

# Data4COVID19 Africa Challenge Lay-Report





# **Understanding Facilitators and Barriers to Compliance with Non-pharmaceutical Covid-19 Preventive Measures in Nigeria**

# DATA4COVID19 AFRICA CHALLENGE: MINI PROJECT REPORT BACKGROUND



In 2018, the informal sector in Nigeria accounted for 67% of the Gross Domestic Product (GDP). The economic recession that followed the first wave of COVID-19 (February to September 2020) has driven Nigerians to place individual and their family's financial survival above compliance with the government's non-pharmaceutical interventions (NPIs) for preventing COVID-19 infections. The population's behavioural intentions of prioritising family survival may, in part, explain the increased incidence of infection and resulting deaths during the second wave of COVID-19 in Nigeria (from December 2020 – July 2021). According to Fishbein's Theory of Reasoned Action (TRA), a person's attitude, subjective norms and behavioural intentions determine their actions, with the behavioural intention being the most important determinant of action although social behaviour is also influenced by the socio-economic and political context. The need to understand these factors and how they contribute to the spread of COVID-19 in Nigeria is what drove the inception of this project.

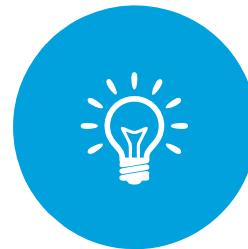
The Data4COVID19 Africa Challenge is a research project funded by l'Agence française de développement and hosted in partnership with Expertise France, and The GovLab for projects that use data to address COVID-19 and its consequences across Africa. Between December 15, 2020, and February 5, 2021, the Challenge received 83 proposals

covering 22 countries out of which Nigeria represented by the Nigeria Centre for Disease Control (NCDC) in partnership with the College of Medicine, University of Lagos (CMUL), emerged as one of the seven awardees. The overall objective of the project is to understand facilitators and barriers to compliance with non-pharmaceutical COVID-19 preventive measures in Nigeria.

Against this background, this study addressed the principal research question: what social, economic, and political factors influence knowledge and perception of COVID-19 among Nigerians, and how do knowledge and perceptions shape population behaviour and response to COVID-19 safety protocols? The research questions were further broken into the following study objectives which are to:

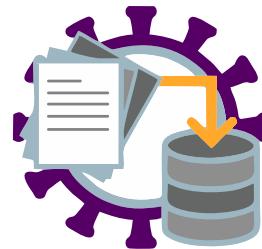
1. Examine the socio-economic and political drivers of people's compliance with the Government of Nigeria's stay home policy.
2. Investigate the influence of financial realities of Nigerians on their response to COVID-19 safety protocols.
3. Identify places that Nigerians are likely to visit, irrespective of the government's COVID-19 stay home policy and how such places can be better organized to reduce infection risks.
4. Examine changes in public risk perception and risky behaviours through the phases (first and second waves) of the outbreak and the relationship between risky behaviours to the trend of COVID-19 infection.
5. Interrogate how the government's non-pharmaceutical initiatives (NPI) affected public trust in govt and their compliance with safety protocols.

## SUMMARY OF METHODOLOGY



This study utilised non-traditional datasets from six distinct online and telephone-based surveys that were conducted during different phases of the COVID-19 outbreak in Nigeria. Participants in 5 out of 6 datasets were randomly selected across the 36 states and the Federal Capital Territory (FCT). The datasets were cleaned, inputted into Statistical Package for the Social Sciences (SPSS), and analysed individually. Recategorisation of variables using objective criteria enabled comparison across datasets. Chi-square statistics, univariate and multivariate analysis were used to test for associations. Qualitative datasets were analysed using NVivo software and themes were identified. Quantitative and qualitative data were triangulated for in-depth analysis and results computed.

## DATASETS USED



Audience Perception Survey 1 (APS 1), (n=1,535)  
 Audience Perception Survey 2 (APS 2), (n=2,244)  
 The Partnership for Evidence-Based Response to COVID-19 survey dataset for Nigeria 1 (PERC 1), (n=1304)  
 The Partnership for Evidence-Based Response to COVID-19 survey dataset for Nigeria 2 (PERC 2), (n=1318))  
 Pilot Communication Survey (PCS) (n=600)  
 The COVID-19 Pandemic: online mixed methods survey to assess the perception of and compliance with physical distancing amongst Nigerians (PCSH) (n=876)

## KEY STUDY FINDINGS



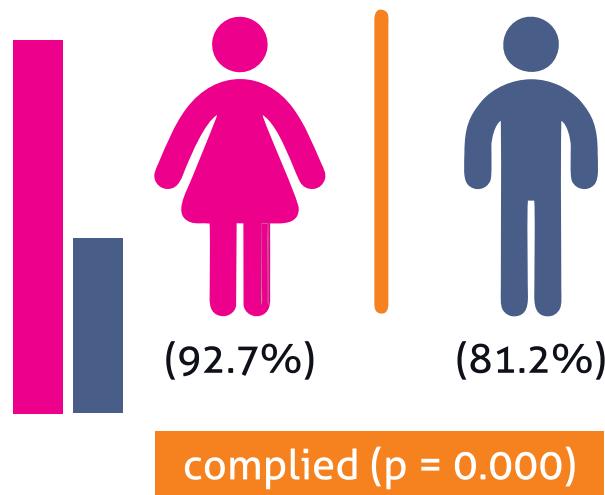
## OBJECTIVE 1:

# Socio-economic drivers of people's compliance with Government of Nigeria's stay home policy

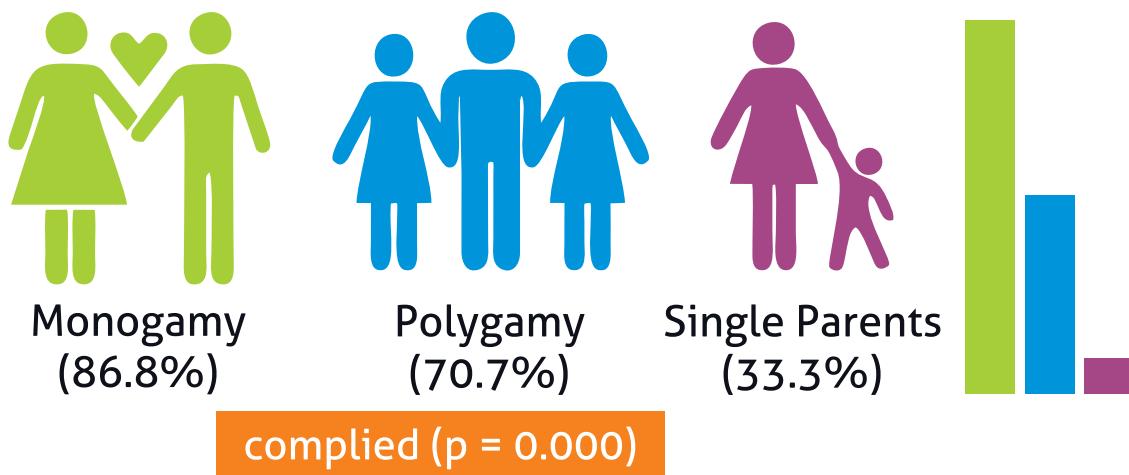


Most of the respondents were compliant with the stay-at-home order during the COVID-19 lockdown in Nigeria ( PCSH data, 876 respondents):

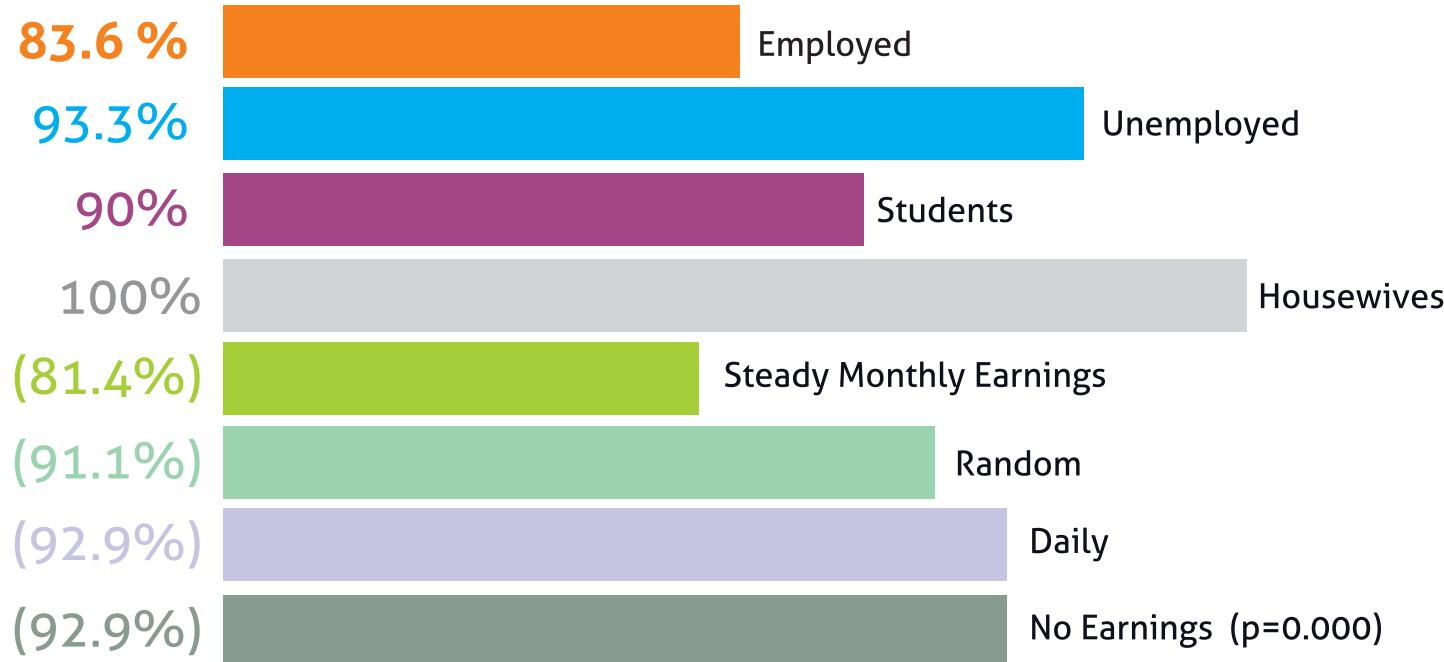
A HIGHER PROPORTION OF FEMALES THAN MALES



A HIGHER PROPORTION OF THOSE IN MONOGAMOUS MARRIAGE COMPLIED THAN SINGLE PARENTS AND THOSE IN POLYGAMOUS MARRIAGE



# Employment Status



**Complied  
( $p < 0.002$ )**

## Findings From Qualitative Study

### Compliance Factors:

#### Regular Income

Participants attributed their staying at home to regular income, which enables them to buy food and keep in the house, hence the need to go out is reduced.



"Although this one also is another point because maybe if you tell everybody to lockdown me now I am a worker, I am earning a salary, I can buy food keep."  
(Northwest1)

#### Religious Belief

For some others, religious preaching from their specific religion assisted them in complying with the stay-home-order.



"My religion preaches against anxiety with the belief that God will always make out a way. Such belief has helped me to obey stay home order, especially as my

religion does not encourage physical meeting but online meetings for religious activities "(Southeast-1)

### Factors in non-Compliance:

#### Economic Reasons

Despite the lockdown, some people were able to find a way of going to transact business, work and sell items, especially in the market.



"Let me just talk about businesses, you see like in our Borno state the other tribes like Kanuri and the rest, they usually go outside for their businesses and the way they survive is that let them come out today, go to their business and earn something they will use to feed their family for just one day. They are not like buying a lot of stuff to keep like that so you see this period of lockdown it is

going to be very difficult for them to tackle some issues even you stay at home you have nothing to do, so some people disobey because they need to go outside and look for something". (Northeast 3)

## Poverty and Hunger

Some participants pointed out that hunger is a major issue in asking people to stay home.



"Is a major issue, to stay at home is not the issue but what they will eat and achieve, this is my point, what to achieve? If you give like 50,000, they will stay at home, each family one bag or half bag they will stay at home. No matter how strong somebody is even dey fly if you no see food chop, you go come down, na so e be" (Southwest-1)

"If they want us to stay at home they should give us money or food, we have children. Not that I cannot stay home or this my fellow sister sitting cannot stay at home. But when the children cry because of food what do I do, my husband is late, it's me alone"  
(Southeast 3)



## Ignorance

Participants attributed non-compliance to the lockdown to ignorance on the part of the people. Some persons claimed that it only affects people in the urban areas and the big men or rich people who are travelling abroad

"The area I stay everything is still going normal, people go out and open shops normal like there is no problem, they do not even believe the virus is real until you come towards this area, that you will know something is going on" (Northwest-3)

## OBJECTIVE 2:

### The Influence of Financial Realities of Nigerians on their Response to COVID-19 Safety Protocols



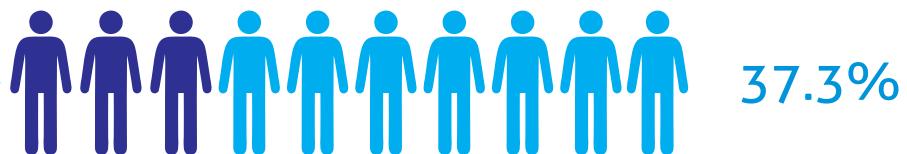
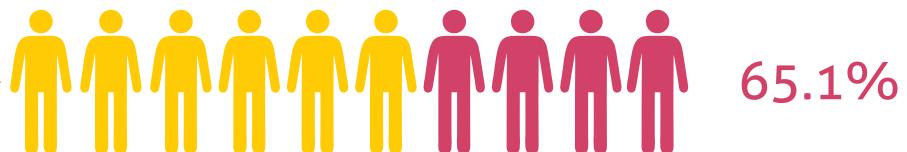
#### Types of financial difficulties during the lockdown (PERC)

The greatest difficulty encountered was the inability to buy the quantity of food that would normally be bought because the price of food items was too high (n=858, 65.1%)

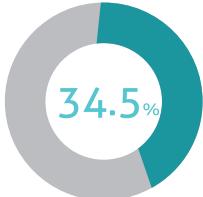
Other difficulties encountered include difficulty in accessing the food market due to the lockdown/mobility restrictions (n=469, 35.6%) or that they could not get to buy food because food markets were closed (n=491, 37.3%).

The financial challenge people experienced was due to a widespread drop in income as reported by many respondents (n=821, 62.3%).

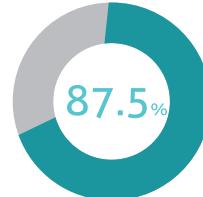
#### Financial realities and response (PCSH)



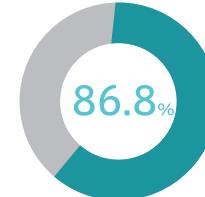
# Job loss, livelihood, financial and health resilience (PCS)



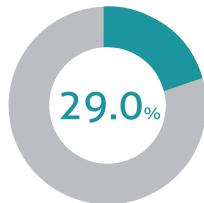
While one-third of respondents lost their jobs (n=207, 34.5%)



A large proportion had problems with food and water (n=525, 87.5%)



And others reported that they ran out of money (n=521, 86.8%) during the lockdown.

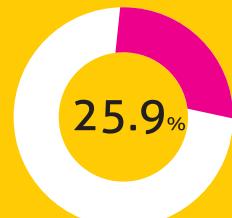


We found that if a lockdown exceeds 7 days, most Nigerians (59.2%) will run out of money and about 29.0% will run out of medicine

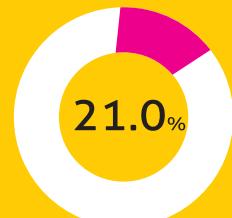


## Variation In Challenges Faced Across Geopolitical Zones (PERC)

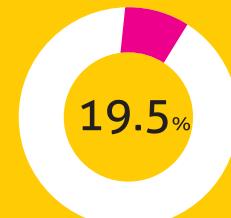
**High food prices were reported in the**



NW  
(25.9%)



SW  
(21.0%)



NC  
(19.5%)

geopolitical zones (GPZs).





The Northwest had the highest proportion (27.4%) of those who could not buy food because of income drop. Many respondents from the Southwest (21.6%) and the Northcentral (n=149, 18.1%) also were unable to buy sufficient food because of the drop in their income.

## Factors influencing biggest financial problems during the lockdown (PCS)

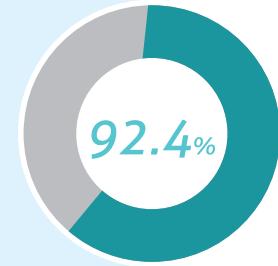
Result shows that running out of money was significantly related to the level of education of respondents ( $P<0.041$ ).



people with secondary (n=248, 88.5%) and tertiary (n=163, 87.6%) education ran out of money than people with no formal education (n=32, 82.1%), and primary education (n=42, 79.2%)



Over 86% ( $P<0.001$ ) of respondents identified the major problem of the lockdown as running out of money. Respondents with income between 0-269,000 NGN (92.4%) were the most affected.



## Experiences with income (PERC)



Up to 83.8% of Nigerians experienced income reduction during the lockdown with only 4.4% reporting an increase in income.



## OBJECTIVE 3:

**Places Nigerians visited during COVID-19 Government stay-home policy:  
evidence from secondary analysis of data  
collected during the lockdown ( PCSH data)**



91.8%



88.3%

Most Nigerians (91.8%) complied with the federal government's stay home policy in states with complete lockdown. A high proportion of respondents (88.3%) believed that staying home was effective for curtailing the spread of COVID-19 infection.

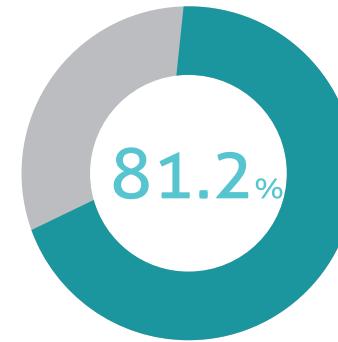
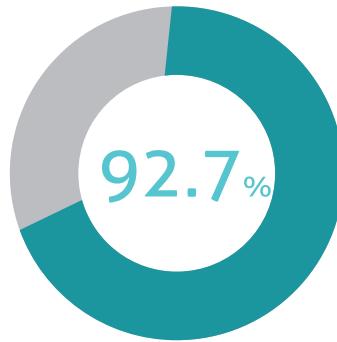


43.3%

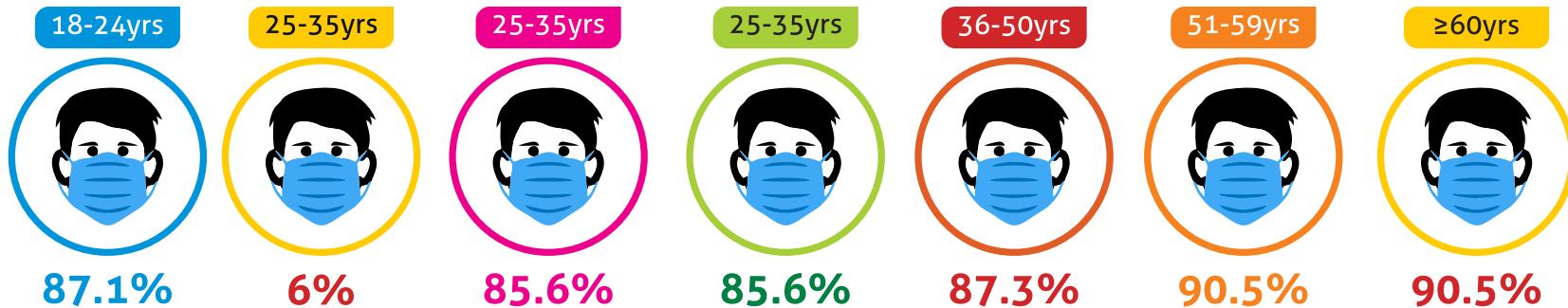


56.7%

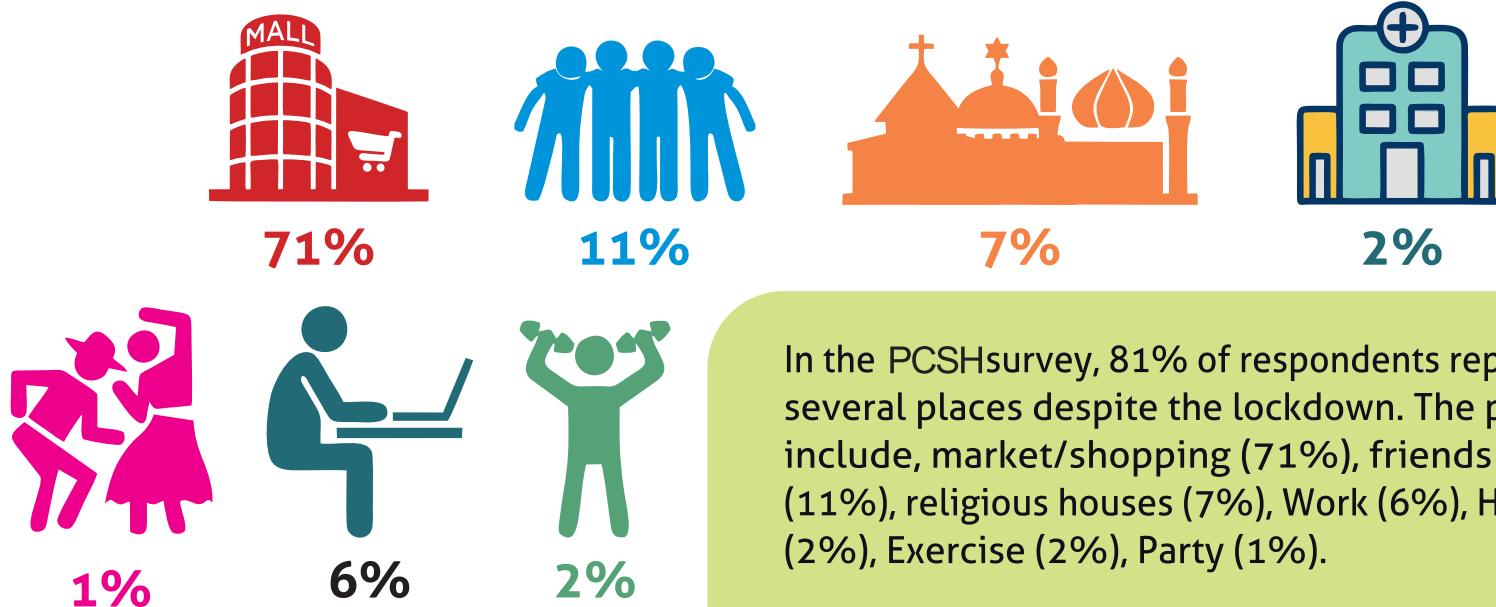
Out of these, 43.3% were in states with complete lockdown while 56.7% were in states with partial lockdown.



**A slightly higher proportion of females (380/410; 92.7%) than males (381/469; 81.2%) were compliant with the stay at home order ( $p = <0.001$ ).**



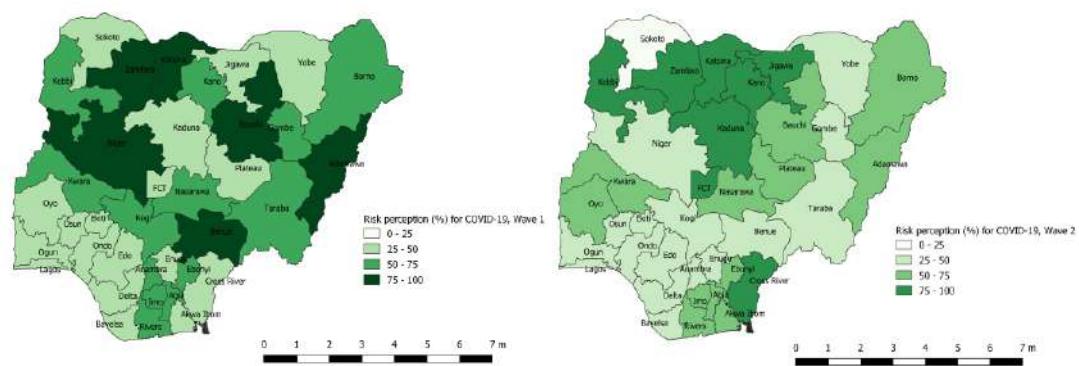
**Most respondents stayed home during the lockdown irrespective of age: 18-24yrs (87.1%), 25-35yrs (85.6%), 36-50yrs (87.3%), 51-59yrs (90.5%), ≥60yrs (100%), ( $p = 0.788$ ).**



In the PCSHsurvey, 81% of respondents reported visiting several places despite the lockdown. The places visited include, market/shopping (71%), friends and families (11%), religious houses (7%), Work (6%), Hospital/clinic (2%), Exercise (2%), Party (1%).

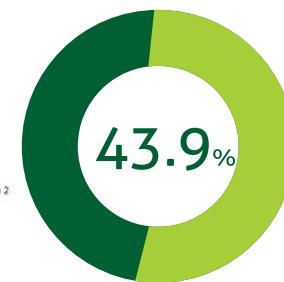
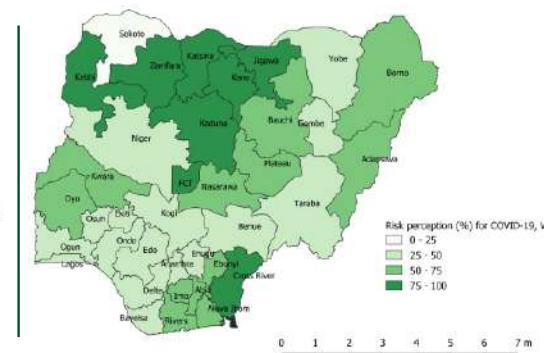
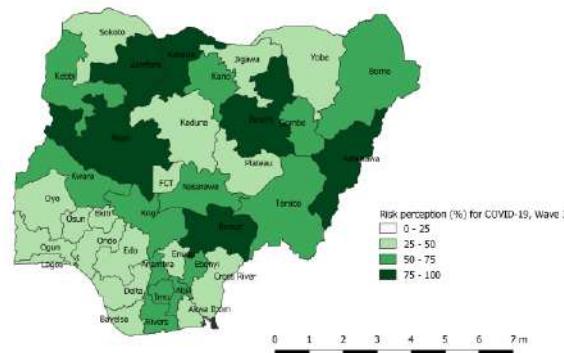
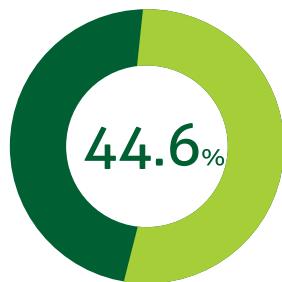
## **OBJECTIVE 4:**

# **Changes in public risk perception and risky behaviours through the first and second waves of COVID-19 outbreak in Nigeria and the relationship between risky behaviours and trend of the outbreak**



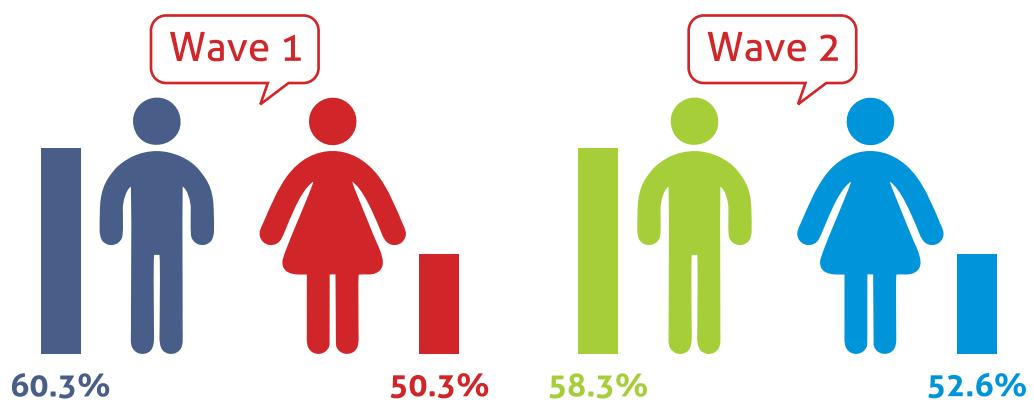
# Risk Perception Vs Age Group (APS DATA)

Overall risk perception remained low during both waves with 2 out of every 5 Nigerian considering themselves not to be at risk of contracting COVID-19 in both wave 1 (44.6%) and wave 2 (43.9%).



There was a general lowering of risk perception across the various age groups in wave 2 except for the 25-35 age group.

Gender differences were observed in risk perception. A higher proportion of males than females perceived themselves to be at risk of getting infected with COVID-19 during wave 1 (60.3% versus 50.3%,  $p<0.001$ ) and wave 2 (58.3% versus 52.6%,  $p=0.01$ ).



# Risk Perception Vs Geopolitical Zone (APS Data)

In wave one, while living in any other GPZ was associated with lower risk perception for COVID-19 than living in the North-Eastern part of the country, this relationship was only significant for those residing in either South-West (AOR 0.28; 95% CI 0.20-0.40) or South-South (AOR 0.41; 95% CI 0.28-0.60) geopolitical zones (table 3).

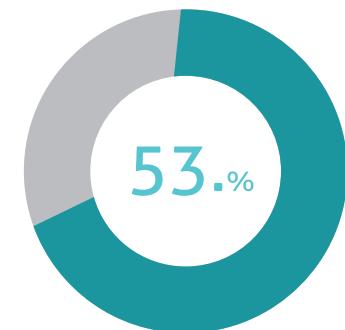


During the second wave, those residing in the North-West were four times more likely to perceive themselves at risk of COVID-19 infection than those residing in the North-East (AOR 4.01; 95% CI 2.89-5.57).

Lowest risk perception for COVID-19 during the first and second waves were observed in the South-West GPZ (34% and 46.2% respectively;  $p=0.000$ )

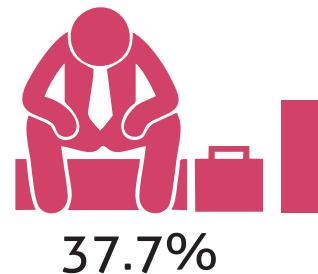
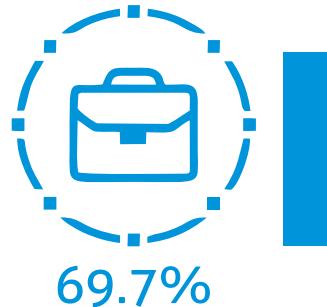
## Risk Perception Vs Marital Status: (APS Data)

Those who were married (53%) were (AOR 1.53; 95% CI 1.20-1.97) more likely to perceive themselves at risk of COVID-19 than the singles during the first wave.



# Risk Perception Vs Employment Status (APS Data)

Artisans/daily paid workers had the highest risk perception during the first wave (69.7%), their risk perception became the lowest among all employment categories during wave 2 (37.7%) with a drop in risk perception of 32%.



**A slight drop in risk perception of about 3.6% was also observed among the unemployed in wave 2 compared to wave 1.**



Being a business owner (AOR 1.83; 95% CI 1.30-2.57), fully employed (AOR 2.35; 95% CI 1.63-3.38) or a student/corper (AOR 2.81; 95% CI 1.90-4.17) was associated with almost twice or thrice higher odds of risk perception than being a daily paid worker during the second wave.



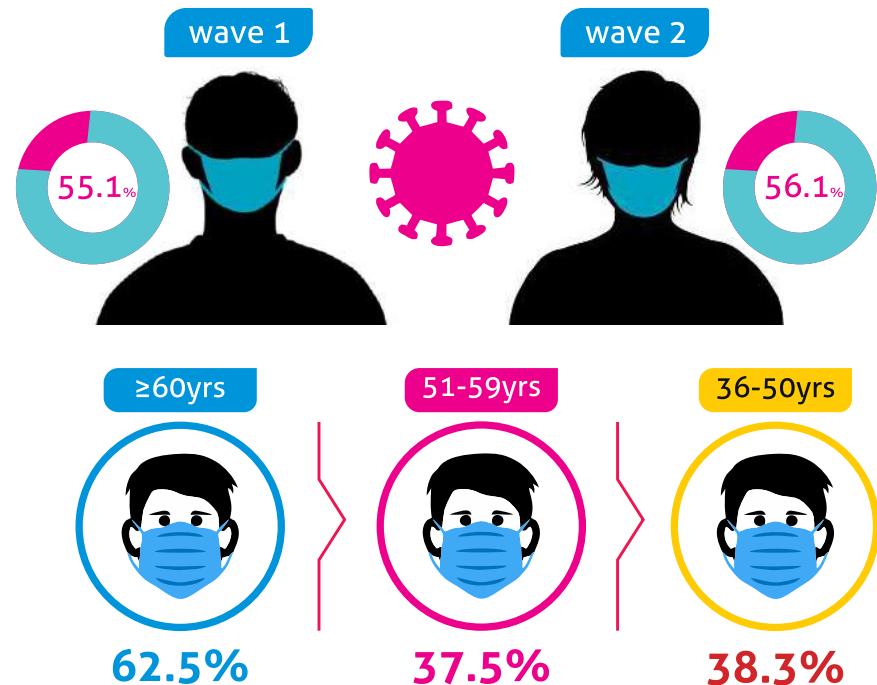
The unemployed (AOR 1.90; 95% CI 1.33-2.70) were twice more likely to perceive themselves at risk than the daily paid workers.



## In the PERC 1 Survey:

A greater proportion of Nigerians did not perceive themselves to be at substantial risk of contracting COVID-19 in wave 1 (55.1%) and in wave 2 (56.1%).

In wave 1, substantial risk perception was highest among those  $\geq 60$  years (62.5%) and lowest among the 51-59 (37.5%) and 36-50 (38.3%) age categories ( $p<0.01$ ), whereas in wave 2 there was no significant difference in risk perception across the age groups.

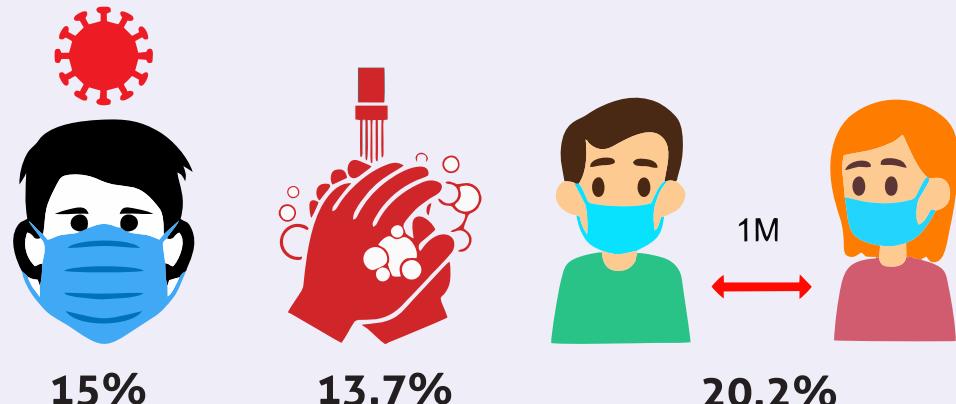


## Changes in risky behaviour across waves 1 & 2 of COVID-19 in Nigeria (APS Data)

Majority of the respondents affirmed compliance to the PHSMs of handwashing, physical distancing and wearing of facemasks during the first two waves of COVID-19 in Nigeria (Figure 5).



However, there was significant increase in risky behaviours in the second wave compared to the first with 13.7% increase in non-compliance to handwashing, 20.2% increase in non-compliance to physical distancing and 15% increase in disregard for wearing of facemasks.



**Not adhering to physical distancing was the most frequent risky behaviour across both waves**



Artisan/daily paid workers (18.2%) and the unemployed (12.8%) were the least likely to comply to physical distancing during lockdown in the first wave ( $p=0.000$ )



Student/corper (3.8%) and the fully employed (3.9%) had the least non-compliance rate to physical distancing during same period

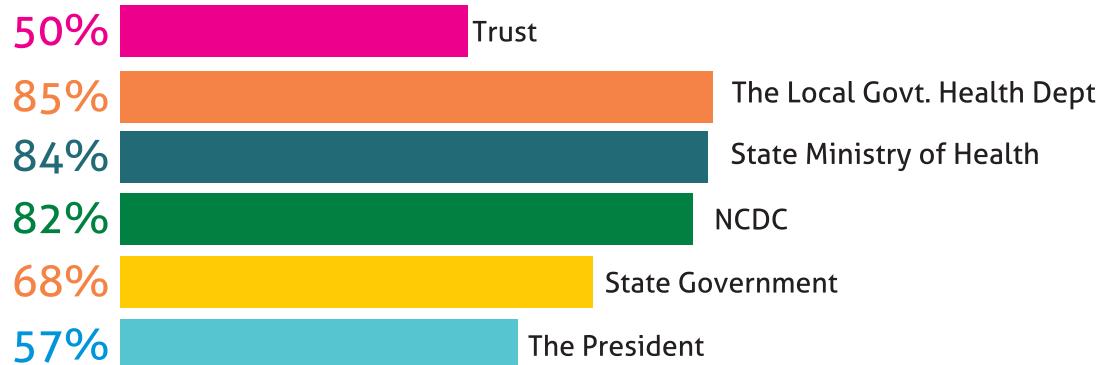


## OBJECTIVE 5:

### How government's non-pharmaceutical initiatives (NPI) affected public trust in govt and their compliance with safety protocols

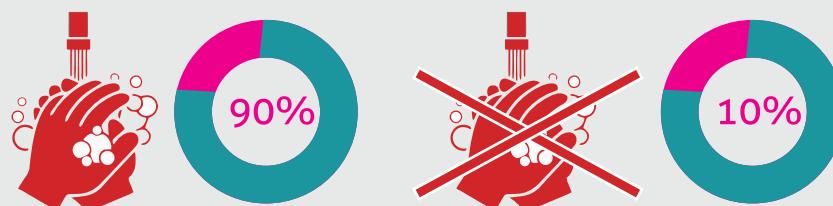
Public Trust is important for the success of a wide range of public policies that depend on behavioural responses from the public. Our analyses of public trust across two major national surveys conducted in 2020/2021 in Nigeria revealed that:

Overall, level of trust was over 50% across the Local Government Health Department (85%), State Ministry of Health (84%), Federal Ministry of Health (82%), the National Public Health Institute (NCDC) (86%), State Government (68%) and the President (57%).

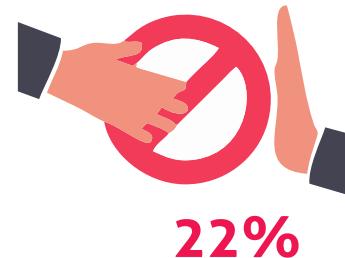


- Health institutions had better levels of public trust than all-of government ( $p<0.001$ )
- The relatively high public trust especially of health institutions is reassuring as health institutions can be used to convey acceptable health messaging to the public.
- Public trust leads to greater compliance with regulations and public health and social measures ( $p<0.001$ )

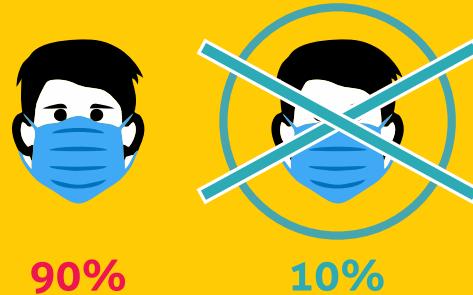
- Of persons who complied with *washing hands with soap and water*, 90% reported trust of government compared to 10% who did not trust



**Of persons who complied with *avoiding handshaking and physical gatherings*, 78% reported trust of government compared to 22% who did not trust.**



**Of persons who complied with *wearing face mask*, 90% reported trust of government compared to 10% who did not trust**



**Of persons who complied with *stay-at-home order*, 83% reported trust of government compared to 17% who did not trust.**



**In general, trust decreased with increasing education ( $p=0.044$ ), urban residence ( $p<0.001$ ) and non-Islam religion ( $p<0.001$ )**

Identified sub-groups with lower trust are least likely to engage in COVID-19 preventive behaviours and thus require special attention regarding compliance with NPIs

There is need for ongoing measurement of public trust to inform targeted health education and promotion interventions.

## RECOMMENDATIONS

- Targeted interventions to improve risk perception in females such as improving access to information and educational materials could be beneficial in slowing down COVID-19 transmission in Nigeria
- There is the need for an all-inclusive risk communication strategy that is accessible and addresses the needs of the uneducated audience
- Intensify community engagement and effective risk communication strategies in the southern parts of the country
- Activities geared towards enhancing risk perception for the virus could be an effective strategy for improving adherence to COVID-19 preventive measures and slowing down transmissions
- For lockdowns exceeding 7 days, palliatives are highly recommended to mitigate the impact on Nigerians
- Strategies geared towards slowing transmission rates in marketplaces should be prioritised for effective infection prevention and control in Nigeria
- Leverage health and religious institutions as trusted voices to drive risk communication
- Public trust in government is a critical factor in compliance to public health and social measures. Activities that build trust in government should be prioritised in all sectors.



# ResearchTeam



- Dr. Chinwe Lucia Ochu, *Principal Investigator, NCDC*
- Dr. Babasola Okusanya, *Co-Principal Investigator, CMUL*

## Co-Investigators

- Prof. Ehimario Igumbor, *NCDC*
- Dr. David Akeju, *UNILAG*
- Dr. Sam Adejo, *UNILAG*
- Dr. Yahya Disu, *NCDC*
- Dr. Bassey Ebenso, *Consultant*
- Michael Onoja, *NCDC*
- David Olatunji, *NCDC*
- Sunday Eziechina, *NCDC*
- Gloria Nwiyi, *NCDC*
- Dr. James Okediran, *NFETP*
- Dr. Sophia Usuwa, *NFETP*

## Research Disclaimer

This work received funding and support of the "#Data4COVID19 Africa Challenge", which is one of the many projects under the "COVID-19 – Health in Common" initiative launched by France via Agence Française de Développement (AFD) in response to the worldwide public health crisis caused by the COVID-19 pandemic. The challenge was designed and implemented in collaboration with Expertise France and The GovLab. It sought to spur projects that used traditional and non-traditional data in an innovative way to address COVID-19 and its consequences. The opinions expressed and the insights and findings listed herein are solely those of the authors of the challenges and do not necessarily represent a position of AFD, Expertise France, or The GovLab who will not be liable for the use made of the information presented. More information on the challenge can be found at:<https://datachallenge.africa/>

## Avertissement concernant la recherche

Ce travail a bénéficié du financement et du soutien de « #Data4COVID19 Africa Challenge », l'un des nombreux projets de l'initiative « COVID-19 – Health in Common » lancée par la France via l'Agence Française de Développement (AFD) en réponse à la crise mondiale de santé publique causée par la pandémie de COVID-19. Le défi a été conçu et mis en œuvre en collaboration avec Expertise France et The GovLab. Il visait à soutenir les projets qui utilisent des données traditionnelles et non-traditionnelles de manière innovante pour aborder le COVID-19 et ses conséquences. Les opinions exprimées ainsi que les idées et les résultats énumérés dans ce document n'engagent que les auteurs des défis et ne représentent pas nécessairement une position de l'AFD, Expertise France, ou de The GovLab qui ne seront pas responsables de l'utilisation faite des informations présentées. Plus d'informations sur le défi sont disponibles sur :<https://datachallenge.africa/>