

12TH ANNUAL RBM- CMWG-MEETING

Venue: ACCRA GHANA, 22-25TH AUGUST 2023

Improvements in quality of care: status of malaria training curriculum updates/refreshers; role of supportive supervision e.g. OTSS+: **The Champion's program**

by:

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PMI- IMPACT MALARIA

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Plan

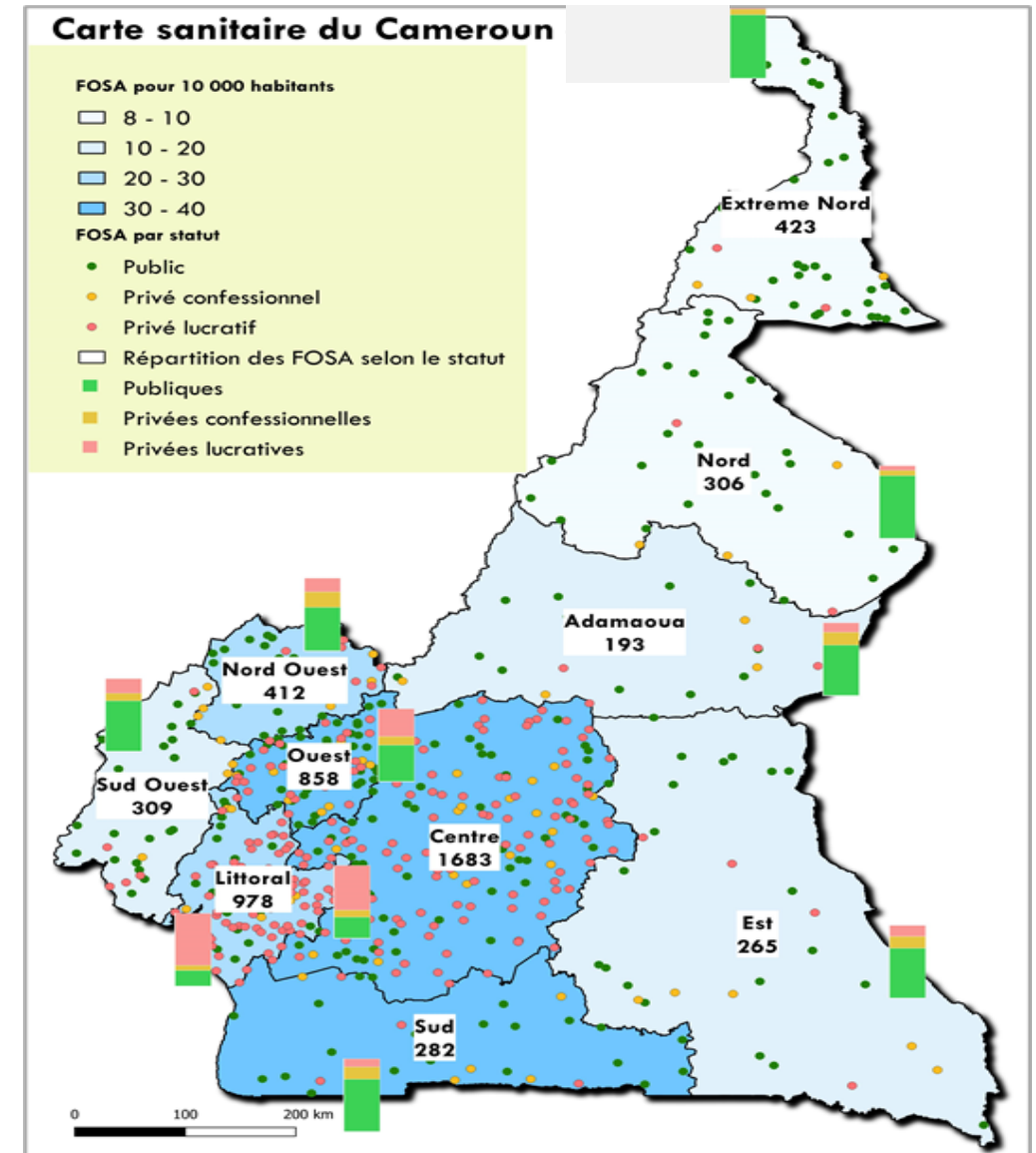
1. Context
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3. Who has been involved?
4. How have we proceeded?
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Context (1/ 3)

Cameroon Health map

Estimated population	27 686 430
Surface area (Km ²)	475 442
Density (inhabitant/ Km ²)	58,23
Number of regions	10
Number of Health District	200
Number of health area	1 815
Nombre of health facilities in the caountry	6 535
Number of health facilities treating malaria	6066
CHWs in about 127 District and 1155 Health areas	9575



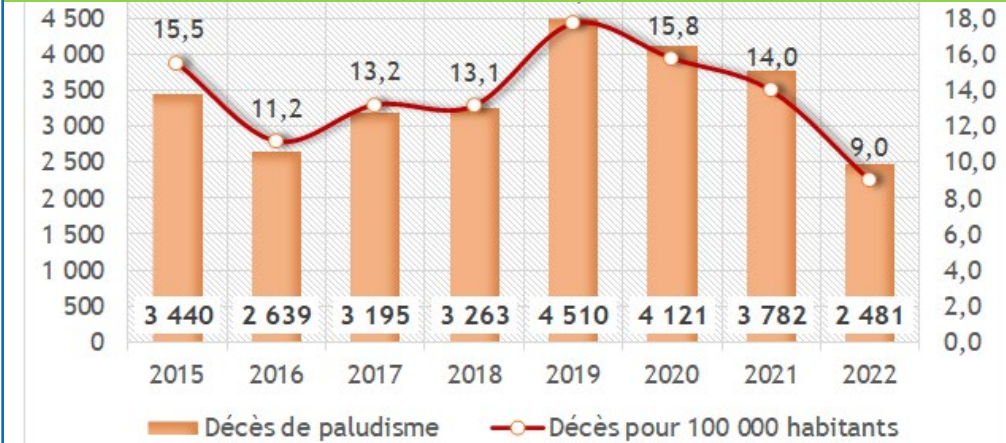
Context (2/3)

Epidemiological situation in Cameroon:

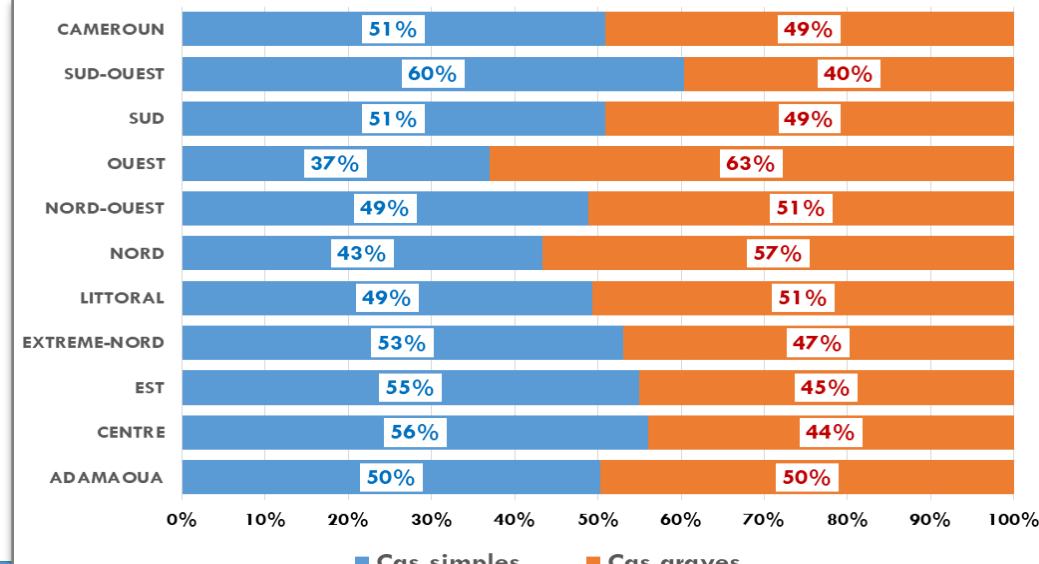
- **Malaria: Main cause of morbidity and mortality**
- Malaria Prevalence (24% in 2018 vs. 30% in 2011, DHS)
- **3,069,649** confirmed malaria cases reported out of **10,353,739** consultations for illness in 2022; (2 646 139 out of 9 108 771 in 2020)
- **2481** malaria-related deaths out of **22 801 (11%)** deaths in health facilities **in 2022 vs (4121 / 23 931 (17,2%) in 2020**
- High proportion of severe malaria cases (**49%**) in , 2020 (NMCP annual report).

(Between 3% to 10% in similar settings according to WHO)

Malaria Mortality trend from 2020 to 2022 in Cameroon



Proportion of severe cases per region 2020



Contexte (3/3)

Despite the various training on malaria new guidelines, we discover the following during supervisions;

- Poor quality of malaria case management (specially severe malaria)
- Poor respect of the guidelines (Insufficient knowledge, not enough guidelines, resistance to change, many mistakes found in the consultation's register , high proportion of severe cases (**35 to up to 75% in 2020**)

Need to strengthen /reinforce capacity of the health personnel:

“ Mentoring” / champions project

The Champions Program started in the 2 Northern regions supported by PMI (16 targeted hospitals)

Objectives of the quality of care and (Champions Program)

Aim of the Qoc:

Reinforce the quality of facility-based care, through Outreach Training and Supportive Supervision (OTSS+) and mentorship.

General Objectif:

Evaluate the effect of the Champions program on the performance of hospital in the management of severe malaria

Specific objectives of the study :

- 1) Assess the readiness of targeted hospitals in the availability of critical tools before and after the implementation of the program;
- 2) Assess the competency of health workers in these hospitals in the overall management of severe malaria before and after the launch of the program;
- 3) Assess the key sub-components in the management of severe malaria

Who has been involved?

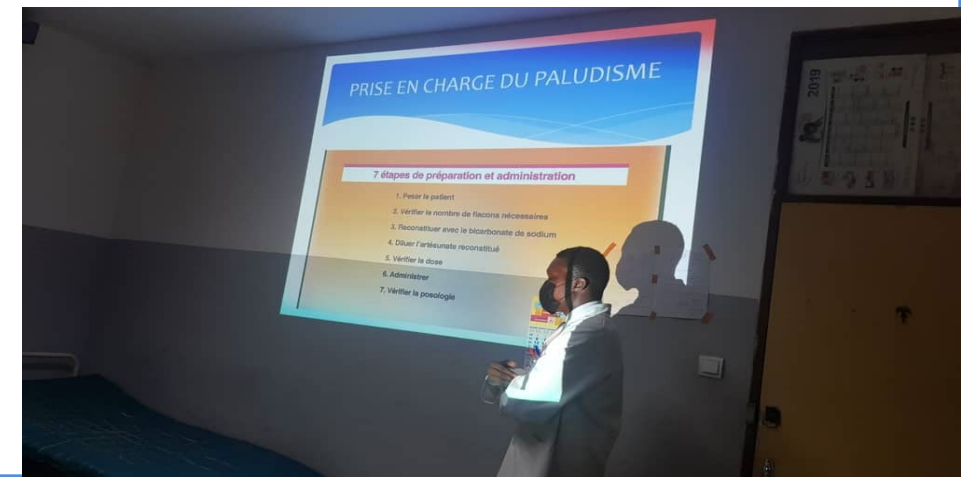
Implementation in steps: starting with Champion's program in the northern regions

Results will be focussed the 1st step(full program, PMI-IM support)

Préparation:

Since 2021, NMCP, PMI –IM has worked with other partners and stakeholders to develop and implement the **Champions program, in 12 hospitals** of the Far North and the North regions ,

- ❖ **University Teaching Hospital Yaoundé (UTC) North and far North**
- ❖ **Central Hospital and Chantal Biya Foundation**
- ❖ **NMCP and its regional representations**
- ❖ **WHO**
- ❖ **PMI / USAID: IMPACT MALARIA, Breakthrough Action**



How have we proceeded? (1/7)

Training and internal quality assurance activities

- Elaboration and validation of the training curricula (Expert in UTH, NMCP, IM-PMI, WHO)
 - The training curriculum was developed based on WHO and national treatment guidelines.
- **Definition of the Champions selection criteria:**
 - 30 clinicians providing care to malaria cases in outpatient, internal medicine, and pediatric prioritized for this training
 - Clinicians selected based on their willingness and interest in sharing the knowledge to mentor their colleagues and support improvements in the management of severe malaria.
 - Trainers recruited because of being among the best specialists and teachers, knowledgeable of the subject matter, and willing to contribute to the program. The final list of mentors was determined by the UTH leadership and the NMCP.
 - For the 2nd and 3rd steps, we added 2 other centers: Central hospital and a peadiatric Hospital (Chantal Biya Foundation).

How have we proceeded? (2/7)

Training : Settings

- **University Teaching Hospital (UTH)** in Yaoundé for the first step ,

Best opportunity to improve the knowledge and skills on the prevention, identification, management of each complication

- **Duration : 2 weeks, rotative, theory (12 to 14hrs) and practice (16 to 18rs)**

Several departments:

- Internal Medicine and Specialties
- Paediatrics Department
- Gynaecology and Obstetrics Department
- Emergency Department
- Surgery Department
- MDR Department
- Technical Services, Administrative Services and Laboratories



How have we proceeded? (3/7)

Training: trainers

- **Nine Medical doctors in their different specialities**
 - Internist, paediatrician, Nephrologist, Obstetric-gynaecologist-, Anaesthetist , Endocrinologist, Medical biologist, Rheumatologist
- **Two nurses**
 - Senior nurse, anaesthetist nurse
- **Two expert from Impact Malaria , Breack Trough**
- **Action (communication and Mentoring)**
- **Case management experts from NMCP**



How have we proceeded? (4/7)

Training: modules :

The national and global malaria case management, prevention policies,

- Malaria epidemiology; Physiology and pathology of
- Management of simple and severe febrile illness infant,
- Simple and severe Malaria in pregnancy
- Simple and severe malaria in Adult and Malaria associated with other conditions,
- Nursing during management of severe malaria
- Prognostic indicators for severe malaria
- Frequent errors in the diagnosis and management of severe malaria
- Clinical mentoring techniques
- Interpersonal communication for healthcare providers



TRAINING METHODS



Brain storming



Clinical files



Group discussion



Practical exercises



Role play

How have we proceeded? (5/7)

Post training

- Restitution in their different hospitals , in the presence of NMCP regional coordinators ,

Internal quality assurance activities

- Creation of a health committee with the local health staff
- The Champions worked with their hospitals and local health staff to create a quality committee, aimed at reinforcing the capacity to manage cases of severe malaria (WhatsApp group with mentors).
- These activities included:
 - **A 2-day cascade training on severe malaria** facilitated by the Champions for the hospital staff (407 health workers participated).
 - **Monthly quality meetings** : review of the charts of severe malaria cases to identify and discuss gaps in the care , develop recommendations (199 charts reviewed)
 - **Monthly death audits**: validate the appropriateness of the diagnosis of severe malaria, correct reporting of deaths, review the inpatient management and proposed solutions (42 death audited)

How have we proceeded? (6/7)

Post training Cont.

- **Quarterly meeting of quality committees** with district and regional health authorities to review quality and outcomes data and discuss possible corrective actions, such as the procurement of missing commodities and equipment and improving documentation.
- **The OTSS+ readiness checklist used to evaluate overall facility readiness**, and the availability of commodities, documentation, and materials to support the management of severe malaria cases.
- **Competency was assessed through a record review using the OTSS+ severe malaria inpatient checklist** to evaluate the overall management of severe malaria cases and key steps in the management of these cases, (4 ROUND OF OTSS+)

How have we proceeded? (7/7)

Assessment method:

- Assessed preliminary effectiveness of the program on the performance of the hospital to manage severe malaria
- Secondary analysis of data from OTSS+ conducted in 12 of the 16 hospitals participating (One round before, Round 3 and Round 4, 5, 6).
- 2020 to 2022 malaria related mortality for 12 hospitals (1 year before, 2 years after)
- Measuring changes in the hospitals readiness and competency of health workers in managing severe malaria cases using linear regression

PALUDISME GRAVE				
Catégorie	Item	Oui	Non	*Round 6
35	CM HNQS OTSS PPG.PPG.330.23. Le prestataire de soins s'il réalise un examen des urines à la bandelette à la recherche d'une hémoglobine?	12	25	32.4%
36	CM HNQS OTSS PPG.PPG.330.24. Le prestataire de soins s'il demande les gaz du sang pour confirmer une acidose métabolique chez le patient ?	1	36	2.7%
37	CM HNQS OTSS PPG.PPG.330.25. Le prestataire de soins s'il note les résultats des examens biologiques demandés dans le registre ?	34	3	91.9%
38	CM HNQS OTSS PPG.PPG.350.26. Le prestataire de soins s'il utilise l'antéaiguillon injectable pour traiter le paludisme grave ?	30	7	81.3%
39	CM HNQS OTSS PPG.PPG.360.27. Si oui, s'il est qualifié et détermine correctement la quantité d'injection nécessaire selon le poids du patient ?	30	0	100.0%
40	CM HNQS OTSS PPG.PPG.380.28. Le prestataire de soins s'il rejette le stode opératoire pour la préparation de l'antéaiguillon injectable ?	30	0	100.0%
41	CM HNQS OTSS PPG.PPG.400.29. Le prestataire de soins s'il administre une dose d'antéaiguillon confidentiel au patient en tenant compte de la voie IV ou IM ?	30	0	100.0%

PALUDISME GRAVE				
Catégorie	Item	Oui	Non	*Round 6
28	CM HNQS OTSS PPG.PPG.350.16. Le prestataire de soins s'il note les informations recueillies lors de l'examen physique complet du patient (poux, oreilles, gorge, cou, cœur, poumons, abdomen, réflexes, os) ?	30	7	81.3%
29	CM HNQS OTSS PPG.PPG.360.17. Le prestataire de soins s'il confirme le diagnostic de paludisme grave sur la base de la positivité de l'examen biologique de la GEPs ou l'IDA ?	36	1	97.3%
30	CM HNQS OTSS PPG.PPG.370.18. Est-ce que GE a été réalisé ?	15	21	41.7%
31	CM HNQS OTSS PPG.PPG.290.20. Le prestataire de soins s'il demande la numération formule sanguine (NFS) ou taux hémoglobine (Hb) pour rechercher une anémie sévère chez le patient ?	30	7	81.3%
33	CM HNQS OTSS PPG.PPG.300.21. Le prestataire de soins s'il demande la glycémie pour rechercher une hypoglycémie chez le patient ?	22	15	59.3%

The main results (1/6)

For the champion's program, we were able to train 30 Champions (health personnel), North and Far North

A total of 12 health facilities / 16 participating in the project assessed
Improvement: case management, classification, quality of data,



The main results (2/6)

After the training,

- There were statistically significant positive associations between post-Champions program rounds of OTSS+ compared with R3 for the overall management of severe malaria and health facility readiness as well as for sub-components such as patient assessment and material availability.
- For the management of severe malaria, regression analysis demonstrated an increase of +11% and +14%, respectively, in R5 and R6 compared to R3 (R5: $P = 0.042$, R6: $P = 0.013$).
- The health facility readiness scores exhibited an increase for R4, R5, and R6 compared to R3 of +7%, +6%, and +7%, respectively (R4: $P = 0.003$, R5: $P = 0.010$, R6: $P = 0.006$).

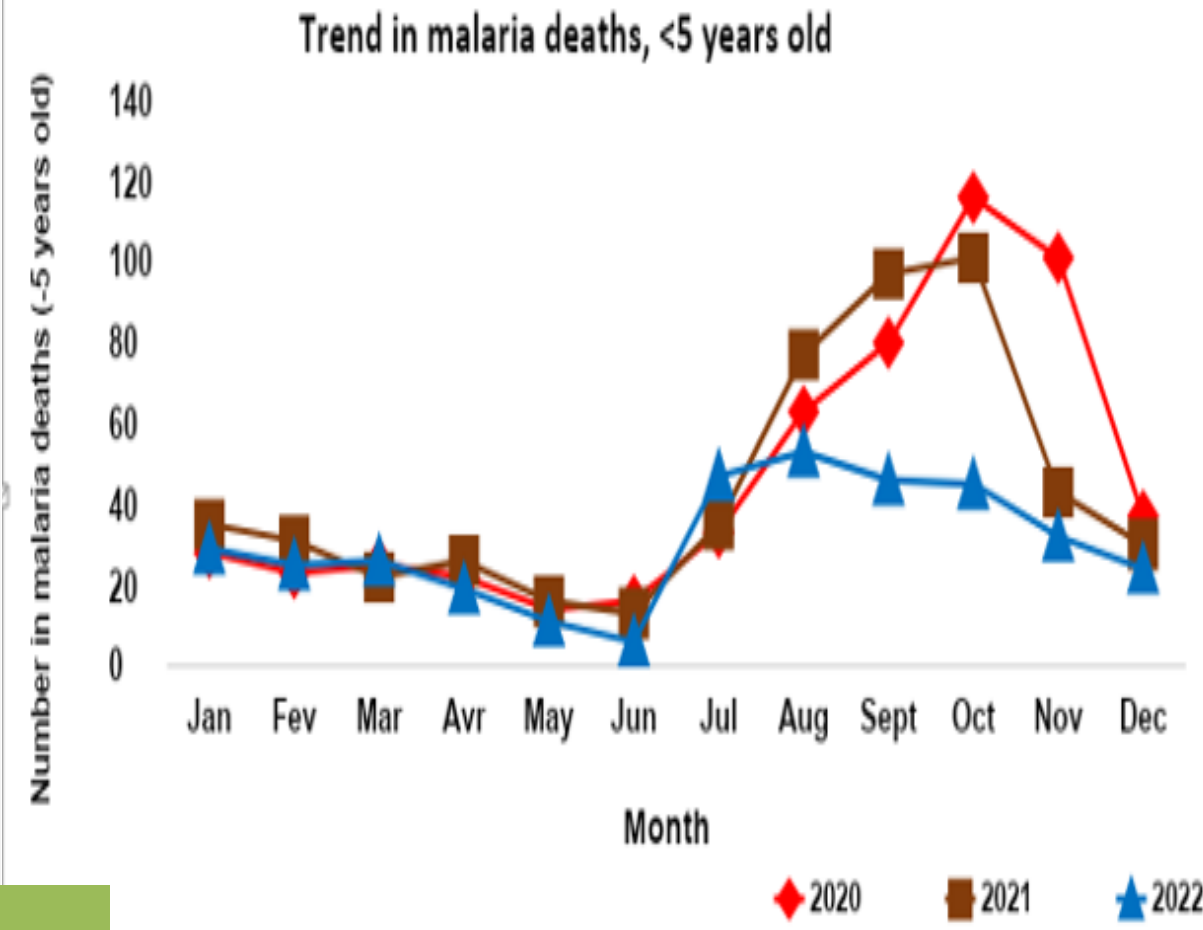
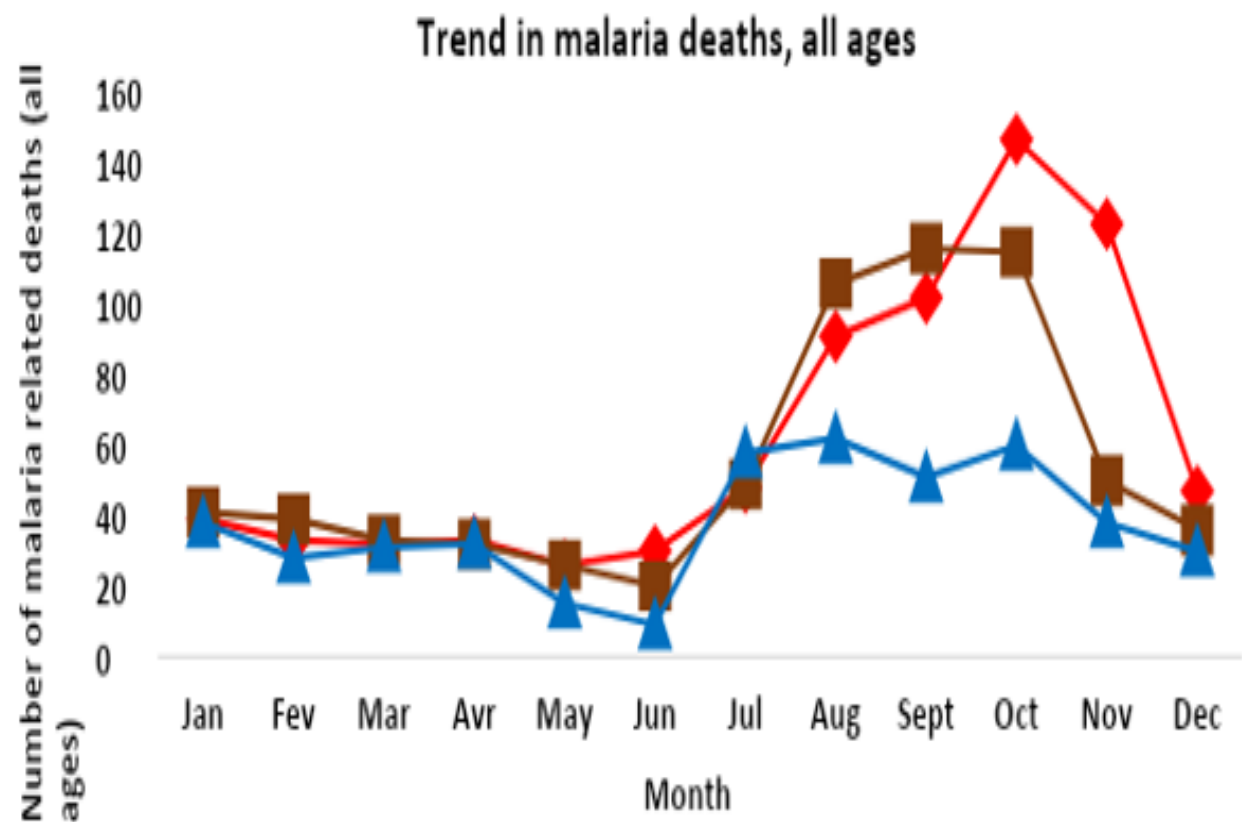
Descriptive statistics	Round 3 (Pre-Champions)	Round 4	Round 5	Round 6
Percentage of health facility observations reaching 90% in the overall management of severe malaria	0% N = 10	14% N = 14	36% N = 11	50% N = 10
Patient assessment score (average)	57% N = 10	65% N = 14	73% N = 11	78% N = 10
Providing the right treatment (average)	86% N = 10	95% N = 14	95% N = 11	94% N = 10
Complications: hypoglycemia (average)	100% N = 1	100% N = 2	100% N = 2	N/A ¹
Complications: severe anemia (average)	96% N = 5	65% N = 4	92% N = 5	100% N = 6
Complications: alteration of consciousness (average)	0% N = 1	75% N = 4	100% N = 2	100% N = 4

Evolution of the proportion of severe malaria cases from 2020 to 2021 in health facilities

Région	FOSA prioritaires			Autres FO SA			Ensemble des FO SA		
	2020	2022	Variation	2020	2022	Variation	2020	2022	Variation
EST	63,6	43,2	-20,4	34,9	34,7	-0,2	41,7	36,3	-5,4
EXTREME NORD	69,6	47,3	-22,3	28,7	26,0	-2,7	42,7	33,0	-9,7
LITTORAL	68,2	57,8	-10,4	41,9	44,4	2,5	48,9	46,9	-2,0
NORD	67,6	43,8	-23,8	41,2	35,2	-6,0	52,2	38,5	-13,7
NORD OUEST	68,5	57,5	-11,0	37,8	36,9	-0,9	46,2	41,7	-4,5
OUEST	61,7	48,2	-13,5	48,3	47,2	-1,1	54,2	47,6	-6,6

The main results (4/6)

Trend of Malaria related death reported by the 12 targeted hospitals

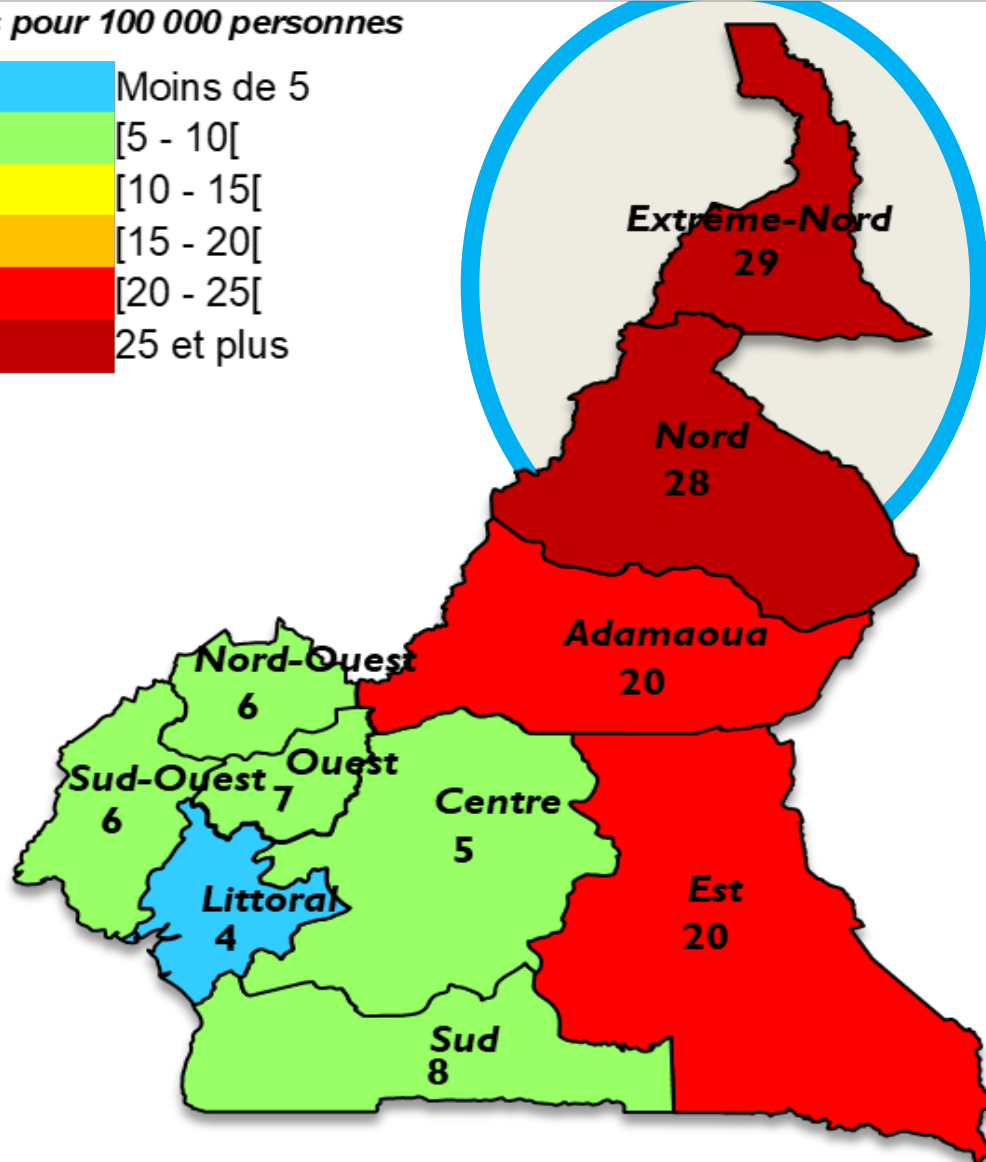


Source DHIS 2, 2022

The main results (5/6)

Death rate in 2020

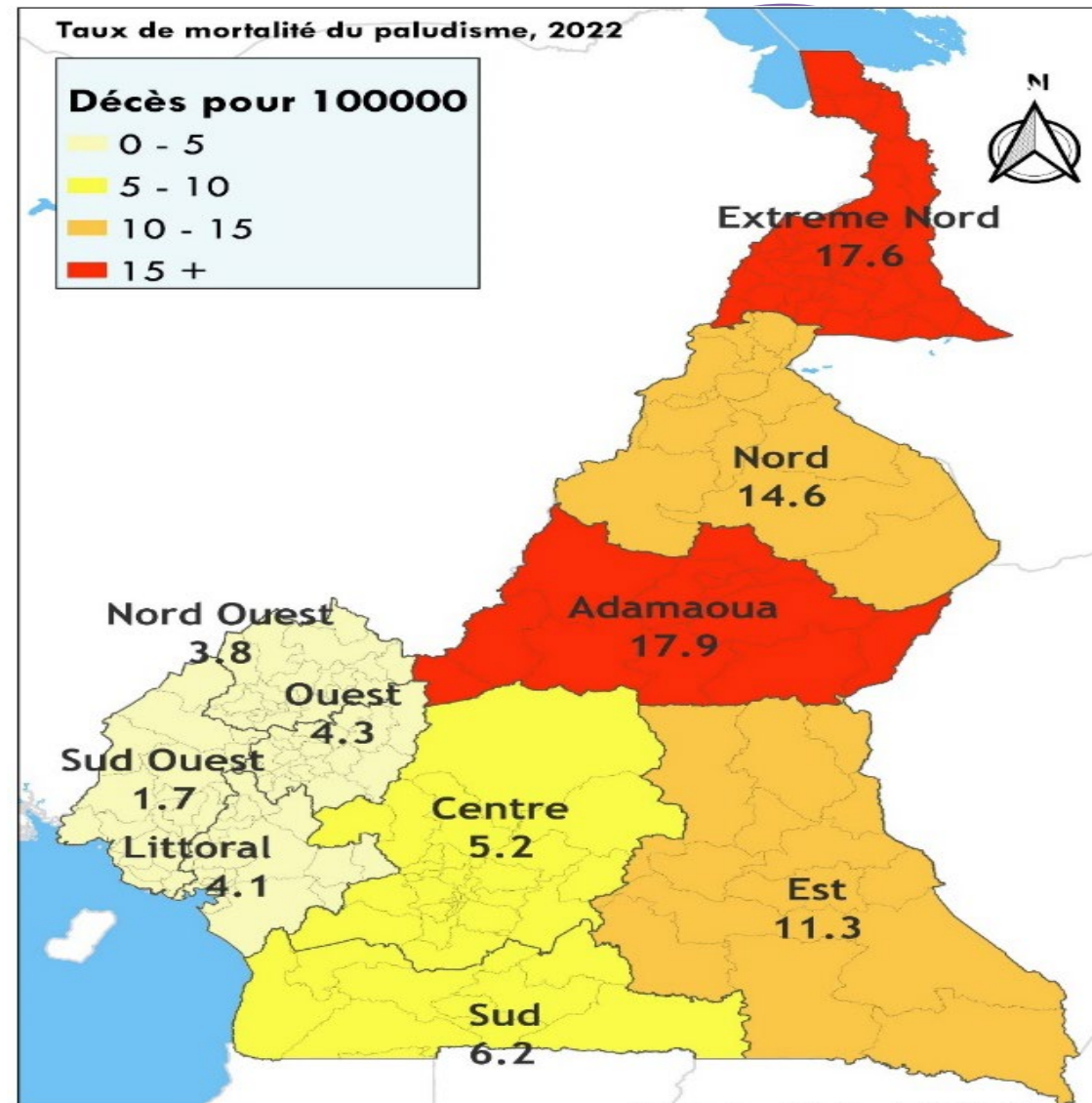
Décès pour 100 000 personnes



Death rate in 2022

Taux de mortalité du paludisme, 2022

Décès pour 100000



The challenges and lessons learned (1/2)

Challenges

- Turn over off staff (medical doctors ++)
- Quality equipment not always available for quality case management
- Resources (financial++) to plan and implement regular OTSS+

Lessons learned

- Involving the administrative management team in the quality monitoring committees is an important step in ensuring ownership and resolving the problems identified.
- Setting up a mixed team of champions (doctors and nurses) contributes to better monitoring of case management.
- The choice of mentor trainers should always take into account their experience in the subject, but also their regular involvement in the NMCP's activities to ensure that they are up to date with policies and guidelines.
- Implementation easier with digitalized checklist

What has been done so far ?

Following the Champion's program, NMCP was able to:

- Organized the training of the mentors in the 8 other regions; Total: 65
 - » 54 medical doctors (general practitioners)
 - » 11 nurses and midwives
- Same : Teachers, Selection criteria ,
- One module added (lab results interpretations).
- Duration, 10 days (less than the previous training),
- Two other hospitals included: (Central and Pediatric hospital)
- Briefing at the regional level done, WhatsApp group created,
- Outreach supervision started,(prioritized health facilities),
- Not yet digitalized in these region, adaptation of the HNQIS tool(paper), regular follow up

Way forward

Mobilize additional funds to:

- Increase and strengthen the pool of champions in the other regions , ensure their regular updates
- Continue dissemination of the guidelines (CM, Qoc)
- Strengthen the capacity of health services providers to monitor quality and use the OTSS tool.
- Carry out regular **OTSS+ (digitalization needed)**
- Ensure creation and regular meetings of quality committees

PALUDISME GRAVE				
Catégorie	Item	Oui	Non	*Round 6
	CM HNQIS OTSS PPG.PPG-250-16. Le prestataire de soins a-t-il noté les informations recueillies lors de l'examen physique complet du patient (yeux, oreilles, gorge, cou, cœur, poumons, abdomen, réflexe, etc) ?	30	7	81.1%
	CM HNQIS OTSS PPG.PPG-260-17. Le prestataire de soins a-t-il confirmé le diagnostic du paludisme grave sur la base de la positivité de l'examen biologique de la GE/FS ou TDR ?	36	1	97.3%
	CM HNQIS OTSS PPG.PPG-270-18. Est-ce que GE a été réalisé ?	15	21	41.7%
	CM HNQIS OTSS PPG.PPG-280-19. Si GE a été réalisé, la densité parasitaire est-elle précisée ?	15	0	100.0%
	CM HNQIS OTSS PPG.PPG-290-20. Le prestataire de soins a-t-il demandé la numération formule sanguine (NFS) ou taux hémoglobine (Hb) pour rechercher une anémie sévère chez le patient ?	30	7	81.1%
	CM HNQIS OTSS PPG.PPG-300-21. Le prestataire de soins a-t-il demandé la glycémie pour rechercher une hypoglycémie chez le patient ?	22	15	59.5%

PALUDISME GRAVE				
Catégorie	Item	Oui	Non	*Round 6
	CM HNQIS OTSS PPG.PPG-470-33. Si le prestataire de soins a utilisé l'artemether injectable pour traiter le paludisme grave, la posologie est-elle conforme aux directives nationales?	4	0	100.0%
	CM HNQIS OTSS PPG.PPG-480-34. Le prestataire de soins a-t-il utilisé la quinine injectable en perfusion pour traiter le paludisme grave?	3	0	100.0%
	CM HNQIS OTSS PPG.PPG-490-35. Si le prestataire de soins a utilisé la quinine injectable en perfusion pour traiter le paludisme grave, la posologie est-elle respectée?	3	0	100.0%
	CM HNQIS OTSS PPG.PPG-500-36. Le prestataire de soins a-t-il respecté la durée de 4 heures et plus pour passer une perfusion de sel de quinine?	3	0	100.0%
	CM HNQIS OTSS PPG.PPG-510-37. Le patient a-t-il reçu un traitement antipaludique de relai après que l'urgence soit levée?	35	2	94.6%
	CM HNQIS OTSS PPG.PPG-520-38. Si oui, le traitement de relai utilisé est-il conforme aux directives nationales ?	35	0	100.0%
	CM HNQIS OTSS PPG.PPG-530-39. Le prestataire de soins effectue-t-il une surveillance			

CONCLUSION

- In our context characterized by insufficient quality of care / insufficient of malaria case management, **the Champion's Project has help** :
 - **Improve the capacity reinforcement of health personnel (after the cascade training method), improve the quality of malaria case management**
 - **Had made it possible to start implementing the Qoc**
- This method of training is more relevant although it needs more resources than the normal training cascade
- In the 8 other regions, the mentors were already trained although in an insufficient number, they have started implementing the post raining phase (prioritized HF),
- Need of enough resources to have a good coverage

ACKNOWLEDGEMENTS

USAID - funding

NMCP: Regional and district teams

Impact Malaria, Swiss TPH, MMV

The champions and their mentors

The UTH , Central hospital, Chantal Biya Foundation

The partners for their technical and financial support



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**THANK YOU FOR YOUR KIND
ATTENTION**

Merci pour votre attention