Assessing the quality of seasonal malaria chemoprevention delivery by low-literate community health workers in Nigeria

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KEY MESSAGES

- Implementing public health campaigns, such as seasonal malaria chemoprevention (SMC), requires the mobilisation of large networks of community health workers (CHWs).
- To guarantee high-quality SMC delivery, effective monitoring and supervision mechanisms need to be in place to ensure that CHWs adhere to protocol and inform caregivers correctly.

Introduction

SMC requires administering four monthly doses of antimalarial drugs — sulfadoxine-pyrimethamine (SP) and amodiaquine (AQ) — to children aged 3–59 months during peak malaria transmission to maintain therapeutic concentrations in their blood.[1] Its impact depends on the quality of the intervention's delivery, which has not been sufficiently investigated.[2]

In 2018, Malaria Consortium trained 20,969 low-literate CHWs in Nigeria to administer one dose of SP and the first dose of AQ to eligible children during door-to-door distribution, update the child's SMC card, and instruct caregivers on how to administer the remaining two doses of AQ and what to do if side-effects occur. After the fourth cycle, we assessed the performance of CHWs who administered SMC to approximately 3.2 million under-fives in Jigawa, Katsina, Sokoto and Zamfara states.

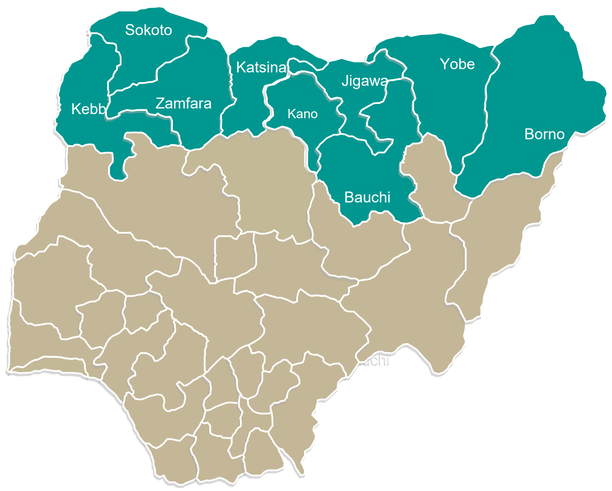
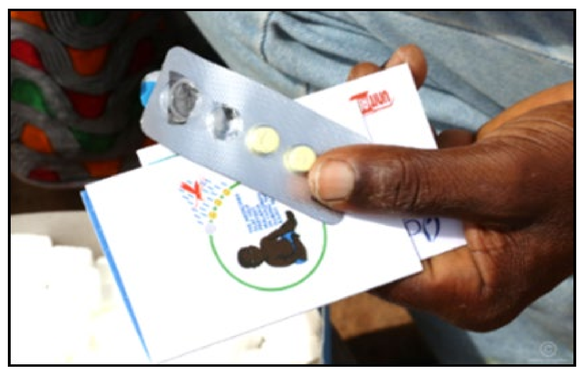


Figure 1: Map of states eligible for SMC in Nigeria



SP–AQ blister pack containing second and third AQ doses

Methods

- Through a cross-sectional design with a multi-stage cluster sampling method, we randomly selected 4,090 caregivers of under-fives for interviews about SMC, using structured questionnaires immediately after the fourth cycle.
- We assessed the quality of CHWs' performance and the effectiveness of their key messages by testing caregivers' knowledge of SMC and their reported adherence to administering the second and third doses of AQ, retaining their child's SMC card and ticking the card after completing the treatment at home. We also measured the proportion of CHWs who administered the first SMC dose as a directly observed treatment (DOT), as well as the number of ineligible children (5–10 years) treated by CHWs.

Results

- The vast majority (93%) of all eligible children received at least one cycle of SMC.
- However, CHWs also administered SMC to nearly half (46%) of ineligible children in the households they visited, with the majority (83%) reporting having received at least one dose.
- Less than half (44%) of caregivers reported that the CHW administered the first dose as a DOT.
- The vast majority (94%) of CHWs left tablets with the caregiver to administer to the child over the following two days. While most (87%) caregivers reported knowing how to administer the remaining doses, only around a third (35%) reported adhering to the treatment.
- SMC card retention was low (37%); many caregivers reported misplacing it and only a small proportion (13%) of those who retained it knew they had to tick it after administering the second and third doses of AQ at home.
- The majority of caregivers (61%) knew that SMC aims to prevent malaria, while around a quarter (28%) thought it treated malaria.

Table 1: Quality indicators for CHWs' performance

Indicators	Percent
Coverage of eligible children 3–59 months who received at least one dose of SMC	92.9
Ineligible children (5–10 years) who received at least one dose of SMC	83.2*
CHWs reported to have administered the first treatment to child (via DOT)	44.4
CHWs left tablets with caregiver for days two and three	93.6
Child received second AQ dose in cycle four	35.7
Child received third AQ dose in cycle four	35.4
Caregivers knew they needed to tick the administered home doses on the SMC card	13.0
Caregivers knew the correct SMC dosage	86.8
Caregivers knew that SMC prevents malaria	61.0
Caregivers said SMC treats malaria	28.3
Caregivers retained the SMC card	37.3

*Red font signifies poor CHW performance

Conclusion

While CHWs in Nigeria are able to reach the majority of children eligible for SMC, they require close monitoring and supervision to ensure that protocol is followed. More effective communication with caregivers is also needed to increase the percentage who administer the remaining AQ doses correctly and retain the SMC card.

The results of this study provided us with the necessary information to strengthen the monitoring and supervision mechanism for the 2019 SMC programme. A potential future area of research could be determining whether there is a relationship between the low-literacy status of the CHWs and the quality of delivery.

References

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