

AFRICA CENTRES FOR DISEASE CONTROL AND PREVENTION (Africa CDC)

PROTOCOL FOR ENHANCED SEVERE ACUTE RESPIRATORY ILLNESS AND INFLUENZA-LIKE ILLNESS SURVEILLANCE FOR COVID-19 IN AFRICA

MARCH 2020



A BACKGROUND

The number of African Union Member States reporting COVID-19 cases is increasing and there is a likelihood of community transmission. The WHO recently modified the COVID-19 suspect case definition to include severe acute respiratory infection and advises testing of all severe acute respiratory illness (SARI) cases.¹ However, many Member States have not yet started implementing these changes, they are still focussing surveillance efforts on individuals with travel history to an area with local COVID-19 transmission. This means patients with similar symptoms, but no apparent contact, may not be investigated.

The majority of Member States have sentinel surveillance systems for influenza-like illness (ILI) and SARI and they take part in the Global Influenza Surveillance and Response System (GISRS). They can leverage these systems for COVID-19 because they investigate patients with similar clinical presentation to COVID-19.

To support the process of moving towards increased testing of SARI cases, and to better understand the presence of undetected cases among SARI/ILI patients, Africa CDC is supporting Member States to integrate testing for SARS-CoV2 virus into existing national SARI/ILI sentinel surveillance systems. In addition to identifying any cases not detected through other surveillance methods, the findings of this initiative will inform in-country control and response efforts, provide continent-wide situational awareness of the outbreak, and support risk assessment for neighboring countries and high-risk groups and locations.

The project aligns with the continent-wide COVID-19 strategy² endorsed during the meeting of Africa health ministers convened by the African Union Commission on 22 February 2020. It was

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- 1 [https://www.who.int/publications-detail/global-surveillance-for-human-infection-with-novel-coronavirus-\(2019-ncov\)](https://www.who.int/publications-detail/global-surveillance-for-human-infection-with-novel-coronavirus-(2019-ncov))
 - 2 Report of Ministerial Meeting on COVID-19 Outbreak. <http://africacdc.org/press-centre/fact-sheets-and-brochures/fact-sheets-and-brochures/report-of-ministerial-meeting-on-covid-19-outbreak-eng-web-pdf/detail>

recommended by the surveillance and laboratory technical working groups of the Africa Task Force for Coronavirus (AFTCOR), which have noted the critical need for accurate and timely information about the circulation of SARS-COV2 in the continent.

B PROJECT PURPOSE

To increase awareness about the status of the pandemic and inform continent-wide response.

C PROJECT OBJECTIVES

The project objectives are to:

1. increase early and rapid detection of COVID-19 cases in Africa;
2. assess the extent of undetected community transmission among patients presenting with moderate or severe respiratory illness;
3. provide data to inform risk assessment and response activities for neighboring countries and high-risk groups and locations.

D METHODS



1. Case definition

The specimens investigated in this project will be those already collected through each country's SARI/ILI surveillance system (no additional sample-taking is expected for the protocol). Member States will use the same case definitions as they used in their ILI/SARI surveillance system (Table 1).

Any Member State that uses a different definition should inform the Africa CDC project coordinators of the precise wording of their definition to facilitate interpretation of data collected.

Table 1. Case Definitions for Global Influenza Surveillance and Response System

Influenza-Like Illness (ILI)

An acute respiratory infection with:

- measured fever of $\geq 38\text{ }^{\circ}\text{C}$
- and cough
- with onset within the last 10 days

Severe Acute Respiratory Infection (SARI)

An acute respiratory infection with:

- history of fever or measured fever of $\geq 38\text{ }^{\circ}\text{C}$
- and cough
- with onset within the last 10 days
- and requires hospitalization



2. Sample population

No additional samples beyond those collected during routine, sentinel SARI and ILI surveillance are required, therefore, the sample population is the same as those of the Member States' influenza programme.

Samples that are taken in the course of suspect case investigation, i.e. patients with a history of travel to, or residence in, a location that has reported local transmission of COVID-19 disease and/or been a contact of a confirmed or probable case of COVID-19 disease during 14 days prior to the onset of symptoms, should be tested as normal in the Member State's outbreak response.



3. Sampling strategy

Due to the integration of this project into the existing SARI/ILI system, the sampling strategy uses the normal in-country SARI/ILI programme sampling algorithm. All Member States with an influenza sentinel surveillance system should start testing SARI and ILI influenza cases using the following schedule and considering the phase of the epidemic in the country:

Phase 0 test a *selected* number of SARI/ILI influenza *negative* samples – maximum 50 SARI and 25 ILI influenza negative samples per week from all sentinel sites. Use the sampling strategy below if more than 50/25 samples are received.

Phase 1 test *all* SARI samples submitted in the national influenza sentinel surveillance system, and a maximum 25 influenza negative ILI samples per week from all sentinel sites.

Phase 2 test *all* SARI cases identified in health facilities in natural catchment around clusters, in addition to Phase 1 testing.

Phase 3 test *all* SARI cases nationwide on presentation to hospital and *all* SARI samples submitted through the surveillance system if there is laboratory capacity to do so (if not continue with surveillance samples only), AND a maximum of 25 influenza negative ILI samples per week from all sentinel sites.

Phase 4 test SARI samples *only* when result will change clinical management. Test a maximum of 25 influenza negative ILI samples per week from all sentinel sites.

See Appendix 1: Africa CDC Recommendations for Stepwise Response to COVID-19 for further explanation of phasing.

NOTE: Member States may need to adjust this schedule according to their laboratory capacity: some may not achieve the maximum mentioned. Laboratories should ensure that samples from as many sentinel sites as possible are included to get the best coverage.



4. Selection of samples

All influenza negative SARI surveillance samples should be tested for SARS-CoV2 if test kits are available as per the WHO advice on extended case definition and surveillance for COVID-19. However, if kits are limited and more surveillance samples are available than the number of tests, the following procedure should be followed:

- Divide the total number of eligible samples by the number of tests available and use this number (known as a sampling interval) to make the selection.

Example 1: *There are 75 influenza negative SARI samples and 28 tests available. Divide the 75 SARI samples by 28 = 3. Test SARI samples 1, 4, 7, 10, 13 until you identify 28 samples for testing.*

Use this same method to test the target number of ILI influenza negative ILI samples.

The selection should be random: do not review any clinical or epidemiological notes to inform the selection.

In Phase 0, if the targets for influenza negative SARI and ILI case test have not been reached in a week, *SARI /ILI influenza positive* samples can be tested up to the target. Use the interval method described above to select the necessary number.

Ensure that the results of influenza tests as well as those for SARS-CoV2 are reported so that co-morbidity can be analysed.

NOTE: Testing of COVID-19 *suspect* cases identified through outbreak response (i.e. outside of the influenza surveillance system) should take priority if kits are limited and Africa CDC and/or WHO should be alerted about the gap.



5. Reporting of results

- SARS-CoV2 positive results must be reported immediately (before data entry) to the Member State's formal surveillance and International Health Regulations channels.
- The treating physician must be alerted immediately about any SARS-CoV2 positive result so they can take protective measures.
- **Positive results should be shared confidentially with the Africa CDC SARI/ILI surveillance coordinator by sending a weekly data report in excel to: AfricaCDCEBS@africa-union.org.**



6. Data collection

Sites will collect and report data through the country's usual influenza reporting system and should continue to report ILI and SARI data to the GISRS system.

Laboratories should check that the variables in column A are present in their existing data collection for influenza and should add the variables in column B to their existing forms. Cases must be linkable by the patient's unique ID number in all databases.

Table 2. Minimum Data Set

Column A - ensure that these are present, and add if they are not	Column B - add these for SARS-CoV2 testing
Patient unique ID number	Date of SARS-CoV2 test
Date of birth and/or age	Date of result
Sex	Result (neg, pos, indeterminate)
Address	Cycle Threshold (CT) value
Case definition: SARI or ILI	Outcome (recovered, died, not available)
Symptoms at presentation	
Co-morbidities	
Immuno-compromised	
Pregnancy (trimester...)	
Date of symptom onset	
Date of hospitalisation (if relevant)	
Date of specimen collection	
Specimen type	
Influenza test result & date of confirmation	
RSV test result & date of confirmation	

NOTE: Variables related to COVID-19 contact or exposure will not be requested in this project because any SARS-CoV2 positive case should be immediately reported to the national authorities, epidemiologically investigated, and clinically managed by the outbreak emergency response team using the WHO standard case investigation forms and clinical protocols (see Annex 4).



7. Data entry

Where feasible, testing laboratories should enter and upload case data and the results of the SARS-CoV2 tests daily. If normal practice is to enter the data weekly, this should be done by midday on Monday to allow for rapid reporting of aggregated data across the network.

As already mentioned, all SARS-CoV2 positive results must be reported immediately to the authorities and to the Africa CDC ILI/SARI surveillance coordinator (AfricaCDCEBS@africa-union.org). You can also contact us through this email address if you have any question or difficulties with implementing this protocol.



8. Data reporting and interpretation

Weekly aggregate reports of surveillance findings across the network will be produced by the Africa CDC SARI/ILI/ surveillance coordination group. The reports will be shared with Ministries of Health and network members to inform in-country, regional and continental response strategies. Overall weekly figures for SARI/ILI surveillance tests and results must tally with the SARS-CoV2 results.



9. Consent and ethical approval

This is an extension of routine surveillance for operational purposes, and the sample analysis is for diagnostic purposes, therefore, no ethical approval or individual consent is required. Diagnostic results will trigger an appropriate clinical response for the patient.



10. Supply and support

Africa CDC will provide Member States with:

- Reagents, test kits and sample collection supplies for 75 samples per week for four months.
- Rapid (remote) technical laboratory and surveillance advice on request.

- Support as needed to adapt data collection tools to integrate SARS-COV2 surveillance.
- Weekly aggregate reports of project outputs across participating Member States.



11. Human resources

Participant countries are requested to incorporate this protocol of enhanced surveillance into their normal laboratory team activity.



12. Network coordination

Africa CDC will be responsible for coordination of this project and ensure full collaboration with and between project partners.

Acknowledgements

We acknowledge the support and advice of the US CDC Influenza team and the use of their draft SARS-COV2 enhanced surveillance guideline of March 2020. We also acknowledge the collaboration of WHO EMRO, WHO AFRO and SACCIDS.

APPENDIX 1: AFRICA CDC RECOMMENDATIONS FOR STEPWISE RESPONSE TO COVID-19

1. BACKGROUND

The COVID-19 pandemic is rapidly expanding in Africa. To help countries respond, Africa CDC is recommending that African Union Member States tailor their response activities to the stage of their epidemic and to the African context. African countries have a greater vulnerability to massive economic, social and political disruption from many outbreak control measures being implemented in Asia, Europe and North America. This document provides a high-level mapping of outbreak stages with guidance on how to time the minimum uptake of different interventions that have been recommended by Africa CDC, driven by evidence and science.

2. WHY STEPWISE APPROACH

Different countries across the globe have adopted different approaches in containing and mitigating harm due to COVID-19 outbreak. Some of these measures have been documented and being used to inform the global strategy on COVID-19 response. Compared to some Asian and European countries, many African countries have limited capacity to respond to a massive outbreak of the disease. It is therefore important to provide guidance to AU Member States in their response, taking note of the different policy documents already developed and circulated by Africa CDC. It is also important to conduct thorough analysis before implementing any strenuous measures.

Africa CDC has developed a number of policy documents to guide Member States in this analysis (<http://www.africacdc.org/covid-19-and-resources/guidelines-policies/covid-19-and-resources/guidelines-policies/detail>)

The following fundamental questions should be answered before instituting any measures:


1. Are the measures appropriate for the outbreak stage of the country?
2. How will each measure impact the overall wellbeing of the country, not just COVID-19 incidence?
3. As a country, are you prepared for the social and economic consequences of each measure?
4. Will the measures impair support for outbreak preparedness and response by international and regional partners?
5. What criteria will you use to end such measures, particularly if they impair the routine healthcare system or other sectors?

Measures should be adopted with care so they don't cause severe negative impact on the social wellbeing and economic progress of countries with a growing economy. This will ensure sustainability of the response to COVID-19 by African Union Member States and avoid intervention fatigue and community revolt to the measures. This is an interim guide with minimum recommendations for African Union Member States based on currently available evidence. Countries may choose stricter measures depending on available resources.

3. STEPWISE MINIMUM RESPONSE MEASURES FOR COVID-19 EPIDEMIC PHASES

Epidemic phase	Characteristics of the phase	Response measures
<p>PHASE 0 :</p> <p>No COVID-19 case</p>	<p>No reported cases in-country</p>	<p>Aim: Preparedness for COVID-19</p> <p>Central coordination</p> <ul style="list-style-type: none"> Prepare a contingency plan for response to COVID-19 and identify potential resources to facilitate implementation of the plan Train and prepare response teams in surveillance, case management, infection prevention and control (IPC), and laboratory <p>Surveillance</p> <ul style="list-style-type: none"> Implement enhanced surveillance at points of entry (PoE) Prepare measures to support home and/or facility-based quarantine <p>Laboratory</p> <ul style="list-style-type: none"> Prepare laboratory facilities/specimen referral systems for COVID-19 testing Test all persons suspected of COVID-19 using WHO case definitions A and B³ Test selected severe acute respiratory infection (SARI) samples from influenza sentinel surveillance system to identify undetected virus circulation <p>IPC and clinical management</p> <ul style="list-style-type: none"> Prepare health facilities for severe case isolation and care Ensure IPC measures in hospitals and clinics <p>Communication and community mobilization</p> <ul style="list-style-type: none"> Identify trusted community channels, key opinion and faith leaders to open discussions on possible outbreak control measures Sensitise the population about the outbreak control measures, including contact tracing, quarantine, and individual and community social distancing Develop and implement risk communication plans

3 [https://www.who.int/publications-detail/global-surveillance-for-human-infection-with-novel-coronavirus-\(2019-ncov\)](https://www.who.int/publications-detail/global-surveillance-for-human-infection-with-novel-coronavirus-(2019-ncov))

Epidemic phase	Characteristics of the phase	Response measures
<p>PHASE 1 :</p>  <p>Early stage outbreak</p>	<ul style="list-style-type: none"> • One or more imported cases • Limited local transmission related to imported cases 	<p>Aim: Prevent sustained transmission of COVID-19</p> <p>Central coordination</p> <ul style="list-style-type: none"> • Activate Emergency Operations Centre (EOC) for COVID-19 and establish a response structure • Activate a contingency plan for COVID-19 <p>Surveillance</p> <ul style="list-style-type: none"> • Intensify surveillance at PoE • Conduct contact tracing (contact identification for all confirmed cases, contact listing and classification, choose contact follow up approach and do daily contact follow-up) <p>Laboratory</p> <ul style="list-style-type: none"> • Conduct rigorous case investigation to identify and home-quarantine all close contacts • Test all persons suspected of COVID-19 using WHO case definitions A and B • Test all contacts who develop symptoms • Test all SARI cases from the influenza sentinel surveillance system <p>IPC and Clinical Management</p> <ul style="list-style-type: none"> • Establish triage at all health facilities • Open isolation wards in designated hospitals <p>Communication and community mobilization</p> <ul style="list-style-type: none"> • Inform the public about the case • Promote individual social distancing and hand/cough hygiene

Epidemic phase

Characteristics of the phase

Response measures

PHASE 2 :



Expanding outbreak

- Increasing numbers of imported cases
- Increased local spread but all cases linked to known transmission chains
- Outbreak clusters with a known common exposure

Aim: Contain and slow transmission of COVID-19

Central coordination

- Continue EOC for COVID-19 event and establish a response structure
- Activate contingency plan and prepare for COVID-19

Surveillance

- Intensify contact tracing and adherence to quarantine as much as possible. If resources are limited, prioritise contacts for follow-up with the highest risk exposures, particularly health workers and vulnerable populations

Laboratory

- Test all persons suspected of COVID-19 using WHO case definitions A and B and all contacts who develop symptoms
- Expand testing to all SARI cases in the natural catchment area around each cluster to identify any undetected transmission chains

IPC and clinical management

- Intensify promotion of IPC and hand/cough hygiene
- Prepare for increasing numbers of severely affected cases
- Institute community social distancing measures (see the social distancing policy for guidance)
- Restrict mass gathering activities/events (see mass gathering policy for guidance)

Communication and community mobilization

- Strengthen support strategy to people under home quarantine to encourage adherence
- Prepare population for community social distancing measures
- Continue to provide update on the outbreak to the population

Epidemic phase

Characteristics of the phase

Response measures

PHASE 3 :



Advancing outbreak

- Localised outbreaks start to merge
- One or more cases or deaths occur outside known transmission chains
- Sustained person to person transmission – multiple generations in transmission chains
- Cases are detected among SARI case with no known exposure

Aim: Delay transmission of COVID-19 to delay and reduce outbreak peak and burden on health services

Central coordination

- Ensure priorities, including shifting away from contact tracing and intensified focus on rapid detection, diagnosis and isolation of cases. These should be well communicated and understood across all pillars
- Identify key gaps in response and seek partners and/or assistance

Surveillance

- Halt contact tracing in all outbreak areas
- Trace contacts only in districts reporting first cases where containment might still be possible or among high-risk vulnerable contacts

Laboratory

- Continue to test suspects in areas without cases, and symptomatic contacts while these areas remain in phase 1 or 2.
- Test all SARI cases presenting to hospital to aid isolation management
- Analyse case data to review case definition
- Where possible, extend diagnostic capacity to other laboratories

IPC and clinical management

- Home-isolation for mild and moderate suspected or confirmed cases not requiring hospitalisation
- Reinforce individual social distancing practices
- Consider feasibility and acceptability of community lockdowns for areas with exponential transmission
- Reinforce isolation and treatment facilities as much as possible

Communication and community mobilization

- Educate the population on social distancing and other recommended Africa CDC social distancing guidelines, including cancellation of mass gathering
- Continue to provide updates to the population

Epidemic phase

Characteristics of the phase

Response measures

PHASE 4 :



Large outbreak with nationwide transmission

- Widespread sustained community transmission
- Multiple generation transmission chains can be identified but most cases occurring outside of chains
- Community-wide transmission throughout all or nearly all the country

Aim: Reduce mortality among severe COVID-19 cases

Central coordination

- Reinforce priorities and strive for a coordinated, well-understood response
- Ensure that all interventions (governmental and partners) focus on reducing burden on healthcare services, protecting populations at risk of severe disease, and reducing mortality

Surveillance

- Halt contact tracing activities with few exceptions determined by the need and value for doing so, such as outbreaks in hospitals
- Use country-adapted syndromic case definition to count cases

Laboratory

- Test hospital admissions for differential diagnosis
- Test to investigate unusual or specific (e.g. health care workers) high risk clusters
- Test ILI and SARI specimens (or a sample of them based on resources) as a marker of COVID-19 burden

IPC and clinical management

- Set up additional temporary healthcare units/ facilities for COVID-19 cases
- Focus on activities to reduce the delay to hospital presentation to improve outcome for severe cases
- Consider lifting community lockdowns/ rescinding institution closures but approach with caution to prevent mass exposure of non-immune population

Communication and community mobilization

- Evaluate effectiveness of community social distancing measures and revise as necessary
- Provide update of the situation and policies to the population

APPENDIX 2: ADDITIONAL RESOURCES

WHO COVID-19 case definitions, standard case investigation & case management forms

Please follow link below to ensure review of most up to date version.

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/surveillance-and-case-definitions>

For further information or to report data, please email:

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