

Outbreak Brief #77: Coronavirus Disease 2019 (COVID-19) Pandemic

Date of Issue: 6 July 2021

Global case count: 183,592,818 cases and 3,980,074 deaths

Data sources: World Health Organization and African Union Member States

Outbreak Update: Since the last brief (29 June 2021), **2,748,295** new confirmed¹ coronavirus disease 2019 (COVID-19) cases, including **56,249** new deaths, have been reported globally. To date, a global total of **183,592,818** COVID-19 cases and **3,980,074** related deaths (case fatality ratio (CFR): 2.2%) have been reported from 225 countries and territories to the World Health Organization (WHO). The distribution of cumulative cases (proportion of global cases) from the World Health Organization (WHO) reporting regions (excluding Africa) are as follows: **Eastern Mediterranean Region** 9,649,249 (5%), **European Region** 56,302,326 (31%), **Region of the Americas** 72,930,979 (40%), **South-East Asia Region** 35,309,575 (19%) and **Western Pacific Region** 3,651,728 (2%). In the last seven days, Brazil and India reported more than 300,000 new cases. while Colombia, Indonesia, the United Kingdom, the Russian Federation, South Africa and Argentina reported more than 100,000 new cases. For more detailed information on cases and deaths reported outside of Africa, refer to the WHO COVID-19 dashboard.²

As of 9 am East African Time (EAT) 6 July 2021, a total of 5,698,966 COVID-19 cases and 147,087 deaths (**CFR: 2.6%**) have been reported in 55 African Union (AU) Member States. This represents 3% of all cases reported globally.³ The 22 AU Member States reporting case fatality ratios⁴ higher than the global case fatality ratio of 2.2% are Sudan (7.5%), Sahrawi Arab Democratic Republic (6.2%), Egypt (5.8%), Somalia (5.2%), Mali (3.6%), Comoros (3.6%), Eswatini (3.6%), Niger (3.5%), Chad (3.5%), Tunisia (3.5%), Zimbabwe (3.4%), Malawi (3.3%), South Africa (3%), Gambia (3%), Lesotho (2.8%), Liberia (2.7%), Senegal (2.7%), Algeria (2.7%), Uganda (2.3%), Angola (2.3%), Mauritania (2.3%) and Democratic Republic of Congo (DRC) (2.3%).

For Epi week 26 (28 June-4 July 2021), **252,632** new COVID-19 cases have been reported, which is a 21% increase in the number of new cases reported when compared to Epi week 25. Most new COVID-19 cases reported for this week are from the Southern Region (71%), followed by the Northern (20%), Eastern (6%), Western (2%) and Central (1%) regions. This week, six countries account for 83% of the new COVID-19 cases reported: South Africa (53%), Tunisia (15%), Zambia

¹ WHO COVID-19 surveillance guidance and case definition: <https://www.who.int/publications/i/item/who-2019-nCoV-surveillanceguidance-2020.7>

² WHO coronavirus disease (COVID-19) dashboard: <https://covid19.who.int/>

³ [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(21\)00441-4/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)00441-4/fulltext)

⁴ All CFR are crude estimates.

(6%), Namibia (4%), Zimbabwe (3%), and Rwanda (2%). The countries reporting the highest incidence (COVID-19 new cases per 100,000 population) this week are Seychelles (741), Namibia (362), Tunisia (324), South Africa (226), and Botswana (179). Figure 1 shows the trend of new COVID-19 cases reported per day by AU region from 15 February 2020 to 6 July 2021. Overall, the number of new cases being registered by day has continued to increase.

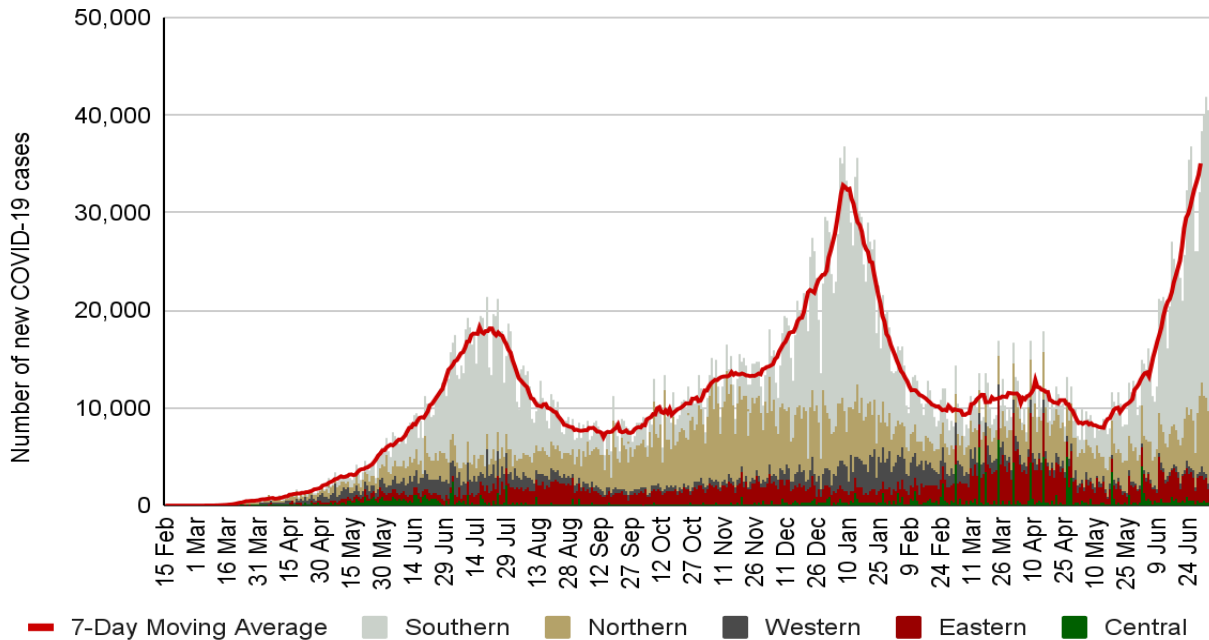


Figure 1: New COVID-19 cases reported by day in Africa by African Union region, 15 February 2020 - 6 July 2021. (The dates are at a two-week interval; the last date is 6 July 2021)

As of 6 July 2021, 40 AU Member States (Table 1) have reported the presence of new variants; the Alpha variant (B.1.1.7) 32 Member States, the Beta variant (B.1.351) 29 Member States, and the Delta variant (B.1.617.2) 13 Member States⁵. Some Member States (23) have reported multiple variants.

The Pathogen Genomics Dashboard provides a breakdown of variant types reported by Member State. More information on SARS-CoV-2 sequencing in Africa is available on the [Africa Pathogen Genomics Initiative Dashboard](#).

⁵ [Tracking SARS-CoV-2 variants \(who.int\)](https://www.who.int/tracking-sars-cov-2-variants)

Table 1: SARS-CoV-2 Variants of Concern (VoC)⁶ reported in African Union Member States, as of 6 July 2021 (Note: In keeping with the new WHO convention, Africa CDC will transition to naming SARS-CoV-2 variants by their Greek alphabetic labels)⁷.

Variant	Number of Member States	Member States
Alpha (B.1.1.7)	32	Algeria, Angola, Burkina Faso, Cabo Verde, Cameroon, Central African Republic, Côte d’Ivoire, Djibouti, DR Congo, Egypt, Equatorial Guinea, Gabon, Gambia, Ghana, Guinea, Guinea Bissau, Kenya, Libya, Malawi, Mauritius, Morocco, Mozambique, Nigeria, Republic of Congo, Rwanda, Senegal, Somalia, South Africa, Togo, Tunisia, Uganda and Zambia.
Beta (B.1.351)	29	Angola, Botswana, Cameroon, Comoros, Côte d’Ivoire, DR Congo, Djibouti, Equatorial Guinea, Eswatini, Gabon, Ghana, Guinea-Bissau, Kenya, Lesotho, Libya, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Nigeria, Rwanda, Seychelles, South Africa, Togo, Tunisia, Uganda, Zambia, and Zimbabwe.
Delta (B.1.617.2)	13	Botswana, DR Congo, Gambia, Ghana, Kenya, Malawi, Mauritius, Morocco, Nigeria, South Africa, Uganda, Zambia, and Zimbabwe.

⁶ Variant of concern is associated with one or more of: Increase in transmissibility or detrimental change in COVID-19 epidemiology or Increase in virulence or change in clinical disease presentation; or Decrease in effectiveness of public health and social measures or available diagnostics, vaccines, therapeutics.

⁷ [Tracking SARS-CoV-2 variants \(who.int\)](https://www.who.int/tracking-sars-cov-2)

Fifty-three (96%) of the 55 AU Member States have reported community transmission of the SARS-CoV-2 virus. Fifty-three (96%) Member States have reported a second wave, 23 (42%) have reported a third wave, and one country (Tunisia) has reported a fourth wave of the COVID-19 pandemic. Table 2 lists the cumulative COVID-19 cases and deaths reported by Member State and Region in Africa and the new COVID-19 cases and deaths reported during Epi week 26. The table also provides the current epidemic phase for each country.

Table 2: Confirmed COVID-19 cases, deaths⁸ and current epidemic phases reported in Africa for Epi week 26 (28 June - 4 July 2021).

Country	Cumulative number of cases (new cases)	% change in new cases since Epi week 25	Cumulative number of deaths (new deaths)	% change in new deaths since Epi week 25	Epidemic phase ⁹
Central Region	193,697 (2,470)	-24%	3,048 (47)	12%	
Burundi	5,511 (121)	-26%	8 (0)	NA*	3
Cameroon	80,858 (0)	-100%	1,324 (0)	-100%	3
Central African Republic	11,064 (6)	-57%	98 (0)	NA*	3
Chad	4,951 (0)	-100%	174 (0)	NA*	3
Congo	12,485 (0)	-100%	164 (0)	NA*	3
Democratic Republic of Congo	42,617 (2,178)	-13%	962 (46)	28%	3

⁸ Data is continuously verified for accuracy and reliability, thus may change based on retrospective updates from Member States.

⁹ Phases defined according to Africa CDC's Recommendations for a stepwise COVID-19 response -

<https://africacdc.org/download/recommendations-for-stepwise-response-to-covid-19/>: **Phase 0 (No COVID-19 case)**: no reported case in-country; **Phase 1 (Early stage outbreak)**: one or more imported cases, limited local transmission related to imported cases; **Phase 2 (Expanding outbreak)**: increasing number of imported cases, increased local spread but all cases linked to known transmission chains, outbreak clusters with a known common exposure; **Phase 3 (Advancing outbreak)**: localized outbreaks start to merge, one or more cases or deaths occur outside known transmission, multiple generations in transmission chains, cases are detected among severe acute respiratory illness (SARI) case with no known exposure; **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 of the country.

Country	Cumulative number of cases (new cases)	% change in new cases since Epi week 25	Cumulative number of deaths (new deaths)	% change in new deaths since Epi week 25	Epidemic phase ¹⁰
Equatorial Guinea	8,759 (36)	140%	122 (1)	No change	3
Gabon	25,076 (118)	26%	159 (0)	-100%	3
Sao Tome and Principe	2,376 (11)	267%	37 (0)	NA*	3
Eastern Region	733,784 (15,875)	-12%	15,445 (1,154)	125%	
Comoros	4,013 (27)	145%	146 (0)	NA*	3
Djibouti	11,605 (4)	-71%	155 (0)	NA*	3
Eritrea	6,088 (308)	-26%	25 (4)	100%	3
Ethiopia	276,435 (500)	-33%	4,331 (17)	-45%	3
Kenya	185,868 (3,271)	-7%	3,675 (80)	-42%	3
Madagascar	42,243 (49)	-28%	915 (6)	-14%	3
Mauritius	1,913 (61)	-23%	18 (0)	NA*	3
Rwanda	42,585 (5,958)	2%	470 (50)	32%	3
Seychelles	15,857 (741)	-25%	71 (8)	No change	3
Somalia	14,977 (85)	113%	775 (0)	NA*	3
South Sudan	10,866 (54)	29%	117 (2)	NA*	3
Sudan	36,709 (135)	-41%	2,760 (10)	-23%	3

¹⁰ Phases defined according to Africa CDC's Recommendations for a stepwise COVID-19 response - <https://africacdc.org/download/recommendations-for-stepwise-response-to-covid-19/>: **Phase 0 (No COVID-19 case)**: no reported case in-country; **Phase 1 (Early stage outbreak)**: one or more imported cases, limited local transmission related to imported cases; **Phase 2 (Expanding outbreak)**: increasing number of imported cases, increased local spread but all cases linked to known transmission chains, outbreak clusters with a known common exposure; **Phase 3 (Advancing outbreak)**: localized outbreaks start to merge, one or more cases or deaths occur outside known transmission, multiple generations in transmission chains, cases are detected among severe acute respiratory illness (SARI) case with no known exposure; **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 of the country.

Country	Cumulative number of cases (new cases)	% change in new cases since Epi week 25	Cumulative number of deaths (new deaths)	% change in new deaths since Epi week 25	Epidemic phase ¹¹
Tanzania ¹²	509 (0)	NA*	21 (0)	NA*	Unknown
Uganda	84,116 (4,682)	-22%	1,966 (977)	255%	3
Northern Region	1,622,908 (51,277)	50%	48,568 (1,046)	8%	
Algeria	141,471 (3,006)	18%	3,755 (62)	No change	3
Egypt	282,082 (1,688)	-46%	16,264 (172)	-26%	3
Libya	195,824 (3,038)	74%	3,213 (22)	69%	3
Mauritania	21,076 (441)	47%	489 (3)	-40%	3
Morocco	534,550 (4,874)	61%	9,319 (42)	8%	3
Tunisia	447,161 (38,230)	63%	15,482 (745)	20%	3
Sahrawi Arab Democratic Republic ¹³	744 (0)	-100%	46 (0)	NA*	1
Southern Region	2,638,291 (178,458)	19%	73,030 (2,856)	40%	

¹¹ Phases defined according to Africa CDC's Recommendations for a stepwise COVID-19 response -

<https://africacdc.org/download/recommendations-for-stepwise-response-to-covid-19/>: **Phase 0 (No COVID-19 case)**: no reported case in-country; **Phase 1 (Early stage outbreak)**: one or more imported cases, limited local transmission related to imported cases; **Phase 2 (Expanding outbreak)**: increasing number of imported cases, increased local spread but all cases linked to known transmission chains, outbreak clusters with a known common exposure; **Phase 3 (Advancing outbreak)**: localized outbreaks start to merge, one or more cases or deaths occur outside known transmission, multiple generations in transmission chains, cases are detected among severe acute respiratory illness (SARI) case with no known exposure; **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 of the country.

¹² Last report received 7-May-2020.

¹³ AfricaCDC inadvertently reported 29-May-2021 as the date of the last report. Correct date is 21 June 2021.

Country	Cumulative number of cases (new cases)	% change in new cases since Epi week 25	Cumulative number of deaths (new deaths)	% change in new deaths since Epi week 25	Epidemic phase ¹⁴
Angola	39,230 (674)	-23%	913 (24)	-20%	3
Botswana	73,977 (4,297)	11%	1,188 (63)	13%	3
Eswatini	19,084 (49)	-78%	678 (0)	-100%	3
Lesotho	11,568 (329)	149%	329 (0)	NA*	3
Malawi	36,926 (1,297)	70%	1,208 (26)	86%	3
Mozambique	80,151 (5,013)	91%	904 (36)	80%	3
Namibia	95,703 (9,054)	-24%	1,649 (204)	-27%	3
South Africa	2,062,896 (133,999)	27%	61,840 (1,940)	62%	3
Zambia	164,282 (15,714)	-20%	2,443 (421)	11%	3
Zimbabwe	54,474 (8,032)	72%	1,878 (142)	122%	3
Western Region	489,624 (4,552)	24%	6,482 (51)	-14%	
Benin	8,199 (29)	-3%	104 (0)	-100%	3
Burkina Faso	13,494 (16)	78%	168 (0)	-100%	3
Cape Verde	32,735 (363)	-11%	288 (2)	-60%	3
Côte d'Ivoire	48,564 (372)	151%	315 (3)	-25%	3
Gambia	6,116 (47)	96%	182 (1)	NA*	3
Ghana	96,402 (488)	-25%	796 (0)	-100%	3

¹⁴ Phases defined according to Africa CDC's Recommendations for a stepwise COVID-19 response - <https://africacdc.org/download/recommendations-for-stepwise-response-to-covid-19/>: **Phase 0 (No COVID-19 case)**: no reported case in-country; **Phase 1 (Early stage outbreak)**: one or more imported cases, limited local transmission related to imported cases; **Phase 2 (Expanding outbreak)**: increasing number of imported cases, increased local spread but all cases linked to known transmission chains, outbreak clusters with a known common exposure; **Phase 3 (Advancing outbreak)**: localized outbreaks start to merge, one or more cases or deaths occur outside known transmission, multiple generations in transmission chains, cases are detected among severe acute respiratory illness (SARI) case with no known exposure; **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 of the country.

Country	Cumulative number of cases (new cases)	% change in new cases since Epi week 25	Cumulative number of deaths (new deaths)	% change in new deaths since Epi week 25	Epidemic phase ¹⁵
Guinea	23,871 (118)	-44%	173 (4)	300%	3
Guinea-Bissau	3,881 (35)	67%	69 (0)	NA*	3
Liberia	4,918 (1,124)	64%	134 (11)	-54%	3
Mali	14,449 (32)	-11%	527 (2)	100%	3
Niger	5,506 (28)	211%	194 (1)	NA*	3
Nigeria	167,859 (392)	50%	2,121 (2)	No change	3
Senegal	43,768 (864)	73%	1,174 (10)	67%	3
Sierra Leone	5,793 (412)	-27%	106 (12)	No change	3
Togo	14,069 (232)	100%	131 (3)	NA*	3
Total	5,678,304 (252,632)	21%	146,573 (5,154)	42%	

*No new cases/deaths reported in the previous week.

¹⁵ Phases defined according to Africa CDC's Recommendations for a stepwise COVID-19 response - <https://africacdc.org/download/recommendations-for-stepwise-response-to-covid-19/>: **Phase 0 (No COVID-19 case)**: no reported case in-country; **Phase 1 (Early stage outbreak)**: one or more imported cases, limited local transmission related to imported cases; **Phase 2 (Expanding outbreak)**: increasing number of imported cases, increased local spread but all cases linked to known transmission chains, outbreak clusters with a known common exposure; **Phase 3 (Advancing outbreak)**: localized outbreaks start to merge, one or more cases or deaths occur outside known transmission, multiple generations in transmission chains, cases are detected among severe acute respiratory illness (SARI) case with no known exposure; **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 of the country.

Public Health and Social Measure (PHSM) Highlights



Figure 2. Map of AU Member States by hotspot level¹⁶ on the PERC [dashboard](#). This system is intended to highlight AU Member States needing attention due to an increasing or widespread outbreak. For specifics on calculations, refer to the dashboard [methodology](#).

Table 3 below highlights changes in public health and social measures (PHSMs) for selected countries based on data from the [Oxford COVID-19 Government Response Tracker](#). An up arrow indicates new PHSMs were announced; a horizontal arrow indicates PHSM was extended; a down arrow indicates PHSMs were loosened/expired. Member States are organized by tiers based on current epidemiological data from 25 June- 2 July 2021.

Table 3: Changes in Public Health and Social Measures, selected countries, 25 June-2 July 2021.

Country	PHSM Trend	PHSM Change
Tier 4 (High Alert): Daily case incidence per 1M people/day ≥ 80 and/or positivity rate $\geq 12\%$		
Uganda	↑	Uganda further tightened COVID-19 restrictions, including a 2-week closure of Parliament and a ban on funeral services.
Cabo Verde	→	Officials in Cabo Verde have extended the nationwide state of calamity for an additional 15 days across all islands in the country. Measures include restrictions on the times during which bathing is permitted on beaches, a ban on public and private gatherings, and curfews for bars and restaurants.
South Africa	↑	Authorities in South Africa tightened COVID-19 restrictions for 14 days amid increasing transmission. Measures include a ban on all gatherings of any kind, the closure of schools, a nightly curfew, and restrictions on restaurants to take out only.
Namibia	↑	Authorities have tightened COVID-19 restrictions through July 15. All interprovincial travel is prohibited with the exception of essential workers. Authorities have increased the nationwide curfew by one hour. .
Tunisia	↑	The nightly curfew in Tunisia has been lengthened by two hours, now from 20:00-5:00. Gatherings of all kinds are also banned until 11 July.

¹⁶ The delineation of the international and other boundaries used on this map don't imply official endorsement or acceptance by the African Union or Africa CDC.

Tier 3 (Moderate Alert): Daily case incidence per 1M people/day is 20 to <80 and/or positivity rate is 5% to <12%		
Rwanda	↑	Rwanda announced stricter restrictions due to an intense surge of COVID-19 cases. The nationwide curfew from 6pm to 4am will remain in place. New restrictions in hotspots include bans on all public and private gatherings; school closures; and closures of bars and restaurants.
Zimbabwe	↑	Authorities reimposed lockdown measures nationwide through July 13 due to the rising number of COVID-19 cases, including a strict curfew from 6:30pm to 6am.
Eswatini	↑	Officials in Eswatini have instituted controversial new measures, including restrictions on business hours, a nightly curfew, and school closures.
Kenya	→	COVID-19 preventative measures were extended for an additional 60 days in Kenya . Measures include a nightly curfew, a ban on public gatherings, and capacity limitations for religious services.
Tier 2 (Low Alert): Daily case incidence per 1M people/day is 5 to <20 and/or positivity rate is 3% to 5%		
Madagascar	→	Madagascar extended the national state of emergency for an additional 15 days. A nightly curfew remains in place, from 0:00 to 4:00, and gatherings of more than 400 people are prohibited.
Tier 1 (Standard Precautions): Daily case incidence per 1M people/day is <5 and/or positivity rate is <3%		
Guinea-Bissau	↓	Authorities in Guinea-Bissau extended the nationwide state of alert until 8 July, which includes measures such as mandatory use of facemasks in public, capacity restrictions for funeral services, and closure of nightclubs and gyms.
Nigeria	↑	Nigeria restricted travel from Uganda, South Africa, Zambia, and Rwanda to prevent transmission of the Delta variant.

NEW Africa CDC Response Activities

General:

1. Dr. John Nkengasong, Director of Africa Centres for Disease Control and Prevention (Africa CDC), hosted Africa CDC’s weekly press briefing on Thursday, 1 July 2021. He was joined by Mr. Strive Masiyiwa, African Union Special Envoy on COVID-19. They discussed Africa CDC’s response activities and the rollout of COVID-19 vaccines in AU Member States. The recording is available on the [Africa CDC Twitter page](#).
2. As of 5 July 2021, 51 out of 55 African Union Member States have started COVID-19 vaccination campaigns targeting priority populations. Cumulatively, over 49.6 million doses have been administered, and over 36.5 million persons have received at least one dose of the COVID-19 vaccine. Tanzania, Saharawi Republic, Eritrea, and Burundi are the four AU Member States yet to start the COVID-19 vaccine rollout. More information on COVID-19 vaccination can be found on the [Africa CDC COVID-19 vaccine dashboard](#).

Laboratory:

1. Over 53.6 million tests for COVID-19 have been conducted in Africa since February 2020. The cumulative positivity rate and test per case ratio are 10.6% and 9.5, respectively. For Epi week 26, a total of 1,374,150 new tests were conducted, a 0.3% increase compared to Epi week 25 when 1,370,413 tests were conducted.
2. Africa CDC and the Africa Centre of Excellence for Genomics of Infectious Disease (ACEGID) in Nigeria, conducted a training on SARS-CoV-2 sequencing for 17 participants from 12 Africa Union Member States. The training was conducted in Nigeria from 22 June to 3 July 2021.
3. On 28 June 2021, Africa CDC in collaboration with Global Health Systems Solutions (GHSS) and Rockefeller Foundation conducted a two day training for 89 participants on antigen testing for SARS-CoV-2 in the Republic of Congo.

Healthcare Preparedness and Medical Countermeasures:

Case Management

1. Africa CDC supported Liberia to conduct an in-person training Master Training of Trainers (ToT) on COVID-19 clinical management for 30 clinicians. The training was held between 1-3 July 2021.

Infection, Prevention and Control (IPC)

1. Africa CDC facilitated a Step down training in Guinea for 25 health care facility managers on "Infection, Prevention and control (IPC) for COVID-19". The training was conducted from 28 to 30 June 2021.

Sciences, Standards and Regulations:

1. Access the biweekly COVID-19 Scientific and Public Health Policy Update on the [Africa CDC website](#).
2. Subscribe [here](#) to receive the weekly Partnership for Evidence-Based Response to COVID-19 (PERC) update and all other products, or visit the [PERC](#) and [Africa CDC website](#).

Recommendations for the Member States

1. Member States should continue to enhance their COVID-19¹⁷ surveillance efforts to include:
 - a. Syndromic surveillance for influenza-like illness (ILI) and severe acute respiratory infections (SARI).¹⁸
 - b. Rapid mortality surveillance includes collection, analysis and the use of all-cause mortality data collected through the facility- or community-based surveillance.¹⁹
 - c. Genomic surveillance²⁰ to monitor the presence of variants, the spread and the continuous evolution of the virus.
2. Member States should continue to perform contact tracing²¹ of confirmed cases based on transmission type and country capacity and enhance diagnostic screening efforts using the rapid antigen tests²².
3. All Member States should notify and routinely share data with WHO and Africa CDC regarding confirmed COVID-19 cases, deaths, recoveries, tests conducted and infected healthcare workers for updated information for action. Notify Africa CDC by emailing: AfricaCDCEBS@africa-union.org.
4. Member States should continue to guide the general public about seeking immediate medical care for those who develop severe symptoms (e.g. difficulty breathing).
5. Member States should put in place or strengthen existing public health and social measures if COVID-19 incidence starts to rise.²³

Resources for more information

- Africa CDC COVID-19 updates: <https://africacdc.org/covid-19/>
- Africa CDC Resources, policy guidelines, and infographics: <https://africacdc.org/covid-19/covid-19-resources/>
- Partnership for Evidence-Based Response to COVID-19 (PERC) <https://preventepidemics.org/covid19/perc/>
- WHO. Technical Guidance. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance>

¹⁷ [WHO COVID-19 Case definition](#)

¹⁸ Africa CDC Protocol for enhanced surveillance for COVID-19 in Africa: [Protocol for Enhanced Severe Acute Respiratory Illness and Influenza-Like Illness Surveillance for COVID-19 in Africa – Africa CDC](#)

¹⁹ Revealing the toll of COVID-19: A technical package for Member States – Africa CDC

²⁰ Genomic sequencing of SARS-CoV-2: a guide to implementation for maximum impact on public health

²¹ Africa CDC Guidance on Contact Tracing for COVID-19 Pandemic: <https://africacdc.org/download/guidance-on-contact-tracing-for-covid-19-pandemic/>

²² [Interim Guidance on the Use of Rapid Antigen tests for COVID-19 Response – Africa CDC](#)

²³ [Recommendations for Stepwise response to COVID-19 – Africa CDC](#), [COVID-19 guidance for educational settings – Africa CDC](#), [COVID-19 guidance for the transportation sector – Africa CDC](#)