COMMUNITY HEALTH INTERVENTION RESEARCH TO OPTIMIZE MALARIA CONTROL STRATEGIES: PRESENTATION OF THE SUCOPPA PROJECT IN BENIN

Colloque IT I3M, Paris le 04 juin 2026

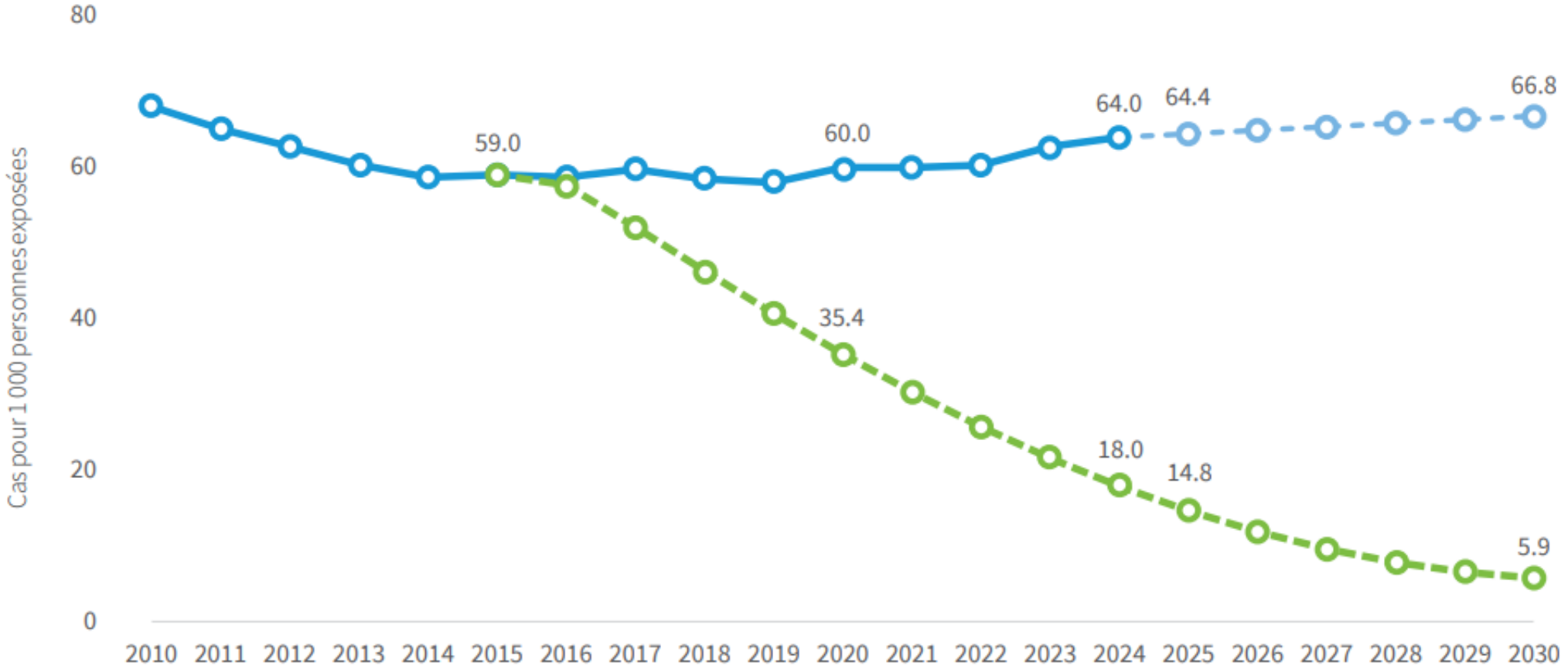
Gilles COTTRELL et Armel DJENONTIN

EXPERTISE FRANCE
GROUPE AFD

INITIATIVE 5%
SIDA, TUBERCULOSE, PALUDISME

World malaria report 2025

Addressing the threat of antimalarial drug resistance



What went wrong…?

World malaria report 2025

Executive summary

Key threats to progress

- **Funding cut**
- **Mosquito resistance to pyrethroids**
- **Pfhrp2 gene deletions continue to spread**
- **The spread of antimalarial drug resistance in Africa**
- **The spread of An. stephensi**

An integrated and context-specific malaria control strategy

- **Main malaria control tools:**
  - **Rapid diagnosis and treatment** of cases (**epidemiological surveillance** +++)
  - **Insecticide-treated mosquito nets**
  - **Intermittent preventive treatment (IPTp)** for pregnant women
  - **Vaccines** (for children under 2 years, recently introduced)

- **Additional Tools:**
  - **Seasonal chemoprevention**
  - **Perennial chemoprevention**
  - **Indoor residual spraying**
  - **Etc.**

- All these tools **proven their efficacy** in randomized controlled trials, are **subsidized and available in affected countries**

Yet…

- Globally (WHO, 2025):
  - 47% of people have slept under a bednet the previous night
  - 45% of pregnant women have had a 3 doses+ IPTp
  - 47% of children under 5 years with fever the last 2 weeks have had a malaria diagnosis

- Benin, MICS 2021 – 2022:
  - 86% of households own a mosquito net
  - 74% of people slept under a mosquito net the previous night
  - 31% of pregnant women received a 3 doses+ IPTp
  - No treatment or advice was sought for 50% of children with fever in the last 2 weeks
  - Only 19% of febrile children in the last 2 weeks had a finger/heel blood test

Cottrell *et al. BMC Public Health* (2025) 25:2529
https://doi.org/10.1186/s12889-025-22212-6

BMC Public Health

RESEARCH Open Access

Suboptimal distribution and utilization of antenatal care given bed Nets undermine pregnant women's protection in Benin: a prospective field study

Gilles Cottrell[1*], Armel Djènontin[2,3], Christophe Soares[2,3], Aziz Bouraima[2,3], Marc Fiogbé[4], Seun Egbinola[5], Cyriaque Affoukou[6] and Aurore Hounto Ogouyèmi[6,7]

20% usage by pregnant women of the LLIN received during their first prenatal care visit

Clinical Infectious Diseases

MAJOR ARTICLE

IDSA Infectious Diseases Society of America hivma hiv medicine association

Suboptimal Intermittent Preventive Treatment in Pregnancy (IPTp) is Associated With an Increased Risk of Submicroscopic *Plasmodium falciparum* Infection in Pregnant Women: A Prospective Cohort Study in Benin

Cornélia P. A. Hounkonnou,[1,2,©] Nicaise Tuikue Ndam,[1] Nadine Fievet,[1] Manfred Accrombessi,[3,4] Emmanuel Yovo,[3] Atikatou Mama,[3] Darius Sossou,[3] Bertin Vianou,[3] Achille Massougbodji,[3] Valérie Briand,[5] Michel Cot,[1] and Gilles Cottrell[1]

Underutilized IPTp leaves a large proportion of pregnant women infected

BMJ Global Health

Evaluation of the first malaria vaccine introduction: ongoing learning opportunities during the introduction into routine immunisation in Cameroon

Tchokfe Shalom Ndoula Josue Kedakse ,[1] Mohamed 2 Kaba ,[2] Simon Franky Baonga ,[2] Franck Mboussou ,[3] Andreas Ateke Njoh ,[1,4] Adidja Amani ,[3] Gisèle Efouba,[1] Jean Christian Kouontchou Mimbe ,[2] Arnaud Njinkeu ,[2] Kevin Sylvestre Yohou,[2,5] Raoul Nembot Mekoueng ,[1] Mayuko Takamiya ,[6] Mohamadu Wirngo ,[7] Judith Hedje,[8] Mohamed F Jalloh ,[9,10] Jenny Anne Walldorf ,[6] Phanuel Habimana,[2] Benido Impouma [3]

Only 56% of eligible children received their first dose; coverage of the second and third doses was 31% and 28%,respectively

Among caregivers, 60% knew the date of the next appointment and less than 50% were aware of the required doses

This should raise the question of the importance of understanding the reasons behind the suboptimal implementation and use of malaria control tools, in order to take action to reduce these gaps

World Health Organization

A primarily **biomedical and technological response**

GLOBAL TECHNICAL STRATEGY FOR MALARIA 2016–2030

CONTENTS

FOREWORD v
ACKNOWLEDGEMENTS vi
BACKGROUND 1
VISION, GOALS AND PRINCIPLES 1
NEED FOR AN UPDATED POST-2015 TECHNICAL STRATEGY 2
STRATEGY DEVELOPMENT PROCESS 6
PATH TO MALARIA ELIMINATION 6
STRATEGIC FRAMEWORK 7
THE THREE PILLARS OF THE STRATEGY 9
- Pillar 1. Ensure access to malaria prevention, diagnosis and treatment as part of universal health coverage 9
- Pillar 2. Accelerate efforts towards elimination and attainment of malaria-free status 13
- Pillar 3. Transform malaria surveillance into a key intervention 16

SUPPORTING ELEMENTS 19
- Supporting element 1. Harnessing innovation and expanding research 19
- Supporting element 2. Strengthening the enabling environment for sustainable and equitable results 22

COST OF IMPLEMENTING THE GLOBAL TECHNICAL STRATEGY 25
MEASURING GLOBAL PROGRESS AND IMPACT 25
ROLE OF THE SECRETARIAT 26
GLOBAL TECHNICAL STRATEGY AT A GLANCE 28
REFERENCES 29

Malaria interventions cannot succeed unless communities are fully engaged and able to fully realize the benefits from the use of prevention tools and recommended therapies

Behaviour change programmes are essential for educating, engaging and mobilizing affected communities around the benefits and correct use of malaria prevention, while increasing community ownership of the initiatives

These aspects are **still very rarely implemented on the field** in national malaria control strategies

RESEARCH ARTICLE

Dynamics of submicroscopic and microscopic asymptomatic malaria infection and associated factors: A longitudinal study in South Benin

Rodeline Telfils[1], Akpéyédjé Yannelle Dossou[2], Armel Djènontin[3], Elisée Adimi[4], Romuald Akoho[4], Justine Bailly[1], Aziz Bouraïma[3], Déborah Matondo[1], Yolande Sissinto-Savi de Tove[5], Dismand Houinato[5], Achille Massougbodji[2], Célia Dechavanne[1,4], Gilles Cottrell[1]*

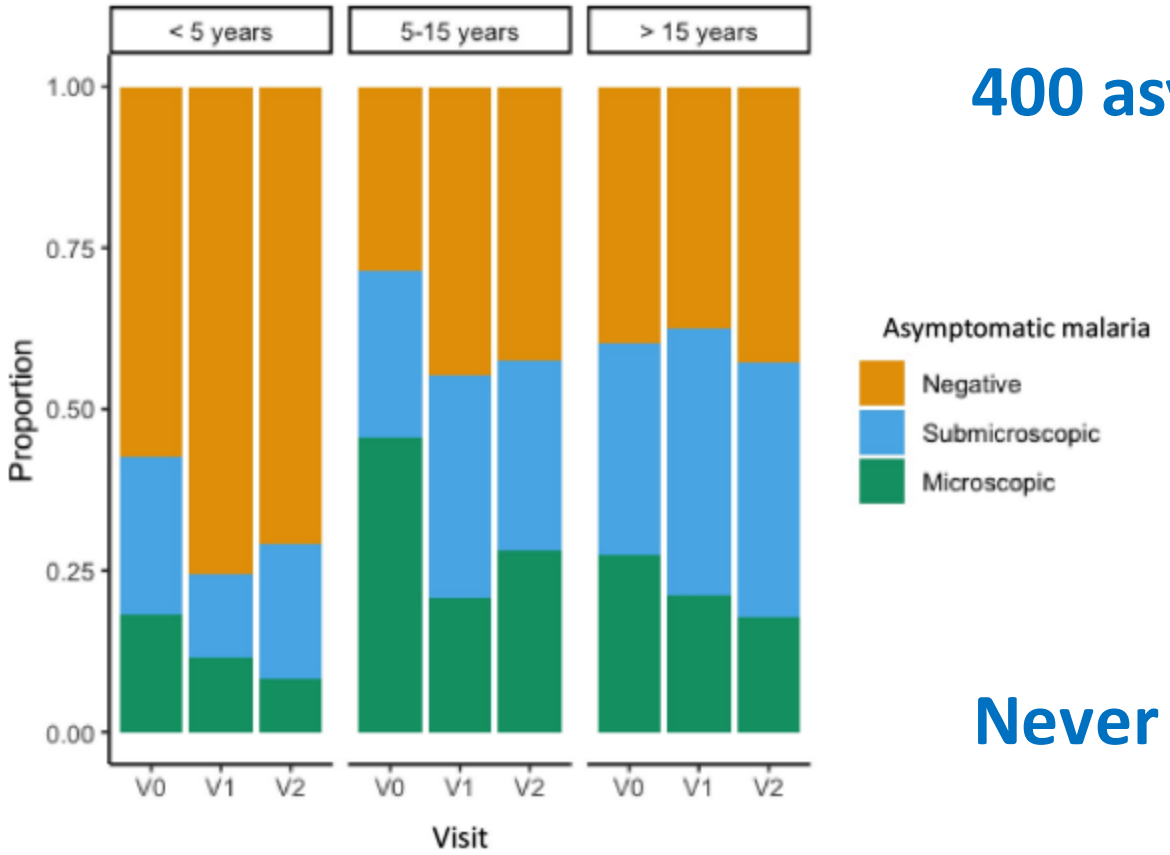


Fig 3. Distribution of asymptomatic malaria infection by age group and visit. V0: Inclusion; V1: Visit 2, V2: Visit 3.

Another major gap: the asymptomatic reservoir

400 asymptomatic participants ~ 50% infected

Do communities perceive this?

What are the implications for malaria control?

Never mentioned in malaria control strategies

World malaria report 2025

Executive summary

Key threats to progress

- **Funding cuts**
- **Mosquito resistance to pyrethroids**
- **Pfhrp2 gene deletions continue to spread**
- **The spread of antimalarial drug resistance in Africa**
- **The spread of An. Stephensi**
- **The suboptimal implementation and use of control tools**
- **The (complex) asymptomatic reservoir and its perception by communities**

are also threats!

APPROCHE COMMUNAUTAIRE POUR LA SURVEILLANCE ET LA PREVENTION DU PALUDISME CHEZ LES POPULATIONS VULNERABLES AU BENIN

SUCCOPPA

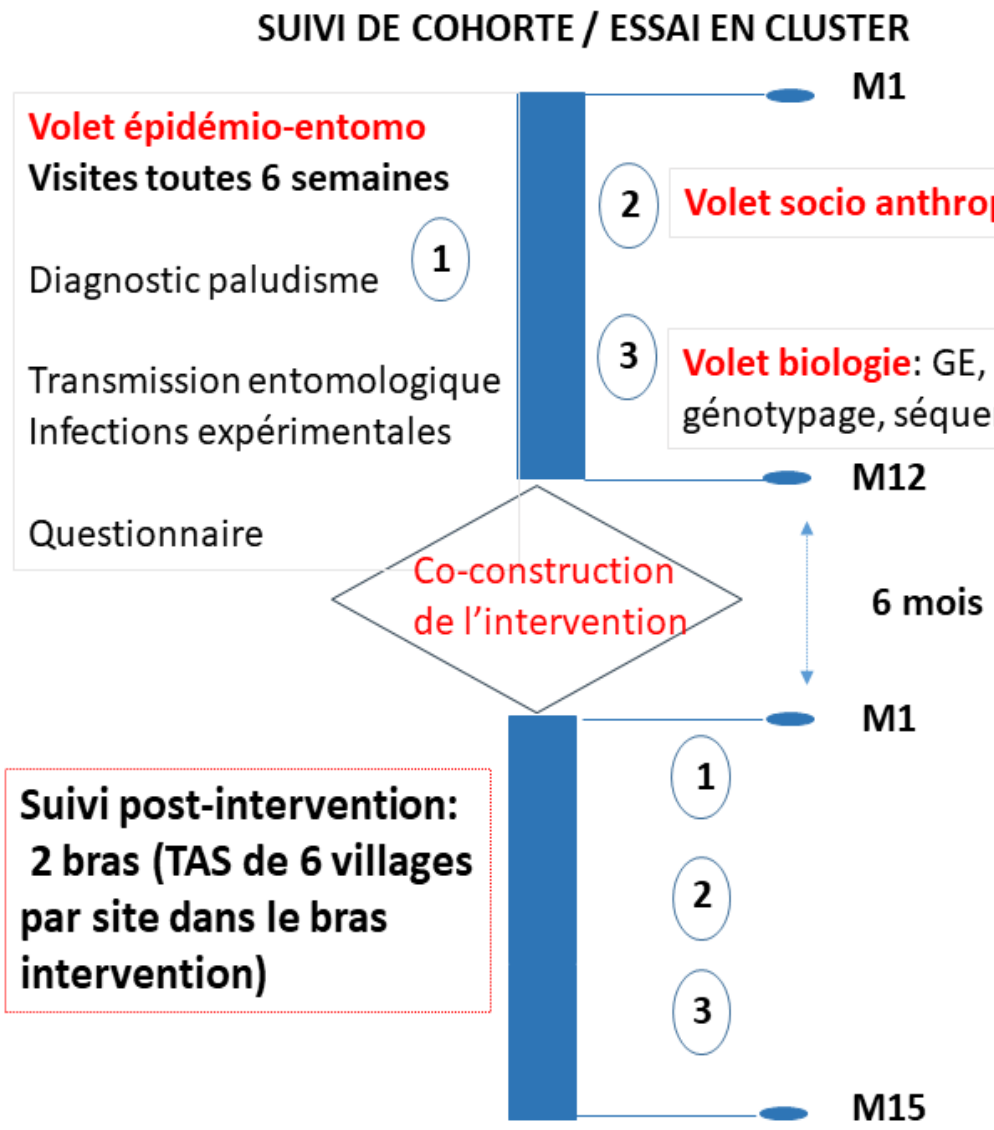
EXPERTISE FRANCE
GROUPE AFD

INITIATIVE 5%
SIDA, TUBERCULOSE, PALUDISME

Justification

- Need for a **community-based and participatory bottom-up approach**: Actively involving affected populations (children/youth, pregnant women, their husbands, parents, community leaders, religious leaders) is crucial
- **Importance of male involvement: men play a key role in family decision-making** and health management but are underrepresented in awareness campaigns
- **Addressing the asymptomatic reservoir: targeted awareness about the risks of asymptomatic carriage** is necessary to boost adherence to malaria control strategies

SUCOPPA: A transdisciplinary, community-co-designed intervention research project



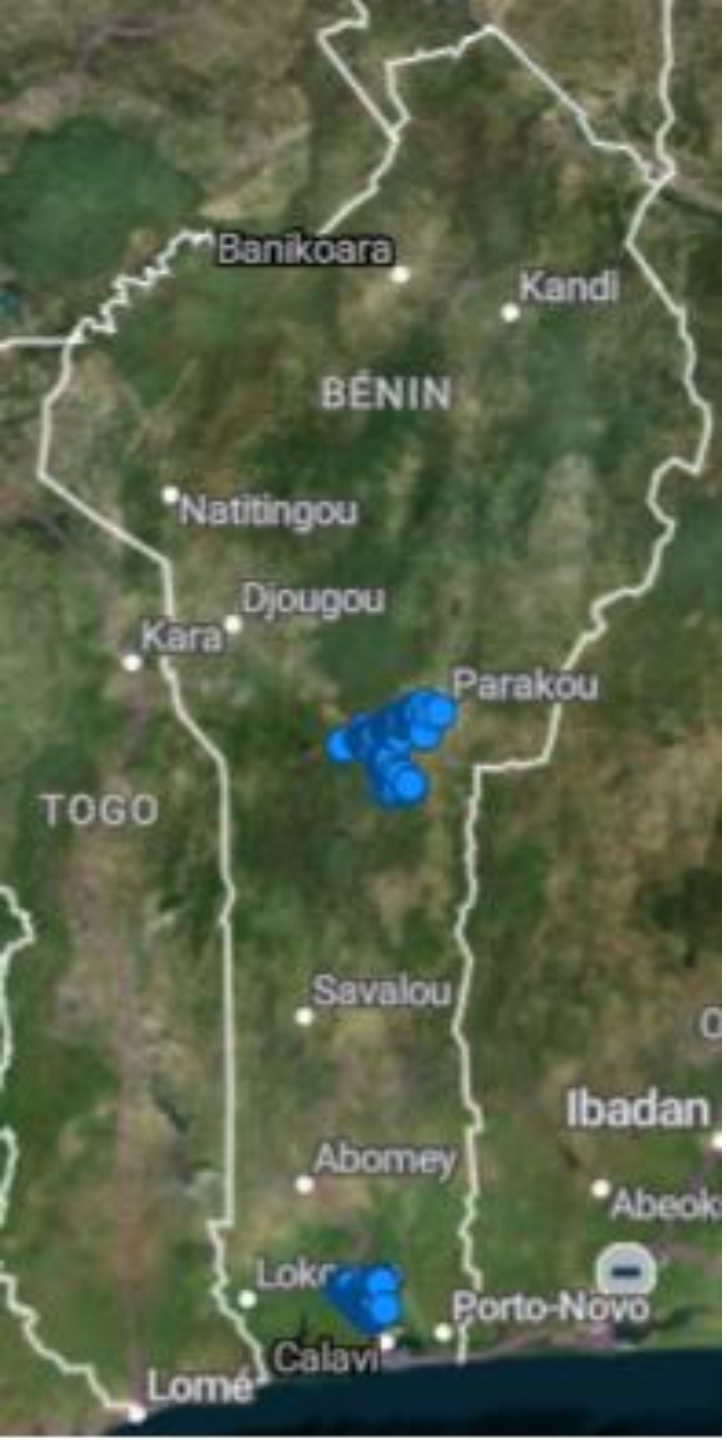
2 sites (north / south)

12 villages / site

600 participants/site (all age group)

The SUCOPPA approach

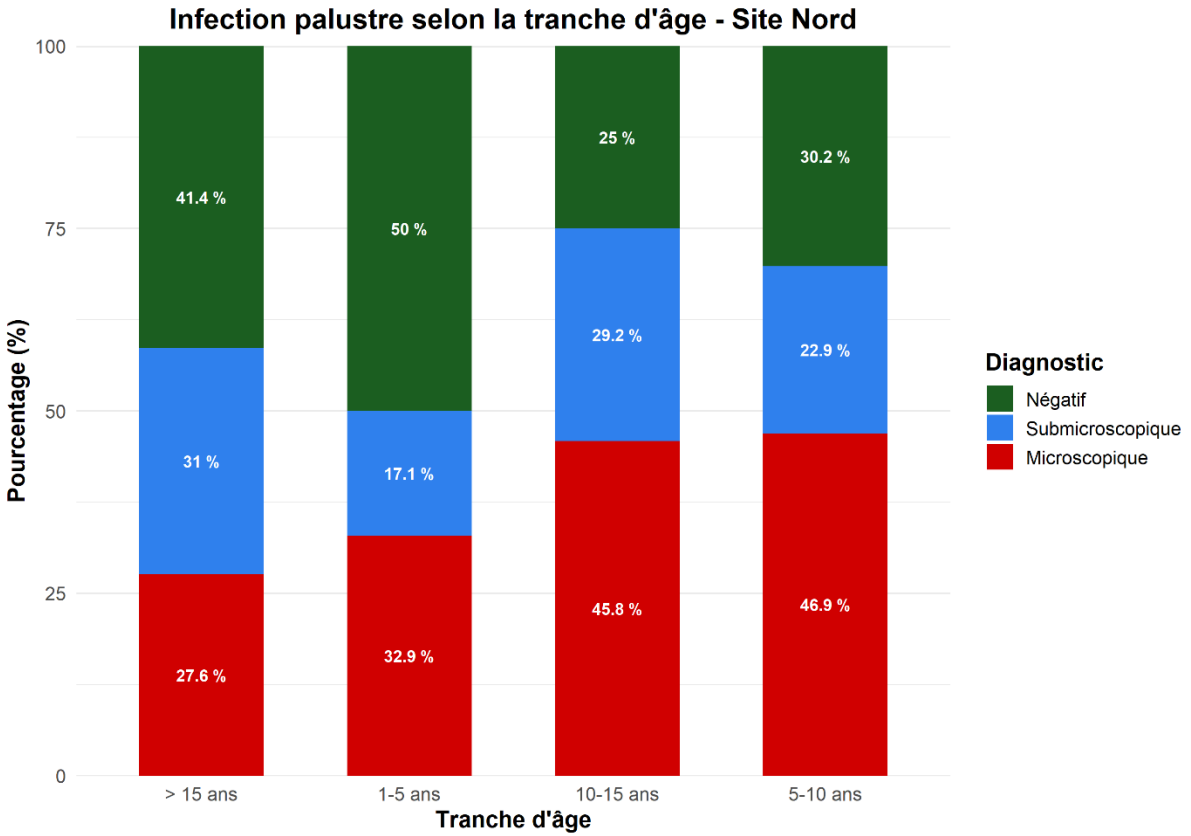
- **Intervention**: Communication for behavioral and societal change
- **Supporting** the National Community Strategy (NMCP)
- **Capitalizing on results** will facilitate its scaling up

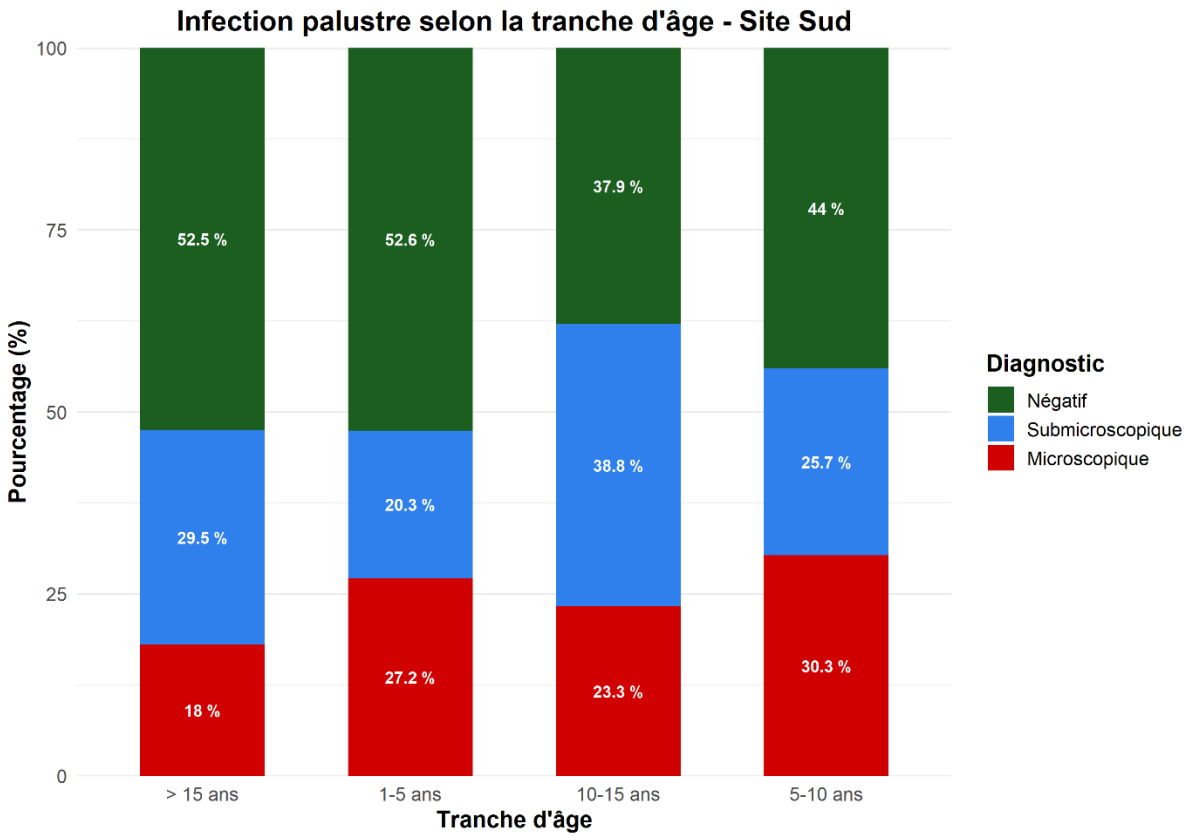


North Site

South Site

Asymptomatic carriage at inclusion

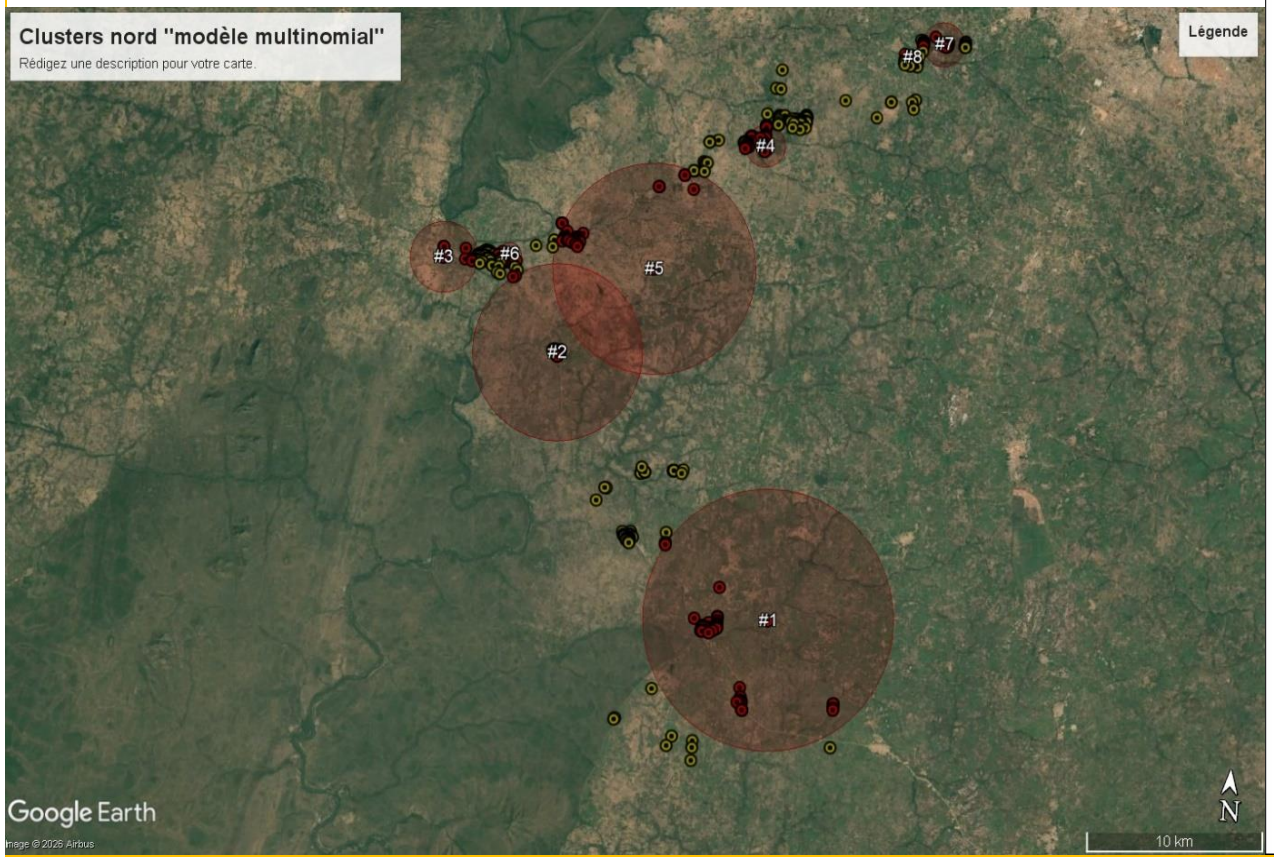


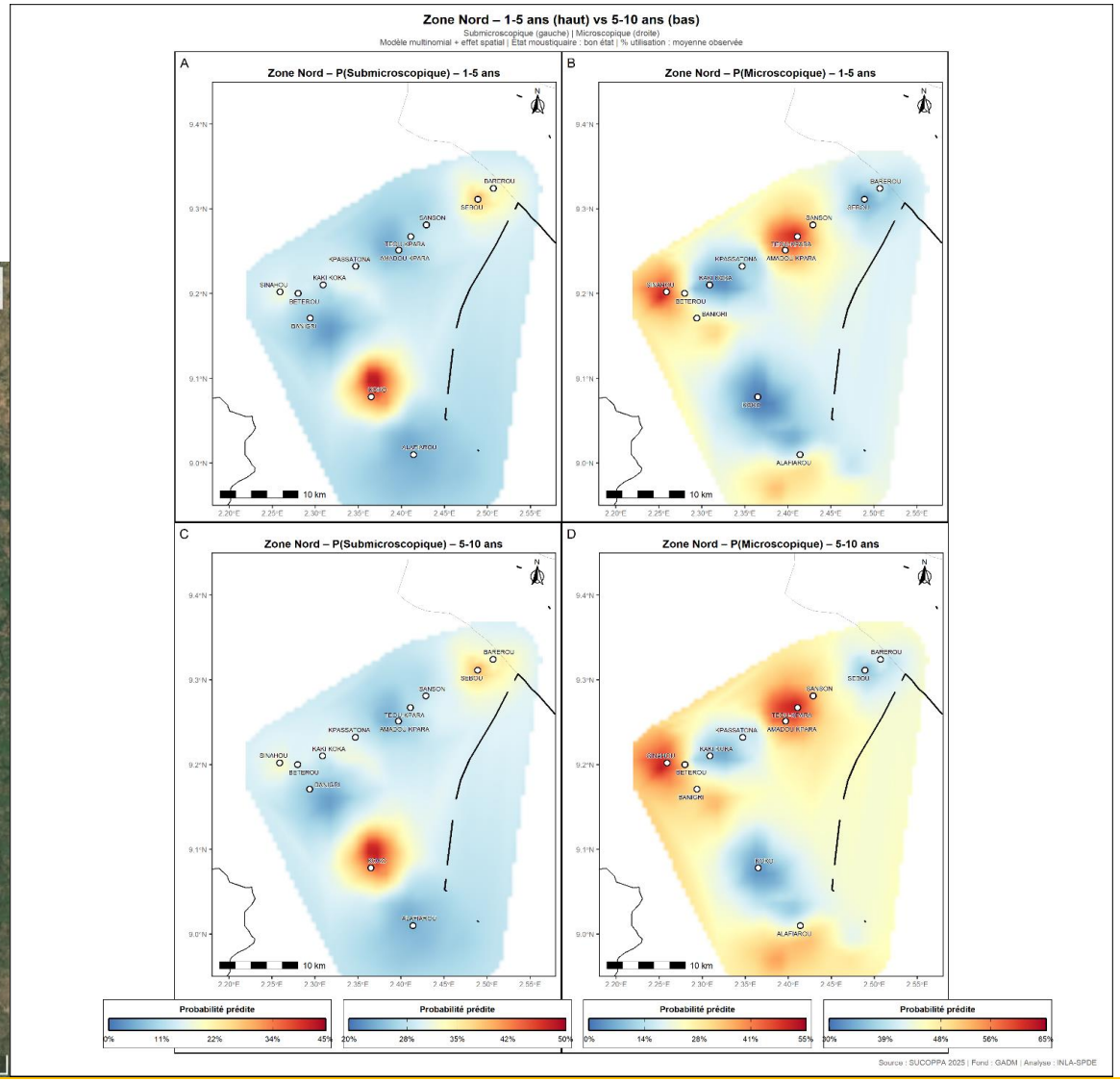


SUCOPPA

Asymptomatic carriage at inclusion

Spatial heterogeneity

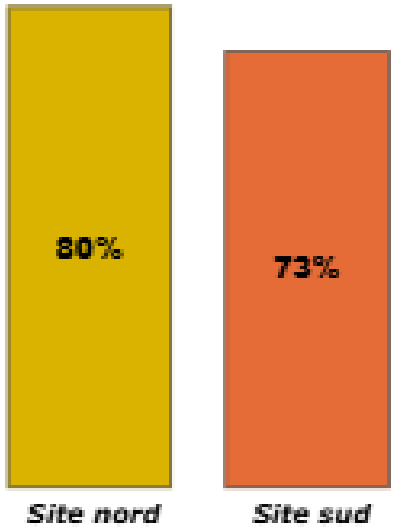




SUCOPPA

Participants possédant une moustiquaire

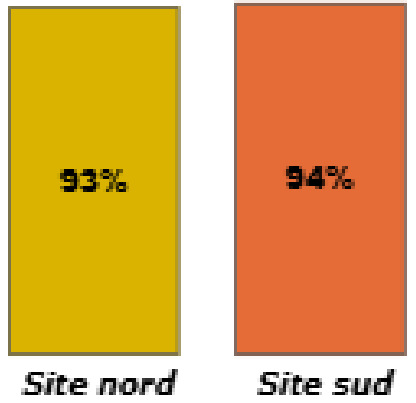
Site Site nord Site sud



Participants ayant dormi sous moustiquaire la nuit dernière

(parmi ceux qui en possèdent une)

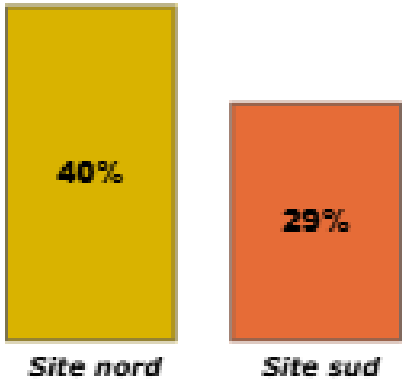
Site Site nord Site sud



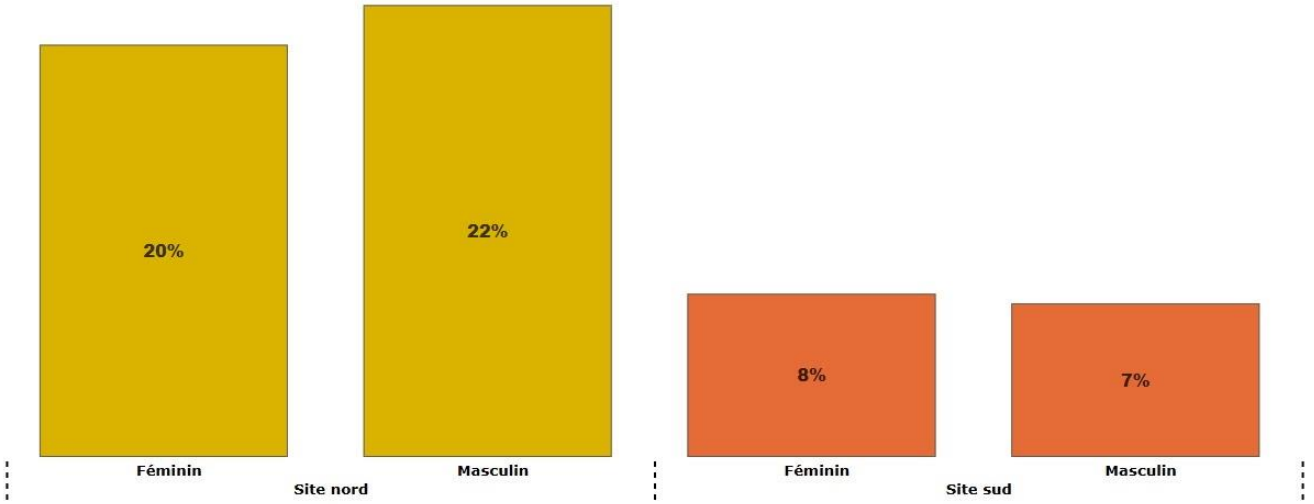
Participants ayant une moustiquaire trouée

(parmi les participants possédant une MILDA)

Site Site nord Site sud

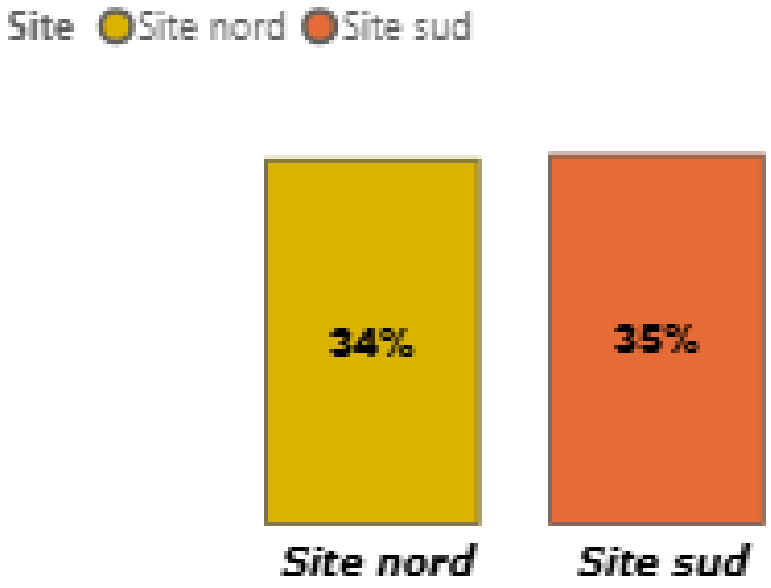


Retour au rapport | PROPORTION DE PARTICIPANTS DORMANT À L'EXTÉRIEUR (DANS LA COUR, SOUS LA PAILLO...



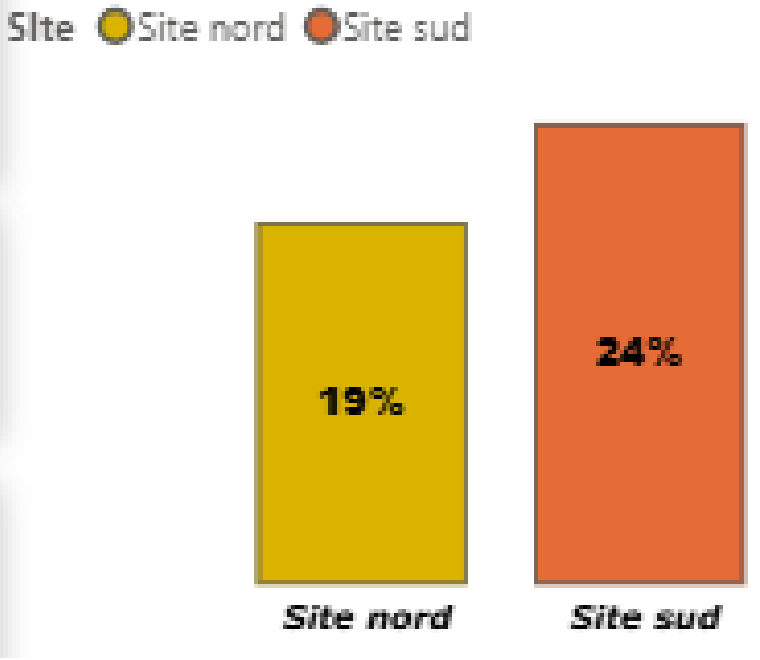
Participants sachant que le microbe responsable du paludisme peut être présent dans leur corps sans qu'ils ne se sentent malade

(parmi les participants connaissant la maladie)



Participants sachant qu'il peut transmettre le microbe à un moustique qui pourra ensuite infecter un proche

(parmi les participants connaissant le paludisme)



Next: Co-design phase of the intervention (oct 2026 – Feb 2027)

End of baseline phase: sept 2026

The baseline phase results (notably those from the socio-anthropological component+++) will be presented and analyzed with all malaria control stakeholders in Benin, including community representatives

This will serve as the basis for co-designing the intervention to be deployed in the second phase of the project


THANK YOU FOR YOUR
ATTENTION