

# **THE EVOLUTION AND SPREAD OF COVID-19 IN NIGERIA**

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## **INTRODUCTION**

The pandemic COVID-19 is one whose impact is unparalleled in history. Although advances in technology has helped in containment, the pandemic spread still poses a strong challenge. This has resulted in countries of the world gathering resources, both intellectual and financial, to combat a common enemy. In spite of this, there appears to be an increase in the spread globally with countries recording daily deaths and increases of up to a thousand and more. Reports indicate that the countries most affected by this pandemic are located in Europe and North America (World Health Organisation, 2020)

According to Shereen et al (2020), the first known occurrence of the virus began in December 2019 in Wuhan, the capital of the Hubei province of China. It began as a form of pneumonic cases in the province. The cases were reported to the World Health Organisation (WHO) country office and it was discovered to be a new strain of the SARS-CoV virus of 2002. The name Covid-19 was given to the virus by the WHO on the 11<sup>th</sup> of February, 2020. It is an acronym which stands for CoronaVirus Disease of 2019. The symptoms associated with the disease were common to that of the common cold. They include fever, cough, shortness of breath, loss of smell. However, the complications are of a greater degree than the symptoms as it could lead to pneumonia, viral sepsis, acute respiratory distress syndrome, kidney failure, etc. The complications over time have been said to worsen based on the health status of the individual. (Sohrabi, 2020)

The virus is not airborne but can be spread in various ways. It is primarily spread amongst people during close contact. If droplets from infected persons fall on surfaces, people could get infected

by touching an already contaminated surface. Various studies have shown that the half-life of the virus outside the human body is temperature and humidity dependent, hence, different regions can have different rates of spread. (Cortegiani, 2020) (Luo, 2020)

The best method of control is to keep safe distance from infected persons, constant washing of the hands and cleaning of possibly contaminated surfaces. The symptoms are irregular, so it is difficult to clearly identify an infected person without testing. The presence of these silent carriers have increased the spread. There are three categories of the silent carriers according to (Lauer, 2020).

They are;

1. Asymptomatic: people who carry the active virus in their body but never develop any symptoms.
2. Presymptomatic: people who have been infected and are incubating the virus but don't yet show symptoms.
3. Very mildly symptomatic: people who feel a little unwell from a Covid-19 infection but continue to come in close contact with others.

The infection potential of these silent carriers is yet to be ascertained, therefore, social distancing has been strongly encouraged.

The pandemic and its effects are evident in every country, thereby necessitating different nations to provide contextual solutions to manage the situation while awaiting a vaccine. This study aims to estimate the potential spread through the evaluation of the evolution and the corresponding response of Nigeria to the COVID-19 in her territory.

## **THE EVOLUTION OF COVID-19 IN NIGERIA**

The first case of COVID-19 was confirmed in Infectious Disease Centre, Yaba, Lagos State, Nigeria on the 27th February, 2020. An Italian citizen arrived at the Murtala Muhammed International Airport, Lagos at 10:00 p.m. on 24th February, 2020 on-board a Turkish airline from Milan, Italy. He visited his company's site in Ogun State the following day where he presented himself at his company's staff clinic. The physician-on-duty had a strong suspicion of the presence of the virus. This led him to refer the Italian citizen to Infectious Disease Hospital (IDH) and the COVID-19 status was confirmed (Nigeria Centre for Disease Control, 2020).

The Nigeria Centre for Disease Control (NCDC) started the contact tracing of 'Persons of Interest' which included all persons on the manifesto of the flight that brought the index case to Nigeria, as well as people who had close contact with the index case while in Lagos and Ogun State. After a period of two weeks, a cluster of cases was detected in Lagos and Abuja, this was noted to be the emergence of the nationwide spread of the virus. The Federal Government, through the Nigerian Civil Aviation Authority (NCAA), restricted International commercial flights into the country, effective from 23rd March, 2020. (Onyeji, 2020) On the same day, Nigeria registered her first fatality; a 67-year-old male returnee from the United Kingdom who already had underlying medical issues that were been managed before his death. The death occurred in the Federal Capital Territory, Abuja (Nigeria Centre for Disease and Control, 2020).

The Federal Government responded with the authorization of the closure of all non-essential services (businesses and industries) and restricted movement of people in Lagos State, Ogun State and the Federal Capital Territory, Abuja, on 29th March, 2020. Most State Governments restricted public gathering and there were restrictions on Inter-state movement. The Federal Government later authorized the gradual easing of lockdown in the previously restricted states on the 4th May, 2020.

## **THE SPREAD AND CONTAINMENT OF COVID-19 IN NIGERIA**

The nationwide spread of the virus led to the Federal government of Nigeria effecting certain measures to contain the virus. The available information on the virus and the welfare of her citizenry were guiding beacons in periodic restrictions to maximize containment. Educational and Religious institutions were the first bodies restricted before containment measures extended to non-essential services (Onyeji, 2020).

The Federal Government with the aid of different ministries and governmental agencies put up a formidable response in the fight against COVID-19 in Nigeria. Leading the frontlines is the Federal Ministry of Health; the ministry is tasked the formulation and implementation of policies related to COVID-19 in Nigeria with collaboration with relevant ministries and agencies. The Federal Ministry of Health through its Accreditation Committee are involved with inspection of public and private treatment centres for COVID-19 confirmed cases. Furthermore, the ministry handles the training guidelines and personal protective equipment [PPE] distribution for frontline workers for this novel disease. The ministry is strongly supported by the Presidential Task Force for the Control of the COVID-19 (PTF) and the Nigeria Centre for Disease and Control (NCDC).

President Buhari set up a 12-member task force to champion the battle against COVID-19 in the country. The Task Force is chaired by the Secretary to the Federal government, Mr. Boss Mustapha and Dr. Sani Aliyu is the National Coordinator of the Group (Ameh, 2020). The task force's mandate is to create a workable National Response Plan that would be revised on a daily basis as requirements change. The strategy must follow international best practices while taking into account the local circumstances prevailing in the country. The Task Force has been given six months to fulfil its mandate. (Ailemen, 2020).

Moreover, the Nigeria Centre for Disease and Control has been given the mandate to lead preparedness, diagnosis and response to outbreaks of COVID-19 in Nigeria. The parastatal

publishes regular updates on reported cases, discharged cases and deaths related to COVID-19 via its website and social media channels. The mission of the NCDC is to protect Nigerians' health through evidence-based prevention, integrated disease surveillance and response programs, using a single health strategy, driven by research and led by a professional workforce.

The initial performances of the various institutions and agencies of the Government showed the ill-preparedness to combat the virus but the subsequent responses have been phenomenal. This is evident in the containment of the ongoing pandemic spread in Nigeria that began February, 2020. Although, the spread potential is yet to be properly estimated, containment strategy has proven quite effective. A major contributor to the spread worldwide was increased travel, modern transport networks made it easy for travellers to transmit the virus, hence, the ban on inter-state travel was an appropriate containment measure (AbdulAzeez, 2020).

Due to the nature of the symptoms, only people who have been tested can be easily identified as infected. The test results have shown a rising number of people confirmed to have COVID-19. Though a significant number of people recover from the infection, the greater concern lies with those who are yet to be tested. The ease of transmission coupled the rate of interaction amongst the populace indicates that the confirmed cases are merely a small share of the actual numbers. This is demonstrated by the rate of newly confirmed cases by the day. According to the daily reports provided by NCDC, Lagos State with the highest population density in Nigeria has been recording the largest number of confirmed cases.

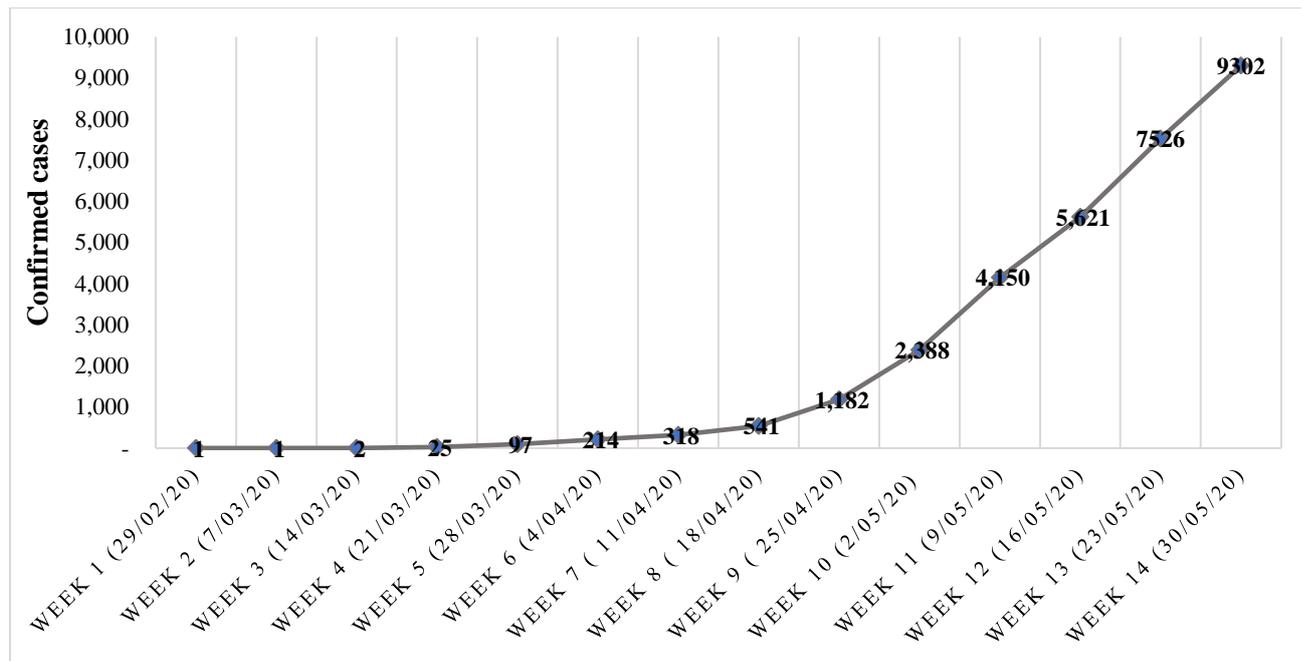


Figure 1: Weekly Confirmed COVID-19 Cases

Source: computed by authors.

Following the confirmation of the index case of COVID-19 in Nigeria, the viral population rapidly increased within the country at an exponential rate (Figure 1). At the end of the fourth week of the virus in Nigeria, there were a total of 25 recorded cases in the country. Further examination of the confirmed cases revealed that 76 percent of COVID-19 cases had travel history outside the country, while 20 percent of confirmed cases had close contact with COVID-19 patients. The remaining 4 percent of confirmed cases were classified as no epidemiological connection and incomplete information. This implied that the majority of confirmed cases in Nigeria were returnees from epicentres, this prompted NCDC to issue a guideline that made it mandatory for returnees from high-risk countries to stay in isolation for a minimum of 14 days. The Federal government suspended all international flights into Lagos and Abuja, effective 23rd March 2020. (Onyeji, 2020) The decision was taken as a preventive measure against the spread of the virus in

the nation. As of 21st March 2020, only three States of the federation plus the FCT Abuja had recorded cases of COVID-19 in the country; Lagos (19), Ogun (2), Ekiti (1) and Abuja (3).

By the end of the fifth week, there was at least one confirmed case of COVID-19 in all geographical zones of the country. This led to the restriction of interstate movement and total restriction of movement (lockdown) in Lagos, Ogun, and Abuja. (AbdulAzeez, 2020) In response to this development, the NCDC needed to increase the testing of suspected cases. Hence, the agency added a modular laboratory at the University College Hospital, Ibadan, Oyo State, to its existing laboratory collection across the country while reporting that additional six would be included in the coming weeks (Nigeria Centre for Disease and Control, 2020)

The efficacy of the lockdown in Abuja, Lagos, and Ogun State was quite doubtful, as citizens were seen to have been reluctant to comply with the restriction in all three States (Usigbe, 2020). The ban on inter-state movement has been allegedly defeated by the corruption embodied by our society. The promise of palliatives (cash transfer and relief materials distribution) has been viewed by members of society as a major failure, considering that Nigeria is the centre of the world's multidimensional poverty (Okon, 2020). This led to an increase in the crime rate in certain parts of Lagos and Ogun States (Orjinmo & Ulohotse, 2020). The concept of social distancing was not strongly adhered to in other states of the Federation, some states did not prohibit religious gathering.

There was a total of 541 recorded cases in the country as the end of the eighth week of the virus in the country, this represented a significant increase of about 2064 percent from the number of confirmed cases as of 21st March 2020. An investigation into the confirmed cases revealed that 34 percent of COVID-19 cases had travel history outside the country, while 37 percent of confirmed cases had close contact with COVID-19 patients. The remaining 29 percent of confirmed cases were classified as no epidemiological connection and incomplete information. This indicated that Nigeria was gradual moving into “community transmission”. This could be seen from the decline

in the percent of confirmed cases that had travelled outside the country recently and the increase in the percentage of confirmed cases classified no epidemiological connection and incomplete information.

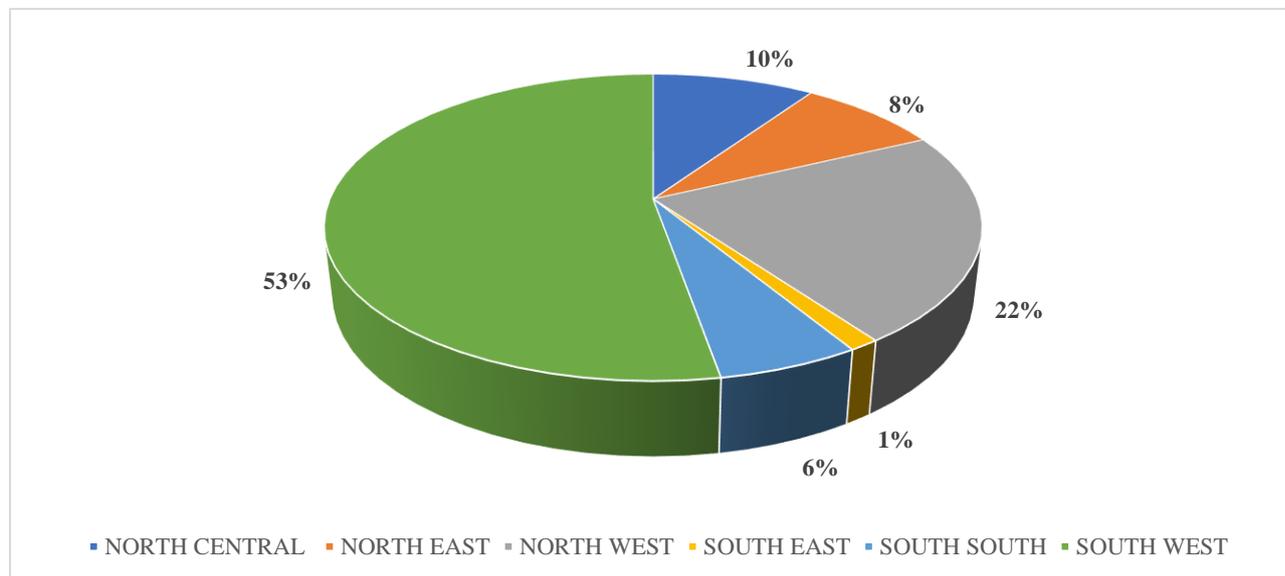


Figure 2: Geographical distribution of confirmed COVID-19 cases as at 28/05/2020

Source: computed by authors.

The South Western region of the country accounted for the majority of the confirmed COVID-19 which was largely contributed by Lagos (which has the highest population density). The increase in confirmed cases of COVID-19 in the North West region called for concern given that the virus was properly contained in the geopolitical zone until the index case was registered in the state of Kano. Kano’s index case was alleged to have attended numerous parties and religious prayer grounds despite his manifestation of COVID-19 symptoms. This played a major role in the rate of spread across the state and the geopolitical zone as a whole (Ezeamalu, 2020). Kano State became a state of interest due to the number of deaths recorded, the State government released a report indicating that the deaths were not related to COVID-19. However, there were allegations that autopsies were not carried out. The Kano State Government in its attempt to prevent the spread of COVID-19 in the State resorted to the evacuation of Almajiris (children migrated in search of

Islamic knowledge) from the eight local government areas that make up the metropolis back to their states of origin.

By the end of the twelfth week, a total of 5,621 confirmed cases of COVID-19 in Nigeria. This represented a significant increase of about 939 percent from the number of confirmed cases as of 18th April 2020. Further inspection in the confirmed cases revealed that 4 percent of COVID-19 cases had travel history outside the country, while 25 percent of confirmed cases had close contact with COVID-19 patients. The remaining 71 percent of confirmed cases were classified as no epidemiological connection and incomplete information. This showed that Nigeria was fully “community transmission” phase, as majority of the confirmed cases cannot be linked to recent travels outside the country. Therefore, Nigeria responded by increasing testing facilities across the nation.

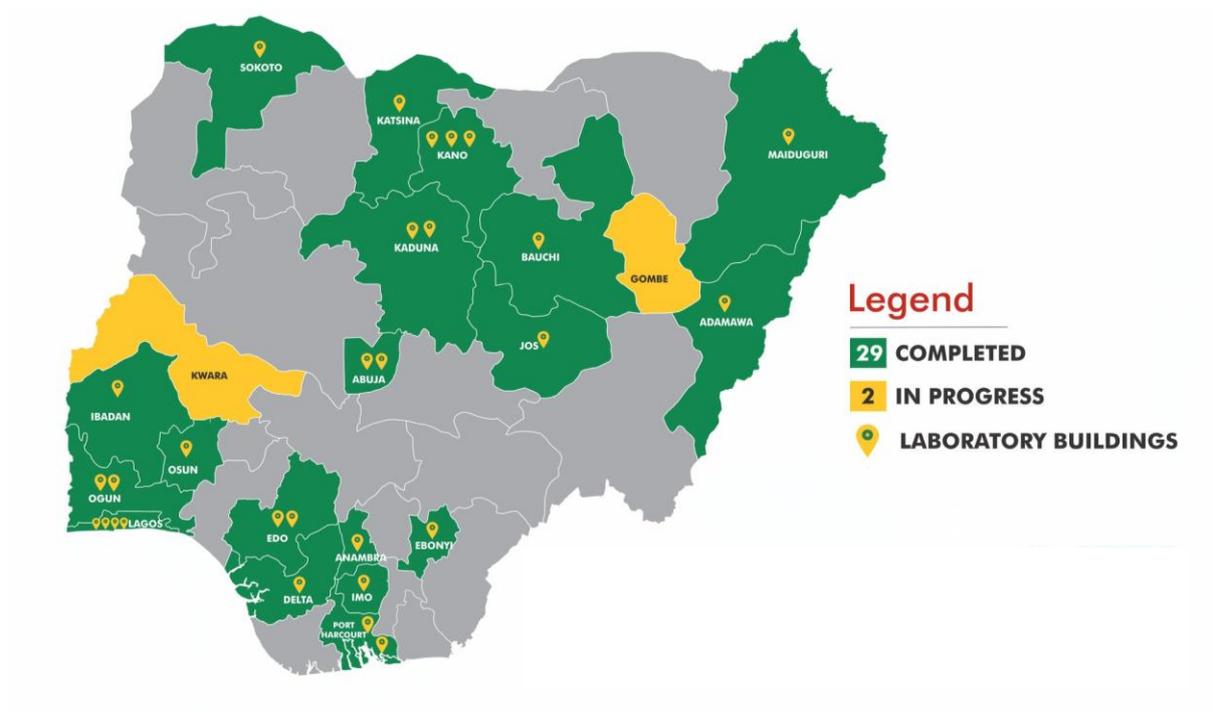


Figure 3: NCDC Molecular Laboratory Network in Nigeria as at 30th May, 2020

Source: Nigeria Centre for Disease Control

Currently, Nigeria has 29 molecular laboratories spread across 19 states while Gombe State and Kwara State have their laboratories under construction. Testing has been the strongest tool in implementing the containment measures, therefore, increasing testing capacity would be advantageous to better containment. In addition, PTF and the Ministry of Health has been outstanding with training and personal protective equipment [PPE] distribution for frontline workers, however, their reach seems limited by availability of resources. The NCDC in collaboration with various telecommunication companies have been reaching out to the Nigerian populace on preventive measures. They also have had constant engagement on social media platforms to keep the citizenry aware of the spread of the virus across the nation.

Furthermore, in pursuit of relief, the Federal Government requested a product that allegedly cures COVID-19 from Madagascar. The product has been accredited with the high recovery rate in Madagascar. Directives have been given to the National Institute for Pharmaceutical Research and Development (NIPRD) and the National Agency for Food and Drug Administration and Control (NAFDAC), by the President of the Federal Republic of Nigeria, to ensure a thorough analysis and scrutiny before it is admitted into the country. (Daily Trust, 2020)

However, a 15-member team of Chinese medical personnel arrived in the country on April 8 “to share their experience with fighting COVID-19”. Upon arrival, the team were discovered to be present only to care for the China Civil Engineering construction corporation (CCECC). Their arrival sparked debate among various medical professionals about the need for foreign personnel, these became immaterial with regards to their activities since arrival. The medical personnel are presumed to have returned to China along with 286 Chinese nationals on May 30. (Chinedu, 2020)

The NCDC database has ensured the efficient monitoring of the spread as shown in the figure below.

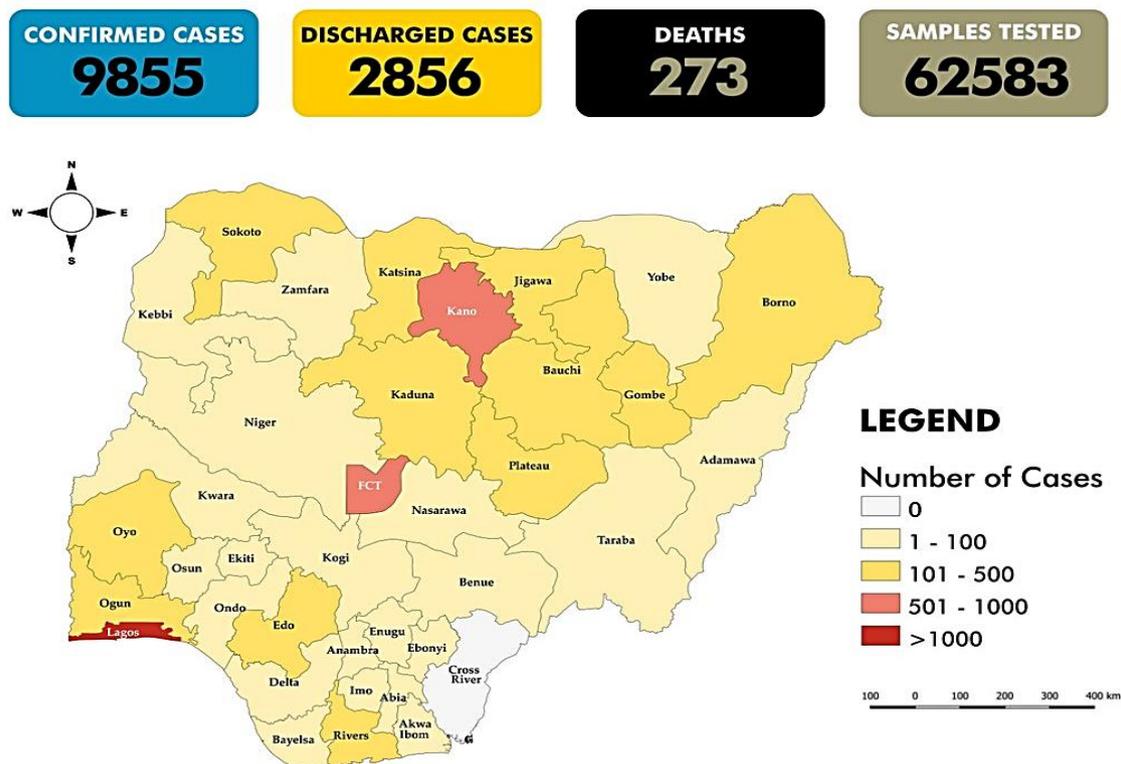


Figure 4: Map distribution of confirmed COVID-19 cases in Nigeria as at 30th May,2020.

Source: Nigeria Centre for Disease Control

From figure 4 above, a total of 35 States plus FCT Abuja reported at least one confirmed case, there were more reported cases in the Southern states of the country. Only Cross River state is yet to record a confirmed case. NCDC summary as of 30th May 2020, showed that about 62,583 samples had been collected while 9,855 cases had been recorded. The country had recorded 273 COVID-19 related deaths (a rate of 1.3 deaths per million population), while there have been 2,856 recoveries. Furthermore, NCDC revealed that 4 percent of COVID-19 cases had travel history outside the country, while 25 percent of confirmed cases had close contact with COVID-19 patients. The remaining 71 percent of confirmed cases were classified as no epidemiological connection and incomplete information, this implies majority of confirmed cases of COVID-19 in the country falls under community transmission. Due to the limited number of tests performed, it

is difficult to ascertain the real number of infected people in Nigeria. As in other countries, it is estimated to be higher than the official count.

## **OUTLOOK OF THE FUTURE OF COVID-19 IN NIGERIA**

The Covid-19 is a global pandemic whose wide spread has resulted in a downturn in global economic activities. Various countries of the world have been affected in different ways and different control mechanisms have been deployed to manage the situation. The nature of the virus makes it difficult to detect, hence, it is difficult to estimate the actual number of people infected.

Nigeria is perceived as an urbanized population with about 49.66% of the population resident in the rural areas (World Bank, 2019). The average household size for the rural and urban household is 5.9 and 4.9 persons respectively (NBS, 2016). Social distancing has proven feasible in urban settlements but rural settlements live communally and would experience difficulty in isolation because there is not enough room for isolation. The rural households are labour endowed and generate a large share of their income through the supply of labour services. The economic downturn creates further inconveniences associated with increased consumption and lower income available. The population distribution also indicates that the aging population (the perceived most vulnerable to the disease) dominantly reside in the rural areas, hence, a breakout in the rural areas would be catastrophic because it would increase the death rate by a significant margin.

The apparent best measures have been deployed by every country to meet their contextual conditions till an appropriate vaccine is provided. Though the accelerated expected time frame for its effective distribution is between 12-18months, there has been heavy investments to ensure the time frame is reduced by half.

### **Potential second wave**

The last pandemic with this level of impact was the Spanish flu and it recorded a higher death rate in the second wave than in the first. The death rate was attributed to a mutated form of the virus which is possible is with Covid-19 situation if an inappropriate vaccine produced (Phillips, 2014). Due to the pressure for a vaccine, the testing phase for the treatment is expected to be shortened. Hence, plans should be made to avoid a second wave or contain it if it is inevitable. (Radusin, 2012)

According to Thevarjan et. al. 2020, the nature of the virus shows no potential for mutation, however, the treatment could create complications. These complications could be avoided if the intended vaccines are given more time to be tested. The haste is understandable but the consequences of the haste should be considered in like manner.

### **Best case scenario**

While Nigeria awaits the discovery and distribution of an appropriate vaccine, the best containment strategy would only be sufficient to reduce the spread and not entirely put an end to it. This would include but would not be limited to increased testing (for early detection) and isolation centers all across the nation. This implies that to record lower cases, there has to be a strong participatory role on the path of the Nigerian populace.

### **Business as usual**

Without the strong participation of the Nigerian populace, there is an expected geometric increase in the rate of contamination. The rate of contamination in rural areas is expected to be higher than that of the urban, hence, a spike in COVID-19 cases is to expected if the spread increases across the rural areas.

## **POLICY IMPLICATION**

The Government's need to increase investment in data collection and storage has been revealed by the COVID-19 pandemic. It has exposed the insufficient data on the socio-economic distribution of the Nigerian population. This has made the provision of palliatives and relief resources to vulnerable individuals/households ineffective. Periodic data collection projects must be implemented by the government with the cooperation of the related agencies and the private sector. Improving data collection and storage would have a significant role to play in socio-economic development. Aggregation of data is often proposed because the data collected is processed with various government entities, centralization of data would help to reduce data fragmentation and would make data easily accessible when needed.

African countries in 2001 reached an agreement to allocate at least 15 percent of budget allocation to the health sector, this agreement is known as 2001 "Abuja Declaration". Research into budget allocation in previous years showed that Nigeria never managed to reach 8 percent health budget spending since the return to democracy governance in 1999. In recent years, the allocation to the sector has been 4.23 percent of the total budget in 2016 while it was 4.16 and 3.9 percent respectively in 2017 and 2018 respectively. Allocation to the health sector increased to 4.1 percent the total budget while 4.14 percent of the proposed 2020 budget is to be allocated to health. Recurrent expenditure takes more than 80 percent of the allocation to the health sector leaving little for investment in capital health project that would improve the sector.

Nigeria would need to substantially increase its health sector investment, in particular on capital items such as vaccine provision, renovation of hospitals and primary health centres, procurement

of medical equipment, disease prevention measures, etc. The allocation of State governments to the health sector need to be monitored and make provision for the different States to be responsible for primary health. The health sector need for better incentives was also revealed by this pandemic, it showed the welfare package of health workers must also be improved. In particular, the hazard allowance provided to them would help to minimize the brain drain that occurs in the sector, given that a large proportion of health workers are migrants to countries with better remuneration. Moreover, Nigeria needs to give priority to the implementation of its National Health Act (NHA) adopted in 2015, which provides for a 1% Consolidated Revenue Fund (CRF) – money set aside to provide basic health packages for all Nigerians.

## **CONCLUSION**

Based on the study's examination of the evolution and spread of COVID-19 in Nigeria, its findings urge the Nigerian government to engage in more preventative measures to contain the disease while increasing laboratory testing ability across the country. This would aid in the quick and early discoveries of positive cases to effectively contain the virus during the search for an appropriate vaccine. Historical trends have shown that pandemics are usually more devastating from the second wave. Though that seems improbable with this type of virus, there is still a need to be adequately prepared for the unlikely shock after discovery of the vaccine to ensure current efforts made are not in vain. Finally, the timeline of the delivery of the vaccine remains uncertain. This puts a major burden on the Nigerian populace to minimize the spread by acting responsibly.

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