treatment for malaria control in Tanzania, with evaluation of child health and long-term survival	**Schellenberg JR, Abdulla S, Minja H, Nathan R, Mukasa O, Marchant T, Mponda H, Kikumbih N, Lyimo E, Manchester T, Tanner M, Lengeler C**	Trans R Soc Trop Med Hyg, 1999, 93(3): 225-31 http://www.sciencedirect.com/science/article/pii/S0035920399900019	Kilombero and Ulanga Districts in southwestern Tanzania	Cross-sectional survey among households	ITN and insecticide social marketing	**Behaviorial Factors** 24% of households had at least one treated net **Behaviors** 18 months after launching, 46% of 312 families with children aged under 5 years reported that their children were sleeping under treated nets	Observational	Probability	3	6: Behavior, Customer orientation, Insight, Exchange, Segmentation, Methods mix

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