



Seasonal malaria chemoprevention (SMC): New geographies in Nigeria and quality of SMC delivery

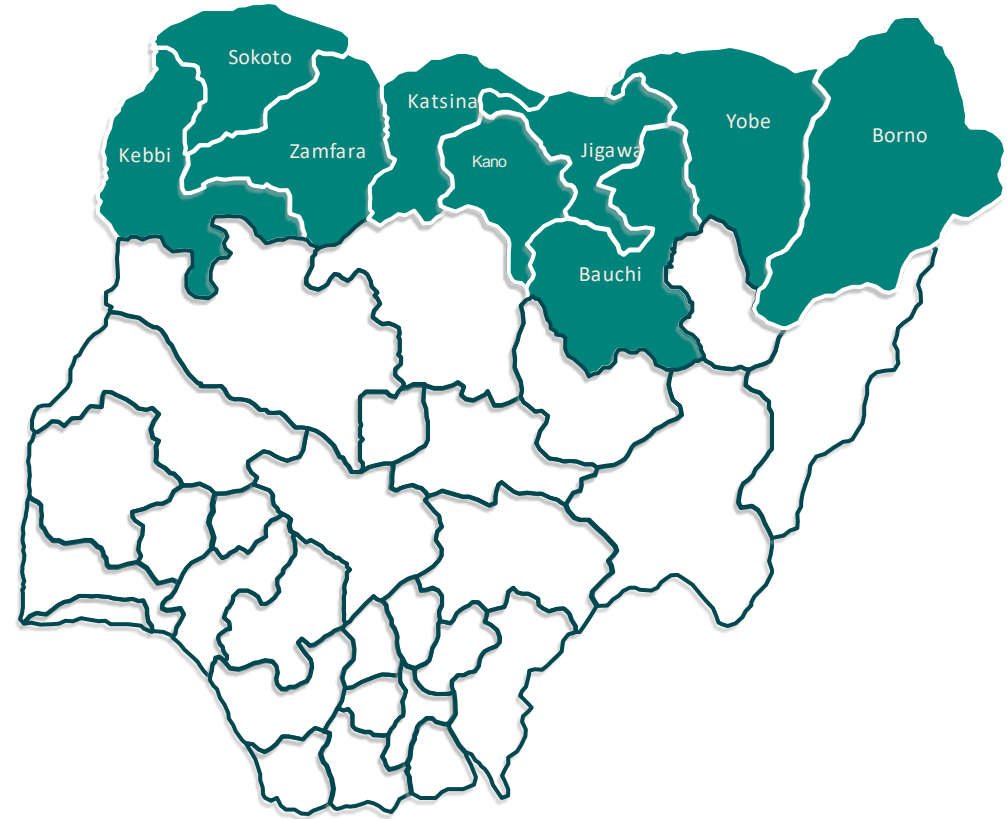
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Introduction

- Seasonal malaria chemoprevention (SMC) is an effective tool for malaria prevention recommended by the World Health Organization (WHO) in areas with seasonal malaria transmission.
- It is a response to the need to contextualise malaria control strategies in specific geographic areas and populations.
- Nigeria adopted SMC as a policy in 2014 following the conduct of pilot studies in seven local government areas (LGAs) in three Sahelian states in Nigeria.
- By 2020, the intervention had been scaled up across all nine eligible states according to this criterion.



Nine Sahelian states eligible for SMC in Nigeria

High burden to high impact (HBHI) response

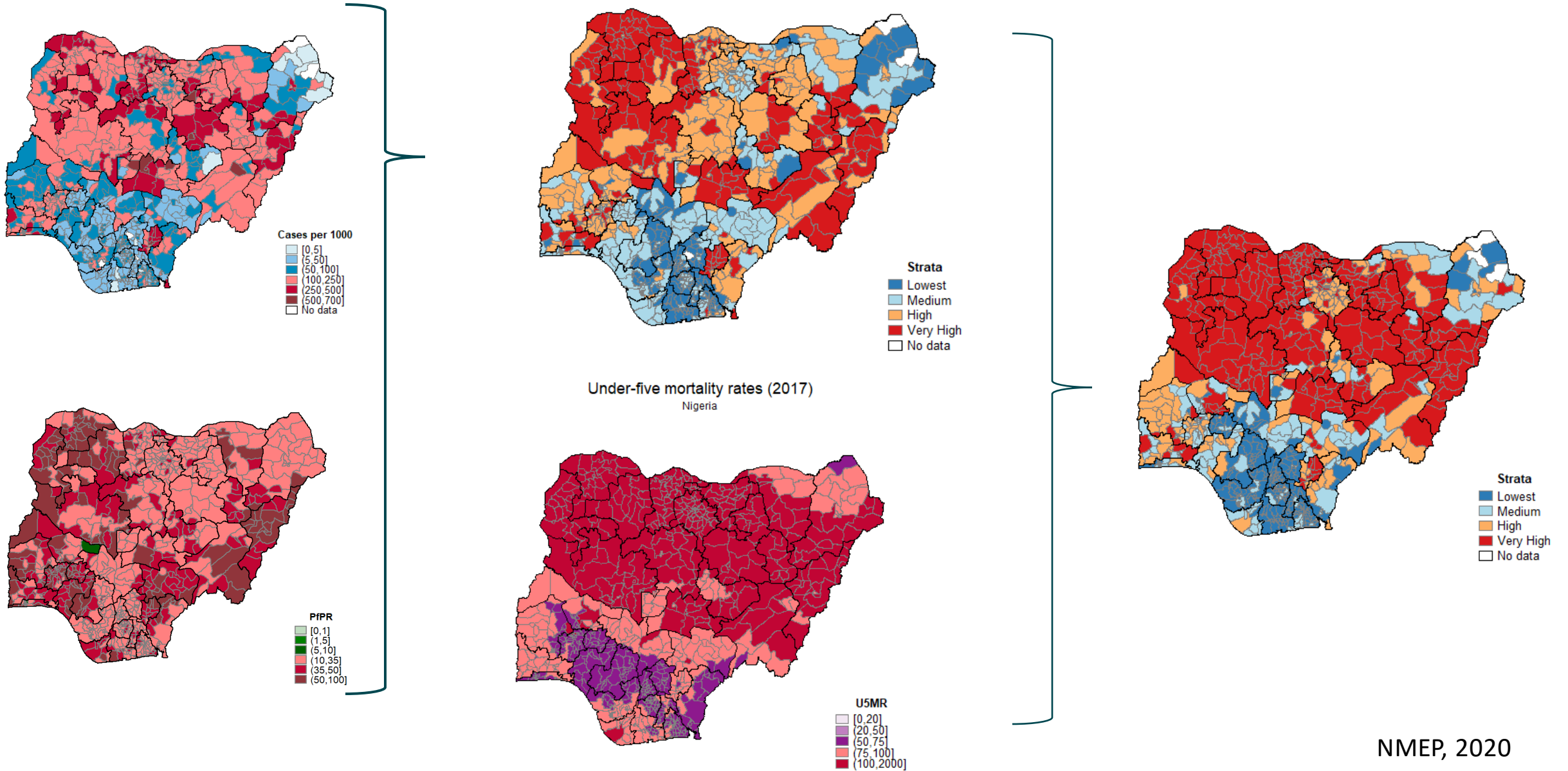
- Nigeria, one of the 11 countries contributing the highest to the global burden of malaria, responded to the global call to get **HBHI countries** back on track to achieve the 2025 GTS milestones in 2019.
- **Context-specific analyses** were carried out to identify appropriate **intervention-mixes** for the different **epidemiological settings** in the country to aid **prioritisation** and achieve impact.
- A combination of indicators was used to arrive at a malaria stratification map.

High burden to high impact

A targeted malaria response



Malaria stratification—combination of indicators



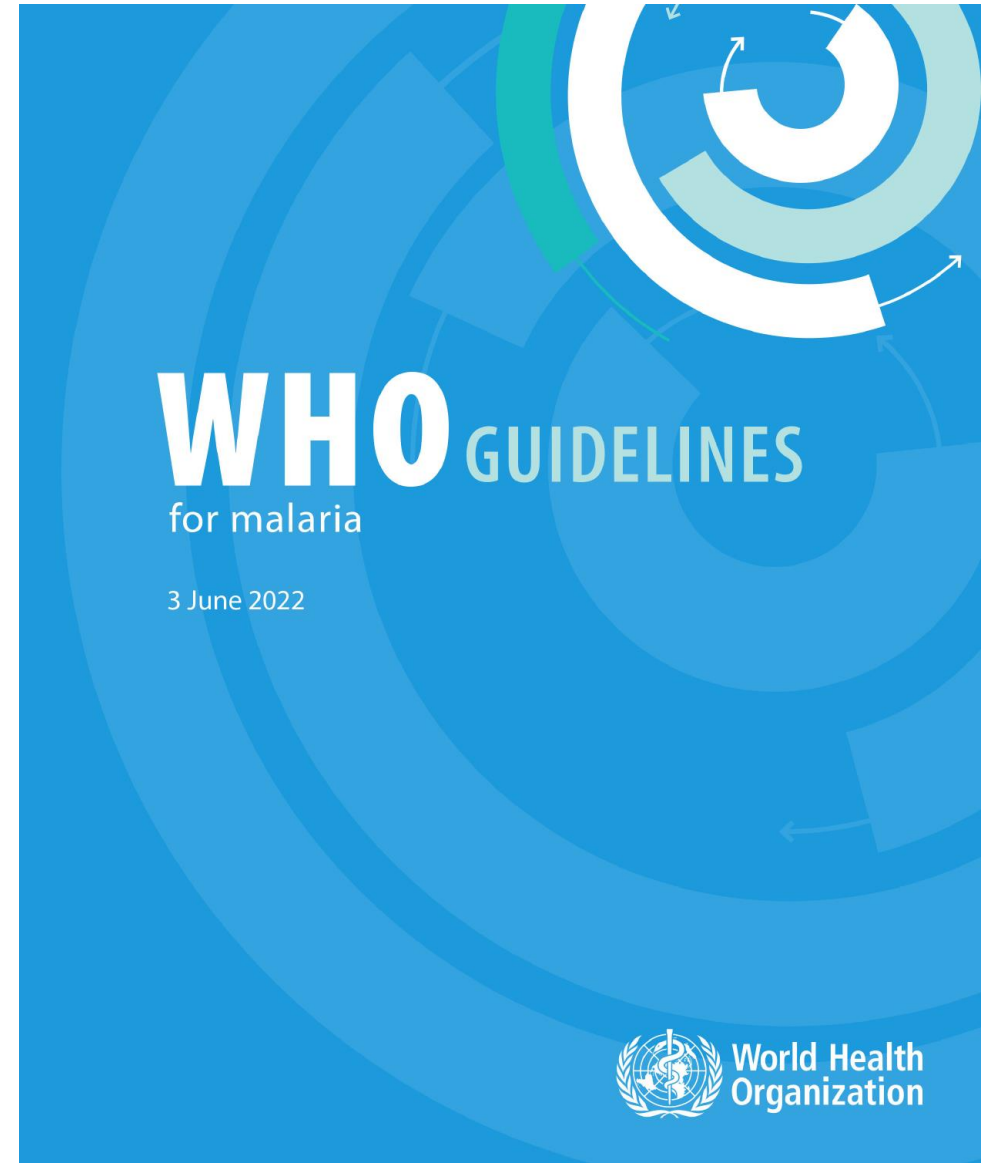
WHO's recommendation for SMC eligibility

Prior to June 2022, SMC was recommended

- in areas of highly seasonal malaria transmission with **60 percent** of clinical malaria cases occurring within **four months of transmission***
- where the clinical attack rate of malaria is greater than 0.1 per transmission season in the target age group, **children under five years**
- where sulfadoxine-pyrimethamine (SP) and amodiaquine (AQ) are still efficacious (**> 90 percent efficacy**).

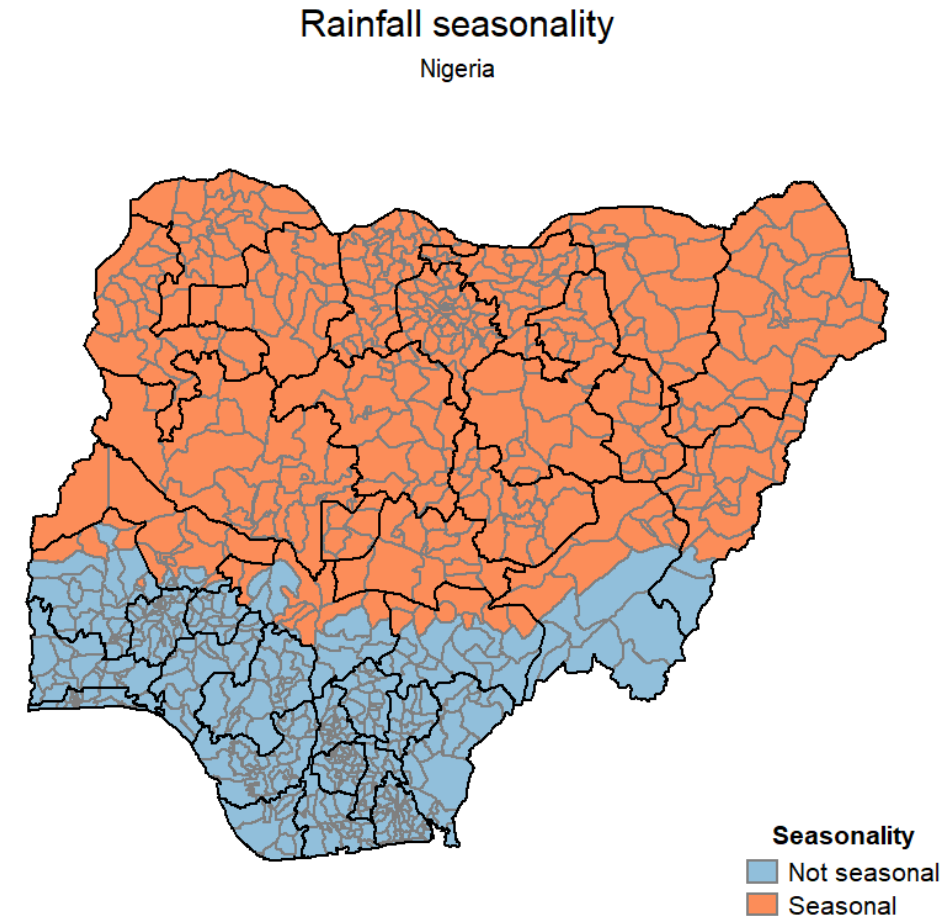
The revised WHO guidelines for malaria control called for contextual adaptations to these recommendations to maximise impact in different settings and put the prerogative for decision-making on countries using local data.

*These areas are characterised by more than 60 percent of the average annual rainfall falling within three months.



SMC stratification in Nigeria

- Stratification for SMC was based on WHO's 2011 recommendations
- Areas where PfPR2-10 >5 percent in 2018
- Districts where >60 percent of rainfall occurs within four consecutive months.



SMC Eligibility Map

Pre-stratification

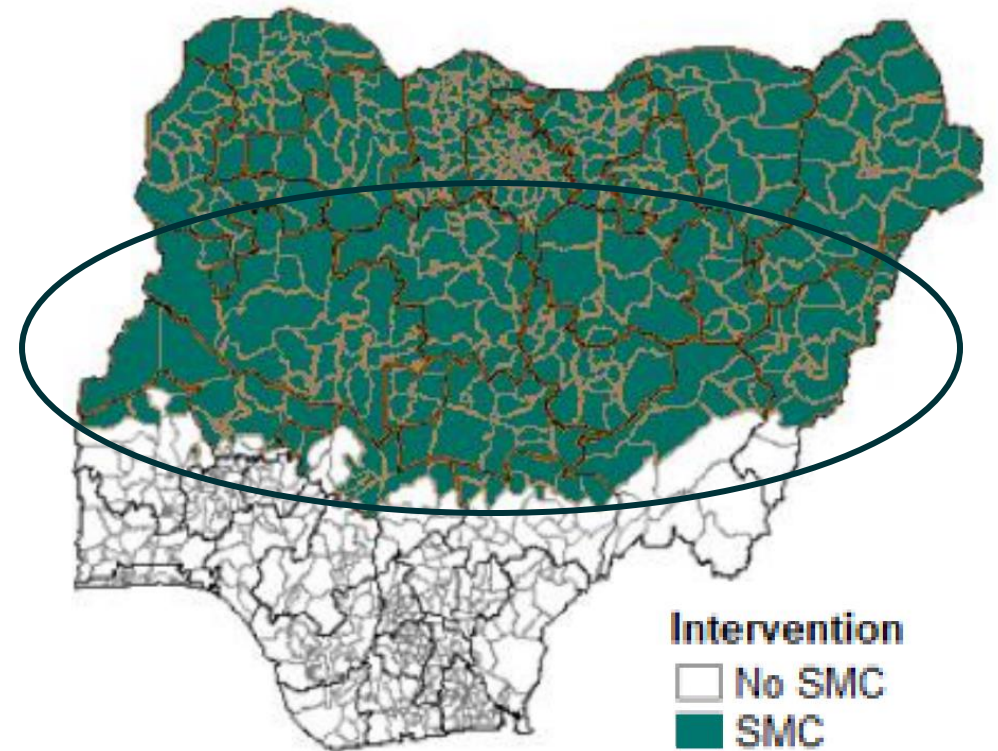


Nine states



Extension into new geographies outside the Sahel

Post-stratification



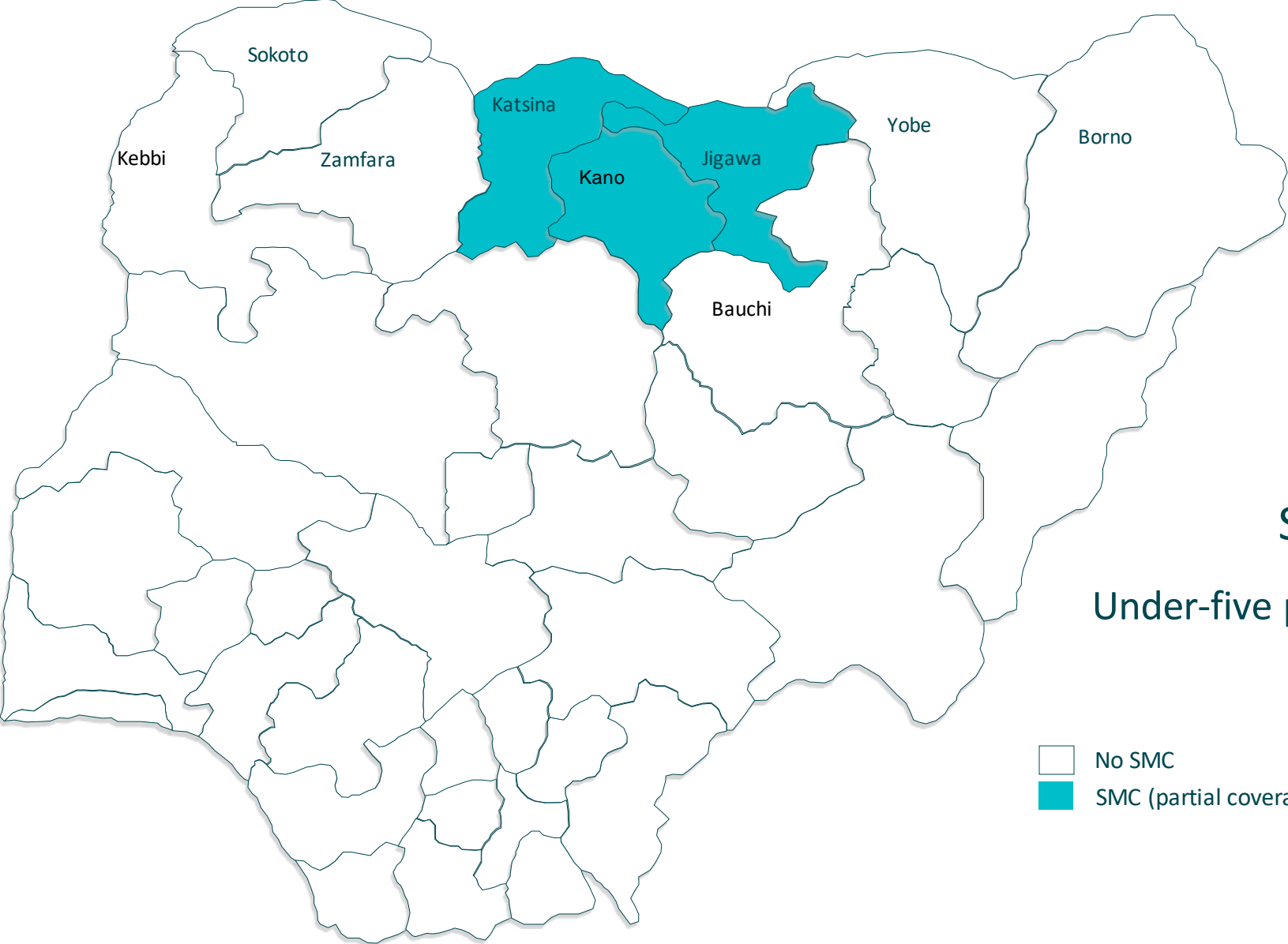
21 states



SMC implementation in Nigeria

Implementation scale

2013–14



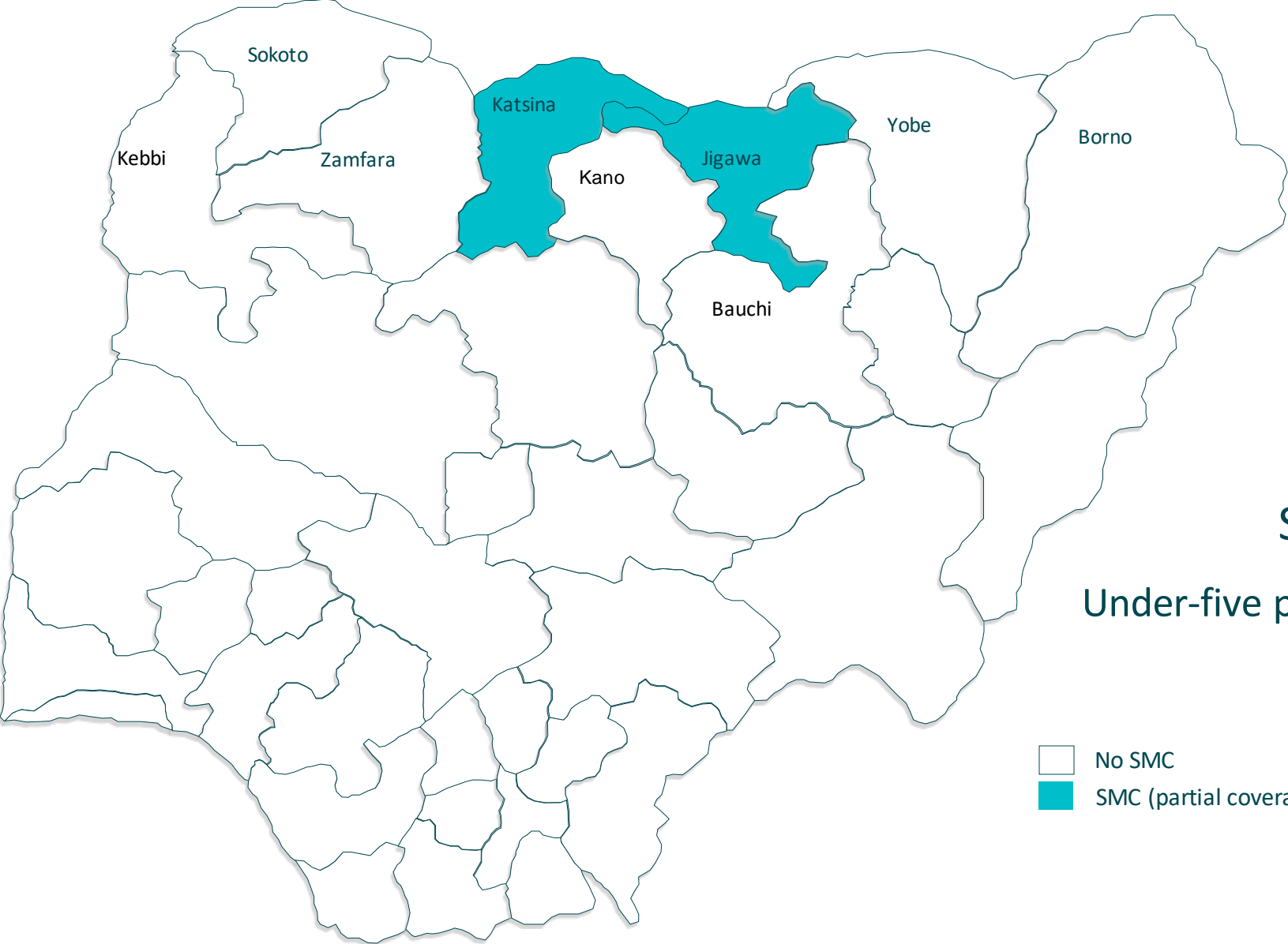
Seven LGAs

Under-five pop.: Approx. 500k

- No SMC
- SMC (partial coverage)

Implementation scale

2015



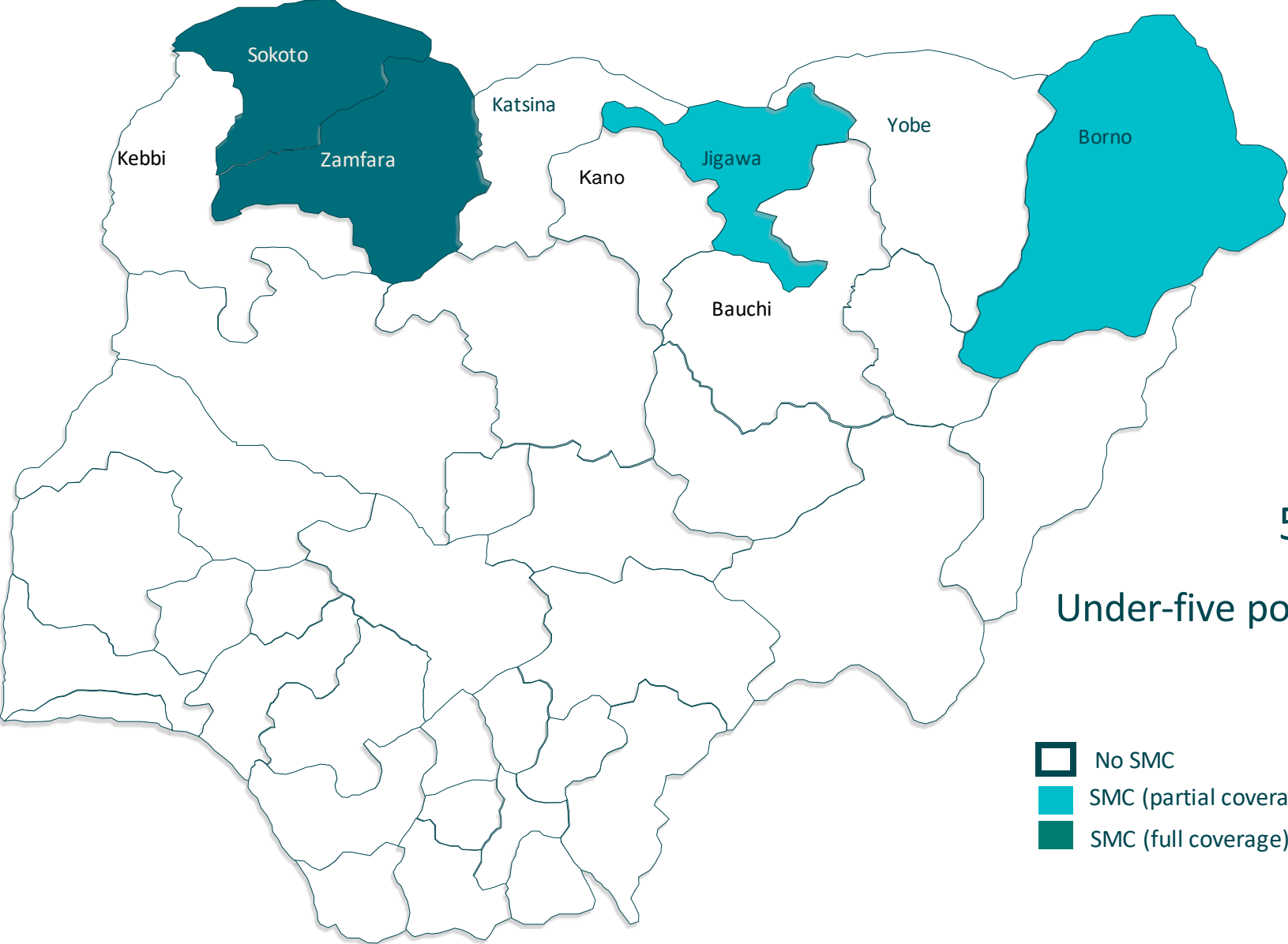
Six LGAs

Under-five pop.: Approx. 400k

- No SMC
- SMC (partial coverage)




Implementation scale

2016



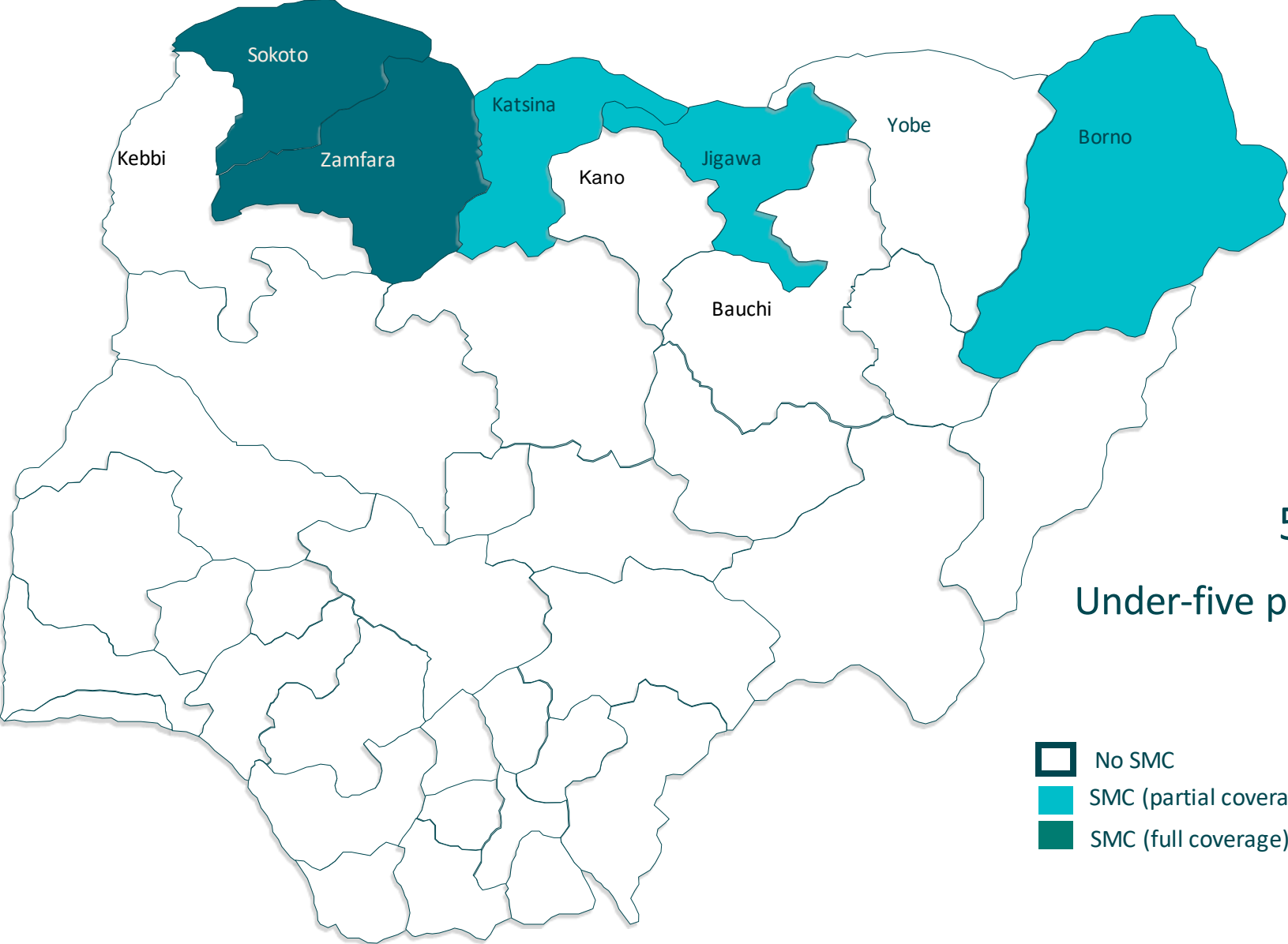
52 LGAs

Under-five pop.: Approx. 2.3m

-  No SMC
-  SMC (partial coverage)
-  SMC (full coverage)

Implementation scale

2017–2018



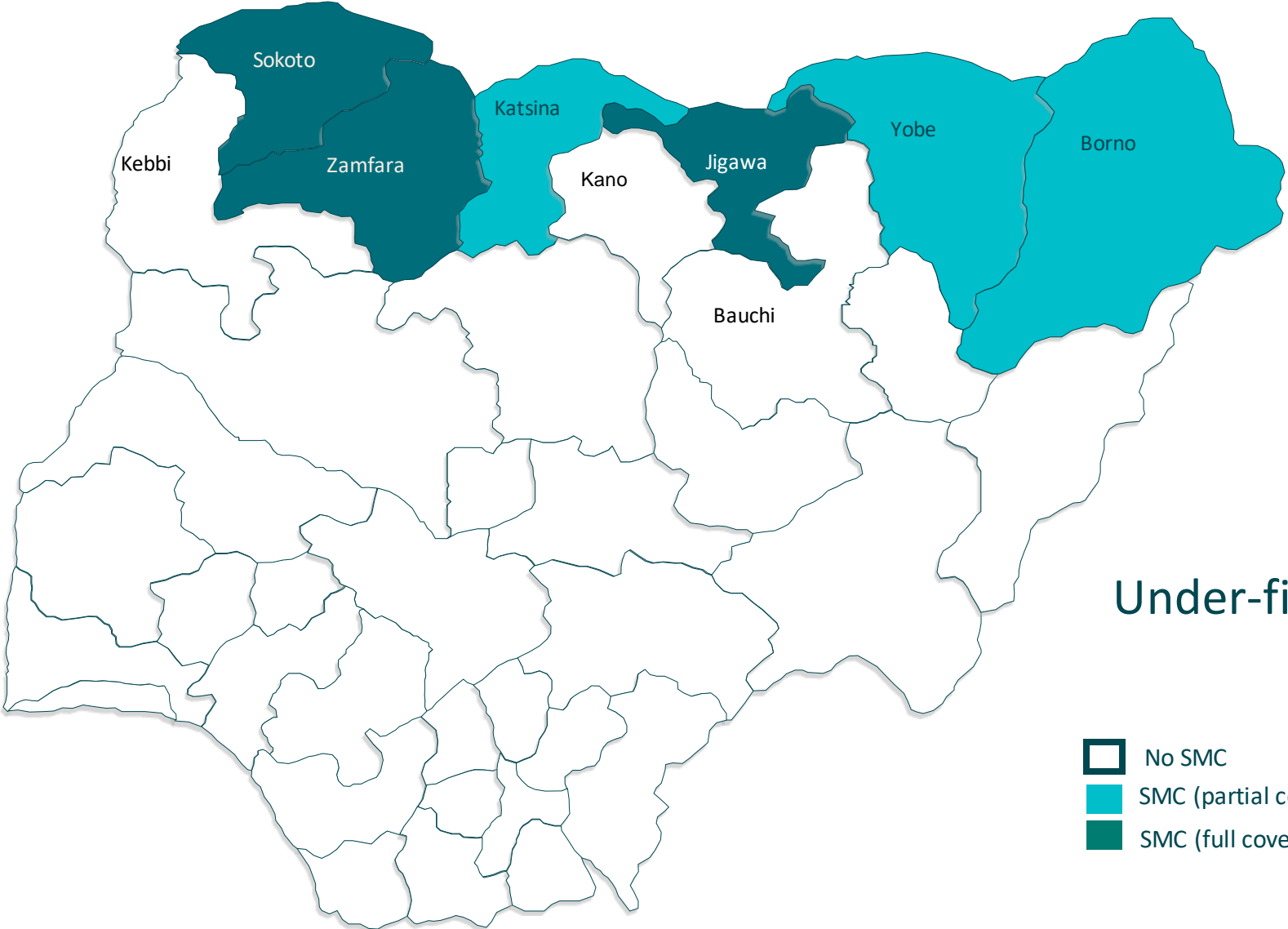
55 LGAs

Under-five pop.: Approx. 2.7m

- No SMC
- SMC (partial coverage)
- SMC (full coverage)

Implementation scale

2019



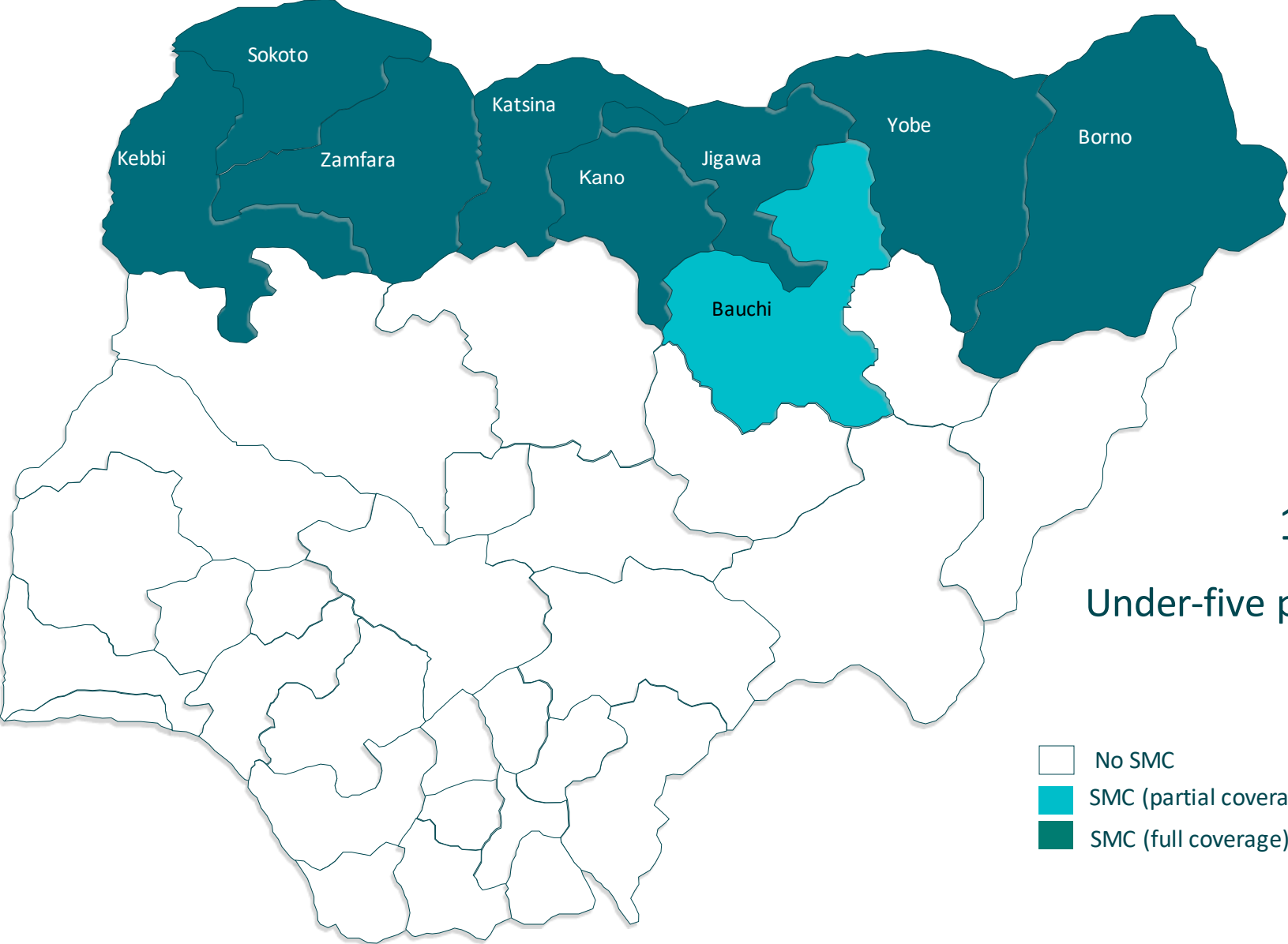
78 LGAs

Under-five pop.: Over 4m

- No SMC
- SMC (partial coverage)
- SMC (full coverage)

Implementation scale

2020



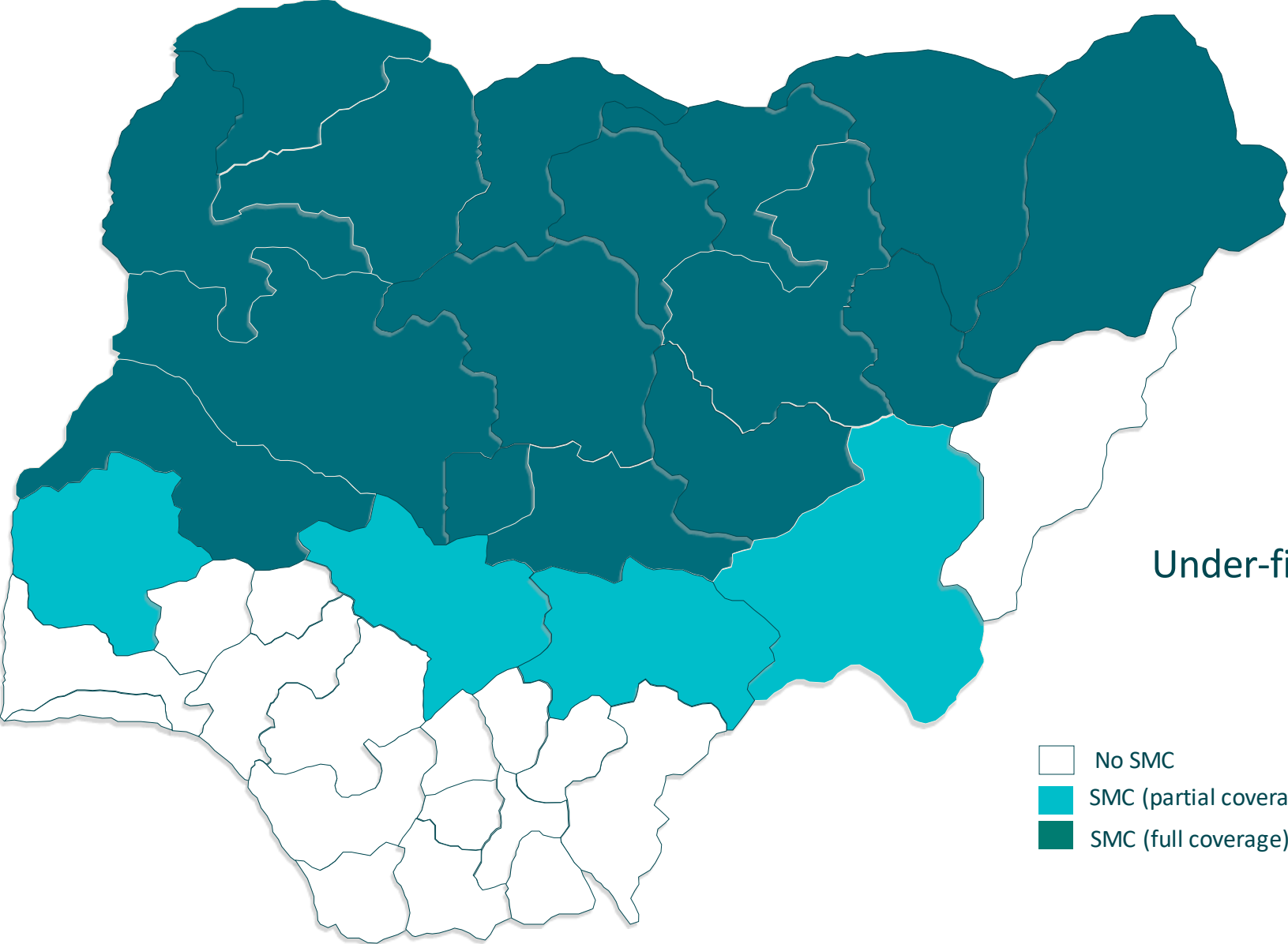
159 LGAs

Under-five pop.: Approx. 8.5m

- No SMC
- SMC (partial coverage)
- SMC (full coverage)

Implementation scale

2021-22



Under-five pop.: 21m

- No SMC
- SMC (partial coverage)
- SMC (full coverage)



Implementation of SMC in new geographies

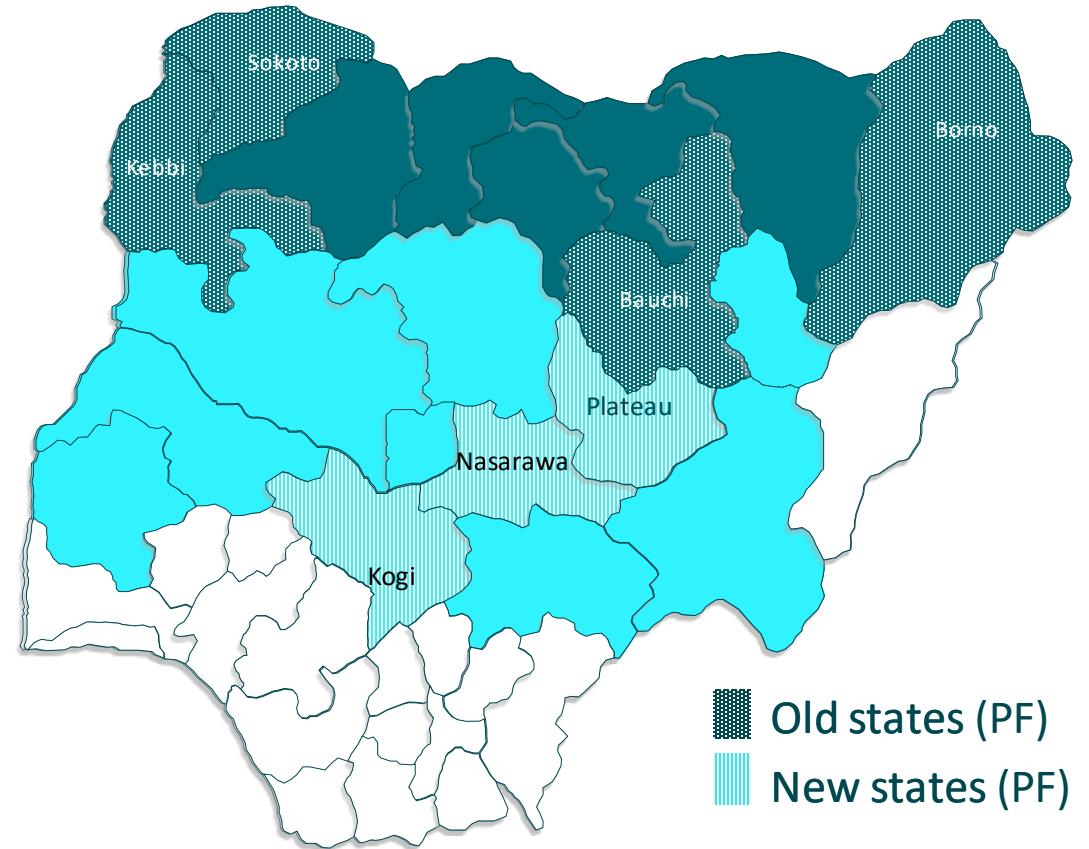
Introduction of SMC in new geographies

- Introducing an intervention in a new area requires strong community engagement and communication to facilitate acceptance and buy-in.
- The quality of implementation as perceived by the communities also impacts their overall satisfaction and acceptance of the intervention.
- High acceptance is likely to result in high uptake and coverage of the intervention, which is needed to achieve its impact.



Review of data on quality of SMC implementation in new areas versus old areas (states)

- This map shows old and new areas where SMC is being implemented across the country.
- We examined results from the 2021 end-of-round surveys conducted in four old states (Sahel region, target pop.=6,395,503) compared to three new states implementing SMC (outside the Sahel, target pop.=2,034,800) supported by Malaria Consortium through philanthropic funding.
- Old states (Sokoto, Kebbi, Bauchi and Borno) implemented four cycles, while new geographies (Nasarawa, Plateau and Kogi) had five cycles in 2021.



*PF – Philanthropic funding

Intervention

- Prior to roll-out in the new geographies, high-level advocacy and community engagement and mobilisation were carried out in the states.
- Field personnel were selected and trained, and implementation was monitored as done in old states.

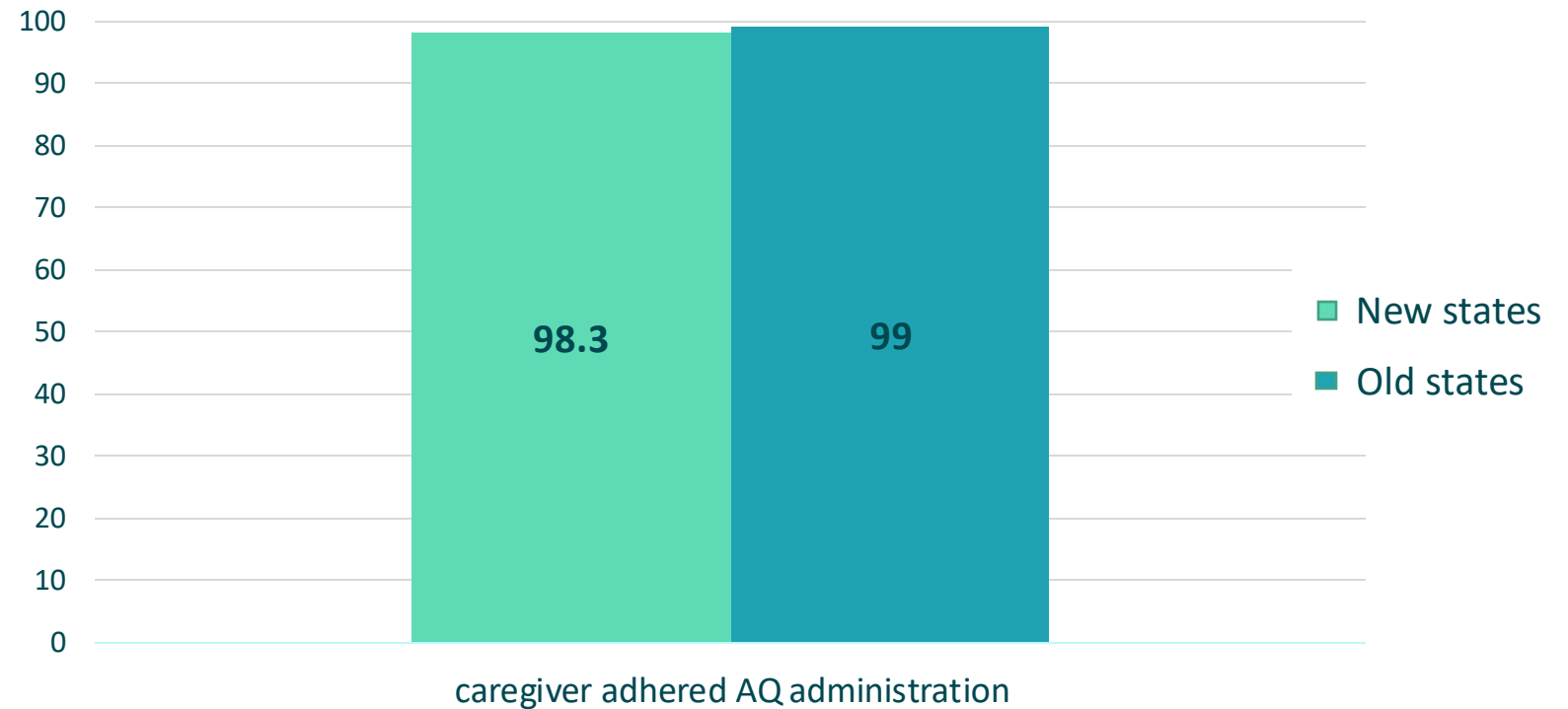
Parameters of quality of implementation measured

1. Caregiver adherence to day 2 and day 3 administration of AQ
2. Community distributor adherence to directly observed treatment (DOT)
3. Perception of the efficacy of SMC by caregivers
4. Caregiver satisfaction with community distributor service delivery.

1

Caregiver's adherence to day2 and day3 administration of AQ

Caregivers' adherence to days 2 and 3 a modiaquine administration in new and old states (%)

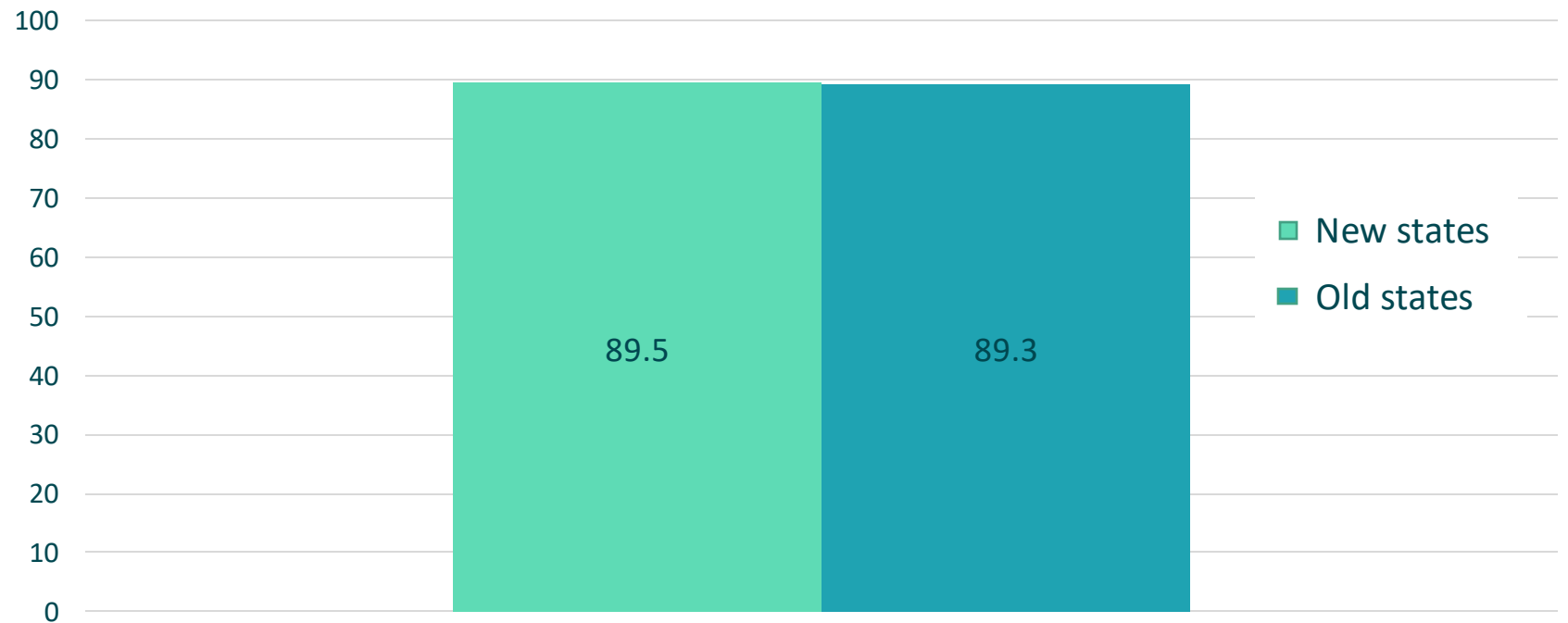


- Adherence was comparable in both the old and new states; above 90 percent.

2

Community Drug Distributors' adherence to Directly Observed Treatment (DOT) with first dose of SPAQ

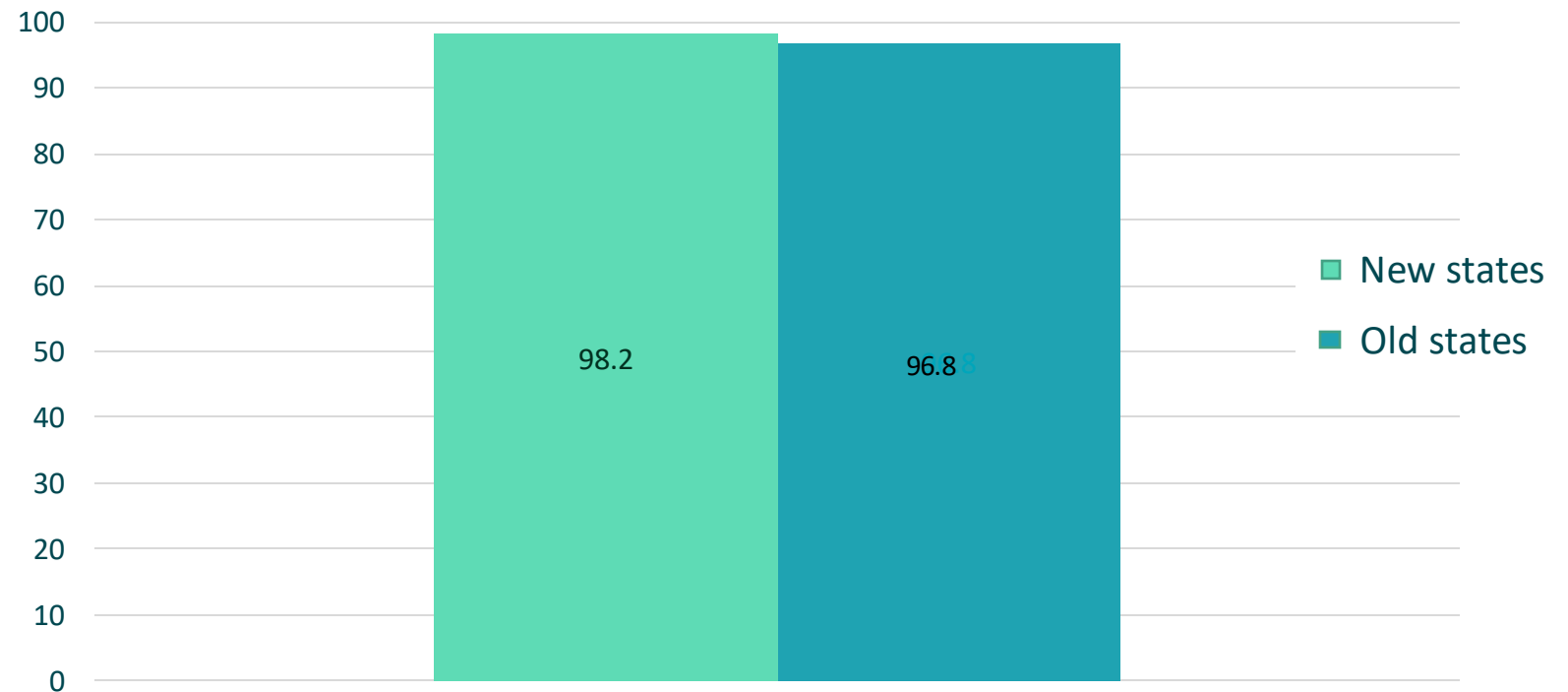
Community distributors' adherence to directly observed treatment (%)



- Adherence to DOT was comparable in both the old and new states at 89 percent.

Perception of effectiveness of SPAQ by Caregivers

Caregivers reporting that SMC drugs are effective at protecting young children against malaria (%)

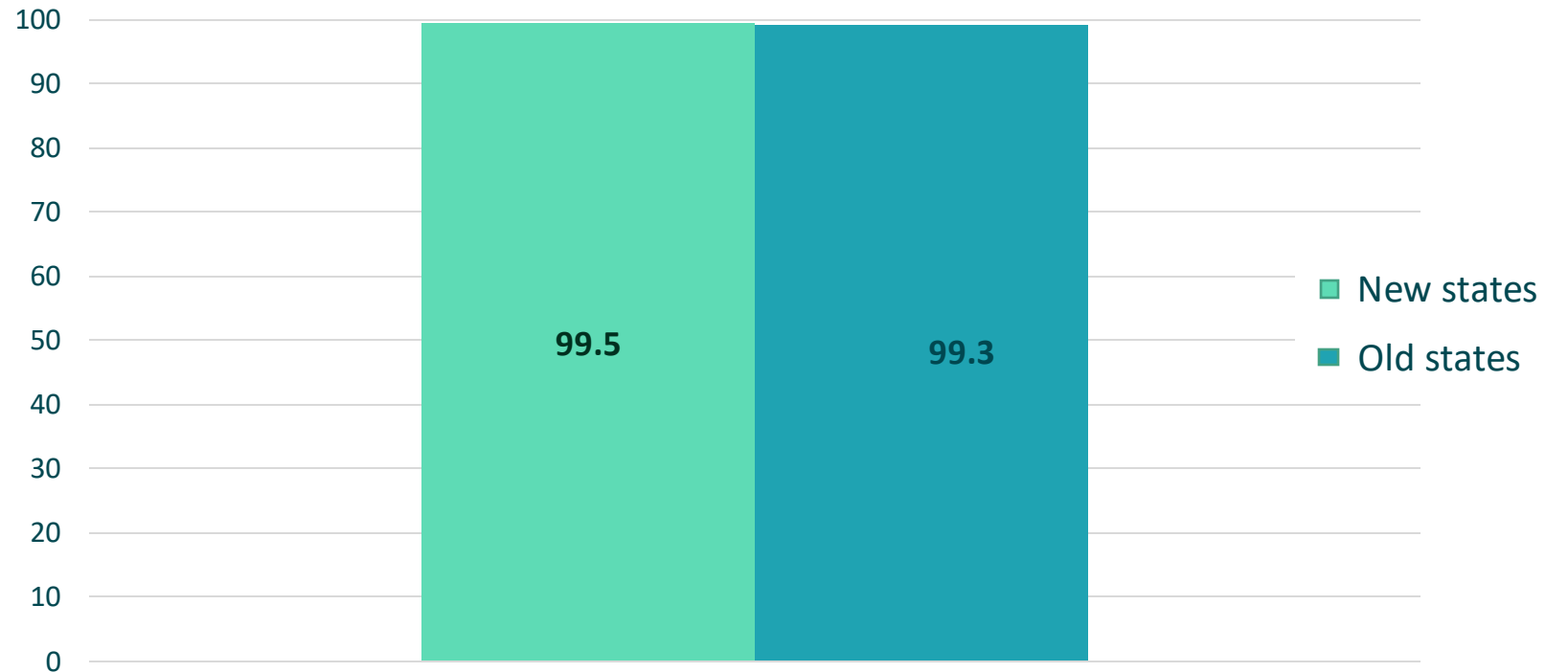


- Perception of effectiveness of SPAQ was not different in the two areas.

4

Caregiver's satisfaction with CDD service delivery

Caregivers satisfied with the way the community distributor interacted (%)

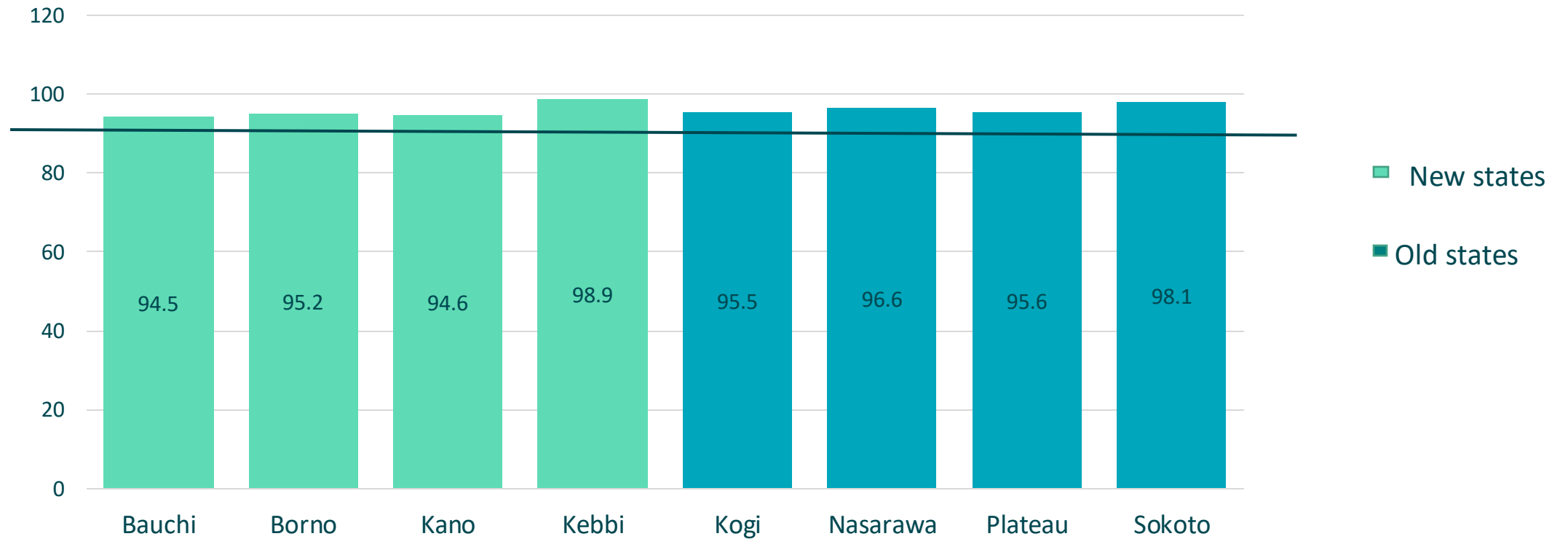


- All caregivers were satisfied with service delivered in both areas.

No significant difference across all parameters

| Variables | New states N= 4591 | Old states N= 3618 | Total N= 8209 | p-value |
|--|-----------------------|-----------------------|------------------|---------|
| Caregiver adhered to day 2 and day 3 administration of AQ | | | | 0.082 |
| Yes | 4511 (98.3) | 3582 (99) | 8093 (98.6) | |
| No | 80 (1.7) | 36 (1) | 116 (1.4) | |
| Community distributor adhered to DOT | | | | 0.948 |
| No | 480 (10.5) | 388 (10.7) | 868 (10.6) | |
| Yes | 4111 (89.5) | 3230 (89.3) | 7341 (89.4) | |
| Caregiver satisfied with the way the community distributor interacted | | | | 0.578 |
| No | 25 (0.5) | 27 (0.7) | 52 (0.6) | |
| Yes | 4566 (99.5) | 3591 (99.3) | 8157 (99.4) | |
| SMC drugs are effective at protecting young children against malaria | | | | 0.171 |
| No | 68 (1.8) | 110 (3.2) | 178 (2.4) | |
| Yes | 3781 (98.2) | 3311 (96.8) | 7092 (97.6) | |

SMC coverage in old and new areas



Summary

- Nigeria responded to the HBHI initiative by stratifying malaria risk in the country to inform sub-national tailoring of malaria interventions.
- SMC was extended beyond the Sahel based on evidence of eligibility available from local data.
- An additional cycle was implemented in the areas with longer duration of rainfall in the new areas.
- Coverage survey results show good performance on the SMC quality indicators, including caregivers' satisfaction and coverage of the intervention.

Conclusion

- The extension of SMC implementation into new geographies in Nigeria is feasible.
- Scaling up SMC in new geographies should be guided by local data as recommended by WHO.
- Implementation must be informed by best practices and lessons learnt from previous administration of SMC, with a strong community engagement component.

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