

Roundtable 3 of 3: Addressing malaria in displaced and last mile populations through improved tools and innovation

8 February 2023 – Accra, Ghana

Executive summary

On 8 February 2023, the Alliance for Malaria Prevention Innovation and Evaluation Working Group (AMP IEWG), Catholic Relief Services (CRS), the International Federation of Red Cross and Red Crescent Societies (IFRC), the RBM Partnership to End Malaria’s (RBM Partnership) Vector Control Working Group (VCWG) and the United Nations Foundation (UNF) hosted a roundtable discussion on **addressing malaria in displaced and last mile populations through improved tools and innovations.**

The third meeting in a series of three roundtables was held on the side-lines of the RBM Partnership’s VCWG and Multisectoral Working Group (MSWG) annual meetings in Accra (Ghana), and brought together over 30 malaria partners including representatives from the national malaria programmes of Burkina Faso, Ghana, Liberia, Nigeria, and Uganda, BASF SE, the Global Fund to Fight HIV/AIDS, Tuberculosis and Malaria (Global Fund), Ifakara Health Institute, Innovative Vector Control Consortium (IVCC), John Hopkins Center for Communication Programs (JHUCCP), Johns Hopkins University (JHU), The London School of Hygiene and Tropical Medicine (LSHTM), Population Services International (PSI), SC Johnson, Swiss Tropical and Public Health Institute (TPH), US President’s Malaria Initiative (US-PMI), US-PMI Vector Link Project, Valent Biosciences, Vestergaard, and the World Health Organization (WHO) Prequalification Unit (see Annex 1).

The primary objective of the roundtable was to engage malaria programme implementers and donors, technical agencies, private sector partners, and researchers in a discussion about the need for innovation in vector control tools to support malaria prevention and control efforts in complex operating environments (COE) and humanitarian settings to ensure refugees and displaced populations are better protected from malaria and other vector-borne diseases. Additional emphasis was put on the potential for adapting current vector control tools for these populations and settings and on understanding research and development funding needs.

This roundtable discussion builds on and complements the first two roundtable discussions that took place in Washington, DC in September 2022 and in Nairobi, Kenya in December 2022. The first roundtable focused on protecting displaced populations from vector-borne diseases through multisectoral collaboration. The second roundtable focused on addressing the needs of displaced and last mile populations in Global Fund NFM4/GC7¹ malaria grant applications.

Key issues

- The vector control market requires tools that could be used in humanitarian settings that do not hinder logistics (size, cost for transport, etc.) and coordination activities targeting displaced populations.
- The vector control community has an opportunity to study the impact of new tools in emergency contexts such as different types of nets (e.g. dual active ingredient) that have demonstrated highly efficacious results in high malaria burden settings.

¹ Global Fund New Funding Model 4 -Allocation Cycle 2023—2025; also referred to as Global Fund Grant Cycle 7.

- There is different terminology used between regulators and implementers. For example, the term “access” is used by the regulator (in this case, the WHO Prequalification Unit Vector Control Product Assessment Team (PQT/VCP)) to refer to the right to use based on safety, quality, and efficacy, whereas implementers use the term to denote the ability to acquire.
- Owing to the unique context and challenges each emergency presents, flexible policy and guidance are required.
- There is a lack of updated policy and guidance on vector control in humanitarian emergencies and COE, as well as the pathway for introduction and testing of new tools in emergency situations.
- Up to 80 percent of refugees and internally displaced persons (IDPs) live in urban integrated camps or settlements rather than in classic IDP camps, which creates specific needs for tools, service delivery mechanisms and improved multisectoral engagement for displaced and host populations.
- For existing tools or for introduction and testing of new tools in humanitarian and COE contexts, there is a need for tailored messaging and the use of appropriate communication channels to minimize fear among target populations.

Recommendations for stakeholders

Recommendation	Funding partner	Operational partner	Country programme	Private sector	Academia and research
There is a need to better understand the vector control needs of displaced populations. More research is required on types and design of tools that would be the most effective and cost effective in different settings, including urban, to ensure prevention of malaria.	✓	✓	✓	✓	✓
Local community actors should be included in decision-making concerning improved access to and use of novel tools.		✓	✓	✓	✓
Novel tools are needed to help address malaria and vector-borne disease control, and specifically prevention, within IDP and refugee contexts. Novel approaches to improve coordination are needed between country programmes, vector control manufacturers, implementing partners and local communities.		✓	✓	✓	✓
Pre-planning is needed for effective research, monitoring and evaluation for ways to improve vector control strategies targeting refugee and displaced populations.		✓	✓	✓	✓
Improved financing through donor or domestic resources is needed to address the lack of vector control	✓		✓	✓	

Recommendation	Funding partner	Operational partner	Country programme	Private sector	Academia and research
in packages provided to refugee and displaced populations.					
Ministries of health and national malaria programmes should develop malaria emergency action plans to ensure improved coordination and delivery of vector control tools in the event of population displacement due to any cause.	✓		✓		

Meeting notes

Welcome and opening remarks

Dr Nana Yaw Pehrah, Deputy Director of the Ghana National Malaria Elimination Programme, opened the roundtable discussions by noting the importance of the meeting in the context of the malaria elimination goal. IDPs are particularly vulnerable to malaria and there is a very real risk that epidemics will emerge in areas with IDPs due to the high concentration of vulnerable populations. The roundtable was therefore a platform to explore opportunities, bottlenecks and solutions.

Setting the scene

Philip Okoko, Nigeria National Malaria Elimination Programme (NMEP)

Globally, the number of IDPs continues to rise due to events such as natural disasters like the recent earthquake in Turkey and Syria, and other crises such as the conflict in northern Nigeria. It is therefore important to plan for interventions that can meet the needs of individuals displaced during these events. To meet the needs of IDPs, a mapping exercise to identify and spatially locate the populations is needed to better understand the contextual factors as well as the bottlenecks to the provision of health services.

The Nigeria Malaria Strategic Plan 2021—2025 is based on the vision of achieving universal coverage and implements a mix of malaria interventions including mass distribution of insecticide-treated nets (ITNs), routine ITN distribution, targeted indoor residual spraying (IRS) and larval source management. In line with the strategic plan, Nigeria has undertaken and implemented the Malaria Matchbox Tool since 2019 with the goal of reducing malaria mortality and morbidity among IDPs in identified states. Specifically, the NMEP used the tool in hard-to-reach areas to improve diagnosis and treatment of suspected and confirmed malaria cases, improve delivery of an integrated package of basic health services at community level, increase access to health information and improve malaria surveillance.

Success factors identified during the implementation of the Malaria Matchbox Tool included:

- Early engagement of the State Government ensures community acceptance of malaria interventions.
- Community engagement is critical in the delivery of health services.
- Multisectoral engagement is necessary due to the multi-faceted challenges faced by IDPs.
- In-country coordination between national and local government structures, humanitarian and funding partners needs strengthening to better align actions.
- Robust data collection and management are required, plus integration with the national Health Management Information System (HMIS).

- There is a need for targeted messaging and use of appropriate communication channels to minimize fear among IDPs. This should include the communication of programme benefits and outcomes for the community.
- Adequate forecasting of commodities is required and must include, for example, availability of water for IRS.

Panel discussion

Moderator: *Momar Mbodji, Catholic Relief Services*

Panellist - Academia: Justin McBeath, Innovative Vector Control Consortium (IVCC)

Question: As IVCC is a catalysing organization working alongside industry partners to support the development of new innovative products/chemicals, what are the pathways for developing new tools specific to IDPs and refugees?

Development of products that are specific to IDPs presents a challenge to manufacturers because of the market size relative to general population and diversity. Tools are required that are relevant to the unique situation of IDPs. The resources required to deploy malaria tools to IDPs are an important consideration. Some tools are heavier on resources than others. For example, water, protective clothing, hand-operated compression sprayers and trained spray teams are necessary for IRS. On the other hand, ITNs require fewer resources to deploy and thus may be more useful in the context of IDPs. A second consideration is the regulatory or approval pathway for a product or tool. The external funding mechanism dictates the regulatory pathway. For example, tools procured by US-PMI and the Global Fund must be WHO approved through the WHO Prequalification mechanism. However, countries using their own financing and, in some cases, non-governmental organizations (NGOs), have the flexibility to choose the tools most suitable to their needs and specific contexts.

Question: How can we improve the market availability of vector control tools to help pre-stock these commodities to respond to emergencies?

The vector control industry prefers to maintain minimum inventory levels and manufacturing is driven by demand. Products with multiple uses rather than a more specific use have a faster turnover due to the availability of alternative markets where these products can be re-directed as necessary.

Market availability of vector control tools is also influenced by product shelf life. Products with a longer shelf life provide more flexibility in terms of inventory management. Therefore, a transition to products with a longer shelf life of three to four years will positively impact product availability. Lastly, when considering tool pre-stocking, it is important to understand the development process. The active ingredient in insecticide-based tools is usually manufactured in a separate plant from where the specific tools are manufactured and, as a consequence, there may be up to a 12-month lead time before ITNs, for example, are delivered to countries.

Panellist - Academia: Louisa Messenger, University of Nevada

Question: From your perspective, what are the current gaps in formative research related to reducing malaria in IDPs and refugees?

The vector control community is in a unique position with the deployment of new tools that have demonstrated highly efficacious results such as dual active ingredient ITNs, a suite of IRS tools and spatial repellents, among others. Randomized control trials are currently used to evaluate the performance of new tools in ideal malaria endemic settings and their application is not suited for emergency contexts given the additional contextual factors such as varied shelter structures and IRS efficacy. Therefore, how these tools will perform in emergency contexts remains largely unknown.

Specifically, robust data are limited to support tool deployment decisions, including the prioritization of tools. For example, should investment be in community level protection using spatial repellents or in appropriate shelter material?

Moreover, since the new tools are more expensive than the conventional tools, data are needed to make cost-effective decisions in support of their deployment. Clear guidance and impetus are required to do so in a cost-efficient manner.

Panellist - Policy and regulatory: Dominic Schuler, WHO PQT/VCP

Question: When evaluating a new vector control product, how do you balance the price, quality and potential market with the need to address gaps in products for IDPs and refugees?

During evaluation of a new vector control product, safety, quality and efficacy of the product are the primary considerations. The product price point is not a factor. The term “access” is used by the regulator to refer to the right to use based on safety, quality and efficacy. Therefore, the regulator provides the access rather than availability which is determined by a host of other factors that determine if the products can be deployed where they are needed.

Q&A

Question: Is there any plan for emerging tools that seem promising?

Manufacturers should present any new vector control products to the WHO PQ/VCP (vector control product prequalification) as part of a request for determination. Based on information provided about the type of product, the active ingredient (if applicable), the proposed uses, and the target vectors/diseases, the determination of pathway process enables WHO PQ/VCP to provide manufacturers with the most applicable guidance regarding the data requirements and procedures to obtain prequalification of the product. In terms of an expedited regulatory pathway for unmet needs during emergencies, the availability of an existing recommendation still applies. In terms of emergency use evaluation, it is important to note that the regulator does not declare an emergency but rather it responds to it.

Panellist – Multisectoral perspective: Graham Alabaster, UN Habitat

Question: Cities just as often as refugee camps end up being the destination for many displaced populations. What ways do you think that cities can be better prepared to ensure malaria services are provided to IDPs and refugees?

Up to 80 per cent of refugees and IDPs live in urban integrated camps or settlements rather than in classic IDP camps. This is typically in the informal settlement areas of the respective urban areas. In addition to refugee and IDP resettlements, the population in informal settlements is constantly growing due to rural-urban migration. The convergence of different groups in informal settlement areas coupled with the low level of access to basic amenities often leads to competition for scarce resources. Therefore, environment management interventions such as water, sanitation and waste management which are needed to control vector-borne diseases need to be development oriented. For example, networked water systems rather than onsite systems will have a greater impact on vector control. In addition, malaria control and management efforts should take advantage of the existing community structures such as WASH. In the long term, issues related to land and right to tenure which ultimately influence an individual’s type of house are important for larval management interventions.

Question: Long-term plans such as formalization of camps and mainstreaming of services are promising. Is this approach practical or should we invest in solutions that can be easily deployed?

In Ghana, health service provision to refugees is mainstreamed into the national health system and has been successful in terms of meeting the needs of refugees. This approach has also been successful in Uganda which hosts approximately 1.5 million refugees. In Nigeria, the Malaria Matchbox Assessment was implemented in conflict zones and the data enabled increased access to free malaria services at government health facilities for affected populations.

Following transition from camps or temporary shelter, it will take some time for any community to be fully established, but there are advantages to making recommendations such as the establishment of environmental standards through by-laws. In the long term, local authorities are best placed to lead the engagement of their communities as they understand the context, ethnic tensions, etc.

Roundtable Q&A

Moderated discussion

Question: What types of new vector control tools and products are needed for a more effective malaria response for refugees and IDPs?

Related to this question, a participant sought to understand the degree to which tools already prequalified or in the pipeline are going to address the current needs and in which contexts they are relevant. For this, a systematic review that characterizes the various existing tools, including any use restrictions, is necessary to better understand the tool gap.

Improved shelter, personal protection tools, and vector control tools are needed as summarized in Table 1 for a more effective malaria response for refugees and IDPs.

Table 1: New vector control tools and products

Shelter	Personal protection tools	Improved vector control tools
<ul style="list-style-type: none"> • Treated tents/shelters • Tents that can be sprayed 	<ul style="list-style-type: none"> • Products that protect against outdoor biting • Portable insecticide tools that provide personal protection • Treated blankets 	<ul style="list-style-type: none"> • IRS products with long residual effects • Spatial repellents • Improved ITNs • Products from interventions typically used for pest control

The characteristics of the tools were considered as important as the tools themselves. The tools should be cost-effective, easy to deploy, user friendly, small and portable, and resistance mindful.

Lastly, context specific factors such as improved sanitation services, strengthened community health systems and robust entomological surveillance are integral to sustainable vector control efforts.

Question: Are there gaps in guidance, norm setting and policy and if so, what types of guidance are needed?

Generally, it was felt that there are gaps in guidance, norm setting and policy. The following are needed:

- Guidance on emergency declarations, and prequalification of new tools and products for emergency use – in addition to the correct choice of tools in conflict areas.
- Policies to address emergency use of new tools.
- Standard coordination tool for the various actors involved in service delivery in COEs.
- Guidance on tool and product performance evaluation methodologies suitable for emergency settings.
- Guidance on needs assessment and estimation, and product quantification during emergencies.

Due to the unique context and challenges each emergency presents, flexible policy and guidance are required. Aside from policy and guidance, funding, proactive emergency response, mainstreaming of refugees and IDPs into existing government services, and pragmatic recommendations commensurate with the use context are needed to better meet the needs of populations in COEs.

Question: What specific bottlenecks stand in the way of strengthening the programme delivery of vector control tools to migrant and displaced populations?

- Insufficient research and evidence on the performance of new tools in emergency contexts.
- Lack of tools to adequately assess and quantify need, coverage and access.
- Long lead time before vector control products are available.
- Funding and tool restrictions. The choice of tool is dictated by the funding mechanism.
- Lack of an emergency fund akin to that in the WASH sector which can be used to rapidly deploy emergency response. One option for countries is the Global Fund emergency fund for grantees.
- Inadequate capacity – human and equipment – to deploy vector control tools.
- Insufficient impetus from funding agencies to drive the development of tools for use in emergencies and other specific contexts like residual malaria, outdoor transmission and forest malaria.

Closing remarks

Dr Perpetua Uhomoibhi, Director/National Coordinator Nigeria NMEP, closed the meeting and summarized key highlights from the discussion:

- There is need for proper engagement, collaboration and coordination between national governments and local authorities, implementing partners and donors.
- Existing community structures are key to the successful delivery of services.
- IDPs and refugees need interventions that are relevant to the unique challenges they face.
- There is a need for information on what has gone well and what has not worked so well for the interventions that have been tried.
- Services to refugees and IDPs should be mainstreamed into existing services.
- There is a lack of policy and guidance on the use of new tools in emergency situations.
- There needs to be more flexibility among funders when it comes to deployment of tools in emergency settings.

Next steps

- Share results and impact of malaria interventions with refugees, IDPs, etc. to help encourage their feedback and engage in conversation about the impact of the specific interventions/activities.
- Advocate to include representatives of refugees, IDPs and other displaced/marginalized populations in Global Fund Country Coordinating Mechanisms. Advocate for inclusion of humanitarian health partners and/or refugee/IDP experts who are familiar with health programme delivery for refugees, IDPs, etc. on the Global Fund Technical Review Panel (TRP). Similarly, engage with the Global Fund's COE team to set up a briefing for the new TRP members.
- Given the clear need for more implementation research on existing and new vector control tools in humanitarian settings, there is a need to map what different partners can undertake and fund this research (especially for those that are not pre-approved).
- Develop more tailored vector control guidance for WASH and Shelter partners that could help inform the commodities they deploy in the early phase of an emergency. [*Priority*]

- Differentiate what vector control tools are needed and are more appropriate to fit the needs of refugees vs. IDPs vs. other migrant populations in a variety of different settings.
- Develop a reference framework that helps clarify some of the gaps that remain in guidance and distils what options are available for partners that are seeking to extend vector control and malaria prevention activities to displaced populations.
- Continue discussions with private sector and donors about the pre-positioning and buffering of certain commodities that could be accessed in emergency situations.
- Determine how to track the flows and impact of humanitarian funding on malaria prevention and control in humanitarian emergencies.

Annex 1: List of participants

Name	Organization	Position
James Austin	BASF SE	Principal Scientist and Senior Global Development Manager - Insecticides
Alexander Heimsch	BASF SE	Business Management Global Public Health
Susanne Stutz	BASF SE	Technical Management Public Health
Akinola Shonde	Catholic Relief Services	Technical Officer, Malaria
Joseph Lewinski	Catholic Relief Services	Platform Lead, Malaria
Momar Mbodji	Catholic Relief Services	Chief of Party
Tara Seethaler	Clinton Health Access Initiative (CHAI)	Associate Director, Malaria Commodity Access – Vector Control
Nana Yaw Peprah	Ghana National Malaria Elimination Programme	Deputy Programme Manager
Kate Kolaczinski	Global Fund	Senior Specialist, Malaria Vector Control and Catalytic Funds
Alain Giovanni Dusabe	IFRC/AMP	Officer, New Nets Project
Robert Opoku	IFRC/AMP	Officer, Information Systems and Monitoring and Evaluation
Zainab Ali	IFRC/AMP	Senior Officer, Malaria Technical Adviser
Jessica Rockwood	International Public Health Advisors	President
Christen Fornadel	IVCC	Technical Coordinator
Justin McBeath	IVCC	CEO
Mark Rowland	London School of Hygiene and Tropical Medicine	Professor of Medical Entomology
Anne Wilson	Liverpool School of Tropical Medicine	Senior Lecturer in Epidemiology
Allan Were	Management Sciences for Health	Director, Vector Control
Ole Skovmand	MCC47	Consultant for Vegro and Landcent
Rukaari Medard	Ministry of Health Uganda National Malaria Control Division	National Coordinator LLINs
Fatima Bukar Ali	Nigeria National Malaria Elimination Programme	Principal Scientific Officer
Mary Esema	Nigeria National Malaria Elimination Programme	Assistant Director, Head, Integrated Vector Management (IVM)
Perpetua Uhomoibhi	Nigeria National Malaria Elimination Programme	National Coordinator
Philip Okoko	Nigeria National Malaria Elimination Programme	Deputy Director/Programme Manager, IMPACT Project
D. Levi Hinneh	NMCP Liberia	Deputy Programme Manager, Surveillance, Monitoring, Evaluation and Research
Keith Esch	PMI VectorLink (PSI)	Senior Research Lead
T. Camara	PNLP Guinea	
Valence Nimbona	PSI/AMP	Technical Adviser
Elizabeth Johnston	SC Johnson	Base of Pyramid Manager

Konstantina Boutsika	Swiss Tropical and Public Health Institute	Scientific Project Leader
Rose Peter	Syngenta	Commercial Head Vector Control SSA
Alison Oliveira Wheeler	UN Foundation, Beat Malaria Campaign	Senior Director
Juliana Yaa Owusu	UNHCR - Ghana	National Health Officer, COVID-19 and Social Protection Coordinator
Dana McLaughlin	United Nations Foundation	Senior Associate
Graham Alabaster	UN Habitat	Chief of Unit
Louisa Messenger	University of Nevada	Assistant Professor
Allison Belemvire	USAID/PMI	Malaria Technical Advisor
Silas Majambere	Valent Biosciences LLC	Business Manager
Dominic Schuler	WHO PQT/VCP	Acting Team lead, Vector Control Products Assessment
Melinda Hadi	Vestergaard	Director of Market Development and Access