

COVID-19



FEDERAL MINISTRY OF HEALTH



NIGERIA CENTRE FOR DISEASE CONTROL



Integration of Private Sector Laboratories in National COVID-19 Response



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About NCDC

Nigeria Centre for Disease Control (NCDC) is Nigeria's national public health institute with the mandate to protect Nigerians from the impact of communicable diseases of public health significance, amongst other responsibilities. It focuses on this through evidence-based prevention, integrated disease surveillance and response activities, using a One Health approach, guided by research and led by a skilled workforce.

NCDC operations and activities are guided by five key goals to:

- Accurately measure the burden of infectious diseases in Nigeria
- Ensure Nigeria is able to meet its international obligations as a member of the World Health Assembly
- Develop a Public Health laboratory service network to support the detection and prevention of, and response to critical infectious diseases
- Reduce the adverse impact of predictable and unpredicted public health emergencies
- Create an efficiently managed and evidence-based organisation with a clear focus of health promotion and disease prevention.

NCDC currently operates through five directorates: Surveillance and Epidemiology, Public Health Laboratory Services, Health Emergency Preparedness and Response, Prevention and Programmes Coordination, Finance and Accounts and Administration and Human Resources.

1. Background

The COVID-19 pandemic has rapidly spread throughout the world, leading to significant impacts on healthcare systems and causing societal disruption. To respond effectively to the COVID-19 outbreak, rapid detection of cases and contacts, appropriate clinical management and implementation of community mitigation efforts are critical.

A key response strategy to reducing the impact of the COVID-19 pandemic is to expand diagnostic testing to ensure a large number of people can access testing during the public health emergency. During the course of the COVID-19 pandemic globally, laboratories from the private sector have been an important resource to assist with increasing the scale of testing through the provision of resources either through financial support or leveraging existing infrastructure and technical expertise. The Nigeria Centres for Disease Control (NCDC) has developed a national testing strategy that aims to harness the public and private sectors to rapidly expand diagnostic testing.¹

This guidance document has been developed to guide engagement with the private sector laboratories to help accelerate the availability of COVID-19 diagnostic testing for the duration of the public health emergency. Throughout the following document, 'private sector' will refer to national laboratory facilities which are profit and not-for-profit and formal or informal.

Public health laboratories play a critical role during acute emergencies and fulfil the following functions;

- a. **Receive and process samples for diagnostic testing:** Receive, record, the samples and ensure the specimen information is entered into the laboratory information system
- b. **Conduct specimen sample testing:** Test clinical specimens according to the national COVID-19 diagnostic algorithm
- c. **Report presumptive or confirmed laboratory results:** Follow the national framework to report results

1. https://COVID-19-19.ncdc.gov.ng/media/files/COVID-19-19TestingStrategy_2ZWbQwh.pdf



- d. **Maintain continuity of operations:** Establish and maintain the ability to sustain operations over mid to long-term periods
- e. **Ensure effective information exchange:** Ensure timely exchange of laboratory information and data with laboratory network coordinator, the State level EOC and national EOC and other stakeholders
- f. **Maintain chain of custody procedures:** Ensure chain of custody requirements are maintained throughout the sample management process
- g. **Facilitate access to training:** Provide resources for training for testing, collection of specimens, handling, packaging, and shipping samples
- h. **Ensure technical standards:** Participate in national and international quality assurance panels to demonstrate technical competencies

2. Mechanisms of engagement of private sector as part of national COVID-19 testing laboratory network

The mechanism for engagement will be between the state and private sector laboratory, with technical guidance and support from NCDC.

A memorandum of understanding (MOU) may be signed between the state and the private sector that provides details of cost implications and operational support. As part of its national mandate, NCDC is responsible for providing technical support to the private laboratory.

3. Principles of engagement with the private sector laboratories

- a. All private sector laboratories should have valid registration with relevant national and state level authorities to perform diagnostic testing
- b. All staff working within the facilities should be appropriately trained and registered with appropriate national bodies
- c. Private laboratories should abide by the roles of public health laboratories listed above

- d. Where feasible, testing should be conducted at no cost to the patient. If private patients are charged for diagnostic tests, it should be at cost with no additional charges
- e. Private laboratories should agree to sign a MOU with the State health authorities while NCDC will provide overall coordination and technical support
- f. NCDC will commit to supply reagents and extraction kits for continued operations. Where possible, private sector labs should work with states to procure reagents

4. Criteria for private laboratories

For private laboratories to be accepted into the NCDC COVID-19 laboratory network, the following criteria should be met;

- a. Assessment of facilities to be conducted by NCDC staff and other relevant stakeholders
- b. Completion of the COVID-19 Laboratory Assessment Checklist (see *Annex 1*)
- c. Participation in a COVID-19 quality assurance panel
- d. Provide all required staff with PPEs and laboratory consumables required for testing
- e. Provide all infrastructure needs to ensure **24-hour operations, 7 days a week**
- f. Counsel patients about signs and symptoms of complicated COVID-19 disease and advise them to seek care through national referral systems if these symptoms develop.



Annex 1: COVID-19 Laboratory assessment checklist

In response to unfolding realities and the need to have contingency plans in place for community transmission of COVID-19, the Nigeria Centre for Disease Control is expanding the laboratory pillar to increase the number of laboratories that can test for COVID-19 and bring the testing closer to states.

I. Laboratory general Information

Name of Laboratory	
Location	
Type of lab *Public, Tertiary, State, Private, NGO etc.	
Laboratory Manager/Contact Person	
Accreditation Status (Stars)	
State/Geopolitical Zone	
Can this lab operate 24 hours? If 'No', how many hours a day?	

II. Biosafety and biosecurity checks

1. Are there separate and dedicated working areas for all diagnostic testing processes; sample handling, nucleic acid extraction, mastermix preparation and amplification?
2. Are the rooms in a unidirectional flow?
3. How many certified biosafety Level 2 cabinets are available?
4. Are any other types/classes of biosafety cabinets available? If 'Yes', provide details
5. Is there Dead- air/ PCR work station or UV box for PCR?

ANNEX 1: COVID-19 LABORATORY ASSESSMENT CHECKLIST

III. What types of PPEs are available for diagnostic testing?

1. Gloves
2. Disposable gowns/aprons
3. Coats
4. Surgical face mask
5. Face shield
6. N-95 respirator
7. Shoe covers
8. Lab shoe

IV. Waste management plan

1. Is there Autoclave in the lab?
2. Is incinerator in the vicinity of the lab?
3. If not, where?

V. Human resource (staff strength)

S/N	NAME	QUALIFICATION	TITLE	PHONE NO.	E-MAIL



ANNEX 1: COVID-19 LABORATORY ASSESSMENT CHECKLIST

VI. Basic equipment list for COVID-19 testing


S/N	EQUIPMENT	MAKE AND MODEL	QUANTITY	PRESENT CONDITION	LAST MAINTENANCE/ CALIBRATION	COMMENTS
1	Glove Box					
2	Biosafety Cabinet Class 1, 2 or 3					
3	Real-Time PCR machine: e.g. ABI-7500, ABI-Quantstudio 5, MIC, CFX-96, Roche Lightcycler 480, Stratagene MX3000p, Rotorgene Q, etc.					
4	Computer for Data					
5	Dead-air/PCR work station					
6	Automated Nucleic Acid Extractor					
7	Pipettes 2–10ul					
8	Pipettes 100ul					
9	Pipettes 200ul					
10	Pipettes 1000ul					
11	Fridge					
12	Freezer (-20°C)					
13	Freezer (-40° to -70°C)					
14	Vortex					
15	Thermo-mixers/ heating block					
16	Micro centrifuge (1.5–2 mL)					

ANNEX 1: COVID-19 LABORATORY ASSESSMENT CHECKLIST

S/N	EQUIPMENT	MAKE AND MODEL	QUANTITY	PRESENT CONDITION	LAST MAINTENANCE/CALIBRATION	COMMENTS
17	Racks for 1.5 mL micro centrifuge tubes					
18	2 x 96-well -20°C cold blocks					
19	PPE					
20	Autoclave					
21	Incinerator					
22	Backup UPS					
23	Backup generator					

VII. Stock management (reagents and consumables available in laboratory)

S/N	REAGENT	MANUFACTURER	QUANTITY AVAILABLE IN LAB	COMMENTS
	Molecular			
1	Nucleic Acid Extraction kit			
2	Superscript Kit			
3	SARS-CoV-2 RT PCR assay			
4	10% bleach			
5	99% Ethanol (molecular grade)			
6	BSA			
7	Tris (10 mM)			
8	RT PCR microwell plates and tubes			
9	Pipettes tips			
10	Tubes and cryovials			



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IN NATIONAL COVID-19 RESPONSE

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