## Additional file 3 – Summary of the quantitative evidence: study characteristics and selected results.

<table>
<thead>
<tr>
<th>Reference</th>
<th>Study location</th>
<th>Unit of allocation</th>
<th>Target groups</th>
<th>Intervention</th>
<th>Control</th>
<th>Specification of the control</th>
<th>Results relating to main indicator/s</th>
</tr>
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</table>
| *Okonofua et al. (2003)*         | Benin City, Nigeria             | Primary schools (urban area) | Randomly selected adolescents in senior classes at 4 schools (ages 14-20yrs) n=643 | • Use of educational meetings and participatory activities via a ‘reproductive health club’  
  • Training and use of peer educators  
  • Training of healthcare providers | Two control group - random selection of 4 schools in Benin City (C1) n=649 and 4 schools in Ekpoma (C2) n=604 | No intervention | Statistically significant reduction in prevalence of STD symptoms in intervention group compared to C1 (OR=0.63, 95%CI=0.43-0.91) and C2 (OR=0.69, 95%CI=0.48-0.98). |
| *Kironde & Kahirimbanyi (2002)* | Northern Cape Province, South Africa | 45 randomly selected Primary Health Care Facilities | Patients with TB (n=769) | • Patient selected treatment option (clinic or home-based DOT* or self-administration)  
  • Training and use of community based volunteers for DOT.  
  • Adequate supervision of volunteers | n/a | n/a | Treatment outcomes for community-based DOT* just as effective other treatment modes (RR=1.04[0.94-1.16], p=0.435) for new patients & superior to self-administration for retreatment patients (RR=5.89[2.3-15.9], p<0.001). |
| *Delacollette et al. (1996)*   | Katana, Zaire                   | Katana health zone - 12 villages in Area A (approx 1500 population) | Area A (patients presenting to community based volunteer with fever over study period; n=484) | • Use of educational messages  
  • Community involvement in planning / implementation  
  • Use of local volunteers for presumptive malaria treatment & education  
  • Training & symbolic monetary incentive | Katana health zone - Area B (approx 1500 population). Patients presenting with fever; n=471 | Malaria treatment at health centre only | Significant reduction in mean malaria incidence per 10,000 person-weeks in Area A compared to B. Rate ratio over 2 years: Area A – 1.9 (95%CI=1.7-2.2)  
Area B - 1.1 (95%CI=1.0-1.2) |
<table>
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<tr>
<th>Reference</th>
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| **Hii et al. (1996)** | Sabah, Malaysia | Kudat district, 13 villages (pop. 4950) in initial recruitment. Patients presenting to Community Health Volunteer with fever (CP intervention area) | • Community selected health volunteers  
• Training & supervision of volunteers to provide presumptive malaria treatment & taking blood films.  
Non-participating villages in Kudat district (unclear) (non-CP areas)  
Malaria treatment at health centres, district hospital and flying doctor service as per routine health care protocols.  
Annual *P. vivax* & *P. falciparum* positivity rates were significantly higher in non-CP areas than in CP villages (p<0.05) (with the exception of *P. falciparum* in the final study year). Malaria mortality did not differ between groups. |
| **Sanchez et al. (2009)** | Havana, Cuba | Playa Municipality, CP4 area (population of 27,030); two differing intervention areas. Program extension to CP6 area (population of 16,096) | Assessment of community participation (Rifkin framework) plus questionnaire administered via systematic random sampling of households in 2 intervention areas at 3 time points (*n*=750).  
• Engagement of multi-sectoral stakeholders / opinion leaders  
• Use of tertiary education institution to carry out training  
• Stakeholder training in situation analysis & fostering participation in strategic planning  
• Use of community working groups  
• Use of community empowerment approach in subset of villages  
• Routine education and control activities  
Playa Municipality, CP5 area (population of 14,219). Assessment of community participation using Rifkin framework  
Routine education and control activities  
In intervention area: Mean participation scores significantly higher than baseline (1.6) following intersectoral coordination phase (3.4) and empowerment phase (4.4). More than 80% of households improved participation in dengue prevention (source reduction & sanitation activities)  
Statistically significant difference in entomological impact (Breteau Index) between control and intervention areas throughout study period. |
| **Toledo et al. (2007)** | Santiago de Cuba, Cuba | Random selection of 20 neighbourhoods from 3 health areas. 200 households randomly selected from neighbourhoods | • Community Working Group created by key stakeholders  
• Assessment of learning needs followed by training.  
• Needs identification  
Random selection of 20 neighbourhoods from 3 health areas.  
Standard vertically applied control activities, education and enforcement of vector control legislation  
Pre-intervention participation scores in 3 neighbourhoods were: 2, 1.6 and 1.2. Post-intervention scores increased to 4.4, 4.4, 2.2 based on Rifkin tool. **[120]** |
<table>
<thead>
<tr>
<th>Study</th>
<th>Location</th>
<th>Intervention Details</th>
<th>Control Group Details</th>
<th>Comparison</th>
<th>Findings</th>
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<tbody>
<tr>
<td>Castro et al. (2009)</td>
<td>Dar es Salaam, Tanzania</td>
<td>Purposeful selection of 2 communities. Environmental Modification (EM = drain clearing) plus community participation. Repeated surveys in 75 randomly selected households (2 adults &amp; 2 children) in each community. Partnership b/w NGO &amp; health authority. Community involved with planning drain clearing activities. Employment of locals for activities. SOPs developed. Community sensitization (community leader seminars, mass meetings, household visits). Maintenance phase responsibility &amp; resources transferred to communities.</td>
<td>4 purposefully selected communities similar in characteristics to intervention group. Repeated surveys in 75 randomly selected households in each community (2 adults &amp; 2 children per household).</td>
<td>Comparison of effect of community participation on disease control limited by confounding effects of 3 different control interventions. Community perceptions of benefits of drain cleaning significantly higher in EM intervention group (61%) than LVC group (30%). Despite high voluntary participation in initial cleaning (in EM group), this was not sustained in maintenance phase due to lack of financial incentives.</td>
<td>Potential mosquito breeding sources decreased by 46.7% ($p&lt;0.01$). Acceptability of larvicide increased from 54.5% to 99% ($p&lt;0.01$). Entomological indicators - similar reductions b/w control and intervention groups but longer term follow-up revealed lack of sustainability of reductions in control group. [119]</td>
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<td>CDI study group (2010)</td>
<td>Cameroon, Nigeria &amp; Uganda, Africa</td>
<td>7 research sites, 4 districts at each site. 10 villages randomly selected from each district. All stakeholder engagement. Participatory process with communities. 7 research sites, 1 district at each site allocated to control (7 interventions). Conventional non-integrated delivery of the 5 interventions.</td>
<td>2 communities larvicide in drains (LV) 2 communities with no intervention (NO)</td>
<td>Coverage for vitamin A supplementation, insecticide-treated nets and anti-malaria treatment</td>
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<tr>
<td>Study</td>
<td>Country</td>
<td>Methodology</td>
<td>Key Findings</td>
<td>Notes</td>
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<td>Ramaiah et al. (2001)</td>
<td>Tamil Nadu, India</td>
<td>Randomly selected villages (20) stratified by presence or absence of health facility. Each member of randomly selected households (20) from each of the 20 villages.</td>
<td>- Drug distribution entirely devolved to communities (ComDT arm); including timing, duration and mode of distribution of drug; selection of distributors and record keeping. - Education and community meetings - Minimal role of health staff except in engagement of community leaders and training of distribution volunteers. - House-to-house drug delivery</td>
<td>Ivermectin coverage 10% higher in districts where multiple interventions were delivered through CDI approach.</td>
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<td>Jacobs &amp; Price (2003)</td>
<td>Maung Russay &amp; Kirivong</td>
<td>Two randomly selected villages per Committee members and women with</td>
<td>- MoH vehicles for community participation in 18 randomly selected villages in Kirivong</td>
<td>At Maung Russay – 69% of reps reported they were active (n=32).</td>
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</table>
| Districts, Cambodia | Health centre in Maung Russay District (20 villages) with Health Centre Co-Management Committees (HCCMCs) and Feedback Committees (FBCs) | Children <5yrs of age (randomly selected) were surveyed. | Planning and implementation of health services introduced:  
- HCCMC – 3 health centre staff, 2 elected community reps from each commune.  
- FBC – HCCMC plus one male & one female rep from each village  
- Community selected the representatives. | District (9 with & 9 without Buddhist pagoda committees). | At Kirivong – all reps reported they were active (n=46).  
At Maung Russay – 62% of women with children <5yrs reported they knew a committee member; 78% of those said they would disclose a physical problem & 29% a personal problem.  
At Kirivong – 63% of women reported they knew a committee member; 92% of those reported they would disclose a physical problem & 67% a personal problem.  
Engagement of existing community-based structures more effective for community participation than externally introduced structures. |
|---|---|---|---|---|---|
| Hoima & Moyo Districts, Uganda | Three sub-counties of Moyo District randomly selected; 15 communities from these sub-counties randomly selected. | Interviews with a male & female member of each of 15 households in each community (n=447). Interviews also with community distributors. | Kinship enhanced Community Directed Intervention (CDI) approach.  
- Engagement of traditional kinship systems  
- Kinship zones identified by community members  
- Each zone selects its own community distributors, | Four sub-counties of Hoima District randomly selected; 25 communities randomly selected. Interviews with 15 households in each community (n=750). Interviews also with community distributors. | Overall treatment coverage in classic CDI group was 76.4% in 2005 and dropped to 62.1% in 2006.  
In kinship enhanced CDI, treatment coverage maintained at 93.7% for both years.  
In classic CDI 50.8% of community leaders controlled where treatment centres would be located compared to |
| Babu et al. (2006) | Orissa, India | 17 wards sampled in urban Choudwar. | Cluster randomised selection of participating households in each ward \( (n=850) \) | Formative research to identify sub-groups at risk of marginalisation and inclusion of these groups as stakeholders. | Stakeholder involvement in MDA planning & decision making. | Engagement of ward level partners in micro-level planning. | Volunteer distributors elected by ward partners. | IEC materials, mass media, house-to-house visits & school rallies. | Dhenkanal (urban area) – 6 wards purposefully selected to cover all SES strata. Cluster randomised selection of households \( (n=180) \). Tangi PHC (rural area) – 6 villages randomly selected. Cluster randomised selection of households \( (n=150) \). | MDA distributed through standard PHC services. | Household coverage of MDA significantly higher in urban intervention community (93.7%) compared to urban control community (73%), but similar to rural PHC village (97.8%). Large gap between coverage and compliance in all 3 communities but non-compliance greater in Urban control (Dhenkanal). |

\[ ^a \text{Contributes to evidence on the effectiveness of community participation for disease control / elimination} \]

\[ ^b \text{Contributes to evidence on the effectiveness of the various community participation strategies on the level of participation achieved} \]

\[ ^* \text{Directly Observed Treatment} \]