

malaria  
**consortium**

*disease control, better health*

# Results from a mixed-methods study in two states in Nigeria to assess the adherence to COVID-19 infection prevention and control measures during delivery of SMC

Abimbola Phillips

2021 Annual Meeting of the American Society of Tropical  
Medicine & Hygiene



# Contents

- Background and rationale
- Study aim and objectives
- Methods
- Study findings
- Conclusions and recommendations for future practice

# Background and rationale

- COVID-19 constitutes a continuous threat to the delivery of essential health services, especially in many African countries including Nigeria.
- World Health Organization operational guidance helped guide countries to tailor malaria interventions that will maintain access to high-quality health services in the pandemic context.
- Seasonal malaria chemoprevention (SMC) involves the administration of antimalarial drugs to children 3–59 months in monthly cycles in regions with highly seasonal malaria transmission during peak rainfall periods.
- A door-to-door household delivery approach adopted for SMC encourages interactions between trained community distributors (CDs) and community members, thereby increasing the risk of SARS-Cov-2 transmission.
- CDs' adherence to infection prevention control (IPC) practices is critical to the delivery of the SMC campaign during COVID-19.

# Guidelines for SMC delivery in COVID-19 context

IPC guidelines were developed for SMC and necessary equipment was procured to adhere to the guidance

IPC principles are based on the following:

- limiting in-person contact
- physical distancing of at least two metres
- use of face masks and respiratory hygiene
- regular hand hygiene
- disinfection of surfaces and frequently touched items
- assessment of temperature and symptoms
- preventing implementers with symptoms of COVID-19 from participating in the campaign.

# Study aim, objectives and outcome

Study aim: To explore CDs' adherence to IPC practices for SMC during COVID-19

Objectives	Outcomes
1. To assess CDs' adherence to IPC practices during two cycles of SMC	Overall adherence to IPC practices (percent) by domain
2. To measure availability of equipment for prevention of COVID-19	Percentage of CDs who received all equipment for prevention of COVID-19 on day of observation
	Percentage of CDs who received i) hand sanitiser; ii) at least one new mask; iii) disinfection wipes; iv) three sets of disposable cups and spoons; v) a bio-waste bag, on day of observation
3. To measure caregiver satisfaction of SMC delivery with IPC practices	Caregivers' views on and satisfaction with SMC delivery with IPC practices
4. To explore CDs' views on the IPC measures and perception of the barriers and facilitators to adhering to IPC practices	CDs' views on the barriers and facilitators to adhering to IPC practices
	CDs' acceptance of the IPC practices

# Study design

- Cross-sectional study design with mixed methods of data collection and analysis — quantitative study methods and focus group discussions
  - Study period: two administration cycles of SMC in September and October 2020
- Conducted in two SMC implementation states in Nigeria: Kano and Sokoto
- Expected sample size: 264 CDs from 33 health facilities in each state observed over two SMC cycles (totalling 528 SMC administration observations in both states)
- Health facilities sampled from urban and rural local government areas using a multi-stage sampling method.



Map of study sites, Nigeria

# Methods

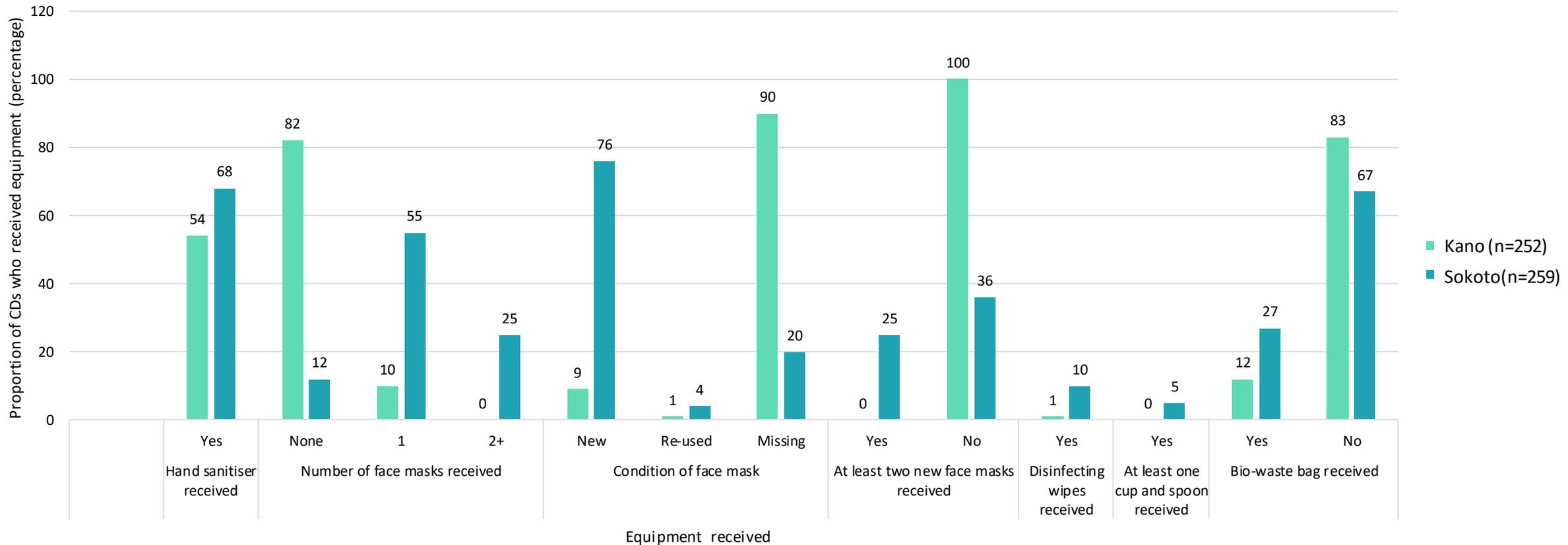
Objective	Data collection method	Participants
To assess CDs' adherence to IPC practices during two cycles of SMC	Direct observation	CD responsible for SPAQ administration, participating in the SMC campaign at the selected health facility on the day of the observation
To measure availability of equipment for prevention of COVID-19	Direct observation	As above
To measure caregiver satisfaction of SMC delivery with IPC practices	Satisfaction questionnaire	Caregiver of child under five whose child received SMC during each cycle in the catchment of the selected health facility
To explore CDs' views on the IPC measures and perception of the barriers and facilitators to adhering to IPC practices	Focus group discussion	CDs who participated in the SMC campaign in 2020 at the selected health facilities

# Key findings — Background characteristics

Variables	Kano		Sokoto	
	Frequency	Percent (%)	Frequency	Percent (%)
Health facility (HF) level				
No. of HFs	38	100	41	100
No. of HFs in urban area	17	45	19	46
Characteristics of CDs				
No. of CDs	252	100	259	100
Age (years), mean (standard deviation [SD]), range	26.3 (6.4), 18–55		28.7 (10.2), 18–70	
Sex (Female)	217	86.1	232	89.6
Education (Completed secondary and above)	236	93.7	166	64.1
Years of experience as community health worker, mean (SD), range	3.0 (1.0), 1–6		3.2 (1.7), 1–7	

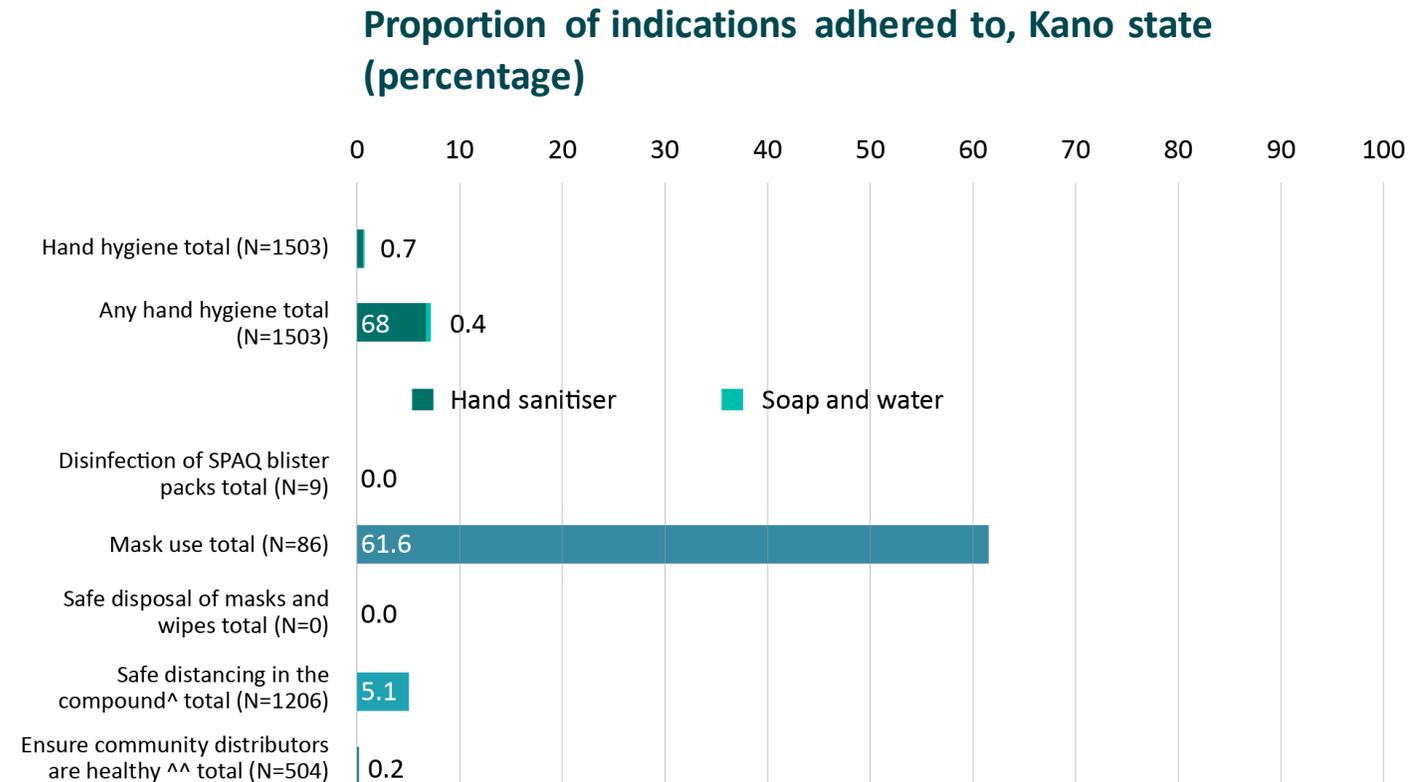
# Key findings — Greater availability of IPC equipment for SMC distribution in Sokoto than in Kano

Equipment availability for SMC distribution, by state



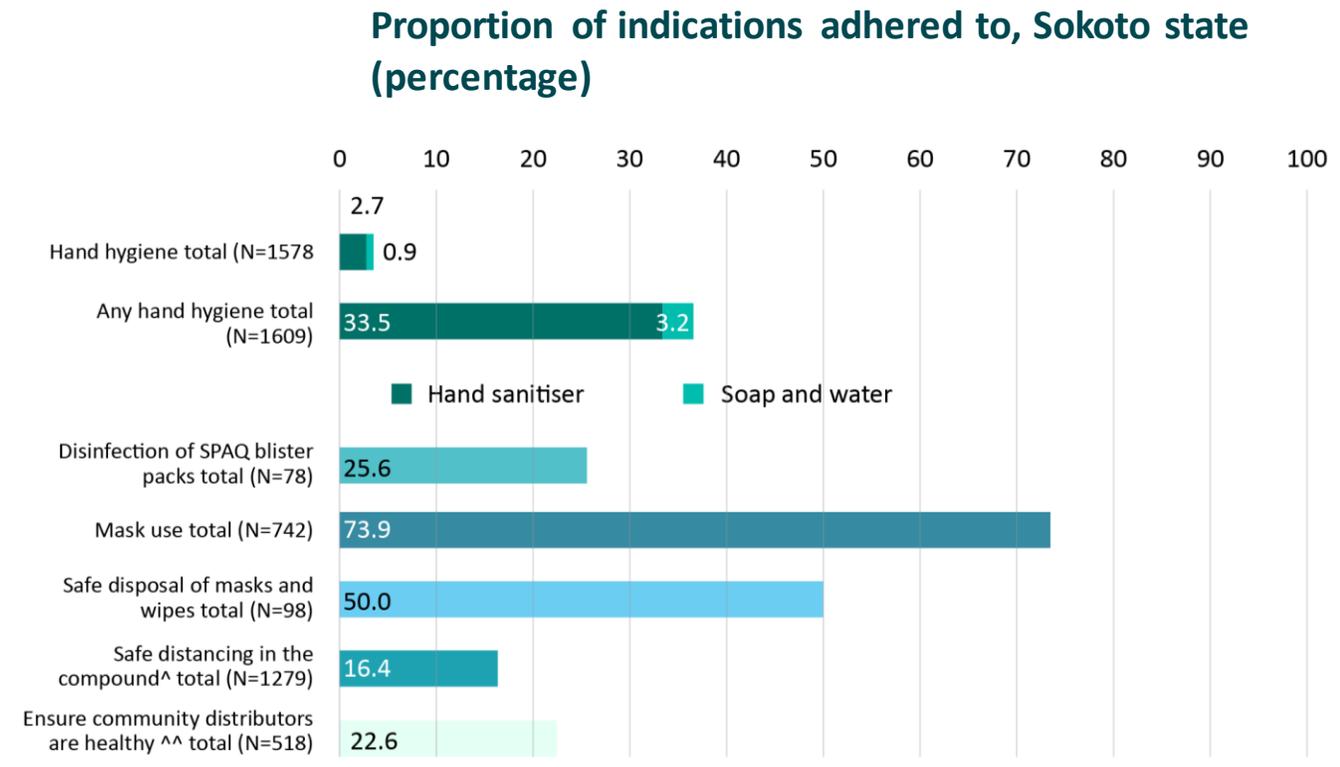
# Key findings — Adherence to IPC practices in Kano state

- Hand hygiene for at least 30 seconds occurred at only 0.7 percent of 1503 possible opportunities
  - Increased to 7.2 percent allowing for < 30 secs count
- No disinfection of SPAQ blister packs at any instance or safe disposal of masks/wipes
- Mask use was the best IPC practice, used 62 percent of possible times
- CDs only maintained safe distancing at 5.1 percent of times.



# Key findings — Adherence to IPC practices in Sokoto state

- Hand hygiene for at least 30 seconds occurred at only 3.6 percent of 1578 possible opportunities
  - Increased to 36.7 percent allowing for <30 secs count
- Disinfection of SPAQ blister packs and safe disposal of masks/wipes occurred at 26 and 50 percent of times, respectively
- Mask use was the best IPC practice used at 74 percent of possible times
- CDs only maintained safe distancing at 16 percent of times.



# Key findings — Community distributor perceptions on adherence to IPC practices

## Awareness and acceptability

Adequate knowledge of the SMC IPC guidelines and belief that prevention is necessary

CDs mostly trained on IPC measures, aided also by posters and job-aids

Use of personal protective equipment (PPE) and branded clothing made CDs easily recognisable and commanded respect from some community members

Some caregivers worried that CDs' visits to households while using preventive measures posed threats to their safety — incidences of verbal assault calling CDs "corona infected".

## Feasibility

Ease of transport of IPC materials as they are light in weight; however, bags are not durable and get dirty easily

Some IPC procedures uncomfortable and frustrating, especially those that are frequent and have a specified duration, e.g. handwashing

Difficulty keeping social distance during administration.

## Barriers

Household members sometimes demand that CDs remove face masks to ensure they recognise them

Poor training on disinfection of materials and belief that packaged equipment does not need to be disinfected even after use

Inadequate supplies of PPE (e.g. hand sanitiser and facemasks)

Observing IPC measures resulted in increased workload for some CDs, especially in rural areas.

# Some remarkable quotes from community distributors on barriers to IPC practices...

*Facemask use is not compatible with human physiology...*

“...wearing the facemask gave me a lot of problem[s], but because the supervisor made it compulsory for us to use it, that was why I managed to use it. Anything that will make your breath not to come out properly is a problem to humans and we were not used to it”. [Sokoto\_Silami\_female\_07]

*Social distancing may not be acceptable socially...*

“When you enter a house and you want to give a child medicine and you are trying to maintain social distancing, sometimes the parents think you are disgusted by the child, but we try to explain to them that what we are doing is in line with the measures of protecting ourselves and them from COVID-19”. [Kano, KMC male\_01]

“Actually, if they want this distribution of medicine to continue smoothly, they need to remove this social distance. I know you have to protect yourself, but this social distance is a big challenge because [even] if you convince some parents, you can't convince others”. [Kano, Kura\_female\_05]

# Conclusions

- Varying degrees of adherence to the IPC guidelines among CDs was observed across both Kano and Sokoto state. These appears to be related to a number of factors:
  - equipment availability
  - training on procedures
  - reactions from community members
  - difficulty in keeping appropriate physical distancing.
- Adherence to IPC practices that require frequent and timed application are generally low.
- Adequate knowledge, positive perceptions of the IPC measures among CDs and feasibility of implementation are facilitators to adherence.

# Recommendations for future practice

- Improving community awareness of enhanced safety measures to promote caregiver acceptance of the IPC measures will aid CD adherence.
- IPC equipment should be available in adequate supplies to prevent reuse of disposable materials.
- Training of CDs should include all aspects of IPC measures, especially disinfection.
- Supervision and monitoring should be optimised to ensure CD compliance with IPC practices.
- IPC measures should be reviewed and adapted, taking into account emerging scientific evidence and feasibility.

# Acknowledgements

This study is funded through philanthropic donations received as a result of being awarded Top Charity status by GiveWell, a non-profit organisation dedicated to finding outstanding giving opportunities. It is also supported by the Global Fund to Fight AIDS, Tuberculosis and Malaria.

malaria  
**consortium**

*disease control, better health*

**Thank you**

[www.malariaconsortium.org](http://www.malariaconsortium.org)