



Implementing effective community engagement for malaria control and elimination: Opportunities and challenges

Prepared for the Bill & Melinda Gates Foundation

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The Malaria Elimination Initiative (MEI) at the University of California San Francisco (UCSF) Global Health Group believes a malaria-free world is possible within a generation. As a forward-thinking partner to malaria-eliminating countries and regions, the MEI generates evidence, develops new tools and approaches, disseminates experiences, and builds consensus to shrink the malaria map. With support from the MEI's highly-skilled team, countries around the world are actively working to eliminate malaria – a goal that nearly 30 countries will achieve by 2020.

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Contributors and Acknowledgements

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Acronyms

AIDS	Acquired immunodeficiency syndrome
CHW	Community health worker
CSO	Civil society organization
HCD	Human-centered design
HIV	Human immunodeficiency virus
IEC	Information, education, and communication
NGO	Non-governmental organization
PLA	Participatory learning and action
SBCC	Social and behavior change communication
SOPs	Standard operating procedures
UNICEF	The United Nations Children's Fund
WASH	Water, sanitation, and hygiene
WHO	World Health Organization

Summary

Although community engagement is generally acknowledged as a critical component across most health and development sectors, it is not consistently defined, operationalized, or evaluated. It has rarely been identified as a key element in global malaria strategy, often only taking the form of top-down efforts to inform and persuade community members to accept malaria services.

This background paper attempts to investigate and address the gaps in the implementation of effective community engagement for malaria control and elimination by examining community engagement practices in malaria and other health and development sectors. Through combining results from published and grey literature, key informant interviews, community-based focus group discussions, and expert opinion, the report outlines key elements of effective engagement and identifies opportunities for national malaria programs to facilitate greater levels of community involvement in the design, implementation, monitoring, and evaluation of malaria interventions. Furthermore, it highlights adaptations that can be made by international stakeholders and funders at the global level in order to promote broader acceptance and utilization of community engagement in malaria control and elimination.

The key informant interviews, focus group discussions, and literature results highlighted certain underlying principles of effective community engagement, including that it should be built on trust and transparency, is context-specific, should be considered an iterative process, treats the community as partners, works to identify and acknowledge community priorities, and ensures inclusive representation. The case studies and literature also indicated that community engagement should be coordinated from administrative units closer to the community level and that health services should be responsive to the local context. Community health workers (CHWs), health committees, and other community platforms can be better integrated into the health system and encouraged to facilitate deeper levels of community engagement through the widespread use of participatory methods. Further, community engagement takes time and is a complex, context-specific process – as a result, it is often considered difficult to measure and is under-resourced, especially within the limits of short grant funding cycles. The application of minimum quality standards and more novel approaches to measuring community engagement outcomes and processes are necessary.

It appears that the main barriers to improving community engagement in malaria control and elimination are within the malaria community. Primarily, national malaria programs and their development partners conflate community engagement with health promotion strategies such as “information, education, and communication” (IEC), “social and behavior change communication” (SBCC), “CHW” programs, and “community-based interventions.” However, community engagement is more than this; it is a participatory process that goes beyond *what* activities and strategies are implemented and considers *how* those activities are designed, implemented, monitored, and evaluated, and *who* is involved. Community engagement will become increasingly critical on the path to malaria elimination as this process can make programs more sustainable and aligned with the local context while facilitating local ownership.

In order to make progress, there are three key actions that must take place. First, a common definition for community engagement should be agreed upon and endorsed by malaria funders and global stakeholders. This definition and associated guidance need to be disseminated to malaria control programs and their technical assistance consultants. A proposed definition for effective community engagement is that it is a participatory process in which community stakeholders are actively involved in the design, governance, delivery, monitoring, and evaluation of malaria services. Second, funding agencies should request that proposals include work plans that fully expand current efforts to truly engage affected communities in the planning and execution of malaria programming. Third, malaria programs must link existing community structures to the health system by building systematic community consultation into their district and provincial planning processes and ensure that listening is bi-directional. The report delves deeper to outline specific recommendations for national malaria programs, funders, and implementing partners to drive effective community engagement. It also illustrates an operational model for community engagement that reimagines the roles, responsibilities, and relationships between national malaria programs, district-level health units, and community platforms.

Background

In 2015, the world celebrated unprecedented progress in the fight against malaria by committing to an elimination agenda set forth in two key policy documents – the World Health Organization’s *Global Technical Strategy for Malaria 2016–2030* and the RBM Partnership’s *Action and Investment to Defeat Malaria*.^{1,2} Today, malaria elimination is being pursued by every endemic region, presenting a potential pathway to global malaria eradication. Malaria eradication will require increased financing, the development of new tools, the implementation of evidence-based strategies, and effective community engagement.³

Community engagement has long been promoted as a useful approach to support health promotion and improve uptake of public health services; understand how local knowledge, belief, and practice influence the effectiveness of interventions; inform health programs using local knowledge; strengthen the primary health care approach to disease control; and increase equity within public health programs.⁴ Policy and discourse stress the importance of community engagement, recognizing that putting communities at the center of public health efforts is ethical, effective, and necessary to deliver sustainable health interventions.⁵ Community engagement is considered a critical component across most health and development sectors, including HIV/AIDS,^{6,7} maternal and child health,^{8,9,10} complex health emergencies,^{11,12,13} water, sanitation, and hygiene (WASH),^{14,15} and disease eradication programs such as Guinea worm^{16,17} and polio.^{18,19} It is also a central feature of key global frameworks, for example the WHO Framework on integrated people-centred health services and the Sustainable Development Goals (SDGs), and the Declaration of Alma-Ata (1978) and the more recent Declaration of Astana (2018).²⁰

While the importance of community engagement is generally acknowledged, it is not consistently defined, operationalized, or evaluated, and there is enormous heterogeneity in the ways that it is incorporated into practice.^{21,22,23,24} This has led to a number of different activities, strategies, and programs all commonly referred to as “community engagement” even though the goals and outcomes vary.²⁵ While there is no single definition of community engagement, it is often described as a process of working with groups of people who are affiliated by geographic proximity, special interests, or similar situations, with respect to issues affecting their well-being.²⁶ Community engagement can operate at a variety of levels, from simply providing information to shared decision-making among all stakeholders.²⁷ The continuum of engagement (Figure 1 on next page) provides a useful framework for conceptualizing different levels of community involvement.

Moving from left to right, the continuum shows what an increasingly equitable relationship looks like between public health practitioners and the communities they serve.

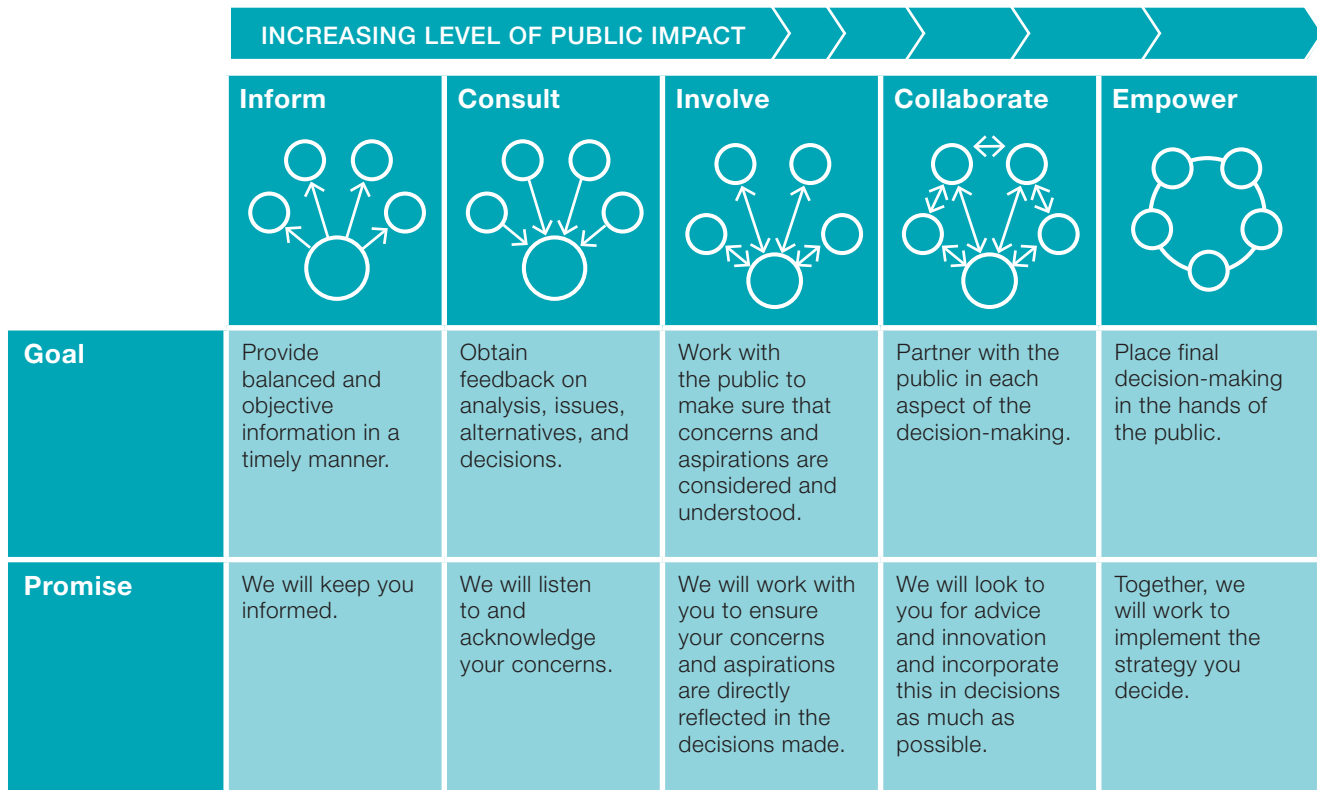
Traditional approaches to community engagement in the health sector typically exist on the lower end of this continuum and are implemented in a top-down manner, whereby policy makers and health professionals design interventions, establish objectives, and develop action plans. A major problem with this approach is that national health authorities tend to perceive the needs of communities differently than the communities themselves.^{28,29} Evidence suggests that greater community involvement in the design, governance, and delivery of services can make health programs more sustainable and facilitate local ownership and joint accountability.³⁰ This can be achieved through collaborative partnerships, bidirectional communication and learning, and by incorporating the voice and agency of local communities into public health practice.³¹

The role of community engagement in malaria control and elimination

Malaria control and elimination present numerous operational challenges, including how best to target and tailor malaria strategies to ensure effective coverage of quality malaria services among populations at risk. To maximize impact and sustainability, national malaria programs are increasingly encouraged to move away from universally high coverage of interventions towards surveillance-driven targeting.³² Under this operating model, countries must modify malaria interventions in response to local transmission dynamics as well as the unique needs of local communities and population groups.³³ Gender, culture, religion, and socioeconomic status influence the environments where people live and work, as well as their exposure to malaria and ability to access basic health services.² As transmission decreases, malaria becomes concentrated in underserved populations and the social determinants affecting access and uptake of malaria interventions become increasingly diverse. Targeting and tailoring malaria interventions requires not only good data, but adaptive management, local flexibility, and renewed commitments to community engagement.

To date, community engagement has seldom been identified as a key element in global malaria strategy. Community engagement often takes the form of top-down efforts to inform and persuade community members to accept malaria services, for example by informing communities of upcoming indoor residual spraying campaigns and urging families to allow spray

Figure 1. Continuum of community engagement



Adapted from: IAP2 Continuum of Public Participation.

Figure 1 shows different levels of engagement between public health practitioners and the communities they serve.

teams access to their homes.^{4,34} On the path to elimination, it will be increasingly important for communities to participate actively, rather than passively, in malaria elimination efforts.⁴ In malaria programming, community engagement is frequently conflated with terms that describe health promotion strategies that are related but distinct, such as: “information, education, and communication” (IEC), “social and behavior change communication” (SBCC), “community health worker” (CHW) programs, and “community-based interventions.” These strategies can facilitate community engagement, but each represent a limited scope of a potentially more powerful approach.

Community engagement can support the tailoring of malaria strategies across different geographic and social contexts. When implemented as a participatory process, it directly involves communities in decision-making, managing activities, and measuring results. This approach has the potential for several positive effects, including:

- Improving program design and implementation, resulting in efficiencies and sustainable results;

- Increasing the likelihood of success by aligning the needs and priorities of national and sub-national governments and the populations they serve;
- Reducing operational risks by ensuring programs are relevant and responsive to the local context.³⁵

In 2017, the Malaria Eradication Research Agenda identified the need for: “integrated approaches in which a robust elimination strategy responds to local variations in transmission dynamics, is tailored to the health and social system context, and draws strength from other sectors.”³³ The report also described some of the major gaps inhibiting progress on this area of work, including:

- A lack of adequate human resource capacities related to community engagement;
- Insufficient funding and interest among the malaria community on issues relating to the broader health system as opposed to specific technical areas such as parasites, diagnostics, treatment, and vectors;
- The absence of research to define the successful operational criteria for effective community engagement.³³

This background paper attempts to investigate why these gaps in the implementation of good community engagement for malaria control and elimination exist, and, where possible, addresses them. It examines community engagement practices in malaria and other health and development sectors. By combining results from published and grey literature, key informant interviews, community-based focus group discussions, and expert opinion, the report outlines the elements of

effective engagement and presents opportunities for national malaria programs to facilitate greater levels of community involvement in the design, implementation, monitoring, and evaluation of malaria interventions. Furthermore, it highlights adaptations that can be made by international stakeholders and funders at the global level in order to promote broader acceptance and utilization of community engagement in malaria control and elimination.

Methods

This background paper was informed by a review of published and grey literature as well as a series of case studies that consisted of key informant interviews, focus group discussions, and site visits. During the external review process, community engagement experts provided additional insights that have been incorporated in this report.

Literature review

We gathered relevant published and grey literature from Google, Google Scholar, and PubMed up to and including Nov 11, 2019, using the terms “malaria” and “elimination” or “eradication” and “community engagement” or “community mobilization” or “community participation” or “social mobilization.” We searched only for English language results. References were also identified by cross-referencing bibliographies of relevant publications.

The literature review focused on the evidence for participatory community engagement, the different components and approaches to community engagement, and the challenges to community engagement. The literature search was primarily centered on malaria, but we included important papers, including systematic reviews, from other health and development sectors.

Case studies

We used purposive sampling to identify key informants representing various health and development sector programs that had experience in facilitating participatory community engagement. To be eligible to participate, key informants were required to have experience planning, executing, and/or evaluating community engagement programs (see [Appendix 1](#) for detailed methods). We then conducted semi-structured interviews either in person or over the phone (see [Appendix 2](#) for interview guides). Interview questions were open-ended and focused on the community engagement strategies employed, including the design process; operational, financial, and human resource requirements; key elements; lessons learned and any available results; as well as the contextual factors that may have positively or negatively impacted the program.

In collaboration with the participating key informants and organizations, focus group discussions with individuals residing in the program catchment areas were conducted when possible. Focus group discussions sought to ascertain the community’s perception of program activities and outcomes in order to examine motivators and impediments to community engagement. A semi-structured interview guide was used to frame the discussions and all focus group discussions were conducted in-person during field visits by a member of the research team (see [Appendix 2](#) for interview guides). Questions focused on the meaning of community engagement, impressions of past experience with community engagement strategies, and how future efforts could be improved.

Review process

A draft of this report was shared with 12 reviewers including experts in community engagement from Malaria Consortium, Population Services International, the Johns Hopkins Bloomberg School of Public Health, the WHO, and Groups Focused Consultations, a local non-governmental organization (NGO) based in Zambia. Over the course of this study we also worked closely with the members of the Strategic Advisory Working Group on Malaria Eradication Community Engagement Working Group, three members of which provided feedback during the review process.

Ethics approval and consent to participate

The research protocol was reviewed and approved by the Human Research Protection Program Institutional Review Board (IRB) of the University of California San Francisco (17-22884).

Results

Ten programs with community engagement strategies from seven different health focus areas were included in the case study analysis: Ebola, HIV/Hepatitis C, Guinea worm, malaria, nutrition, and WASH (Table 1). Four of the ten health programs focus on disease elimination and eradication. Seven community-based focus group discussions with 69 participants and 56 key informant interviews were conducted between October 2017 and April 2018. Detailed findings from the case studies are published elsewhere.³⁶

The key informant interviews, focus group discussions, and literature review provided insight on the underlying principles and operational strategies considered essential to facilitating effective community engagement (Table 2 on next page).

The underlying principles of effective community engagement

Case study and literature results indicate that there is a set of mutually reinforcing common principles that support effective community engagement.

Trust and transparency

The most often cited principle of effective community engagement is the central importance of establishing and maintaining trust. The initial engagement by health professionals with communities is the point where initial trust (or mistrust) is established.³⁷ A common first step is meeting with community leaders, such as municipal officers, traditional leaders, civil society, and faith-based organizations. Most communities have some form of authority for collective decision-making. Adhering to local customs and processes, and the early involvement of community leaders and institutions, provides the community with a sense of familiarity, ownership, and security, and establishes the basis for trust.²³

“When the leaders say yes or no, the community listens.”

Key informant participant

Table 1. Programs included in case study results

Program name	Health focus area	Type of institution	# Key informant interviews	# Focus group discussions (# participants)
The Carter Center	Guinea worm	NGO	3	--
GAIA	HIV	NGO	17	1 (6 participants)
Institute for Global Health Sciences, UCSF	Global health	Academia	1	--
Isdell:Flowers Malaria Initiative	Malaria	NGO	3	1 (10 participants)
Kore Timoun	Nutrition	NGO	4	2 (25 participants)
PATH MACEPA	Malaria	NGO	1	--
MORU	Malaria and NTDs	Research institute	1	--
Belize Red Cross	WASH	NGO	4	2 (14 participants)
TREAT Asia / amfAR	HIV and Hepatitis C	NGO and foundation	9	--
Wellbody Alliance	Ebola virus disease	NGO	13	1 (14 participants)

GAIA: Global AIDS Interfaith Alliance; HIV: Human immunodeficiency virus; MORU: The Mahidol Oxford Tropical Medicine Research Unit; NGO: Non-governmental organization; NTDs: Neglected tropical diseases; PATH MACEPA: PATH's Malaria Control and Elimination Partnership in Africa; TREAT Asia / amfAR: Therapeutics Research, Education, and AIDS Training in Asia/American Foundation for AIDS Research; WASH: Water, sanitation, and hygiene.

Table 2. Common features of effective community engagement

Underlying principles	Description	Operational strategies	Description
Trust and transparency	Trust is critical to community engagement. To build trust, there needs to be a prolonged interaction between health promotion professionals and the community to enhance empathy and understanding. The accumulation of beneficial acts and results may also strengthen trust.	Decentralized program management and service delivery	Effective community engagement involves moving decision-making away from centralized control and closer to the users of health services. This requires strengthening the links between communities and the local health units. Feedback loops that go from communities, through local health units, to national-level policy making and back to communities can support this process.
Proactive, continuous, and integrated engagement	Community engagement is often implemented as a one-off activity. Proactive and continuous community engagement that is integrated with other health and development priorities makes a bigger impact.	Community health worker (CHW) programs	CHWs, including volunteers, are usually the first point of contact for people seeking health care in Africa and parts of Asia. As a result, CHWs are in a unique position to facilitate community engagement strategies and strengthen the linkages between the community and health system.
Adaptable, responsive, and local action	To be effective, community engagement should be flexible and responsive to local populations' needs and concerns. Community engagement tools, guidelines, and standard operating procedures (SOPs) should be flexible so that they can be adapted to the local context.	Community platforms	Community platforms, such as village health committees, provide a mechanism to increase community participation through representation. These platforms are meant to encourage direct engagement of communities in public health and ensure local problems are adequately prioritized and addressed.
Collaboration and shared decision-making	Effective community engagement treats the community as partners and works with stakeholders to identify problems and implement solutions. Communities are involved in decision-making processes including program planning, implementation, monitoring, and evaluation.	Social and behavior change communication (SBCC)	SBCC and community engagement are mutually supportive processes. SBCC facilitates bi-directional dialogue, participation, and engagement among stakeholders to support positive social and behavior change. Effective community engagement relies on many of the communication tools and strategies promoted by SBCC, including interpersonal communication.
Inclusion and representation	Community engagement is a multi-stakeholder process. To identify under-represented issues, perceptions, barriers to participation, and solutions, efforts should be made to establish balanced community representation, including of minority and/or marginalized sub-groups.	Participatory methods	Participatory approaches are based on shared ownership of decision-making and encompass a range of different methods and activities. There are a range of methods, including participatory action research (PAR) and human-centered design (HCD), that can guide program strategies and activities.

Results indicate that building trust takes time and is largely developed through social relationships and interpersonal communication. In a trial piloting mass drug administration for malaria elimination, repeated home visits and interactions with trial staff and volunteers, gestures of commensality, participating in daily rituals, and sharing in social conventions engendered trust among the community.³⁸ To build trust, there needs to be a prolonged interaction between those outside and inside the community and an accumulation of beneficial acts and results. Key informants recommend sharing impact data with village leaders and other community representatives. Some programs reported that improving the coordination of health services and strengthening local primary care could help to build trust and improve community relations.³⁹ It is particularly important for external health teams to take this time to create a rapport with community members. When health workers and implementers come from outside the community, guidance and literature indicate that establishing a regular presence in the community may enhance engagement efforts.²⁶ Programs implementing community engagement strategies should be willing to invest time and effort in understanding the everyday lives of members of the target community.³⁹

“Investing in...social relationships [is a] key component of building trust.”

Key informant participant

Transparency is both a process and outcome of effective community engagement. For example, being transparent about the health program's intentions and capabilities and refraining from over-promising is an important feature of effective community engagement. It was noted by key informants and in focus group discussions that communities should be provided detailed information regarding the program's intention, goals, timeline, and limitations from the start of any planned activity. When implemented as an ongoing, collaborative process, community engagement can also serve as a mechanism to improve transparency between the health system and communities.

Proactive, continuous, and integrated engagement

Community engagement is often implemented as a one-off activity in support of another intervention (e.g. improving malaria knowledge to increase prompt treatment seeking). Proactive and continuous community engagement that is integrated and harmonized with other health and development sectors makes a bigger impact. As demonstrated above, this approach helps to nurture interpersonal relationships as well as establish

and maintain mutual trust between health workers and the communities they serve. Community engagement should not be implemented intermittently, only after a problem has been identified, or when public health practitioners and researchers need something from the community.

Integrated and coordinated efforts to engage with communities was also identified as a key principle of effective community engagement. This will be particularly important in the context of malaria elimination when perceptions of personal risk will decrease and other health needs are increasingly prioritized by the community.^{4,34} Results from the key informant interviews indicate that it is important to acknowledge that the priorities identified by communities may not be directly related to malaria. To address this, several of the programs recommended framing the health topic in terms of those priorities (e.g. how does malaria affect household income?) or integrating with higher priority health and development programs. It was also suggested that coordinating and harmonizing community engagement approaches and activities with other health sectors is beneficial to avoid duplication and community burn-out from different health initiatives and programs cycling in and out.

Adaptable, responsive, and local action

Community engagement is context specific: what works in one place will not necessarily work in another location or even in the same location but at a different point in time. To be effective, community engagement should be flexible and responsive to local populations' needs and concerns. Community engagement tools, guidelines, and standard operating procedures (SOPs) should be flexible enough that they can be continuously adapted to address a variety of behaviors and health issues according to the needs, interests, and cultural norms of the community. Establishing a transparent feedback loop between the community and the health program is also considered an important feature of effective community engagement. Equal importance was placed on responding to feedback, as well as to rumors or changing attitudes, by shifting strategies and activities.

“The nature of community engagement is that it needs to be constantly modified.”

Key informant participant

Tailored community engagement requires an understanding of target communities, which can be garnered through formative research and by involving community members early in the planning and design process.³⁹ Several key informants and papers from the literature considered formative research to be an important

initial step to facilitating effective community engagement.^{38,40,41} Formative research can take various forms, including ethnographic studies, focus group discussions, key informant interviews, and participant observations, and is used to gain insights on the local social and cultural context to better understand the main drivers of behavior. It is critical to developing program materials, tools, and approaches that are culturally appropriate given the local context.⁴²

Collaboration and shared decision-making

There was general consensus among key informants and focus group participants that collaboration is essential, especially in identifying community priorities, resources, gaps, and challenges. Treating the community as a partner with health professionals in the design and implementation of the health program was a common theme in the case study results. Different techniques to stimulate collaboration were mentioned, including community asset mapping, participatory action, and community-based problem solving. Community dialogues use a participatory approach to establish a platform where communities can explore health issues and identify potential solutions. This approach is evidence-based and guidance documents are available ([Appendix 4](#)). Importantly, the community dialogue approach utilizes existing community systems, networks, and structures and avoids treating communities as “empty vessels.”^{43,44} Some examples of community structures include CHWs, village health committees, local leaders and influencers (such as chiefs and elders), women’s groups, youth groups, savings groups, and religious groups. Community engagement is stronger when it builds on existing skills and resources and supports the development of new skills and resources.

Inclusion and representation

Overall, it was believed that wide representation from the target community is important. The results from the case studies and literature review highlight several stakeholder groups to consider when looking to strengthen community engagement and expand participation. These groups include village leaders and elected officials, local health authorities, religious leaders, teachers and children, private health care providers, community platforms like health committees, other ministries and/or health departments, as well as local civil society organizations (CSOs) and international NGOs operating at the community level. The challenge is to move beyond these more typical and easy to identify community members to ensure that other stakeholders are also involved in the engagement process, including representatives from different ethnic and minority groups and informal community leaders such as taxi drivers, hairdressers, or local vendors that interact with multiple people throughout the day. Formative research is helpful in identifying these groups.

Another important consideration is the incorporation of marginalized and mobile populations. In a systematic review of community participation for communicable disease control and elimination, Atkinson et al. suggest that representatives of marginalized population groups map the framework, membership, and boundaries of their “communities.”³⁴ Malaria programs have begun to experiment with innovative strategies to work with high-risk populations, including venue-based surveys, respondent-driven sampling, peer navigators, and interviewing the social contacts of recent cases.^{45,46} CSOs, including local NGOs and faith-based organizations, play important roles in accessing hard-to-reach populations. Case study results indicate that partnering with a diverse set of CSOs may also help to identify and engage with subgroups of people that are routinely missed by the formal public health system.

Operationalizing community engagement

Within many national malaria programs there are existing structures and processes that should be optimized to facilitate greater levels of community engagement. Here we outline ways to implement the principles of effective community engagement by building on existing health structures and processes.

Decentralized program management and service delivery

Results from the case studies and literature indicate that community engagement should be coordinated by administrative units closer to the community level and that health services should be responsive to the local context, adaptive to changing circumstances, and better integrated and harmonized with other health and development programs. Similarly, because community engagement is a dynamic and context-specific process, community engagement tools, guidelines, and SOPs should be flexible so that they can be easily adapted.

The adaptation of global guidance to country-specific contexts is a major challenge to malaria elimination. Arguably more challenging is adapting national guidelines to account for socio-economic, cultural, political, and epidemiological differences across different administrative units.⁴⁷ Studies show that despite trends towards decentralized health systems in many countries, feedback and responsiveness to local needs are limited. This is often perpetuated by planning and management processes that remain heavily centralized with little authority and capacity at the peripheral levels to execute the technical and administrative tasks required of them.⁴⁷ Improving management capacity down to district and frontline staff is recommended as a means of achieving health system performance goals with existing resources. Bradley et al. delineate a set of core management competencies and key roles to be targeted for capacity building, which include community

assessments and community engagement.⁴⁸ Middle managers, including district and regional health teams, play a particularly important role by translating top-level policies and strategies into action at the front line, while also ensuring that information from the front line is used to inform healthcare delivery strategies, interventions, and national policy.⁴⁸ Efforts to improve program management at the periphery can be leveraged as a means of facilitating improved community engagement and vice-versa. Building capacity to implement community engagement can have positive spillover effects for the internal organization as well. The internal application of facilitation, listening, and problem-solving skills can lead to better relationships, greater mutual understanding, and ultimately smoother processes and stronger organizational results.⁴⁹

NGOs can play an important role here. First, more appropriately skilled and resourced NGOs can support local authorities to adapt guidelines that better integrate community engagement best practices. Second, it was noted that in some case study communities there is a large distrust of public services and government. Partnerships with CSOs, faith-based organizations, and local NGOs that have established trusting relationships with the communities they serve are critical in these environments. Government ministries and CSOs should optimize their working relationships and better define roles and responsibilities at the implementation level.

Community health worker programs

Most of the programs included in the case studies rely on CHWs or other health extension workers to carry out formal and/or informal community engagement activities. All the programs that employ CHWs used participatory recruitment processes, particularly the use of local leadership to identify appropriate candidates. Some programs involved the wider community in the CHW recruitment and selection process.

“[We] were already part of the system so we knew how to talk to people and people trusted us already.”

Focus group participant

CHW programs and community-based strategies can both benefit from and support community engagement. Good practice indicates CHWs should serve in the communities they are from, the rationale being that these individuals are in a unique position to act as trusted, culturally-competent liaisons between the local community and the health system. CHWs who are selected by and deployed to their own communities have a greater impact on health outcomes, utilization, and health promotion.⁵⁰ Results from the case studies align

with current WHO recommendations (Box 1) advocating for community participation in the CHW recruitment process and the involvement of community representatives in decision-making, problem solving, and planning for health interventions.⁵¹

Even community-elected CHWs may not be representative of all sub-groups. The use of peer navigators among high-risk mobile and migrant populations is

Box 1. The role of community engagement in CHW programs as delineated by the WHO

The WHO recommends the adoption of the following community engagement strategies in the context of practicing CHW programs:

- Pre-program consultation with community leaders
- Community participation in CHW selection
- Monitoring of CHWs
- Selection and priority setting of CHW activities
- Support to community-based structures
- Involvement of community representatives in decision-making, problem solving, planning, and budgeting processes

The WHO suggests that CHWs contribute to mobilizing wider community resources for health by:

- Identifying priority health and social problems and developing and implementing corresponding action plans with the communities
- Mobilizing and helping coordinate relevant local resources representing different stakeholders, sectors, and CSOs to address priority health problems
- Facilitating community participation in transparent evaluation and dissemination of routine community data and outcomes of interventions
- Strengthening linkages between the community and health facilities

From: World Health Organization. WHO guideline on health policy and system support to optimize community health worker programmes. Geneva: WHO; 2018.

proving a successful model to increase malaria testing and treatment among forest-goers in Lao PDR.⁴⁵ This model, based on the one used in HIV, uses peers to promote behavior change and connect with hard-to-reach populations.⁵² There is also opportunity to expand community participation beyond the CHW selection process. Applying community engagement principles and strategies to the entire program could mean involving communities in determining CHW roles and responsibilities, desired qualifications and characteristics of candidates, and how the person is to be supported and compensated, in addition to how the selection process should be organized.

Retention, motivation, and incentives are major challenges for CHW programs. There is evidence to suggest that prioritizing community engagement in CHW programs can address some of these challenges, at least in part.^{53,54} Community involvement and ownership in CHW programs and community-based interventions can be strengthened by: (1) shifting program emphasis from “community-based” to “community-owned,” whereby decisions are made by the community; (2) ensuring programmatic flexibility to respond to community generated ideas; (3) promoting the use of participatory approaches and methodologies; and (4) establishing local health committees to provide support to CHWs to engage with the community and address issues locally.⁵³

Community platforms

A recent review suggests that community platforms – multisectoral partnerships formed to address public health issues – provide one mechanism to increase participation and sustainability of health programs.⁵⁵ Most communities have established community platforms and processes for collective action and decision-making.²³ Building on existing local resources, health services, and social structures was a common theme in the case study results; this recommendation appears in the literature as well.^{26,40}

Similar to CHWs, health committees, councils, or boards have been established to mediate between communities and health systems in many countries. Widely considered a mechanism to increase community participation through representation, these platforms are meant to encourage direct engagement of communities in public health and ensure local problems are adequately prioritized and addressed.⁵⁶ Their contributions can include improved management and accountability of peripheral health services, participatory health planning and local resource mobilization, expanded community support for health workers, as well as improved reach of health services and health messages.⁵⁷ However, these platforms often perform sub-optimally. Challenges include the insufficient transfer of decision-making power, lack of clarity on mandate and role in local health system, difficulties in ensuring

appropriate representation, and inadequate support among key health workers and managers for involving communities.^{56,58}

Participatory approaches and tools have been successfully used to clarify the role, mandate, and authority of health committees as well as for the identification of additional key stakeholders.⁵⁹ For example, community mapping can be used to identify and evaluate existing community groups and clarify where critical gaps exist. Results indicate that time and commitment are important factors, especially for the development of the trust and skills necessary for communities and health professionals to work more collaboratively together.⁵⁹

Social and behavior change communication

Social and behavior change communication (SBCC) – the use of communication to positively influence behavior – can have significant effects on individuals, communities, and institutions when implemented effectively. SBCC programs employ a range of communication tools including mass and social media, community-level activities, interpersonal communication, IEC materials, and mobile technology, among others. Community engagement is an element of effective SBCC and many of the SBCC tools and interventions can be used to facilitate and strengthen community engagement; however, they are not one and the same.

SBCC has been successfully used to increase awareness of malaria and to drive demand for malaria health services and products.⁶⁰ Malaria messages that resonate with the audience through their cultural, social, occupational, and interpersonal behaviors and priorities are more likely to result in positive behavior change, particularly if they are community-designed.⁶⁰ The evidence suggests that for SBCC interventions to be successful, they should be iterative and responsive to the changing needs and interests of the target audience, reflect local opinions and values, and be provided in the local language. Additionally, the importance of interpersonal communication, often led by CHWs, has been identified as a powerful tool, particularly in engaging with marginalized populations.^{34,60} Home visits and other one-on-one interactions, especially with individuals who are not present at community meetings or events, better ensure inclusivity and can be helpful in identifying important but discreet barriers to participation among certain sub-populations.

Many malaria-endemic countries develop national malaria communication strategies to accompany their malaria strategic plans.⁶¹ However, the limited specialized capacity and dedicated funding for malaria SBCC are often a function of SBCC's relatively low prioritization within most ministries of health, despite widespread acceptance of its importance.³⁷ Additionally, SBCC activities in support of malaria prevention and treatment generally fall to communication or health

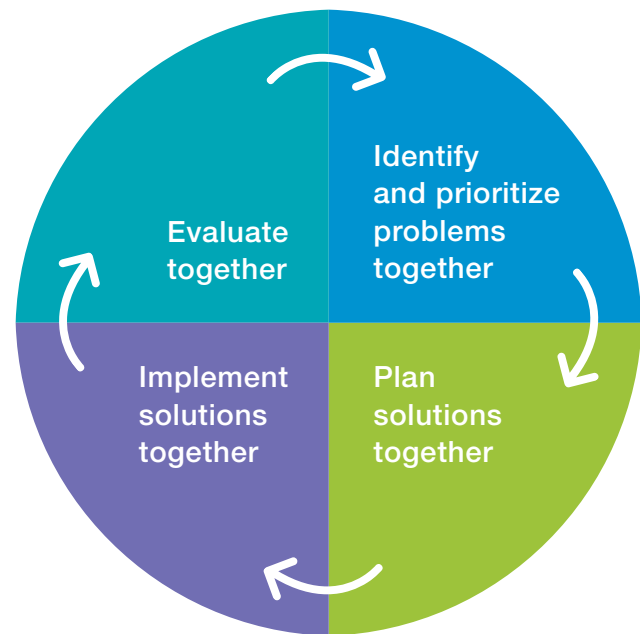
promotion units that are understaffed and overburdened; resources are needed to recruit more dedicated and appropriately trained personnel to support national malaria programs.³⁷ As malaria transmission decreases, SBCC strategies will need to be increasingly tailored and targeted. Endemic countries will need to move away from broad communication strategies and general malaria messaging towards targeted community and individual outreach activities, with greater emphasis on interpersonal communication.^{62,63}

Participatory methods

Participatory methods provide a range of activities to guide the community engagement process. Here we focus on two methods: Participatory learning and action (PLA), which has been used in global health for decades, and human-centered design (HCD), which is increasingly being applied to improve healthcare services.

PLA includes a series of approaches and tools to plan, act, monitor, evaluate, reflect, and scale up public health action. Importantly, PLA actively involves relevant stakeholders in the problem-identification and solution-finding process. Extensions of PLA, such as community action cycles (Figure 2), can be adapted for use in malaria.^{64,65} Using this model, malaria programs and communities would work together at regular intervals to identify and prioritize local problems, plan solutions, and implement and evaluate the plan. Recently, this approach was used to strengthen local health manager capacity in Uganda. In this context, there were five main steps: problem identification, identification of possible solutions, taking action, reflecting on the consequences of the actions, and specifying learning and taking corrective action.⁴⁹ Stakeholders met quarterly including representatives at the district level, sub-county level, and community level. The findings indicate that this program enhanced health managers' capacity to collaborate with others, be creative, and attain performance goals.⁴⁹ Importantly, stakeholder interactions and this new feedback loop supported health managers in navigating limitations in the health system.⁶⁶

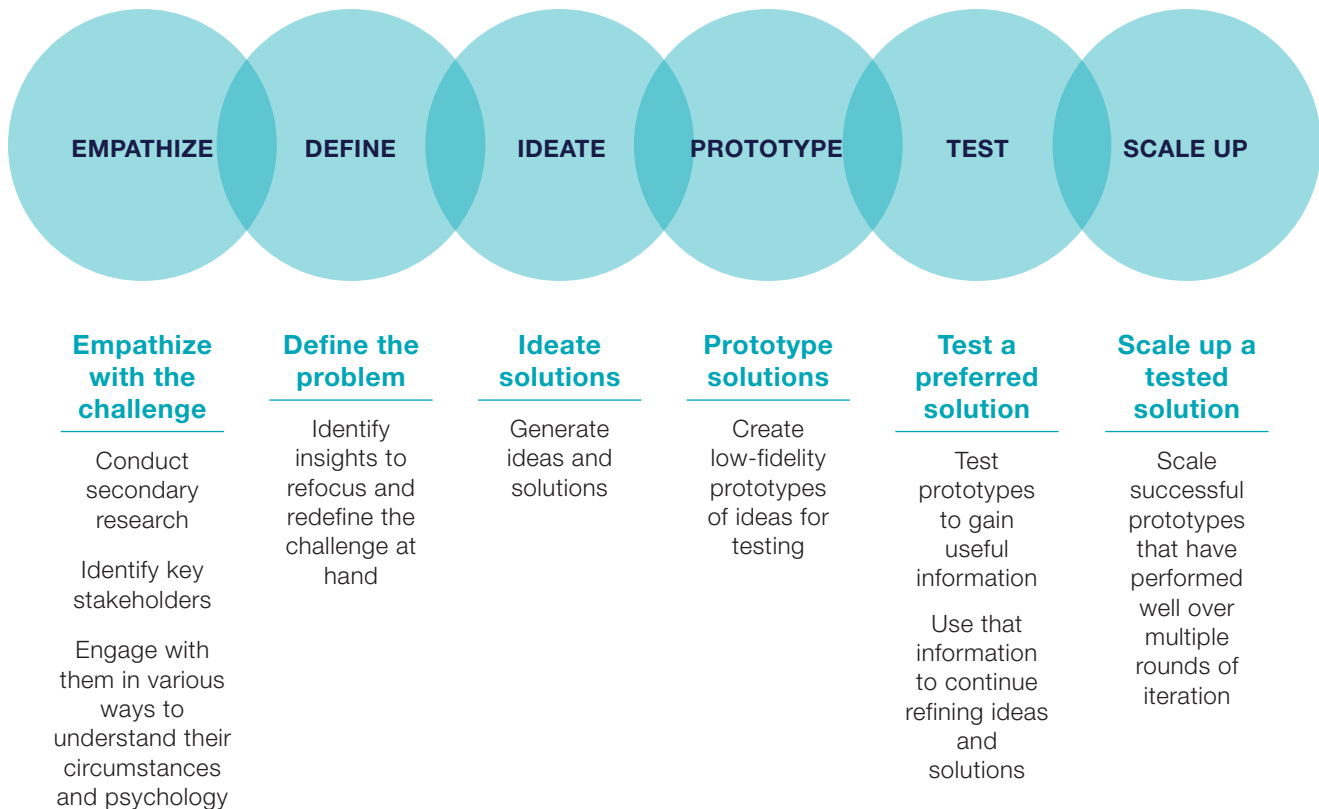
Figure 2. Community action cycle



Adapted from: Rosato et al. Community participation: lessons for maternal, newborn, and child health. *Lancet* 2008; 372: 962–71.

Other, more novel participatory approaches to community engagement can also be considered. HCD is an approach to problem solving that prioritizes direct engagement with stakeholders in all steps of the problem-solving process.⁶⁷ The HCD process puts the person, rather than the person's health condition, at the center of solution finding. Design thinking uses a process not unlike participatory action (Figure 3). By involving end users in each step, the goal is to arrive at solutions that are desirable, technically feasible, and financially viable.⁶⁸ In global health research and practice, HCD tools could be particularly useful to increase adoption or to tailor known best practices to a given context or target population.⁶⁹ Field guides exist that provide tools and activities for each step in the HCD process (Appendix 4).

Figure 3. Human-centered design process



Adapted from: Kim S, et al. Using a human-centered design approach to determine consumer preferences for long-lasting insecticidal nets in Ghana. *Glob Health Sci Pract* 2019; 7: 160–70.

Measuring effects and demonstrating impact

A major challenge to community engagement as reported by key informants and the literature was measuring effects. Community engagement takes time and is context-specific, making it difficult to measure and evaluate, especially within the limits of funding cycles. Quantitative health data do not accurately capture the context in which engagement occurs and mostly serve as proxy indicators.²⁶ A mixed-methods approach is more suitable. Community dialogues, focus group discussions, satisfaction surveys, and citizen report cards were mentioned as potential tools to gain deeper insight on the effect of community engagement processes.

It was also noted by key informants that demonstrating impact was difficult. Trust, a key element of community engagement, takes time to cultivate and the impact of community engagement on health outcomes can take an even longer time to materialize. One key informant reported that it takes their program five to seven years to demonstrate impact on health outcomes at the

community level. Programs that rely on donor funding, which generally require an impact report for a relatively short cycle of time, may find it difficult to sustain investments in community engagement.

Several case study program representatives reported that communities expanded on, replicated, and/or took ownership over programs that were initially implemented with outside support and argued that this demonstrated impact. One program reported that positive spillover effects had been identified that had not originally been accounted for in their monitoring and evaluation plans; for example, most of the volunteer program implementers had dropped out of school, but after getting involved in the program, many were motivated to return. In addition, teen pregnancies had gone down in communities where this program was implemented, despite a different primary health focus on HIV. Programs noted that impact could be measured by evaluating indicators beyond standard health outcomes. This is similar to results of a systematic review which identified several non-health-related positive outcomes of community engagement including building

of social capital and community capacity building.³¹ Outcome harvesting can be a useful monitoring and evaluation tool to assess outcomes, both intended and unintended, resulting from complex programming where relations of cause and effect are not fully understood. Outcome harvesting collects evidence of what has been achieved and works backward to determine whether and how the project or intervention contributed to the change.⁷⁰

In 2020, UNICEF published the first set of globally established guidance on minimum quality standards and indicators for community engagement, filling a critical gap.³⁵ A selection of those indicators are included in [Box 2](#) organized around the underlying principles of effective community engagement identified earlier in this report. A comprehensive list of the UNICEF indicators can be found in [Appendix 3](#). UNICEF also provides a series of tools including a checklist designed to support funding institutions in assessing the quality of community engagement activities in proposals and a second checklist for community engagement planning.³⁵

Box 2. Possible indicators that reflect community engagement and participation

Trust and transparency

- Transparency and accountability have been established with communities through the development of a written community action plan co-developed with community stakeholders.
- Government provides feedback to local populations on how their inputs have been incorporated into policies, plans, and processes.
- Data were shared with the community for comment, feedback, and action planning.
- Sufficient time was allocated to achieve the goals of the project.

Proactive, continuous, and integrated engagement

- Community support is assessed before initiating projects or activities.
- Different sectors integrate demands for community engagement capacities to optimize community time, labor, and participation.
- Partners share community engagement resources around programs and activities that share common goals.

Adaptable, responsive, and local action

- Community engagement platforms/processes have been adapted to address specifics of local contexts, programmatic areas, and special requirements of stakeholders.

- Course corrections have been made when community members and leaders indicated issues with activities and strategies.

Collaboration and shared decision-making

- There exists/has been adopted a national strategy, standards, or policy for two-way communication with local/community leaders.
- There exist local administrative units with established and operational policies and procedures for participation of local communities.
- Community representatives are engaged in government planning and preparation activities.
- Community concerns, beliefs, and structures have been prioritized as a key input throughout the project cycle.

Inclusion and representation

- Strategies have been developed and implemented to ensure as wide a range of inclusive representation as possible (e.g. gender, youth and children, minority groups, linguistic groups, vulnerable populations).
- Marginalized group members hold decision-making roles, leadership roles, and mobilization roles.
- Groups affected by the prioritized issue have been involved in leadership and mobilization activities.

From: UNICEF. Minimum Quality Standards and Indicators for Community Engagement. UNICEF, 2020.

Box 3: Summary: Core elements of effective community engagement

Certain underlying principles of community engagement came up repeatedly in the key informant interviews, focus group discussions, and literature results. Effective community engagement should be built on trust and transparency. It is context-specific and should be considered an iterative process. It treats the community as partners and works to identify and acknowledge community priorities. Diverse representation is essential.

Results from the case studies and literature indicate that community engagement should be coordinated from administrative units closer to the community level and that health services should be responsive to the local context. CHWs, health

committees, and other community platforms can be better integrated into the health system and encouraged to facilitate deeper levels of community engagement through the widespread use of participatory methods.

Community engagement takes time and is a complex process that is influenced by an array of different contextual factors. As a result, it is often considered difficult to measure and is under-resourced, especially when the program relies on short grant funding cycles. The application of minimum quality standards and more novel approaches to measuring community engagement outcomes and processes are necessary.

Discussion and Recommendations

Our review set out to understand why community engagement in malaria control and elimination is seen by partners to be poorly implemented. We found that community engagement is well-utilized in many sectors including health programs; guidance about how to do excellent community engagement exists in many manuals, and in almost all settings, communities are organized and open to engagement. It appears that the main barriers to progress are within the malaria community. Primarily, national malaria programs and their development partners conflate or confuse strategies like IEC, SBCC, CHW programs, and community-based interventions with community engagement. However, community engagement is more than this; it is a participatory process that goes beyond **what** activities and strategies are implemented and considers **how** those activities are designed, implemented, monitored, and evaluated, and **who** is involved. In order to make progress, there are three key steps that need to take place:

1. A broader definition of community engagement should be agreed upon and endorsed by malaria funders and global stakeholders. The agreed definition and associated guidance need to be disseminated to malaria control programs and their technical assistance consultants. A suggested definition is shown in [Box 4](#).
2. Funding agencies should request that proposals include work plans that fully expand current efforts to truly engage affected communities. Such work plans go beyond SBCC and IEC and include community consultation in the planning and execution of malaria programming.
3. Malaria programs need to build systematic community consultation into their district and provincial planning processes and ensure that listening is bi-directional. An example of a systematic process to link the health system to existing community structures is described below.

Box 4. A proposed definition for community engagement

Effective community engagement is a participatory process in which community stakeholders are actively involved in the design, governance, delivery, monitoring, and evaluation of malaria services.

CHWs and existing community platforms can be used to mediate between community priorities and the public health system. Participatory methods and techniques can be used to guide the engagement process. What is lacking is a mechanism that systematically links these structural elements and processes to the health system. Generally, there are strong linkages between communities affected by malaria and their community representatives (e.g. local leaders), as well as good coordination between national malaria programs and district-level health units ([Figure 4](#) on next page). However, there is often a large operational gap between community structures and district-level health service delivery.⁷¹ For participatory community engagement to work, the health system needs to focus on building formal linkages between decision-making bodies and the community ([Figure 5](#) on next page). Linking the health system and community together in a format where both groups work together to find solutions to operational challenges has proven effective at improving quality and impact of malaria interventions in Zimbabwe.⁷² The WHO community engagement framework for quality, people-centred and resilient health services also promotes the inclusion of communities into malaria strategy planning, finding through pilot studies in Rwanda that CHWs were crucial for bridging the disconnect between the implementing units and the planning program.⁷³ In both Zimbabwe and Rwanda, implementers across the health system expressed a strong willingness to increase community involvement, recognizing their ability to strengthen overall implementation.⁷³

Figure 4. The end-to-end process – gap



Figure 5. The end-to-end process + community engagement



Implementing effective community engagement

National level

A first step in pursuing effective community engagement is embedding the five underlying principles (Box 5) into program objectives and action plans. Keeping these principles in mind, there are several ways to implement effective community engagement at the programmatic level. Key actions for national malaria programs include:

- **Encourage district health units to map and work with existing community platforms** (e.g. village health committees) and organizations that already work on malaria and/or community engagement. If none exist, work with community leaders to build new platforms.
- **Recruit trusted, community-identified representatives** to get involved. Ensure these platforms represent a cross-section of community sub-groups.
- **Link community platforms with the health system** by developing policies, SOPs, and accountability frameworks together.
- **Co-create malaria action plans with communities.** Use participatory methods and techniques to identify community needs, challenges to uptake, local capacity, and resources. Together with all partners, outline roles, responsibilities, and expectations.
- **Coordinate routine community engagement activities through administrative units geographically as close as possible to the community** to ensure health services are responsive to the local context, adaptive to changing circumstances, and better integrated and harmonized with other health and development programs.
- **Identify opportunities to include more local health units and community representatives in health planning, intervention design, implementation, and evaluation,** for example during national strategic planning, mid-term, and program reviews.
- **Train national malaria program staff, middle managers, frontline staff, and community representatives on participatory tools and techniques** such as interpersonal communication, co-design, facilitation, and team building.

Box 5. Five underlying principles of effective community engagement

- Trust and transparency
- Proactive, continuous, and integrated engagement
- Adaptable, responsive, and local action
- Collaboration and shared decision-making
- Inclusion and representation

Global level

It will also be important to ensure adequate financial resources to build capacity for and maintain community engagement. The Global Fund has long supported community engagement in its frameworks and proposal guidance. However, it has been reported that the incorporation of community organizations and networks is largely absent from malaria concept notes and insufficient resources continue to be allocated for community systems strengthening.⁷⁴ To further strengthen community engagement in malaria control and elimination, the technical review panel should ensure that community engagement mechanisms are not only described in the proposal, but are also represented in the actual programming and budget narrative.⁷⁴ In order for community engagement facilitation to be properly funded, national malaria programs and those providing technical assistance will need to promote investments in community engagement. Key actions for funders include:

- **Promote this definition of community engagement** (Box 4) and incorporate the UNICEF Minimum Quality Standards and Indicators for Community Engagement in grant development guidelines.
- **Recognize that the main costs to strengthening community engagement will be building human and community capacity** and incentivize malaria programs to invest in community systems strengthening.
- **Anticipate realistic time and costs associated with implementing effective community engagement.** Flexibility to adjust activities and budgets in accordance with results from community engagement is required.
- **Ensure that community engagement mechanisms are not only described in funding proposals, but are also represented in the actual programming, budget narrative, and monitoring and evaluation frameworks.**

- **Develop budgetary frameworks that consider costs associated with effective community engagement facilitation** including: staff, materials, transportation, partner coordination, capacity development, information sharing activities, and developing and maintaining feedback mechanisms.

Monitoring and evaluation

Finally, improving monitoring and evaluation of community engagement is necessary. The evidence base for community engagement is limited, in part because it is not consistently defined, operationalized, or evaluated.^{21, 22, 23, 24} It is also a time-intensive and complex process with many different variables. The widespread adoption of the UNICEF Minimum Quality Standards and Indicators for Community Engagement can lead to a more consistent approach to measuring community engagement as well as the development of a more robust enabling environment.³⁵ National malaria programs, funders, and implementing partners should be early adopters of these standards.

- **Consider the utility of outcome harvesting.** Outcome harvesting provides one method to better measure and evaluate the outcomes and impacts of complex health programs, but relies on qualitative data collection.⁷⁰
- **Develop new guidelines for community engagement in line with the UNICEF Minimum Quality Standards and Indicators for Community Engagement.**
- **Include monitoring and evaluation methods and tools in training programs** for malaria program staff involved in community engagement, SBCC, and other health promotion.

Committing to community engagement

For participatory community engagement to function correctly, central programs and district-level health units need to commit to community engagement and ultimately community ownership of the desired health outcome. The first step is recognizing that community engagement is more than the implementation of isolated community-based activities. The second step is embedding the underlying principles of effective community engagement into program objectives and action plans. A third step is training middle managers and frontline staff to facilitate community engagement by providing training on participatory tools and techniques adapted for the health sector. A final important step is identifying opportunities – such as during

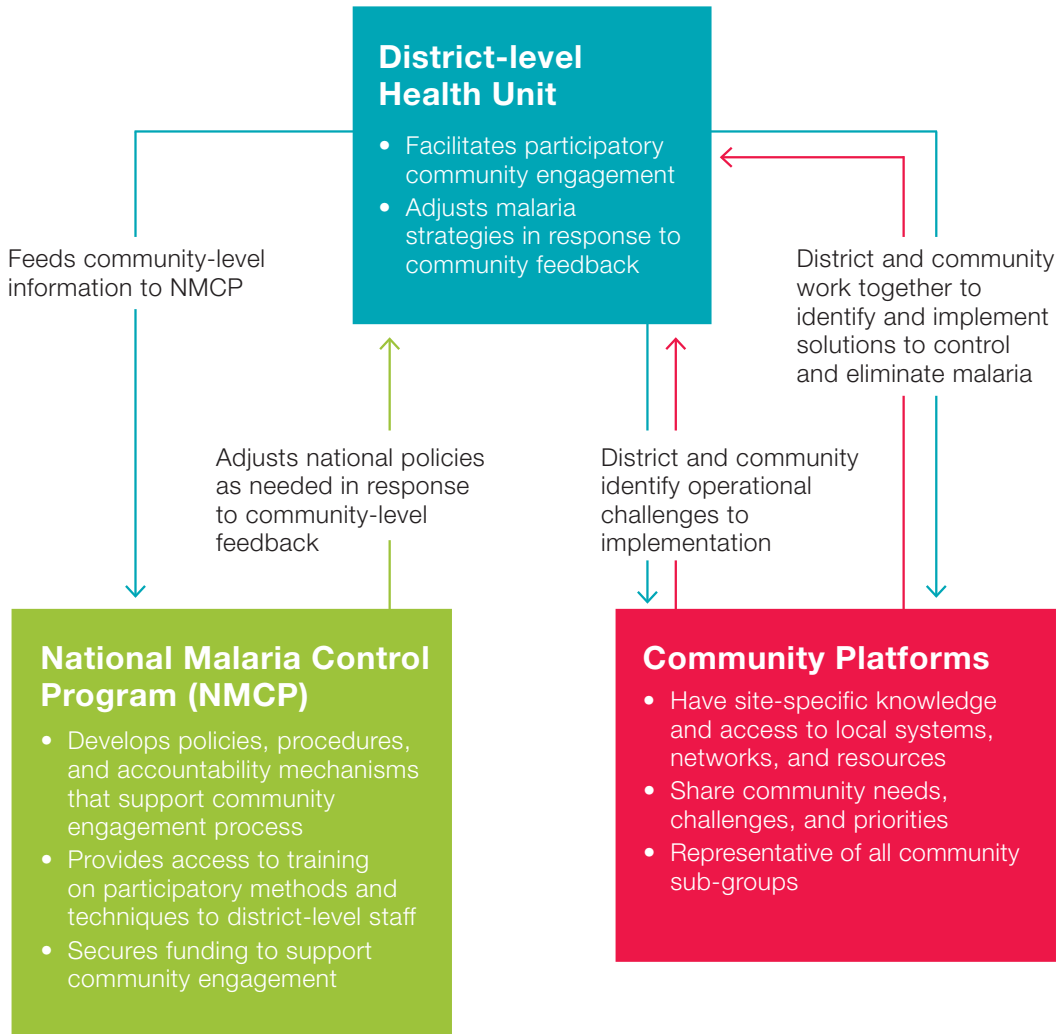
national strategic planning and program reviews – to involve community representatives in health planning and intervention design, implementation, and evaluation and including those opportunities in work plans.

A potential operational model for community engagement is proposed (Figure 6 on next page). This model reimagines the roles, responsibilities, and relationships between national malaria programs, district-level health units, and community platforms. Here the community and district work together to identify and implement operational challenges and solutions to control and eliminate malaria. The district feeds community-level feedback to the national program, which adjusts national policies and strategies in response. This model builds on the evidence presented in this report, however, it is a departure from the way many national malaria programs function. Furthermore, it relies on relatively weaker components of the health system, including district health units which often lack the capacity to execute the technical and administrative tasks already required of them.⁴⁷

Strengthening general program management capacity, especially at the peripheral levels, is a priority in most health systems. Middle managers, including district and regional health teams, play a particularly important role by translating top-level policies and strategies into action at the front line, while also ensuring that information from the front line is used to inform healthcare delivery strategies, interventions, and national policy.⁴⁸ Any efforts to improve program management or to address operational gaps at the peripheral-level could be leveraged as a means of facilitating improved community engagement and vice-versa. A core set of community engagement competencies should be developed.

Global malaria strategy has not prioritized community engagement as an essential component of malaria elimination.³⁴ However, the importance of community engagement for malaria elimination is gaining traction. In 2018, the Global Civil Society for Malaria Elimination (CS4ME) platform was established. The platform's major goal is to involve CSOs and communities in elimination efforts beyond service delivery by providing valuable input in decision-making processes to complement and strengthen the global fight against malaria.⁷⁵ The CS4ME platform and the daily efforts of communities and partners working on the ground recognize that malaria elimination requires a more people-centered approach to health planning and implementation, a process that improves the quality of services and strengthens health systems.

Figure 6. A potential operational model for community engagement



Conclusion

Because malaria control and particularly malaria elimination emerge from the collective actions of every household in every malaria endemic community, community engagement is critical to the future of malaria programming. Participatory approaches to intervention design and health service delivery facilitate the targeting and tailoring of malaria services to increasingly discrete populations with divergent social determinants. Currently, communities are only inconsistently and erratically incorporated into the programmatic decision-making process.

Funding for community engagement exists on a global scale, but countries are often unable to prioritize community engagement and lack clarity on its role and purpose. This is likely a combination of the tendency to conflate the mere existence of community-based

structures with community engagement, and the lack of exposure to or experience with the power of effectively engaged communities. To strengthen community engagement for malaria control and elimination, countries should first assess where they can leverage existing efforts to engage with communities and begin to optimize those efforts in accordance with best practices as outlined in this framework. Further opportunities for the community to get involved in the decision-making process should then be created. CHWs and community platforms serve as structural mechanisms which can facilitate deeper levels of involvement, but these platforms will need clear mandates, diverse representation, and support from malaria program staff and district managers trained in participatory methods in order to facilitate the deep levels of community involvement and ownership that can drive community-level malaria efforts to elimination.

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Appendix 1. Detailed Methods

Overview

This qualitative study used key informant (KI) interviews and focus group discussions (FGDs) to explore approaches to community engagement in malaria control and elimination efforts as well as other sectors. Programs from eight health and development sectors, including malaria, were identified for programmatic evaluation. Specifically, the study explores community engagement perceptions and practices at three levels; from thought leaders (defined as those with expertise or leadership positions in sectors included in the study) who design community engagement (CE) activities, from programmatic staff who manage and implement community engagement activities, and from community members involved in community engagement interventions.

Participants were identified from within the researchers' network and/or snowball sampling. Individuals were contacted through email to ask if they might be a suitable participant in the study; could provide contact information for other individuals with relevant contacts; and could provide contact information for other potential participants. Through this process, relevant and accessible individuals and institutions with current or prior experience working on community engagement programs were identified.

Program inclusion/exclusion criteria

Each program selected for inclusion met the following criteria: 1) from priority health and development sectors identified by the research team; 2) represent a varied selection of sectors and institution-types; 3) contain an intentionally designed community engagement strategy; 4) perceived by colleagues and/or program staff as successfully mobilizing community action, and/or having taken a creative, bottom-up approach to engaging the community; 5) from geographically diverse locations; and 6) KIs representing the program were able to be identified through the research team networks. Any program that did not address health or development issues and those which did not employ community engagement activities were excluded from consideration.

Thought leaders

Thought leaders were interviewed using a semi-structured interview guide ([Appendix 2](#)) designed to explore the role that community engagement has played across different health and development sectors, and to establish similarities and differences in approaches to community engagement practices.

Inclusion criteria for thought leaders included in this study are: 1) ≥ 5 years in a senior-level position within the health and development sector; 2) previously involved or currently involved in community engagement strategy and design; 3) ≥ 18 years of age; 4) fluency in English; and 5) willing to provide written informed consent. Interviews were conducted in-person when feasible, and by Skype or phone when travel by the research team was not feasible. When available, a note-taker was present, and interviews were audio recorded when permission from the key informant was granted. Written consent from the interviewee was obtained prior to the start of the interview and interviews took no longer than 60 minutes. Individuals were excluded if they were unable or unwilling to provide informed consent.

Program staff

For each program, between two and eight program staff were interviewed following a semi-structured interview guide. Sample questions focused on program objectives, measurements of success, sources of guidance, and both explicit and perceived definitions of community engagement ([Table 1](#)). Interviews focused on the community engagement strategies employed including the design process; operational, financial and human resource requirements; key elements; lessons learned and any available results; as well as the contextual factors that may have positively or negatively impacted the program.

All program staff selected for KI interviews met the following criteria: 1) ≥ 6 months of organizational experience with the ability to discuss at length the selected community engagement program including the design process, key elements, operational framework, financial and human resource requirements, and/or results; 2) involved in community engagement strategy design, implementation and/or assessment; 3) employed in the organization of the selected community engagement effort within the past three years and has organizational permission to discuss the program; 4) ≥ 18 years of age; 5) fluency in English; and 6) willing to provide written informed consent. Paid community health workers were also considered program staff for purposes of this study and these interviews were conducted with the corresponding interview guide.

Community members

In collaboration with the participating programs, FGDs with individuals residing in the program catchment areas were conducted. Participating program staff and community leaders assisted in the identification of

focus group participants; purposive sampling and/or snowball sampling was used when necessary. Focus group participants were identified based on their place of residence during program implementation, as well as their willingness to participate. An attempt was made to ensure that both men and women were included in each FGD.

FGDs sought to obtain the community's perception of program activities and outcomes to examine motivators and impediments to community engagement. A semi-structured interview guide was used to frame the discussions and all FGDs were conducted in-person during field visits by a member of the research team. Questions focused on the meaning of community engagement, impressions of past experience with community engagement strategies, and how future efforts could be improved (Table 2).

Participants selected for FGDs met the following criteria: 1) familiarity with the selected community engagement program; 2) resided in the program catchment area at the time of implementation of the community engagement strategies; 3) ≥ 18 years of age; and 4) willing to provide written informed consent. Unpaid

community health workers were considered community members for the purposes of this study. When English was not the native language of participants, a local translator was used. FGDs took no longer than 90 minutes. Light refreshments were offered to FGD participants. Individuals were excluded if they were unable or unwilling to provide informed consent.

Data analysis

After each interview or FGD, the interviewer recorded themes, general comments, and additional observations. Audio-recordings were not transcribed word-for-word. Instead, after each interview or FGD, detailed notes were recorded, and a discussion of themes and observations occurred between the interviewer and note-taker when a note-taker was present. After the interview or FGD, notes were uploaded into Microsoft Word (2010). The data were manually analyzed to obtain a greater depth of knowledge on the health and development programs profiled, with a focus on key principles, the programs successes and challenges, lessons learned, the operational framework, and any applicable results.

Appendix 2. Interview Guides

A. Questionnaire and interviewer guide: Key informant interviews of experts and thought leaders from malaria and other health and development sectors

The Malaria Elimination Initiative within the Global Health Group at UCSF is in the process of writing a background paper about the role of community engagement in malaria elimination activities. We are interested to learn from various health and development sectors.

With this in mind, we would like to learn about your experiences. When we talk about community engagement, we mean any activity that involves the community, including: community mobilization, community participation, community action, and more.

We will not use your name in our background paper without your explicit permission. Your responses will be anonymous. However, we are happy to include you in the acknowledgements if you wish to have your contributions recognized.

By participating in this interview, you are agreeing to the informed consent form previously provided to you. Do you have any questions regarding the informed consent, or the purpose of this study, or how the results will be utilized? You may refuse to answer any question you do not want to answer, or leave the study at any time. May we begin?

1. We wanted to speak to you based on your leadership and visioning around community engagement and mobilization. I want to start by asking in general, what does community engagement mean to you? What inspired you to place emphasis on the community in solving global health problems?
2. What experiences (both positive and negative) have been most influential on your perspective on community engagement? Would you share examples where you feel community engagement was very successful and others where you think it fell short?
3. How has your perspective and approach to community engagement changed over time? And why?
4. What interests you the most about the field of community engagement? Do you think community engagement is pivotal in all global health work? If no, when is it not necessary?
5. What role do you think community engagement current plays in _____ (insert applicable health and development sector i.e. HIV/AIDS, MCH, etc.)? Does it differ from other health and development sectors?
6. Generally speaking, what impact do you think community engagement has achieved in this field? How do you think community engagement could or should be measured? What more could it achieve?
7. What areas of community engagement require more development? Is there an approach you think should be taken to increase chances of success?
8. Are there any important resources on general community engagement that you would recommend? Anything else you would like to share?

B. Questionnaire and interviewer guide: Key informant interviews of program staff from various programs

The Malaria Elimination Initiative within the Global Health Group at UCSF is in the process of writing a background paper about the role of community engagement in malaria elimination activities. We are interested to learn from various programs across sectors.

With this in mind, we would like to learn about your experiences. When we talk about community engagement, we mean any activity that involves the community, including: community mobilization, community participation, community action, and more.

We will not use your name in our background paper without your explicit permission. Your responses will be anonymous. However, we are happy to include you in the acknowledgements if you wish to have your contributions recognized.

By participating in this interview, you are agreeing to the informed consent form previously provided to you. Do you have any questions regarding the informed consent, or the purpose of this study, or how the results will be utilized? You may refuse to answer any question you do not want to answer, or leave the study at any time. May we begin?

Section 1. About you

1. Please briefly describe your experience in _____ (insert applicable health and development sector i.e. HIV/AIDS, MCH, etc.).
 - a. What kind of programs and interventions have you been involved in?
2. What is your experience with community engagement specifically?
 - a. How many different community engagement programs have you worked on, and in what capacity (i.e. design, implementation, evaluation, etc.)?
3. From your perspective, what role has community engagement played in _____ (insert applicable health and development sector i.e. HIV/AIDS, MCH, etc.)?
4. Generally speaking, what impact do you think community engagement has achieved in this field? What more could it achieve?

For the next section I want to focus on these efforts taken to reach the community. I will call this the community engagement program.

Section 2. About the community engagement program

5. Please tell me a little about the _____ (insert specific program being profiled) in general.
 - a. What are the program's stated objectives? Were there any informal goals of the program that were perhaps not explicitly included?
 - b. Who was the primary target community of the program? Who were the original stakeholders and developers of the program? Who did you want to reach through this program? What background work did you do when deciding how to reach them? Were there populations you anticipated would be harder to reach than others? Why or why not? If yes, who were they and how did you design your approach accordingly?
6. Tell me about the various activities and strategies.
 - a. What activities and strategies did you use?
 - b. How did you decide on the strategies and activities used?
 - c. What was the relationship between these activities and the intended beneficiaries of the program?
 - d. Were there different activities for different phases (design, implementation, evaluation etc.)?
 - e. Were there different people involved in the different activities? Tell me about the different roles and how long each person or group was involved.
 - f. We are interested in your opinion of what strategies you felt were successful. Would you share a bit about what which strategies you feel moved the program closer to success? Any that may have inadvertently hindered the program?
 - g. Do you feel the cost of the community engagement strategies was justified to achieve the desired outcome?

Section 3. Impact

7. Was there a way to measure the success or failure of the CE strategies used in your program? If yes, what were they?
 - a. Did the program employ any specific milestones and indicators?
8. Overall, do you think the CE activities contributed significantly to the success of your program? If yes, how? (Prompt: gain awareness of issues, spurred additional initiatives in the field, other creative and unexpected results, positive or negative.)
9. What results did you find particularly interesting, why?
10. What would you do differently next time? Why?
11. Tell me a little about what you would advise other programs looking to add community engagement to a program.
12. If you were designing a community engagement component and you had unlimited funds, what would you do? Why?

Section 4. Sources of guidance

13. What resources did you have access to in developing the CE strategies and activities employed?
14. Was the community involved in developing strategies for engagement? If yes, who and how were they chosen?
15. Are there any important information sources on general community engagement that you would recommend?
16. Do you think more resources are needed to guide programs in community engagement strategies? If yes, what areas need development?

Section 5. Wrap up and thank you

Do you recommend we speak with anyone else about this program, anybody who was also involved in working with the community, engaging with them, mobilizing them in this area?

C. Questionnaire and interviewer guide: Community-based focus groups

The Malaria Elimination Initiative within the Global Health Group at UCSF is in the process of writing a background paper about the role of community engagement in malaria elimination activities. We are interested to learn from various health and development sectors.

With this in mind, we would like to learn about your experiences with community engagement to promote health and development. When we talk about community engagement, we mean any activity that involves the community, including: community mobilization, community participation, community action, and more.

We will not use your name in our background paper. Your responses will be anonymous.

By participating in this interview, you are agreeing to the informed consent form previously provided to you. Do you have any questions regarding the informed consent, or the purpose of this study, or how the results will be utilized? You may refuse to answer any question you do not want to answer, or leave the study at any time. May we begin?

1. What is the most important health or development issue facing your community today? Do you all agree? If not, what are other issues?
2. Has that changed over time? If so, what are other important issues from the past?
3. Do you remember a project called _____ (project title), that took place here in _____ (year)? It was meant to _____ (insert program objectives). If yes, how did you learn about the project? Was the community involved in helping with the project before it started? During? After?
4. From your perspective, what was the community's role in this project? Consider what activities different members of the community were involved in.
5. If you were involved in the project at all, please tell us how. If you were not, did you have any friends or family members who helped with the project? How?
6. Do you think community benefitted from this project? If so, how? If not, why not?
7. Did the program make any lasting impression on the community? If so, what has changed? If not, why do you think things did not change?
8. Do you think this program could have been improved? If yes, how? What should have been done differently? (E.g. timing, number of people involved, notifications, etc.)
9. What do you think was the project's greatest strength? What was the project's greatest weakness?
10. If you were designing a community project to _____ (insert program objective), what would you do? (Think about what activities you would implement, how you would involve different groups of people, etc.)

Appendix 3. Indicators to Measure Community Engagement

The UNICEF Minimum Quality Standards and Indicators for Community Engagement provides a selection of possible indicators for national and local governments.

	Minimum Standards	Indicators
Part A. Core Standards	1. Participation	A.1.1 Proportion of local administrative units with established and operational policies and procedures for participation of local communities. A.1.2 The country has a mechanism for participation of children and youth at the local and/or subnational and/or national level to influence development agendas that affect the most disadvantaged and marginalized.
	2. Empowerment & Ownership	A.2.1 Governments have established reporting mechanisms for identifying if work with existing community groups and institutions is locally supported. A.2.2 Government has established reporting mechanisms for receiving complaints regarding ownership and mandates for community engagement activities or related programmes.
	3. Inclusion	A.3.1 Proportion of government ministries with community engagement department/team/working groups that have mechanisms to reach out to affected or at-risk populations at national, provincial, district and/or local levels. A.3.2 Capacity of individual government ministries/departments to conduct vulnerability mapping exercises for introduction of new policies/directives/programmes. A.3.3 Government has strong and diverse representation from disadvantaged/marginalized/excluded groups (gender, disability, ethnicity, SES status, urban/rural).
	4. Two-way Communication	A.4.1 There exists/has been adopted a national strategy, standards, or policy for two-way communication with local/community leaders. A.4.2 A two-way information and knowledge exchange system has been established to communicate local strategies to officials, and to provide local communities with information, resources, etc. A.4.3. Government provides feedback to local populations on how their inputs have been incorporated into policies, plans and processes. A.4.4 Government provides information, or provides support to external actors involved in communications, to ensure that information is accessible, simple and in language-appropriate formats to inform decision-making.
	5. Adaptability and Localization	A.5.1 All subnational and local government offices have indicated support and approval for a national community engagement strategy. A.5.2 All subnational and local government offices have implemented national community engagement strategies.
	6. Building on Local Capacity	A.6.1 Data are collected and analysed to identify the existing skills and resources of communities and local groups.

Part B: Implementation	7. Informed Design	B.7.1 Local government offices have the capacity to collect and distribute local partner mapping reports and public government data to organizations conducting informed design activities. B.7.2 Local and national government offices are able to budget for necessary resources to implement community engagement activities with communities and implementing partners.
	8. Planning and Preparation	B.8.1 Local government staff are tasked with representing the government in participatory planning and preparation activities. B.8.2 Community representatives are engaged in government planning and preparation activities.
	9. Managing Activities	B.9.1 Local or national government offices schedule, receive, and analyse implementation updates on community engagement activities. B.9.2 Local and regional government officials have established structures to solicit NGO and CSO community engagement activity approval, and provide leadership to support goals and outcomes.
	10. Monitoring, Evaluation & Learning	B.10.1 Proportion of priority government ministries that have developed community engagement benchmarks
Part C: Coordination & Integration	11. Government Leadership	C.11.1 There is a national strategy, standards, or policy for including local communities in stakeholder discussions on policies. C.11.2 At a national level, there is operational guidance on the roles of community engagement for implementing partners.
	12. Partner Coordination	C.12.1 There is a platform, focal person, team or working group for community engagement at the national level. C.12.2 Local government has adequate training and authority to mediate conflicts between local communities and NGOs and CSOs.
	13. Integration	C.13.1 Integration of community engagement in national plans (education, WASH, child protection, emergency). C.13.2 Community engagement standards are included in government-issued RFPs and job descriptions with a community engagement component. C.13.3 In emergencies, SOPs are developed to provide guidance for community engagement across all pillars. C.13.4 The country has regular/formal/institutionalized mechanisms for public engagement with strong linkages to decision-making and planning processes.
Part D: Resource Mobilization	14. Human Resources and Organizational Structure	D.14.1 Governments have issued policies or standards to address labour practices specific to the community engagement workforce. Examples would include security, pay scale/incentives, and schedules.
	15. Data Management	D.15.1 National government routinely collects baseline social data and analysis (such as mapping of languages, living conditions, religious/cultural practices/trusted channels of communication, influencers). D.15.2 National government routinely uses analysis of baseline social data to inform policies, initiatives and practices.
	16. Resource Mobilization and Budgeting	D.16.1 Ministries have oversight over disbursement by implementing agencies in order to ensure adequate, appropriate and timely budgeting. D.16.2 Resources are realistically allocated for community engagement actions in accordance with the core minimum standards, as applied to Sections B, C, and D. D.16.3 Strong efforts are being made by government actors to ensure the appropriate human and financial resources are allocated to facilitate participatory and child/adolescent-friendly processes. D.16.4 Public engagement mechanisms are well funded.

The UNICEF Minimum Quality Standards and Indicators for Community Engagement provides a selection of possible indicators for NGOs, CSOs, and implementing agencies.

	Minimum Standards	Indicators
Part A: Core Standards	1. Participation	<p>A.1.1 Community goals for participation are identified and achieved.</p> <p>A.1.2 Community members are aware of mechanisms for participation.</p> <p>A.1.3 Community members are given an opportunity to identify barriers to participation.</p> <p>A.1.4 Community members have positive experiences of participation.</p> <p>A.1.5 NGOs, CSOs and partners identify and use strategies to sustain or increase participation.</p> <p>A.1.6 Community members identify the needs and priorities of various groups and sub-groups in the community.</p>
	2. Empowerment & Ownership	<p>A.2.1 Issues identified are among the top priorities of communities for community action.</p> <p>A.2.2 Communities demonstrate an ability to explore key issues, develop action plans, carry out action plans and evaluate results.</p> <p>A.2.3 Community members believe that community engagement contributed to increasing voice, decision-making, and authority.</p> <p>A.2.4 Community members feel that they 'own' the project; that it is 'for them'.</p> <p>A.2.5 Community members support and are invested in a plan for long-term sustainability.</p> <p>A.2.6 There is an increase in perceived and demonstrated community capacity by the end of the project.</p>
	3. Inclusion	<p>A.3.1 A full range of stakeholders, including women, children, people with disabilities, linguistic, religious and ethnic minorities, and vulnerable populations are identified and facilitated to contribute during the informed design and participatory planning processes.</p> <p>A.3.2 Strategies have been developed and implemented to ensure as wide a range of inclusive representation as possible (e.g. gender, youth and children, minority groups, linguistic groups, vulnerable populations).</p> <p>A.3.3 Marginalized group members hold decision-making roles, leadership roles and mobilization roles.</p> <p>A.3.4 Groups affected by the prioritized issue have been involved in leadership and mobilization activities.</p>
	4. Two-way Communication	<p>A.4.1 Community leaders had direct access to government and NGO/CSO leaders in prioritizing community engagement goals.</p> <p>A.4.2 Two-way communication mechanisms have been used to reach community members.</p> <p>A.4.3 There has been an increase in knowledge about the issue among community members.</p> <p>A.4.4 Communications between local communities, governments and stakeholders have increased in quality and frequency.</p> <p>A.4.5 Communication between key stakeholders has been sustained throughout the entirety of the community engagement initiative.</p> <p>A.4.6 CE platforms have facilitated two-way communication and feedback for decision-making and action by local stakeholders (including young people).</p>

Part A: Core Standards	5. Adaptability and Localization	<p>A.5.1 Communities are able to influence and guide project priorities and actions.</p> <p>A.5.2 Community support is assessed before initiating projects or activities.</p> <p>A.5.3 Contextual analysis of the community informed both the proposal and budget for the project.</p> <p>A.5.4 Qualitative materials and participatory practices have been integrated into all aspects of implementation.</p> <p>A.5.5 Community concerns, beliefs, and structures have been prioritized as a key input throughout the project cycle.</p> <p>A.5.6 Contextual analyses involve 'experience-near' research and evaluation contributions (e.g. the use of qualitative data or case studies).</p> <p>A.5.7 Course corrections have been made when community members and leaders indicated issues with activities and strategies.</p> <p>A.5.8 CE platforms/processes have been adapted to address specifics of local contexts, programmatic areas and special requirements of stakeholders (including young people).</p>
	6. Building on Local Capacity	<p>A.6.1 The resources and capacities of local populations have been identified and maximized in designing and implementing activities.</p> <p>A.6.2 Local capacities (including formal institutions, formal structures and informal social networks, informal social networks, and individual skills) have been integrated into project planning, management and evaluation using routine strategies and practices.</p> <p>A.6.3 Existing community capacities have been used to collect and analyse data.</p> <p>A.6.4 CE initiatives prioritized community capacity-building towards development of local solutions and empowerment.</p>
Part B: Implementation	7. Informed Design	<p>B.7.1 Contextual analysis (e.g. situation analysis, risk analysis and gender analysis) and qualitative research (e.g. networks, social processes, and local contexts) has informed programme planning.</p> <p>B.7.2 Communities have influenced project plans.</p> <p>B.7.3 Government policies or mandates have been identified and aligned, and government permissions have been obtained.</p> <p>B.7.4 Community engagement programmes have been aligned to national government priorities.</p>
	8. Planning and Preparation	<p>B.8.1 A participatory assessment has been conducted, and results shared with communities.</p> <p>B.8.2 Transparency and accountability have been established with communities through the development of a written community action plan co-developed with community stakeholders.</p>
	9. Managing Activities	<p>B.9.1 A community action plan has detailed community interests, defined the roles and responsibilities of programmes, community actors, and local governments, timeframe for implementation, and progress benchmarks.</p> <p>B.9.2 Community engagement activities have been implemented as planned.</p> <p>B.9.3 Milestones from the strategic community plan have been monitored and achieved.</p> <p>B.9.4 Community mobilizers have a clear understanding of their roles and responsibilities.</p> <p>B.9.5 Community mobilizers have access to regular training and responsive supervision.</p> <p>B.9.6 Project outcomes are consistent with community expectations at the outset of the project.</p>

Part B: Implementation	10. Monitoring, Evaluation & Learning	<p>B.10.1 Qualitative and quantitative indicators for community engagement have been co-developed with local communities.</p> <p>B.10.2 Predefined indicators have been locally validated to ensure that they aligned with community priorities.</p> <p>B.10.3 Data collection activities were transparent, non-burdensome, and perceived as beneficial by community members.</p> <p>B.10.4 Community members were involved in monitoring progress towards goals.</p> <p>B.10.5 Evaluations have been disseminated within organizations, to governments, to local communities and to partners.</p>
Part C: Coordination & Integration	11. Government Leadership	<p>C.11.1 A continuous process of risk analysis and risk mitigation is used to assess if government involvement creates or worsens safety, discrimination, disadvantage or vulnerability for local communities or community sub-groups.</p> <p>C.11.2 Local and regional government officials demonstrate commitment and support for NGO and CSO community engagement activities, and provide leadership to support goals and outcomes.</p> <p>C.11.2 Community engagement activities are aligned with local government community engagement strategies.</p> <p>C.11.3 Community engagement programmes are aligned to national government priorities.</p> <p>C.11.4 Local government has adequate training and authority to mediate conflicts between local communities and NGOs and CSOs.</p> <p>C.11.5 Government approvals were sought and obtained at national and local offices prior to initiating work.</p>
	12. Partner Coordination	<p>C.12.1 Partners participate with inter-agency forums and networks in the coordination of community engagement actions.</p> <p>C.12.2 Identification of NGO, CSO, and community organization partners has been inclusive and represents the social, cultural, gender, age and religious distribution of the communities.</p> <p>C.12.3 Community engagement data are shared with local partners in accordance with relevant government policy.</p> <p>C.12.4 Partners share community engagement resources around programmes and activities that share common goals.</p> <p>C.12.5 Community members can clearly identify partners, and know how to address with questions, conflicts, or accountability issues.</p>
	13. Integration	<p>C.13.1 All sections of the organization recognize that community engagement is a cross-cutting activity with relevance for other sectors.</p> <p>C.13.2 Support is provided to all units to integrate community engagement into activities.</p> <p>C.13.3 Sectors integrate demands for community engagement capacities to optimize community time, labour, and participation.</p> <p>C.13.4 Internal organizational processes are in place to resolve conflicts and competition between other sectors and community engagement capacities, to facilitate integration.</p>

Part D: Resource Mobilization	14. Human Resources and Organizational Structure	<p>D.14.1 Human resources and policies are in place that also include support to community mobilizers.</p> <p>D.14.2 Staff and volunteer labour is adequate for the scope of the project.</p> <p>D.14.3 Staffing reflects the composition of the community (language, gender, age, place of origin).</p> <p>D.14.4 Staffing takes into account the need to ensure risk mitigation in programme implementation.</p>
	15. Data Management	<p>D.15.1 A data management plan has been devised and agreed to by all stakeholders.</p> <p>D.15.2 Ongoing data analysis was used to inform and make changes to programming.</p> <p>D.15.3 Community members systematically collect community data.</p> <p>D.15.4 Data were shared with the community for comment, feedback and action planning.</p> <p>D.15.5 Data materials or copies (hard copy or digital) are handed over to local stakeholders.</p>
	16. Resource Mobilization and Budgeting	<p>D.16.1 Financial and non-financial support to staff and mobilizers (supervision, training, logistics) is sufficient to ensure that community engagement can be carried out as required.</p> <p>D.16.2 Payment for incentives and other reimbursement is in line with relevant policies and made in a timely manner.</p> <p>D.16.3 Resources are made available for coordination of community engagement activities with partners and government.</p> <p>D.16.4 Sufficient time was allocated to achieve the goals of the project.</p>

Appendix 4. Resources

Malaria funder resources

The Global Fund to Fight AIDS, Tuberculosis, and Malaria. Technical Brief: Community Systems Strengthening. October 2019. https://www.theglobalfund.org/media/4790core_communitysystems_technicalbrief_en.pdf

The Global Fund to Fight AIDS, Tuberculosis, and Malaria. Modular Framework Handbook. October 2019. https://www.theglobalfund.org/media/4309/fundingmodel_modularframework_handbook_en.pdf

President's Malaria Initiative (PMI). Malaria Operational Plan FY 2020 Guidance. August 2019. [https://www.pmi.gov/docs/default-source/default-document-library/tools-curricula/pmi-technical-guidance-\(march-2016\).pdf?sfvrsn=6](https://www.pmi.gov/docs/default-source/default-document-library/tools-curricula/pmi-technical-guidance-(march-2016).pdf?sfvrsn=6)

SBCC resources

RBM Partnership to End Malaria. The Strategic Framework for Malaria Social and Behaviour Change Communication 2018-2030. 2018. <https://endmalaria.org/sites/default/files/RBM%20SBCC%20Framework%202018-2030%20English.pdf>

Health Communication Capacity Collaborative (HC3). Social and behavior change considerations for areas transitioning from high and moderate to low, very low and zero malaria transmission. 2017. <http://healthcommcapacity.org/wp-content/uploads/2018/01/HC3-Malaria-Elimination-Landscape.pdf>

Zero Malaria Starts with Me. Zero Malaria Starts with Me Toolkit. <https://endmalaria.org/sites/default/files/Zero%20Malaria%20Toolkit%20Final.pdf>

Health Communication Capacity Collaborative (HC3). Malaria SBCC Evidence Database. <https://healthcommcapacity.org/%20malaria-evidence-database/>

Participatory methods and human-centered design

USAID and Bill & Melinda Gates Foundation. Design for Health. <https://www.designforhealth.org/home-2>

USAID and Bill & Melinda Gates Foundation. Design for Health: Glossary of Design Terms. <https://static1.squarespace.com/static/5b0f1011b98a78f8e23aef4e/t/5b36a09faa4a99effd54c585/1530306724211/02+-Glossary+of+Design+Terms+%281%29.pdf>

IDEO.org. Field Guide to Human-Centered Design. 2015. <https://www.designkit.org/resources/1>

IDEO.org. Design Kit: Methods. <https://www.designkit.org/methods>

Community engagement frameworks, minimum quality standards, and indicators

UNICEF. Minimum Quality Standards and Indicators for Community Engagement. 2020. https://www.unicef.org/mena/media/8401/file/19218_MinimumQuality-Report_v07_RC_002.pdf.pdf

World Health Organization. WHO community engagement framework for quality, people-centred and resilient health services. 2017. https://apps.who.int/iris/bitstream/handle/10665/259280/WHO-HIS-SDS-2017_15-eng.pdf

