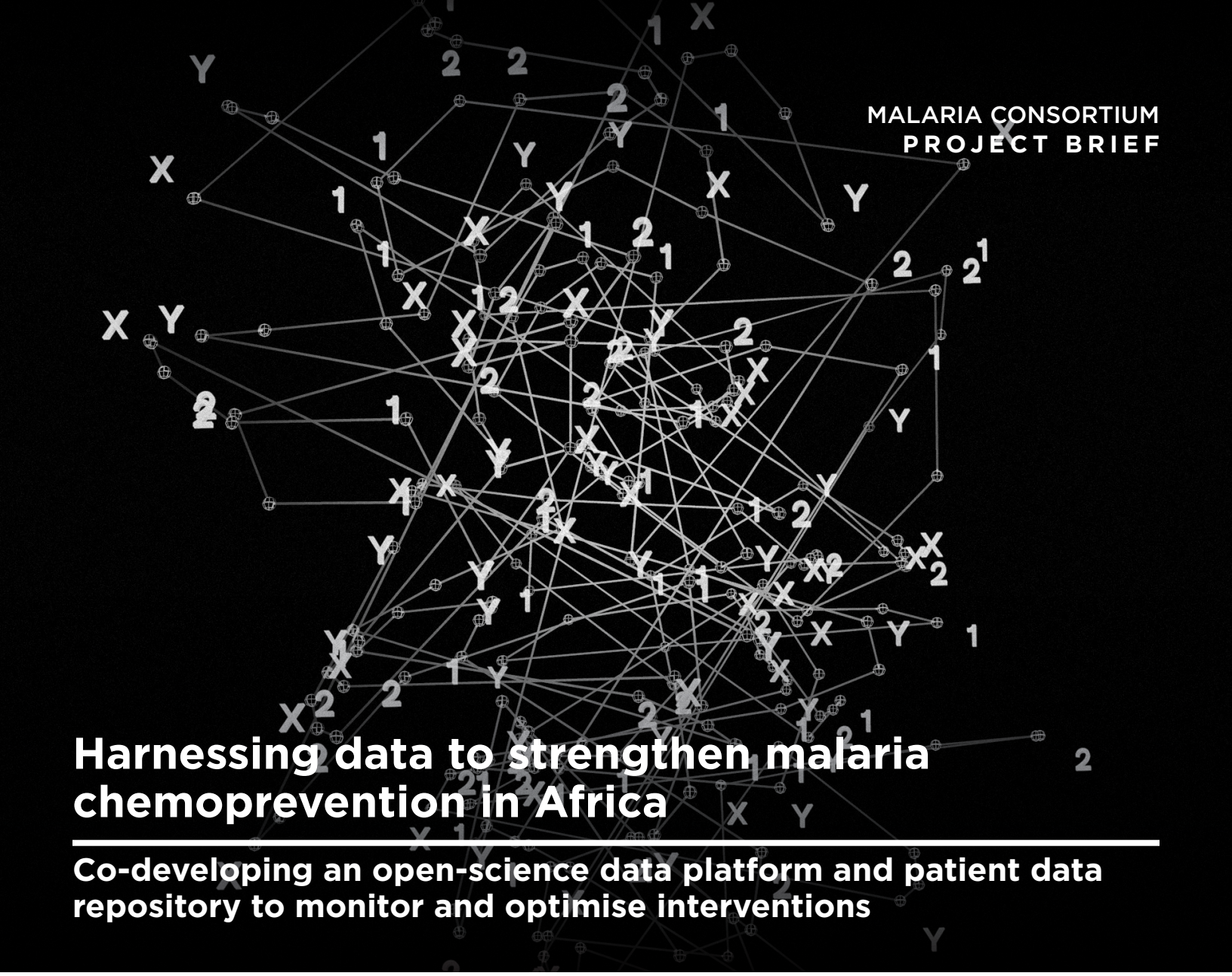

MALARIA CONSORTIUM
PROJECT BRIEF

Harnessing data to strengthen malaria chemoprevention in Africa

Co-developing an open-science data platform and patient data repository to monitor and optimise interventions

Background

Seasonal malaria chemoprevention (SMC) is a community-based intervention that prevents malaria in areas of high seasonal transmission. Young children receive antimalarial drugs — sulfadoxine-pyrimethamine plus amodiaquine (SPAQ) — at 28-day intervals to maintain therapeutic drug levels. Recommended by the World Health Organization (WHO) since 2012,[1] SMC was initially limited to the Sahel region of West and Central Africa, where malaria transmission was intensely seasonal and parasite resistance to SPAQ remained low. WHO has since lifted age and geographic restrictions and no longer defines a therapeutic efficacy threshold (the proportion of clinical malaria cases prevented by SPAQ for it to be considered effective), enabling broader use.[2] Evidence from Mozambique, South Sudan and Uganda, where prevalence of markers of resistance to SPAQ is high, has shown that SMC remains effective in reducing clinical malaria episodes in young children. [3-5]

To sustain the impact of SMC in the face of parasite resistance to SPAQ, reliable routine monitoring systems are needed to detect early signs of reduced chemoprevention efficacy. Despite widespread use in the Sahel region, significant knowledge gaps remain, particularly around how age, transmission intensity of malaria and parasite resistance affect how well SMC works outside of the Sahel.

Donor

This work is funded through philanthropic donations received as a result of being awarded Top Charity status by GiveWell, a non-profit organisation dedicated to identifying outstanding giving opportunities.

Length of project

January 2025 – December 2027

Partners

Worldwide Antimalarial Resistance Network (WWARN), part of the Infectious Diseases Data Observatory (IDDO)

IDDO WWARN

www.iddo.org/wwarn/malaria-chemoprevention-theme

Project outline and objectives

Malaria Consortium and the Worldwide Antimalarial Resistance Network (WWARN) — part of the Infectious Diseases Data Observatory (IDDO) — are developing an open-science data platform and patient data repository. This tool will pool, harmonise and share anonymised individual patient data (IPD) from SMC studies across Africa, enabling researchers to generate evidence and optimised chemoprevention strategies.

Hosted as a microsite by WWARN, the platform will be governed collaboratively by stakeholders to ensure equity, scientific integrity and long-term reusability. IDDO's infrastructure and protocol will ensure that data are responsibly used, with suitable data protection and other safeguards in place.

The objectives of the project are as follows:

- Identify and collate disparate SMC IPD from past randomised and observational studies into a central, open-access science platform.
- Promote and facilitate secondary analyses of the data through engagement and promotion.
- Conduct collaborative analyses on the efficacy and safety of SPAQ used for SMC in Africa, focusing on children under five and examining the effects of dosage, age and transmission intensity over the years.
- Explore the impact of drug resistance and demographic factors on chemoprevention efficacy.

Activities

Malaria Consortium and WWARN are working with experts from endemic countries to build the data platform. Historical IPD from chemoprevention studies, including data from hard-to-reach populations, are being standardised and combined to enable comparative analyses. Researchers are being invited to share datasets for comparison and to join collaborative study groups. These study groups will conduct meta-analyses of malaria chemoprevention trials, focusing on how age, resistance and local malaria transmission intensity affect SMC outcomes. To guide future strategies, results are being shared through open-access publications and visual tools, such as geospatial maps that show the prevalence of drug resistance.

Outcomes and impact

Stronger evidence-based decision-making for more effective malaria control. The project will provide a comprehensive evidence base to help national malaria programmes and partners optimise chemoprevention in diverse settings. Making high-quality IPD accessible and reusable will reduce duplication, accelerate learning and support more responsive malaria chemoprevention programming.

Improved tailoring of SMC delivery to maximise impact. In the short term, the project will generate improved understanding of how chemoprevention efficacy varies across contexts, especially in relation to age, drug resistance and transmission intensity. These factors are critical to tailoring malaria chemoprevention interventions and influencing policy and practice across Africa.

Timely programmatic shifts to maintain drug efficacy and protect vulnerable children. Findings on molecular resistance markers may contribute to the development of an early detection system that gives timely updates to chemoprevention policies, helping to preserve drug effectiveness.

The data platform and repository could serve as an alternative model for open-science approaches in other global health fields.

References

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