RBM Partnership To End Malaria

Social and Behaviour Change
Working Group

July 13, 2023 / 13 juillet 2023 / 13 de Julho de 2023

General Call / Appel Général / Chamada Geral

Slides in English | Diapositives en français | Slides Português - bit.ly/sbcwgcall

Welcome!

Bienvenue !

Bem-vindo!

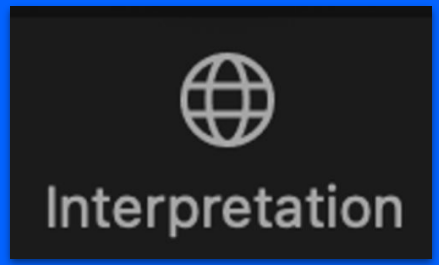
Mariam Wamala Nabukenya, Co-Chair

Gabrielle Hunter, Co-Chair

Select your language
Sélectionnez votre langue
Seleccione a sua língua

English *Français*

Português



Slides are available in English, French, and Portuguese.

Les diapositives sont disponibles en anglais, français et portugais.

Os slides estão disponíveis em inglês, francês e português.

www.bit.ly/sbcwgcall

Let's Hear from You

Donnez nous vos nouvelles

Vamos ouvir de você

Welcoming	**Mariam Nabukenya Wamala** *SBC Working Group Co-Chair*
Overview of *An. stephensi* threat	**Sarah Zohdy** *PMI & Vector Control Working Group*
Global Vector Control Response	**Anne Wilson** *Vector Control and Multi-Sectoral Working Group*
SBC Guidance for *An. stephensi* in Africa	**April Monroe** *Johns Hopkins Center for Communication Programs - Breakthrough ACTION*
Q&A	**Sarah, Anne, April, and Gabrielle** Moderated by: **Shelby Cash** *SBC Working Group Steering Committee*
Closing	**Gabrielle Hunter** *SBC Working Group Co-Chair*

Overview of *An. stephensi* threat

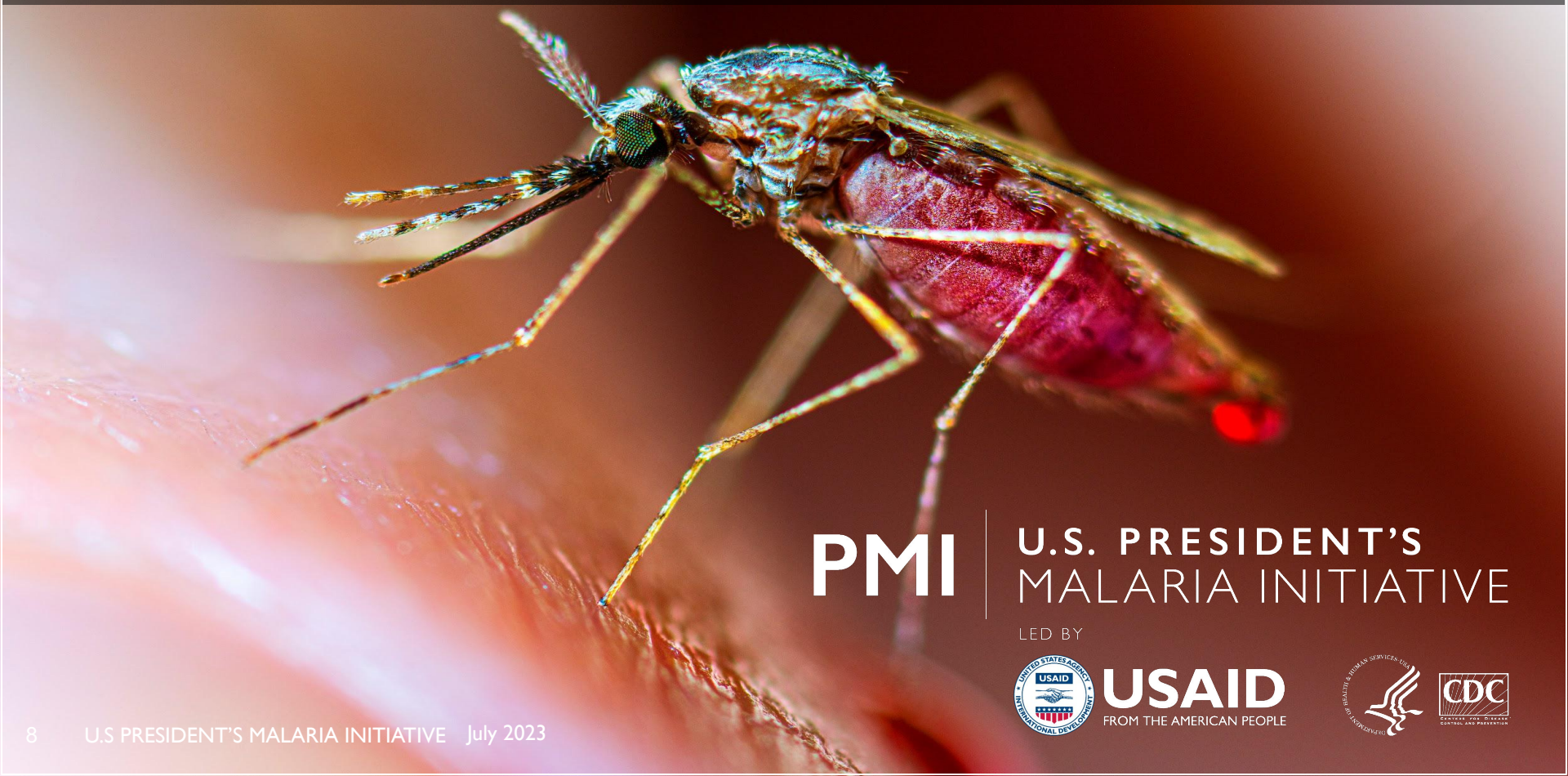
Aperçu de la menace que représente *An. stephensi*

Visão geral da ameaça do *An. stephensi*

Dr. Sarah Zohdy
Vector Control Working Group

Slides in English | Diapositives en français | Slides Português - bit.ly/sbcwgcall

Invasive malaria vector: *Anopheles stephensi*



INTERVENTIONS FOR RURAL MOSQUITO CONTROL

Mosquito Nets

500M Nets Delivered

Indoor Spraying

310M People Protected

RESPONSIBLE FOR ~78% OF MALARIA CASES AVERTED

OUTLINE

- ***Anopheles stephensi*: a unique mosquito**
- **What is the threat?**
- **How is this different?**
- **Opportunities**

A UNIQUE MOSQUITO

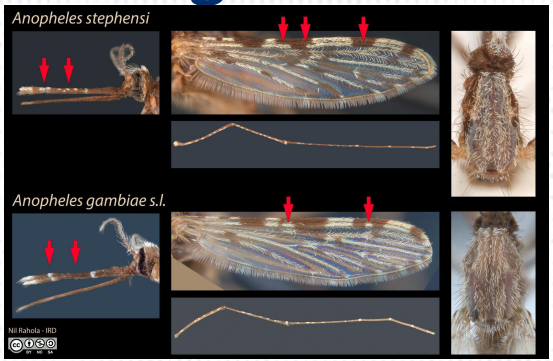
- Urban adapted
- Thrives in artificial habitats
  - Shared with dengue mosquito, *Aedes aegypti*
- Persistent through dry periods
- Transmits human malaria parasites (*Plasmodium falciparum* and *P. vivax*)

Typical rural larval habitat

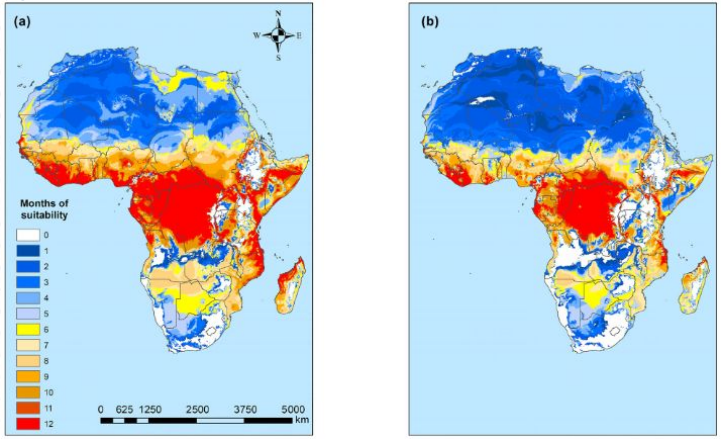
An. stephensi larval habitats

HOW IS THIS DIFFERENT FROM *An. gambiae*?

- May be misidentified as *An. gambiae* s.l.
- Adult collection difficult, larval surveys needed
- No indication of indoor biting and resting (ITN and IRS targets)
- Can transmit *P. falciparum* across larger geographical and thermal range for more months of the year
- Resistant to most adult targeting insecticides tested in invasive range



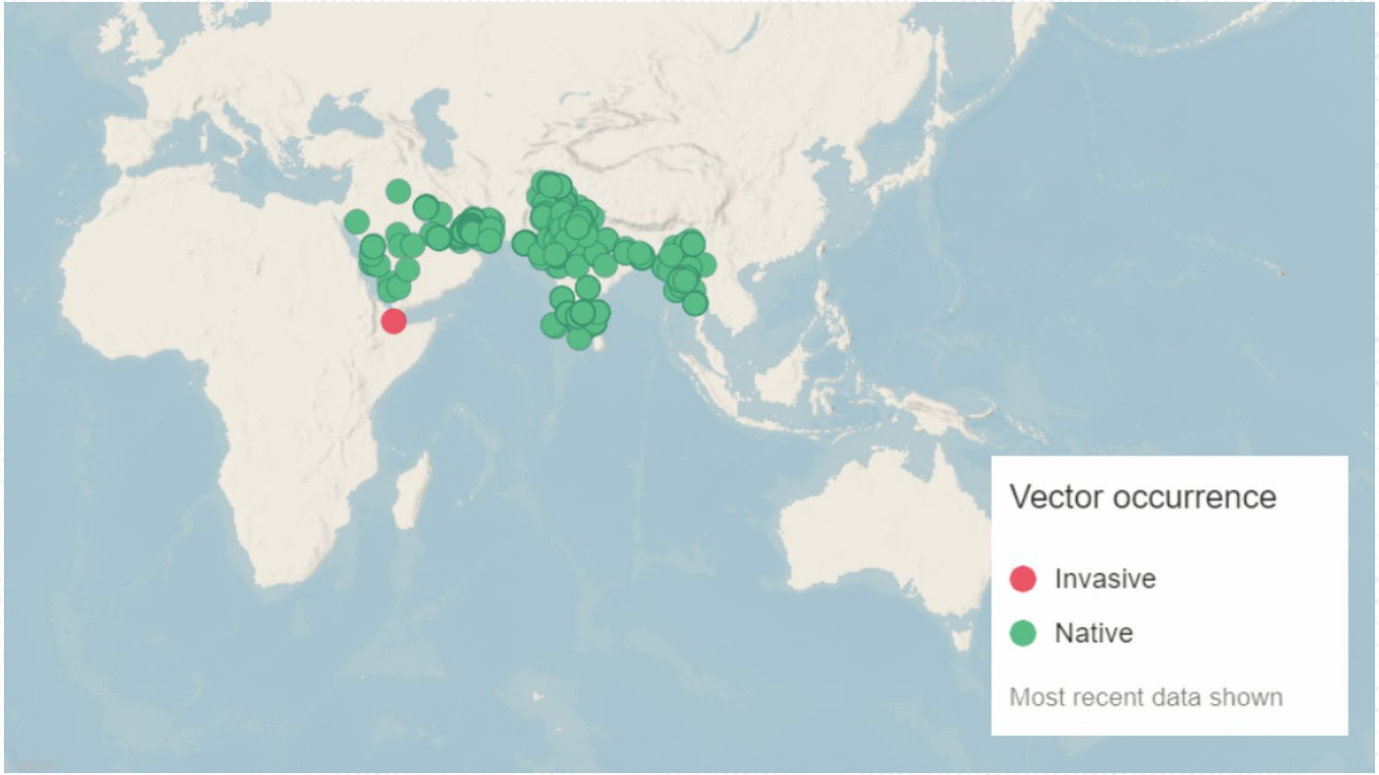
Morphological differences between *An. stephensi* and *An. gambiae* s.l.



Months per year suitable for the transmission of *P. falciparum* by *An. stephensi* (left) and *An. gambiae* (right) (Villena et al. 2022)

An. stephensi IS SPREADING IN AFRICA

- Djibouti (2012)
- Ethiopia (2016)
- Sudan (2016)
- Somalia (2019)
- Nigeria (2020)
- Kenya (2022)
- Eritrea (2023)
- Ghana (2023)

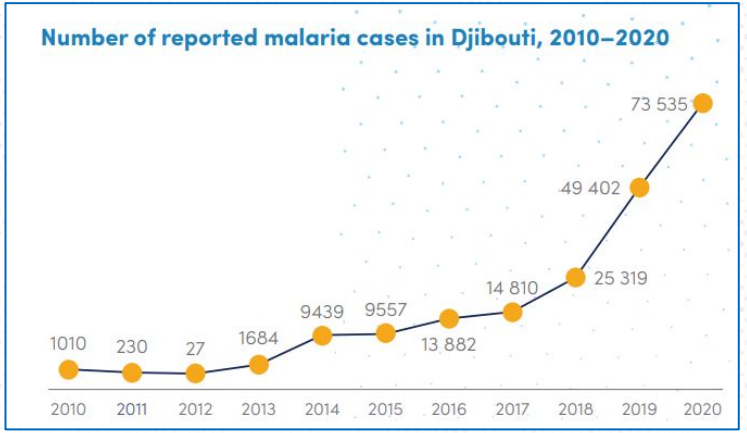


WHO threats map

EVIDENCE OF THE THREAT

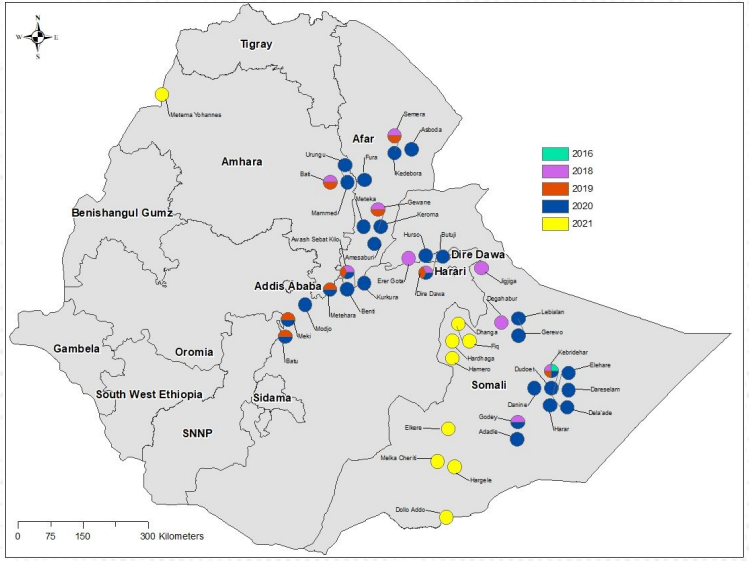
DJIBOUTI

- Malaria pre-elimination status in 2011
- 36-fold increase in malaria since detection in 2012



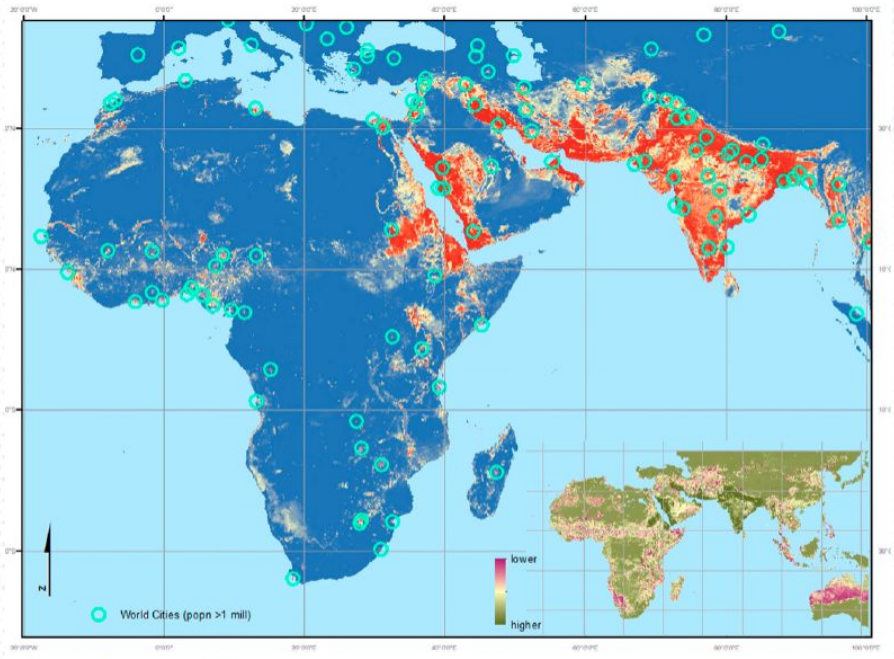
ETHIOPIA

- Widespread – 48 sites currently
- Dry season urban malaria outbreak in 2022
- Resistant to insecticides used in malaria control
- Models show potential **50% increase** in cases and additional **$72 million annually** for control



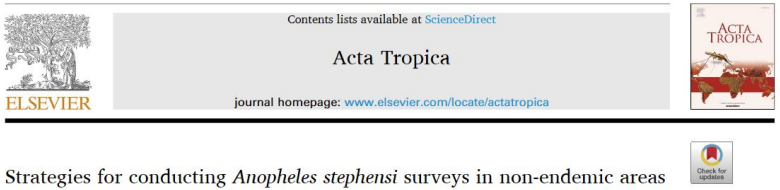
WORLDWIDE ANTICIPATED EFFECTS

- **Additional 126 million people** at risk of malaria in **urban** areas
- Limited resources threatening existing investments in global malaria
- Reversal of progress towards elimination
- Shifting focus away from reaching unreached populations



HOW IS THIS DIFFERENT?

- Surveillance challenge
  - Most commonly used surveillance methods for adult *Anopheles* do not work well for *An. stephensi*
- Control challenge
  - Insecticide resistance to pyrethroids, carbamates, organophosphates used in existing ITNs and IRS
  - Resting and biting behavior seems unlike typical vectors



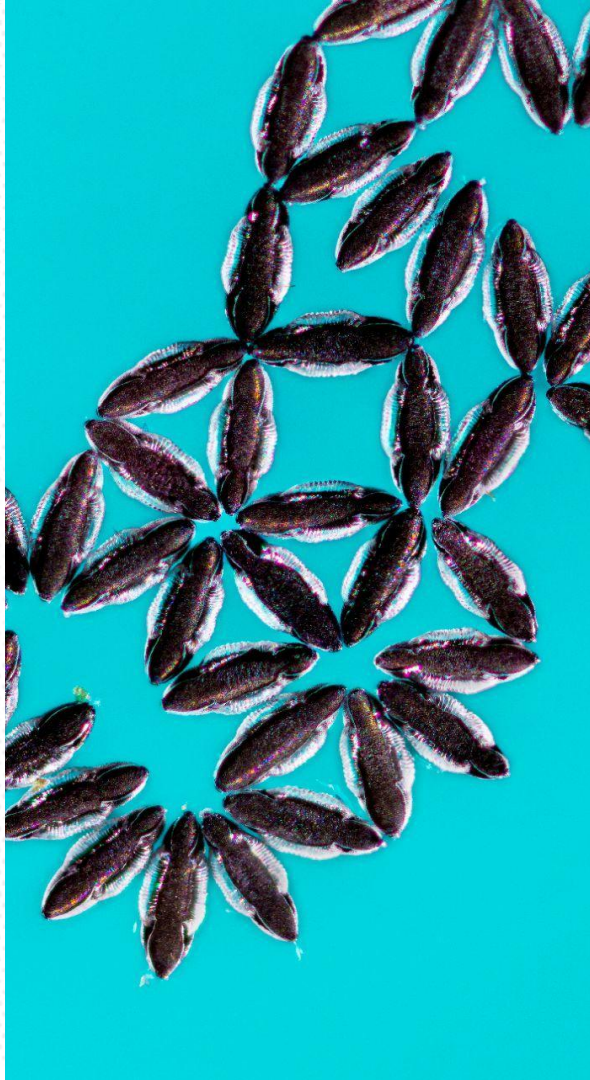
WHO INITIATIVE LAUNCHED (SEP 2022)

1. Increasing collaboration
2. Strengthening surveillance
3. Improving information exchange
4. Developing guidance
5. Prioritizing research

WHO initiative

CHALLENGES

- Additional resources (financial or human capital)
  - Unclear how to weigh extent of threat with competing priorities
- Limited specific guidance available to for country teams (improving)
- Cross-border collaboration and coordination more challenging
- Limited understanding of epidemiological impacts makes cross-technical approaches challenging
- Learning curve with initial implementation of new approaches (LSM)
  - Tools often not available for immediate large-scale use
- Heterogeneity in contexts - no one size fits all control approach
- SBC to populations at risk in urban settings
- Time lag to initiate activities
  - Detecting outbreaks time to control implementation



OPPORTUNITIES

Funding

- Public-private partnerships to support efforts
- Opportunities to prioritize integrated vector management strategies
- Support for cross-country training and learning opportunities
- Coordination with WASH, arboviral disease, veterinary services, One Health programs
- SBC to support multiple disease systems

THANK YOU!

PMI | U.S. PRESIDENT'S MALARIA INITIATIVE

LED BY

USAID
FROM THE AMERICAN PEOPLE

CDC

Global Vector Control Response

Réponse à la lutte antivectorielle à l'échelle mondiale

Resposta global ao controlo de vectores

Dr. Anne Wilson
Vector Control and Multi-Sectoral Working Group

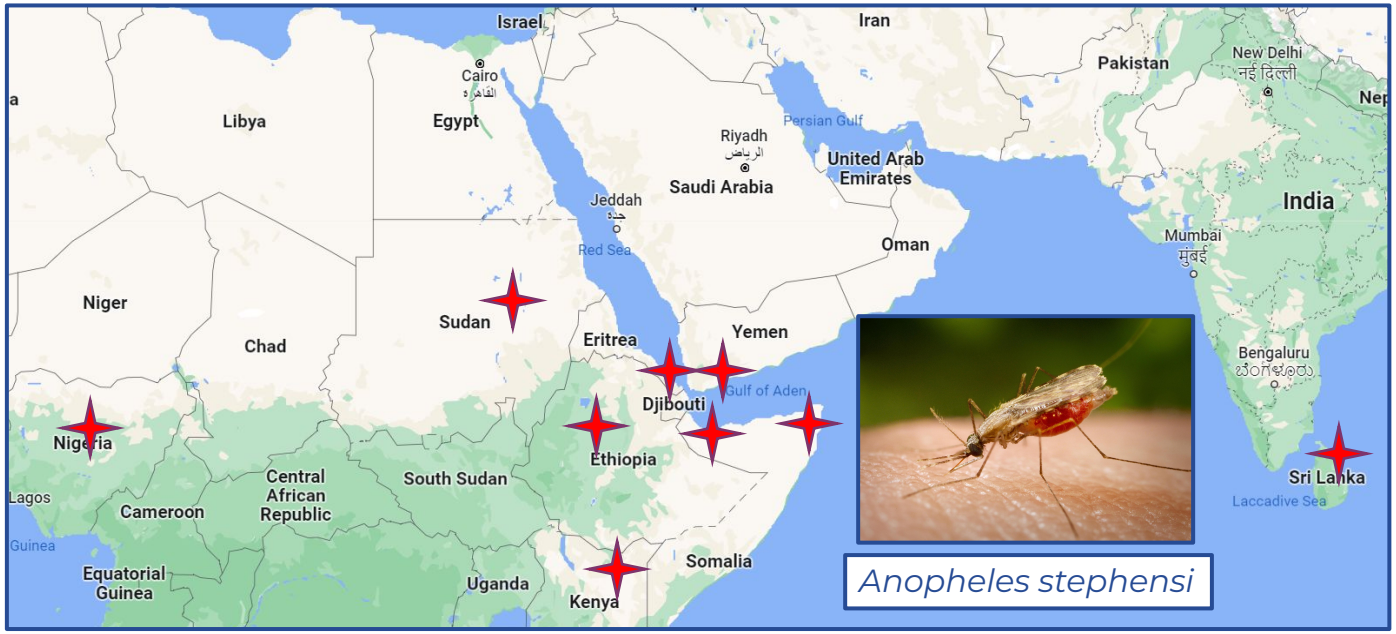
Slides in English | Diapositives en français | Slides Português - bit.ly/sbcwgcall

RBM Partnership To End Malaria

13th July 2023

Joint VCWG/MSWG consensus statement: Global Vector Control Response to invasive *Anopheles stephensi*

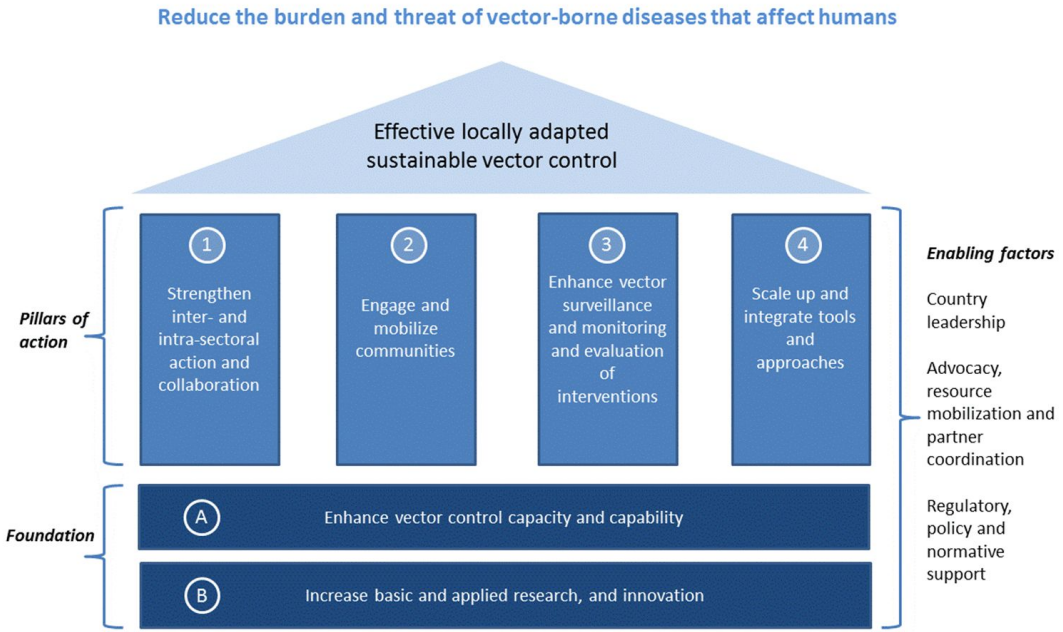
Anopheles stephensi: A growing threat



Detected in: Djibouti (2011), Ethiopia (2016), Sri Lanka (2017), Republic of Sudan (2019), Puntland (2019), Nigeria (2020), Somaliland (2020), Yemen (2021), Kenya (2022)

Consensus Statement

- Joint initiative of RBM VCWG and MSWG recognizing the urgency of the need to respond to *An. stephensi*
- Calls on RBM partners and others to support the fight against *An. stephensi*
- Aims to support work of WHO, UN-Habitat and others by facilitating sharing of knowledge and best practices



How can VCWG/MSWG support the response to *An. stephensi*: Global Vector Control Response pillars of action

1. Strengthening inter- and intra-sectoral action and collaboration

- Support multisectoral collaboration through sharing guidelines and best practices, and supporting project formulation and access to financing

2. Enhancing vector surveillance and monitoring and evaluation of interventions

- Facilitate networking between universities/research institutes and national programs
- Share guidelines on vector identification

How can VCWG/MSWG support the response to *An. stephensi*: Global Vector Control Response pillars of action

3. Scaling up and integrating tools and approaches

- Support information sharing on new and existing products, delivery approaches, and monitoring and evaluation

4. Engaging and mobilising communities

- Share information on SBCC for *An. stephensi* control
- Advocate for the importance of human behaviour for effective control
- Collate information on social science experts to support research and programs
- Share best practices from community-based source reduction programs for *Ae. aegypti*

How can VCWG/MSWG support the response to *An. stephensi*: Global Vector Control Response foundations/enabling factors

Enhance vector control capacity and capability

- Facilitate networking between centers of excellence, training and research institutions to build human and laboratory capacities for *An. stephensi* surveillance and control

Increase basic and applied research

- Facilitate identification of research gaps

- Country leadership
- Advocacy, resource mobilisation, partner coordination
- Regulatory, policy, normative support

What next?

- Please share the Consensus Statement widely
- Comments and thoughts welcome on how we can make the Consensus Statement **actionable**
- Join the Task Team

Thank you!

Author team: Mike Macdonald, Anne Wilson,
Justin McBeath, Corine Ngufor, Chadwick Sikaala
On behalf of Task Team on *An. stephensi*, WS3 VCWG

SBC Guidance for *An. Stephensi* in Africa

Orientations du CSC pour *An. Stephensi* en Afrique

Orientação da SBC para *An. Stephensi* em África

Dr. April Monroe
Johns Hopkins Center for Communication Programs - Breakthrough ACTION

SBC Guidance for *Anopheles stephensi* in Africa

PMI | U.S. PRESIDENT'S MALARIA INITIATIVE

LED BY

USAID FROM THE AMERICAN PEOPLE

CDC

Breakthrough ACTION FOR SOCIAL & BEHAVIOR CHANGE

Overview

- Background and overview of SBC guidance document
- Cross-cutting considerations
- Intervention-specific SBC guidance
  - Core malaria interventions
  - Larval source management interventions
- Conclusions

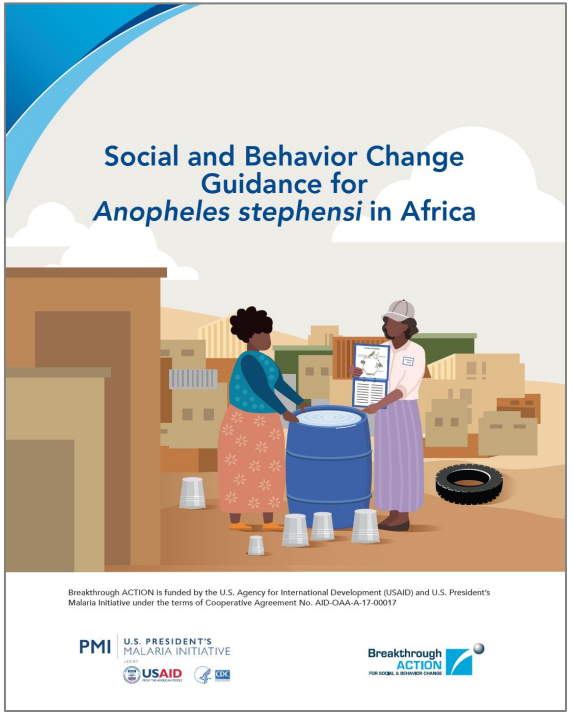
Background and Overview of SBC Guidance

Why is SBC important in the *An. stephensi* response?

- *Anopheles stephensi* is migrating to new areas and has been identified in several African countries recently
- It behaves differently than common malaria mosquitoes in Africa
- Areas with *An. stephensi*, particularly urban areas, may experience greater malaria risk than in the past and could experience malaria outbreaks in dry seasons
- *An. stephensi* may affect different population groups and may require different or new vector control measures
- SBC will be critical to communicate new information and mobilize communities to take up new behaviors

SBC Guidance for *Anopheles stephensi* in Africa

- Country-level response to the invasive *An. stephensi* should include a corresponding SBC strategy for the new threat
- The SBC Guidance focuses on individual, household, and community level behaviors to mitigate this vector in Africa
- Developed by a team of vector control and SBC professionals from PMI and Breakthrough ACTION



Core Interventions

- Insecticide-treated nets (ITN)
- Indoor residual spraying (IRS)
- Care-seeking for fever*

**Note opportunity for integration with Aedes aegypti programs!*

Larval Source Mitigation

- Community larviciding
- Household larviciding*
- Finding and removing standing water*
- Covering water storage containers*

Literature review for each intervention on specific individual, household, and community behaviors involved, and lessons learned from SBC programs and research, including from South Asia and *Ae. aegypti*.

Cross-Cutting Considerations

Cross-Cutting Considerations

- Act early to address the threat of *An. stephensi*
  - Raise awareness of the threat and ensure people have the information and resources necessary to act
  - Keep communities informed about emerging threats to build and maintain trust in the malaria response; this creates a solid foundation for mitigating potential rumors

- Identify opportunities for integrated SBC approaches
  - Identify and engage contextually relevant community leaders and community-based civil society organizations early in the process
  - Promote inter-sectoral collaborations such as municipal, transportation/commerce, education, and employer-based programs to increase engagement and promote target behaviors
  - Promote collaborations across malaria partners for a comprehensive malaria response

Cross-Cutting Considerations

- **Consider levels of risk and current malaria behaviors** to tailor approach
  - Where malaria transmission has been historically low, important to increase risk perception
- In areas where *An. stephensi* has already been identified
  - Interventions that have not been as widely implemented may be utilized e.g., LSM interventions
  - Where an intervention is new or less familiar, let people know why it is being implemented
  - Emphasize the importance of maintaining current malaria-related behaviors where they are already high and increase them in areas where they are below target levels
- In areas at elevated risk of invasion
  - Promote and increase core malaria-related behaviors
  - Prompt care seeking for fever is important to identify potential spikes in cases

Core Malaria Interventions

SBC for Insecticide-treated Nets (ITN)

Behavior: Use ITNs every night, care properly for ITNs and replace them when no longer effective.

Considerations for *An. stephensi* and urban populations

- Raise awareness that *An. stephensi* can persist in the dry season, and therefore, ITNs should be used all year long, regardless of season.
- When distributing new types of nets, communicate that people are receiving the best type of net for their area and anticipate any rumor mitigation.
- In areas of lower malaria transmission, identify higher risk groups (e.g., construction workers, travelers, mobile populations) to target SBC for ITN use and care.
- Lower immunity to malaria and lower use of ITN among urban populations will require tailored SBC, including increased outreach to pregnant women in urban areas.
- Given limitations for ITN distribution in urban areas, build demand for ITNs for urban populations to acquire nets, including through private sector and ANC/EPI channels.

SBC for Indoor Residual Spraying (IRS)

Behavior: Accept application of IRS, make structures eligible for spray, remove household belongings, and avoid post-spray wall modification.

Considerations for *An. stephensi* and urban populations

- IRS has predominantly been implemented in rural areas with lower acceptability in urban areas; introducing IRS in urban areas may require special considerations and build on learnings from IRS in rural areas.
- Understand barriers to IRS acceptance in urban groups.
- Use effective strategies to engage urban communities and their leaders, with information sessions and active participation of community leaders to help overcome those barriers.
- Inform that lower malaria immunity in urban groups makes them vulnerable.
- Provide ample opportunity for questions and address concerns about IRS.
- Work with community members to select respected spray operators that will have the trust of urban communities.

SBC for Care-seeking for Fever

Behavior: Seeking care within the same day or the next day (24 - 48 hours) of fever onset.

Considerations for *An. stephensi* and urban populations

- Because of the lower prevalence of malaria in urban areas, it is important to **raise awareness about the threat** of *An. stephensi,* increase recognition of danger signs, and promote prompt care-seeking.
- Malaria SBC strategies should focus on context-specific **higher risk groups** living in, working in, or traveling to and from urban areas.
- Focus on the importance of seeking care early and awareness of danger signs.

Larval Source Management Interventions

SBC for Household Larviciding

Behavior: Apply and monitor larvicide in household water containers or other larval sources and follow instructions of vector control technicians.

Considerations for *An. stephensi* and urban populations

- Access to water storage containers within households and private compounds is crucial to the success of this intervention, which applies a larvicide to stored water, but can be difficult in urban settings.
- Benefit from lessons learned on engaging communities in IRS.
- Early and meaningful engagement with communities and the use of technicians that are trusted by the community can help to overcome barriers and reach household water containers.
- Provide clear messaging about the **specific steps** for household members to follow and how to manage water containers between larvicide applications.

SBC for Community Larviciding

Behavior: Support efforts to identify all community breeding sites and accept the application of larvicide in identified breeding sites

Considerations for *An. stephensi* and urban populations

- Building trust and utilizing community-based systems have been shown to increase acceptance and impact for community larviciding.
- Clearly explain the rationale behind the seasonal schedule for larviciding.
- Emphasizing safety, and both personal and community benefits can help increase acceptance.
- Thorough training in habitat and larval identification is important for the success of these programs.
- Employ iterative cycles of research, feedback, and discussion to inform and improve SBC in this area.

SBC for Finding and Removing Standing Water

Behavior: Identify mosquito breeding sites in and around both the home and community and remove them according to recommendations

Considerations for *An. stephensi* and urban populations

- General clean-up campaigns in which communities are informed they should clean their yards and communal areas without **clearly specifying WHICH containers or areas** need to be removed have little effectiveness.
- Caregivers have been found to be an appropriate focal point for this intervention given their responsibilities related to household water collection and storage.
- Removing standing water should focus on where specific breeding sites are located, as identified by vector control. Otherwise, community efforts will be diluted.
- Use community maps to map breeding sites and focus the search on areas where stagnant water or rainwater tend to accumulate.

SBC for Covering Water Storage Containers

Behavior: Cover infrequently accessed water storage containers in and around the home with a lid that prevents mosquitoes from entering

Considerations for *An. stephensi* and urban populations

- There is mixed evidence on the effectiveness of covering water storage containers to reduce mosquito breeding.
- Household members and communities may not always be aware of the characteristics that make a cover effective, so a strong SBC component is key.
- The lid should make a very tight seal, should not touch the water inside, and be made of a material that does not accumulate water, and does not crack or warp in the heat or sun
- Covers must be kept in excellent condition and replaced as needed.
- Covering short-term water storage containers has less potential efficacy, as frequent lid use can result in wear and tear and render the lids ineffective or counterproductive.
- Collaboration with WASH programs, housing modification initiatives, integrated vector management programs, and professionals who can cover large water tanks is recommended.

Take Home Messages

Take Home Messages: SBC for *An. stephensi*

- Individuals, households, and communities are critical to the response
- Act quickly to build trust
- Tailor SBC to level of threat and current levels of target behaviors
- Reinforce existing malaria behaviors when introducing new interventions
- Be as specific as possible when promoting new behaviors
- Identify and reach higher-risk and mobile groups in affected areas
- Embrace opportunities for integrated approaches to SBC

Thank you

For more information, please contact

April Monroe, PhD, MSPH
amonro10@jhu.edu

www.breakthroughactionandresearch.org

@BreakthroughAR @Breakthrough_AR

PMI U.S. PRESIDENT'S MALARIA INITIATIVE LED BY USAID FROM THE AMERICAN PEOPLE CDC

Breakthrough ACTION FOR SOCIAL & BEHAVIOR CHANGE

Questions | Questions | Perguntas

Moderator

Shelby Cash
SBC WG Steering Committee

Panelists

Gabrielle Hunter

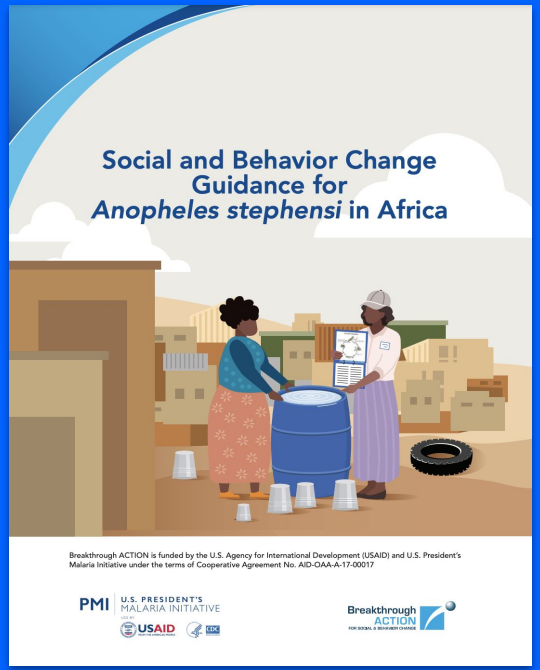
April Monroe

SBC Guidance for An. stephensi

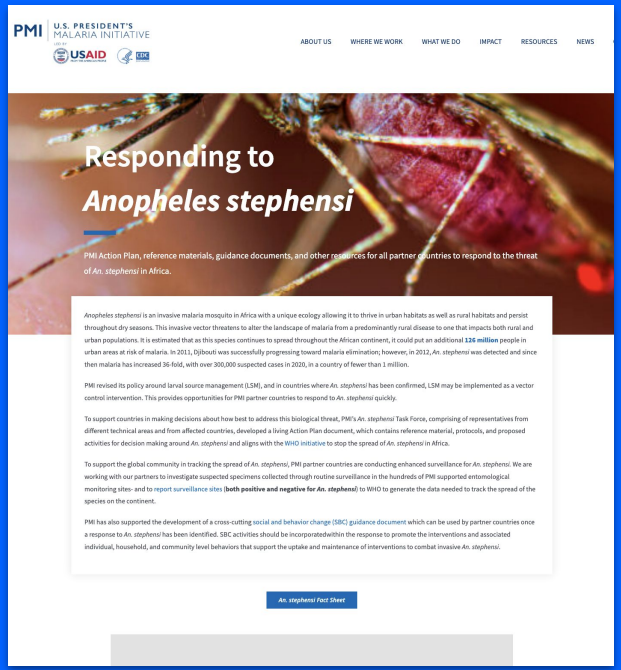
Anne Wilson
Global Vector Control Response

Sarah Zohdy
Overview of An. stephensi

An. Stephensi Resources



Social and Behavior Change Guidance for *An. stephensi* in Africa



President's Malaria Initiative Resources for Responding to *An. stephensi*

Global Vector Control Response to invasive *An. stephensi*

Closing
Fermeture
Encerramento

Mariam Wamala Nabukenya, Co-Chair

Gabrielle Hunter, Co-Chair

SBC WG 10th Annual Meeting

When: November 7, 8, 9, 2023

Where: Abidjan, Côte d'Ivoire

Why: Convene malaria SBC professionals to…

- Share experiences in malaria SBC
- Participate in skills-building sessions
- Discuss emerging issues
- Set priorities for the next year

Interpretation: English | français | português

Registration: $250 USD - Date to be announced

Website: https://sbcwg.dryfta.com/

Upcoming Events

Malaria in Pregnancy WG Annual Meeting
Geneva, September 12-13

SBC WG Webinar
October 5
Topic: To be announced

In-Person SBC WG Annual Meeting
Abidjan, November 7-9

Staying in Touch! Restez en contact ! Manter o contacto!

Website / Site web / Website

www.bit.ly/RBMSBCWG

Email List / Liste d'emails / Lista de e-mail

www.bit.ly/SBC-WG-EMAIL

Springboard Page / Page Springboard / Pagina de Springboard

www.bit.ly/SBC-WG-COMMUNITY

Thank you! / Merci! / Obrigado!