

Low Reduction In Malaria Parasite Prevalence In Children Under 5 In Cameroon By 2023

Let's prevent malaria in Central, Southern and Eastern Cameroon

Data Brief



Summary

The high prevalence of malaria among children aged 6-59 months is a major concern for the Cameroon government, as malaria is the leading cause of morbidity and mortality among this vulnerable group. Preventing this disease would considerably reduce the persistent trend in malaria-related morbidity observed among children under 5 in Cameroon, and in the Centre (excluding Yaoundé), East and South regions, which have prevalence rates of 49.1%, 41.4% and 45.6% respectively.

Between 2018 and 2022, the malaria burden in children under five and the prevalence of environmental risk factors worsened significantly, particularly in the Centre, South, and East regions.

Malaria Prevalence in Children Under Five

- National prevalence increased from 24% to 26%.
- Regional trends show sharper increases:
 - Centre region: From 47% to 49%.
 - Southern region: From 33% to 46%.
 - Eastern region: From 35% to 41%.

Environmental Risk Factors

A large proportion of households in the affected regions report environmental conditions conducive to mosquito breeding, such as stagnant puddles, undergrowth, or trees near their dwellings:

- Centre region: 76% of households.
- Southern region: 68.3% of households.
- Eastern region: 61.8% of households.

These findings highlight the urgent need for targeted interventions to reduce malaria prevalence and mitigate environmental risk factors in these high-burden regions.

Enunciation of the Problem

Malaria remains a major challenge both worldwide and in Central Africa. In terms of the general population, Cameroon is the eleventh country in the world most affected by malaria, with 2.6% of cases in 2022, and the third in Central Africa, with 12.6% of cases in 2020 (WHO, World malaria report 2023). If malaria is not treated immediately and effectively, it represents a major risk of morbidity and mortality. According to the malaria situation in Cameroon in 2023 reported by the NMCP, the incidence rate during this year was 106.2 cases per 1,000 inhabitants. Compared with 2018, when it was 89.2 cases per 1000 inhabitants, there was an increase in new malaria cases between 2018 and 2023. Of all the regions, Centre (124.3 cases per 1,000 inhabitants) and East (161.1 cases per 1,000 inhabitants) recorded the highest annual incidence rates in 2023. The South came in third at 111 cases per 1,000 inhabitants.

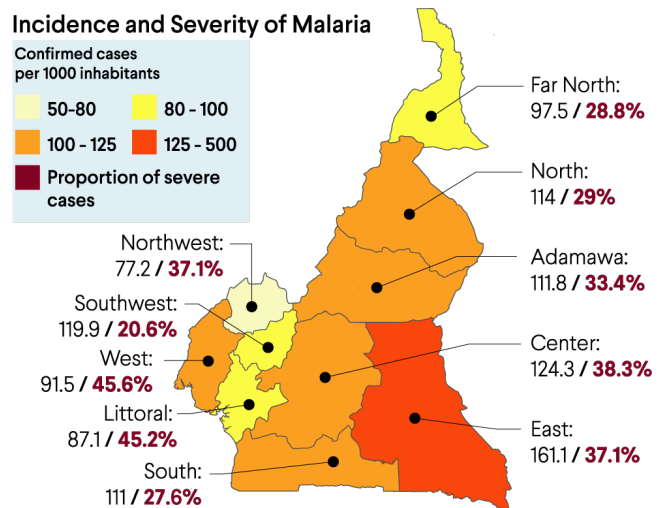


Figure 1. Malaria situation in Cameroon 2023, NMCP

In 2023, the NMCP Malaria Surveillance Data Synthesis 2023 reveals that malaria morbidity in children under 5 years of age between 2018 and 2023 is on the rise in the 3 regions concerned, while malaria-related mortality is on the decline over the same period. The increase in malaria incidence over the period could be explained by an improved epidemiological surveillance system on the one hand, and the low impact of vector control interventions on the other.

Table 1. Trends in malaria morbidity and mortality in the Centre, East and South among children under 05 years of age

Region	Malaria-related morbidity		Malaria mortality	
	2018	2023	2018	2023
Center	40.8%	44.2%	18.5%	16.6%
East	32.3%	45.2%	30.6%	21.5%
South	40.5%	46.4%	16.1%	11.8%
National	31.5%	40.6%	28.4%	18.2%

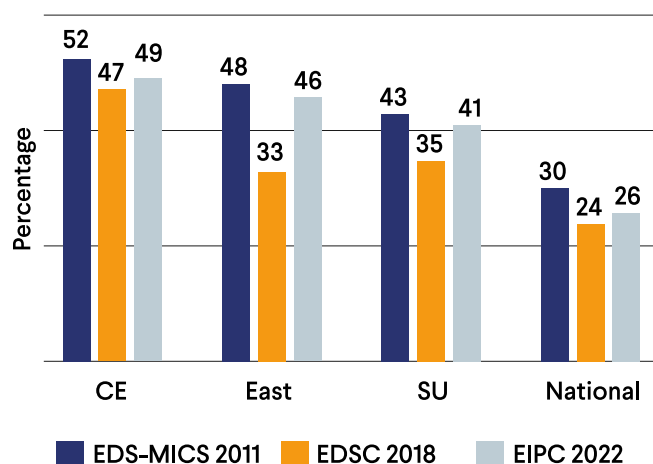
Source: Malaria surveillance data synthesis 2023, NMCP

To influence malaria morbidity and mortality in children under 5, the government's anti-malaria objective is to reduce prevalence to 17% by 2028.

However, the proportion of children aged 6-59 months with malaria has increased over the past 5 years. This prevalence rose from 24% to 26% between 2018 and 2022 (EDSC 2018 and EIPC-2022).

The same upward trend can be observed in all three analysis regions between 2018 and 2022, having a proportion more than 40% in 2022. For example, the Centre region rose from 47% to 49%, the South region from 33% to 46% and the East region from 35% to 41%.

Table 2 Trends in malaria prevalence in children under 5 years of age in the 3 regions Centre, East and South



Source: EDS-MICS 2011, ESDC 2018, EIPC-2022

Three major immediate consequences could emerge in the context of high malaria prevalence in children under 5:

- As the management of uncomplicated malaria in children under the age of 5 is entirely the responsibility of the State, the latter will have to make a greater effort in its budget to ensure this management. The country needs to be provided with health personnel, health facilities, hospital beds, treatments and other inputs.
- The second impact would be on household expenditure, particularly in the case of severe malaria. Households will have to devote considerable financial resources to treating cases of severe malaria. According to the National Health Accounts, malaria accounted for nearly 20% of household expenditure in 2018 and 24% in 2019 (Cameroon Health Accounts Report 2018-2019).
- The third consequence of high malaria prevalence in children under 5 is mortality. The NMCP 2023 Malaria Surveillance Data Synthesis document shows a downward trend in malaria mortality between 2018 and 2023 for the 3 regions. However, in view of the overall objective of the National Malaria Control Strategic Plan, which is to reduce malaria mortality by 75% by 2028

compared with the situation in 2015, this mortality rate remains high in the East region. Indeed, in 2023, the expected mortality rate in the East was 13.0%, but it is now 21.6%, an increase of 9 points.

Table 3 Evolution between expected and achieved malaria mortality in 2023 in children under 05 years of age

Region	Mortality rates in 2015	Expected mortality rate in 2023	Mortality rate reached in 2023
Center	29.5%	17.7%	16.6%
East	29.5%	17.7%	16.6%
South	30.7%	18.4%	11.8%

Source: 2023 monitoring data summaries, PNLP

Existing Interventions

With a view to considerably reducing malaria among children aged 6-59 months, the Cameroon government is already making efforts in the fight against malaria, particularly in prevention and treatment. These include:

- **Distribution of impregnated mosquito nets**
Mass distribution campaigns of impregnated mosquito nets in households are planned every three years in the regions, with the last impregnated net distribution campaign taking place in 2022. Of the three regions studied, only the East region has benefited from 905,488 LLINs, while the other two regions, the Centre and the South, are still waiting.
- **Intermittent Preventive Treatment for infants (TPI_n)**
The WHO recommends intermittent preventive treatment with sulfadoxine-pyrimethamine (TPI_n-SP) of at least 3 doses for infants at risk of malaria. In terms of coverage during vaccination sessions in 2023, administration of Intermittent Preventive Treatment (IPT) to infants is 12.9%, 28.5% and 44.6% respectively in the Centre, South and East regions, a long way from the 95% target.

- **The introduction of the RTS,S**
Since January 22, 2024, Cameroon has launched systematic vaccination against malaria in 42 districts and 411 health areas, but this introduction will be gradual in other localities. The target population is children aged between 6 and 24 months. In view of the various measures taken by the government to reduce the prevalence of malaria among children aged 6-59 months, it is important to identify the underlying causes of this persistent prevalence in the Centre, East and South regions. Several causes could be linked to the persistent high prevalence of malaria in children under 5:

- The fact that the three regions belong to the same agro-ecological space, which is conducive to dense rainfall and mosquito breeding.
- The unhealthy environment around homes, as malaria is closely linked to the environment. Stagnant water is essential for the reproduction of Anopheles mosquitoes. Accordingly, the IPCS-2022 shows that the percentage of households with stagnant puddles, undergrowth or trees in the yard or in the vicinity of the dwelling is 76% in the Centre region, 61.8% in the East region and 68.3% in the South region.
- Low access to mosquito nets for households in the Centre and South regions, as the percentage of households with at least one ITN for every two people who spent the night was 28.3% in the Centre and 36.2% in the South.
- Low use of mosquito nets in the three study regions, with the following proportions: Centre (39%), South (51%) and East (39%).
- Low coverage of at least 3 doses of IPTi among infants, whereas the objective is to protect at least 95% of children under one year of age in targeted health districts against malaria attacks with intermittent preventive treatment with SP (IPTi-SP) in accordance with national guidelines. Administration of at least three doses of this IPT is 13.6% in the Centre, 45.7% in the East and 29.9% in the South.

Which Strategies To Consider?

To reduce the prevalence of malaria in children under 5 in the 3 regions,

Strategy 1: Continuous awareness-raising about the seriousness of malaria in children under the age of 5, particularly among heads of households, mothers or guardians of these children and community leaders, with greater involvement of CHWs for maximum coverage of the 3 regions;

Strategy 2: Raising awareness among communities in the Eastern region of the importance of using ITNs, while explaining how they work and why they are essential for preventing malaria. Encouraging positive behaviors, such as regularly hanging mosquito nets over beds. This requires home visits by CHWs and regular community meetings;

Strategy 3: Raising household awareness of sanitation issues through Community Health Workers in collaboration with health area managers, who must monitor the cleaning of their homes and surrounding areas (brush, puddles, etc.).

Strategy 4: Intensify implementation of vector control interventions: (mass and routine distribution of LLINs, indoor spraying, in the Central, Southern and Eastern regions where the climate favors mosquito proliferation.

Recommendations

Malaria remains a significant public health challenge in the Centre, South, and East regions, where prevalence rates are notably high. To effectively combat this disease and achieve sustainable reductions in transmission, a multi-faceted approach that integrates vector control, community engagement, and enhanced health worker capacity is essential. The following strategic actions are proposed:

1. Implement Indoor Residual Spraying (IRS): Prioritize indoor residual spraying in the three high-prevalence regions: Centre, South, and East. This targeted intervention will contribute to significantly reducing the mosquito population and interrupt transmission cycles, offering immediate protection to vulnerable populations.

2. Strengthening the capacity of Community Health Workers (CHWs): Provide comprehensive training, logistical resources, and technical support to CHWs. Establish a robust system for regular monitoring and quality control to ensure consistent and effective application of IRS in the targeted regions.

3. Accelerate the distribution of Long-Lasting Insecticidal Nets (LLINs): Expedite the delivery and distribution of LLINs to households in the Centre and South regions, where delays have been noted, to enhance community protection against mosquito bites.

4. Intensify community engagement through household outreach: Recruit and train additional CHWs to carry out continuous household outreach with a focus on:

- Promoting the correct and consistent use of LLINs, particularly in the Eastern region, where utilization remains suboptimal.
- Educating households on effective sanitation practices, including maintaining clean surroundings and eliminating mosquito breeding sites, across the three study regions.

By adopting and implementing these interlinked strategies, malaria control efforts can be significantly strengthened, leading to better health outcomes and a reduction in the burden of the disease in the Centre, South, and East regions.



VI. Bibliography

1. Cameroon Demographic, Health and Multiple Indicator Survey 2011. Calverton, Maryland, USA: INS and ICF International)
2. National Malaria Control Program (PNLP), and ICF. 2023.
3. Cameroon Malaria Indicator Survey 2022. Yaoundé, Cameroon and Rockville, Maryland, USA: INS, PNLN and ICF.
4. Institut National de la Statistique (INS) [Cameroon] and ICF International. 2018. Cameroon Demographic and Health Survey 2018. Calverton, Maryland, USA: INS and ICF International.
5. National Malaria Control Program [Cameroon]. 2019. Rapport d'Activités 2018. PNLN, MINSANTE
6. National Malaria Control Program [Cameroon]. 2022. Rapport d'Activités 2021. PNLN, MINSANTE.
7. Malaria situation in Cameroon in 2023
8. Malaria surveillance data synthesis 2023, NMCP
9. Malaria situation in Cameroon 2023 and potential contribution of modeling, NMCP
10. World malaria report 2023. Geneva: World Health Organization; 2023. License: CC BY-NC-SA 3.0 IGO.
11. NMCP 2023 Malaria Surveillance Data Synthesis Document
12. Evaluation of the malaria surveillance system in Cameroon: final report
13. Cameroon health accounts report 2018–2019