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**LABORATORY READINESS CHECKLIST FOR  
CORONAVIRUS PANDEMIC 2019 (COVID-19)**

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## Introduction

We put in your hands the comprehensive Laboratory Preparedness Checklist for Coronavirus 2019 (COVID-19), developed by The Healthcare Accreditation Council (HCAC).

This Laboratory Preparedness checklist is specifically designed to assess capacities of existing laboratories which have implemented or aim to implement COVID-19 virus testing. It addresses both core capacities of a laboratory and specificities related to COVID-19 virus testing.

The benefits of an effective, laboratory-based response include (1) continuity of essential services; (2) well-coordinated implementation of priority action; (3) clear and accurate internal and external communication; (4) swift adaptation to increased demands; (5) effective use of scarce resources; and (6) safe environment for health workers.

This checklist has been prepared with the aim of supporting medical laboratories in achieving the above by defining and initiating actions needed to ensure effective response to the COVID-19 outbreak. The checklist is structured on seven key components; under each component, there is a list of measurable elements to enable the evaluation of the level of implementation of the actions specific to that component.

This tool was developed in reference to HCAC Medical Laboratory Accreditation Standards, and based on the most recent international guidelines, such as: The World Health Organization (WHO), and Centers for Disease Control and Prevention (CDC). This checklist includes several sections divided as follow:

- Section 1: Emergency Preparedness Structure
- Section 2: Laboratory Communication
  - a. Internal Communication
  - b. External Communication
  - c. Information Security & Confidentiality
- Section 3: Access & Continuity of care
- Section 4: Laboratory Consumables & Supplies
- Section 5: Laboratory Operations
  - a. Testing of Suspected or Confirmed COVID-19 Specimens
  - b. Outreach arrangements for specimen collection and transport practices from the field
- Section 6: Laboratory Biosafety
- Section 7: Human Resources Management
  - a. Staffing
  - b. Occupational Health
  - c. Education & Training

Each section contains a list of measurable elements to enable its assessment.

## Assessment Process

In order to assess and evaluate the elements of this checklist, the laboratory is required to develop a specific policy for the preparedness assessment process, while assigning a team responsible for conducting the assessment, taking into consideration potential conflict of interest.

The assessment team is expected to assess and evaluate the implementation of the checklist elements, considering the laboratory scope of service in order to determine whether the elements are: Met, Partially Met, Not Met, or Not Applicable.

The assessment process is designed to be implemented as a learning and consultative activity, consisting of meetings, documents review, and facility tour. At the end of the assessment process findings and recommendations can be used to bridge gaps and improve practices. The assessment process consists of:

- **Documents review:** Required documents need to be provided for review including: plans, policies, procedures, and records.
- **Facility Tour:** A tour is conducted to assess the physical environment. Example: Visiting the reception, testing, and, storage areas while observing the materials needed to tackle the Covid-19 pandemic of cleaning materials, personal protective equipment, testing materials, and supplies.
- **Interviews:** Individual meetings are held with staff and clients , as well as interviews with related groups or committees.
- **Assessment Results:** The results of the checklist measurable elements are determined as follow:
  - Met: If all the requirements are achieved
  - Partially Met: If some of the requirements are achieved
  - Not Met: If none of the requirements were achieved

Based on the assessment results, the laboratory develops an action plan to improve the sections and items whose outcome has been identified as "Partially Met" and "Not Met" to ensure the laboratory is ready to address the Covid-19 pandemic in a manner that ensures the continuity of providing the required services in a safe and effective manner.

1. Emergency Preparedness Structure					
	Item	Met	Partially Met	Not Met	Not Applicable
1.1	The laboratory emergency plan has been updated to incorporate COVID-19 preparedness and response planning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	A multidisciplinary planning committee or team has been created to specifically address COVID-19 preparedness planning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	A focal person is assigned responsibility for facilitating preparedness planning as a COVID-19 response coordinator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4	A contact list of emergency response team members is shared and made available, including names, phone numbers, and emails.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5	Responsibilities of key personnel within the laboratory related to executing the plan have been described	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.6	Key updates, information, and decisions discussed are documented and disseminated to relevant staff members	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Laboratory Communication					
	Item	Met	Partially Met	Not Met	Not Applicable
A. Internal Communication					
2.1	An internal communication plan is developed determining channels of communication, and streamlining the sharing of information between the management, units, and staff.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	Key information and decisions are shared in an accurate and timely manner to all relevant parties within the laboratory.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	Informational materials (e.g., brochures, posters) on COVID-19 (signs, posters) at entrances and in strategic places providing instruction on hand hygiene, respiratory hygiene, and cough etiquette that is language, format and reading-level appropriate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.4	A process is in place to receive staff members questions, inquiries, and suggestions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2.5	Responsibilities are assigned to staff member(s) responsible for providing answers and feedback to received inquiries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>B. External Communication</b>					
2.6	An external communication plan is developed determining required information and reports to be shared with relevant external parties.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.7	Key public health points of contact for communication during a COVID-19 outbreak have been identified	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.8	COVID-19 -related reporting to public health authorities is implemented	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.9	A standardized form/document is utilized to report notifiable diseases or other events	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>C. Information Security &amp; Confidentiality</b>					
2.10	Confidentiality of client data, information, and testing results is ensured	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.11	Disclosure of client information and testing results to national health authority is done in accordance to a documented procedure and follows official reporting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>3. Access &amp; Continuity of Care</b>					
	<b>Item</b>	<b>Met</b>	<b>Partially Met</b>	<b>Not Met</b>	<b>Not Applicable</b>
3.1	A list of services provided by the laboratory during the pandemic is defined and made available to the public	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	Hand hygiene supplies are made available to clients upon accessing the premises	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3	Minimum number of clients at the reception area is maintained , distancing is ensured, and signs are posted to increase awareness and compliance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4	A standardized process is followed for referral arrangements of COVID-19 related testing and reference laboratories are identified	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### 4. Laboratory Consumables and Supplies

	Item	Met	Partially Met	Not Met	Not Applicable
4.1	Updated inventory is developed/maintained an of all equipment, supplies, and consumables; with established shortage alert and reordering mechanism.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2	A plan is developed to address likely supply shortages including strategies for using alternative channels for procuring needed resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.3	A process is in place to track and report available quantities of consumable medical supplies including the monitoring of supplies of facemasks, gowns, gloves, and eye protection (i.e., face shield or goggles).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.4	<p>A process is in place to ensure that the laboratory provides supplies and materials necessary to adhere to recommended infection prevention and control practices including:</p> <ul style="list-style-type: none"> <li>• Alcohol-based hand sanitizer for hand hygiene is available in all sections of the laboratory.</li> <li>• Sinks are well-stocked with soap and paper towels for hand washing.</li> <li>• Signs are posted immediately in the reception area indicating appropriate IPC precautions and required personal protective equipment (PPE).</li> <li>• Tissues and facemasks for persons with respiratory symptoms to use near entrances and in common areas, with no-touch receptacles for disposal.</li> <li>• PPE is available immediately outside of the patient testing room and in other areas in the laboratory.</li> <li>• Appropriate disinfectants to allow for frequent cleaning of high-touch surfaces and equipment.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. Laboratory Operations					
	Item	Met	Partially Met	Not Met	Not Applicable
<b>A. Testing of Suspected or Confirmed COVID-19 Specimens</b>					
5.1	Specific procedures are documented for COVID-19 specimen collection and are made available to laboratory staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2	Procedures for specimen handling and COVID-19 virus testing (RNA extraction, RT-PCR, serology, etc.) are written and made readily available to staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.3	Current versions of published guidelines and other resources (e.g. norms, guidelines, instrument manuals, test kit inserts etc.) are made available in the laboratory for COVID-19 testing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.4	Only trained personnel are authorized to perform COVID-19 virus testing procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.5	A procedure in place for reporting COVID-19 testing results to patients and national health authorities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.6	Laboratory equipment are adequately maintained.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.7	Internal quality controls (IQC) specimens are included when performing COVID-19 testing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.8	A procedure is in place for recording and reporting IQC results	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.9	Corrective actions are implemented if IQC results are not acceptable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.10	Laboratory personnel are trained in troubleshooting COVID-19 virus PCR results and a change in assay performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>B. Outreach arrangements for specimen collection and transport practices from the field</b>					
5.11	Only trained personnel are authorized to collect specimens from suspected or confirmed COVID-19 patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>5.12</b>	Appropriate PPE are worn similar to other manual testing such as but not limited to a full length long (elastic) sleeved lab coat, safety goggles or glasses, and suitable disposable gloves	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>5.13</b>	Sample collection is performed on a diaper or large towel in a well-ventilated area free of clutter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>5.14</b>	The laboratory has a stock of emergency laboratory sampling kits (personal protective equipment, sample collection material, transport media, sample transport packaging)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



6. Laboratory Biosafety					
	Item	Met	Partially Met	Not Met	Not Applicable
6.1	Biosafety risk assessment is conducted to ensure that the laboratory is competent to safely perform intended testing with appropriate risk control measures .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2	Initial processing (before inactivation) of COVID-19 specimens is done in a validated Biological Safety Cabinet (BSC) .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.3	Appropriate disinfectants with proven activity against enveloped viruses are used (for example, hypochlorite [Bleach], alcohol, hydrogen peroxide, quaternary ammonium compounds, and phenolic compounds).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.4	The appropriate disinfectants are used for the recommended contact time, at the correct dilution, and within the expiry date after the working solution is prepared.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.5	Appropriate personal protective equipment (PPE), as determined by a detailed risk assessment, are worn by all laboratory personnel handling testing specimens	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.6	The handling of material with high concentrations of live virus (such as when performing virus propagation, virus isolation or neutralization assays) is performed only by properly trained personnel and under the requirement of Biological Safety Level 3.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.7	A procedure for the cleaning and decontamination of spills is developed and followed by adequate training of staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.8	Laboratory staff have immediate access to spill kits, including those containing disinfectant.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.9	All materials transported within and between laboratories are placed in a secondary packaging, while specimens leaving the BSC undergo surface decontamination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.10	A validated infectious waste management process including excess specimens is followed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. Human Resources Management					
	Item	Met	Partially Met	Not Met	Not Applicable
<b>A. Staffing</b>					
7.1	An updated staff contact list is maintained	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.2	Staff absenteeism is estimated in advance and monitored continuously	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.3	Prioritize staffing needs by unit or service type and distribute personnel accordingly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.4	Consider reassigning staff at high risk for complications of COVID-19 acute respiratory infection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.5	Staff working schedule is designed to share workload among staff effectively while ensuring their sufficient rest and sleep time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>B. Occupational Health</b>					
7.6	The facility has employee sick leave policies that are non-punitive, flexible, and consistent with public health policies that allow ill healthcare personnel (HCP) to stay home.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.7	There is a process followed to identify and manage staff members with fever and symptoms of COVID-19.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.8	The laboratory develops a clear policy for monitoring and managing staff members with potential for exposure to COVID-19, or who have had exposure to a confirmed, probable or suspected COVID-19 patient	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.9	A process is in place for auditing staff member's adherence to recommended PPE use, and hand hygiene practices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>C. Education &amp; Training</b>					
7.10	The laboratory has plans to provide education and training to laboratory staff, and clients to help them understand the implications of, and basic prevention and control measures for, COVID-19. All staff should be included in education and training activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>7.11</b>	A person or team has been designated with responsibility for coordinating education and training on COVID-19 (e.g., identifies and facilitates access to available training programs, maintains a record of personnel attendance).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>7.12</b>	Educational materials and training programs are based on updated evidence-based guidelines from reputable references, includes the following: <ul style="list-style-type: none"> <li>• Emergency response plan</li> <li>• Appropriate PPE use</li> <li>• Hand Hygiene practices</li> <li>• Internal &amp; External communication</li> <li>• Confidentiality of data and information</li> <li>• COVID-19 specimen handling, testing, and transfer procedure</li> <li>• COVID-19 reporting procedure</li> <li>• Sick Leaves policy</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>7.13</b>	Staff members are trained on infection prevention practices and biosafety requirements for dealing with specimens of suspected or confirmed COVID-19 cases	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>7.14</b>	Staff members are trained on waste management practices related to specimens of suspected or confirmed COVID-19 cases	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>7.15</b>	Cleaning staff are trained on proper cleaning and disinfecting practices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>7.16</b>	Laboratory has a plan for the training of non-facility staff members brought in from other locations to provide assistance when the laboratory faces staffing shortage.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>