

## **EPHI, NATIONAL DATA MANAGEMENT CENTER FOR HEALTH (NDMC):- QUICK UPDATE ON COVID-19, 064<sup>th</sup>**

### **This update summarizes:**

- **Ethiopia's Covid-19 Situation Updates**
- **Global and Regional Burden Of Covid-19**
- **COVID-19 Results Briefing Ethiopia**
- **Animal models of SARS-CoV-2 transmission**

## **Ethiopia's Covid-19 Situation Updates**

- Since the last brief (24 June 2021), 672 new confirmed corona virus disease 2019 (COVID-19) cases and 28 new deaths have been reported nationally. To date, a total of 276,174 COVID-19 cases and 4,320 related deaths (case fatality rate (CFR): 1.56, which is similar compared to the last week's rate) have been reported from 9 regions and 2 city administrations in the country. Compared to the cases and deaths reported a week ago, the national cumulative case and death reported this week remained nearly stable without increment.
- There are 11,625 active cases currently, of which 145 (1.25%, slightly reduced rate compared to last week's report) of them are critical. The number of active cases and critical cases have shown reduction by 2,983 and 42 cases respectively compared to the last week. So far 260,372 cases have recovered from COVID-19, out of which 3,585 recoveries were over the last one-week period which increased by 1% compared to the last week.
- The proportion of active cases among the total cases so far has decreased by around 1.1% while that of recoveries increased by the similar rate compared to the last week. However, the proportion of death remained nearly the same over the last one week period (Fig 1).

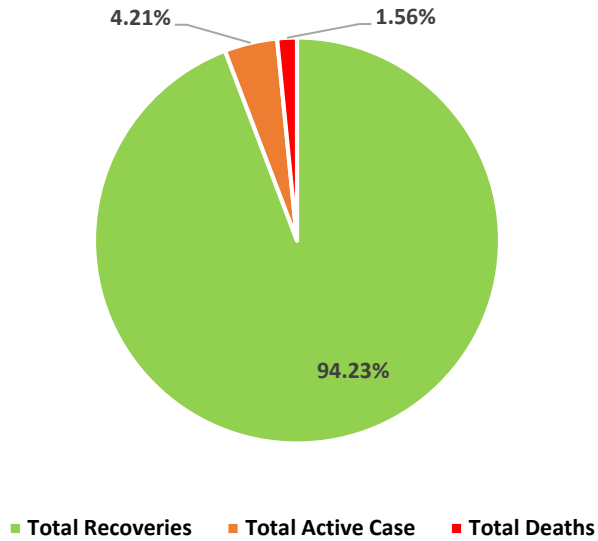


Fig 1: Proportions of active cases, recoveries and death as of June 24, 2021.

- The total number of tests done to date is 2,866,572. Among 31,230 laboratory samples tested over the last one-week duration, 597 of them tested positive for COVID-19, yielding a positivity rate of 1.9%; showing a 0.4% reduction from the last week’s positivity rate.
- The distribution of cumulative cases indicate Addis Ababa, Oromia and Amhara regions took the lead sequentially in total case load. Over the last 7 days, only Addis Ababa reported few hundreds of cases. The rest top reporting regions, Oromia, Tigray and Amhara regions reported less than hundred. While Addis Ababa accounts for 54.6% of new cases over the last one week, The four top reporting (Addis Ababa, Oromia, Tigray and Amhara) regions account for 93.8% of new cases identified over the week time (fig 2).

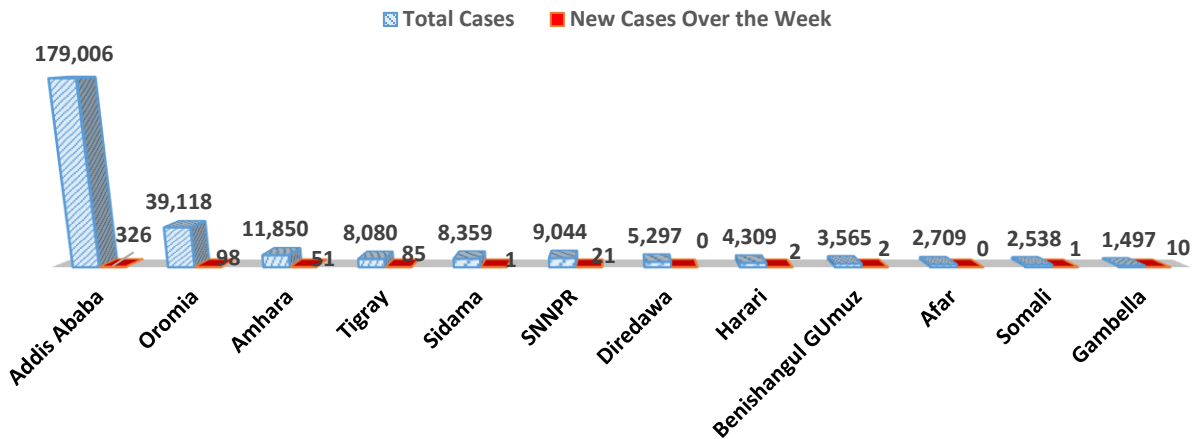


Fig2: Total cases and new cases (over a week time) by region based on available reports.

## Case Management and Infection Prevention Control (Ipc)

- This week, June 25- July 1, 2021, there are 3585 newly recovered cases bringing the total number of COVID-19 recovered cases to 260, 372.
- There are 145 patients in severe condition as of July 1, 2021, and all the other patients are on medical care in stable condition.

## Home Based Isolation and Care (HBIC)

Since Home Based Isolation and Care (HBIC) is started in Ethiopia:

- A total of 204,320 COVID-19 confirmed cases are followed in the HBIC as of July 1, 2021
- 203, 324 of them have recovered in the HBIC as of July 1, 2021.
- 2,258 cases are currently on HBIC.
- 32 COVID-19 related deaths have occurred in the HBIC.
- 2,191 cases have been transferred from treatment centers to HBIC.
- 897 cases have been transferred from HBIC to treatment centers.

## EPHI and FMOH COVID 19 response highlights of the week /trainings and supply

- There is the on-going distribution of PPE, Viral Transport Media (VTM), swabs, pharmaceuticals, and other medical supplies to isolation and treatment centers.

### References

1. *Public Health Emergency Operations Centers (PHEOC), Ethiopia.*
2. [https://twitter.com/lia\\_tadesse](https://twitter.com/lia_tadesse).
3. <http://www.covid19.et/covid-19/>.
4. *EPHI's PHEM daily COVID-19 SITREP report.*

## Global and Regional Burden Of Covid-19

- Globally the total number of cases is extended to 182,963,152 as of July 1, 2021. A total of 167,545,148 cases recovered and 3,962,391 people died since the beginning of the outbreak. Globally, in a week time, from June 24 to July 1, 2021, COVID-19 cases increased by 1.4% and deaths by 1.4%. In the past week, Asia is the leading in terms of cases followed by Europe and North America. Europe continued to be became a lead in terms of the number of deaths followed by South and North America (Table 1).

Table 1. Global cases and deaths reported as of July, 2021.

	<b>COVID cases</b>	<b>Weekly % change</b>	<b>deaths</b>	<b>Weekly % change</b>
Global	182,963,152	1.4	3,962,391	1.4
Europe	47,980,412	0.8	1,102,696	0.7
North America	40,610,334	0.5	918,218	0.4
Asia	55,834,958	1.8	791,871	2.2
South America	32,908,215	2.6	1,004,956	2.3
Africa	5,554,034	4.2	143,355	2.8
Oceania	74,478	2.9	1,280	0.6

- USA has recorded the highest number of cases 0.3% (34,449,004 to 34,543,991 cases) and 0.3% (618,294 to 620,234 deaths) that accounts 18.9% of the total global cases and carried 15.7% of global deaths as of July 1, 2021, showed declining trend.
- India is the 2<sup>nd</sup> highest in terms of cases in a week time by 1.1% (30,082,169 to 30,410,577) and deaths by 1.9% (392,014 to 399,475).
- Brazil became the 3<sup>rd</sup> rank worldwide with increased number of cases in a week time by 2.1% (18,170,778 to 18,559,164) and the 2<sup>nd</sup> by deaths with 2.2% (507,240 to 518,246).
- Ferance ranked 4<sup>th</sup> globally with 5,775,301 cases and 111,082 deaths.
- Russia ranked 5<sup>th</sup> globally with 5,514,599 cases and 135,214 deaths replacing Turkey.
- The line share of Africa to the global COVID-19 pandemic was 3% and 3.6% of the global cases and deaths as of July 1). The cases in the continent have increased by 4.2% in a week time (139,506 to 5,554,034 cases). Similarly, the total number of deaths in Africa has increased from 136,254 to 143,355 showing 2.8%. Total recoveries stand at 4,846,181.
- South Africa is the leading in the continent with 1,973,972 cases and 60,647 deaths. Morocco (531,361 cases, 9,296 deaths), Tunisia (420,103 cases, 14,959 deaths), Egypt (16,169 cases, 16,169 deaths) and Ethiopia continued to be the 5<sup>th</sup> rank with (276,174 cases, 4,320 deaths). These are the most four leading countries next to South Africa in reporting COVID-19 cases in Africa. (See table below).

Table 2: Cases and deaths reported in selected African countries as of July, 2021.

Africa	June 24		July 1	
	Cases	Deaths	Cases	Deaths
South Africa	1,861,065	59,258	1,973,972	60,647
Morocco	527,696	9,254	531,361	9,296
Tunisia	391,411	14,318	420,103	14,959
Egypt	278,761	15,967	281,282	16,169
Ethiopia	275,502	4,292	276,174	4,320

- In East African, COVID-19 cases and deaths have shown fast progress. As of March, Ethiopia and Kenya continued to be the major drivers of the COVID 19 burden in east African countries.

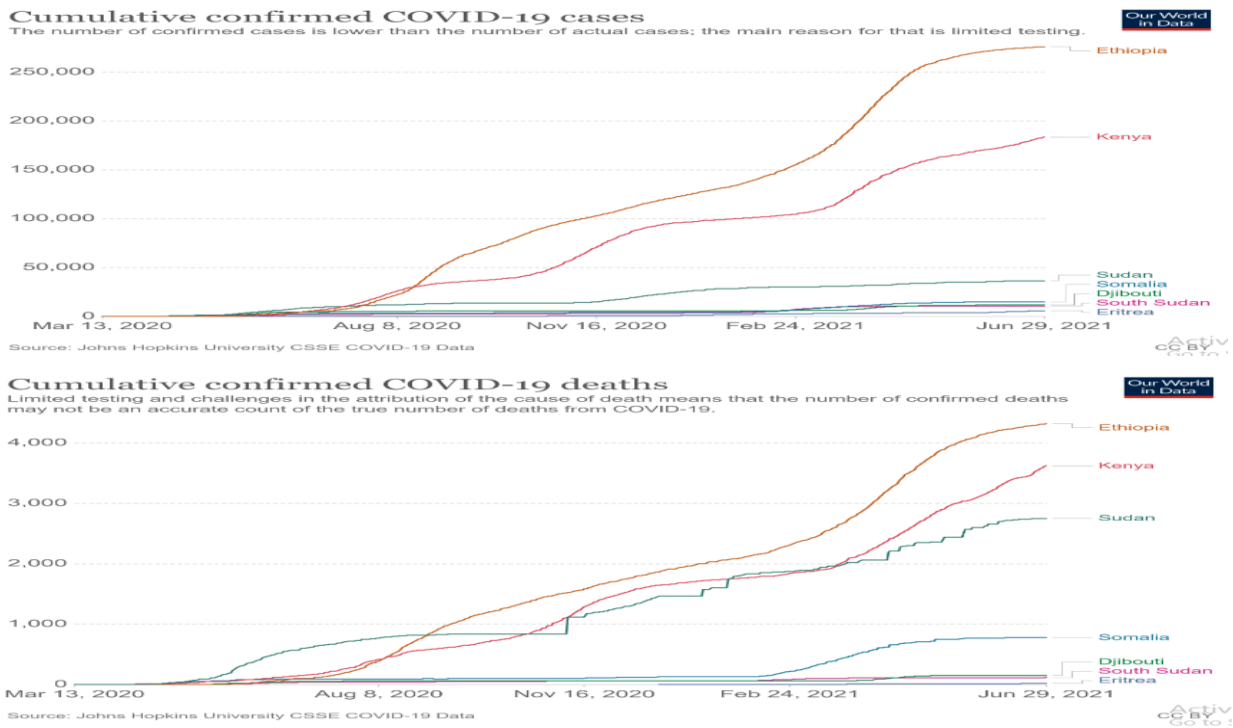


Figure3: The burden of COVID-19 in Eastern African countries.

**References**

1. John Hopkins, Corona Virus Resources <https://coronavirus.jhu.edu/map.html>
2. Worldometer, Corona Virus <https://www.worldometers.info/coronavirus/>
3. Africa CDC: COVID 19 Surveillance; <https://au.int/covid19>
4. Our World: <https://ourworldindata.org/covid-cases>

# COVID-19 Results Briefing Ethiopia

- This document contains summary information on the latest projections from the IHME model on COVID-19 in Ethiopia. The model was run on June 23, 2021 with data through June 21, 2021. Current situation

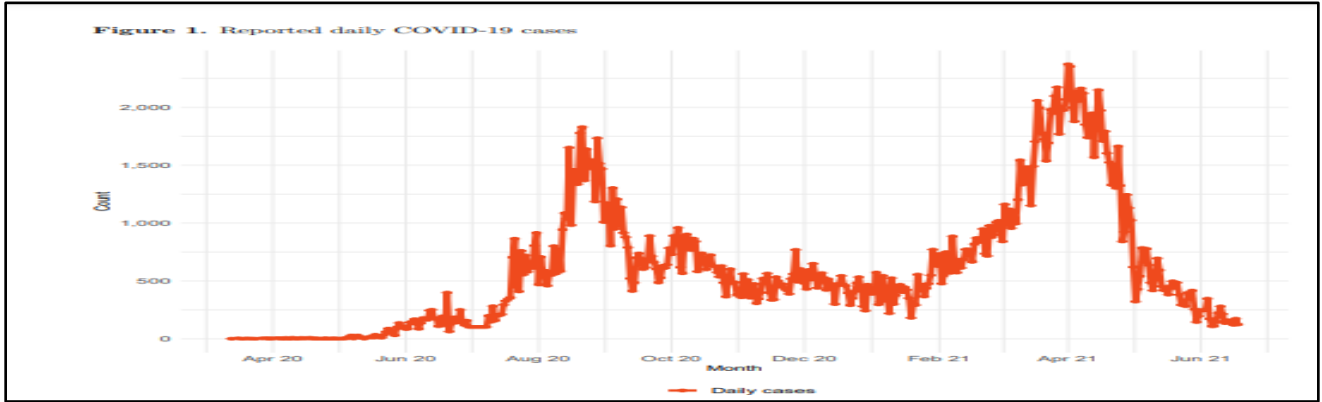


Figure 4: Daily reported cases in the last week (through June 18) decreased to 140 per day on average compared to 180 the week before

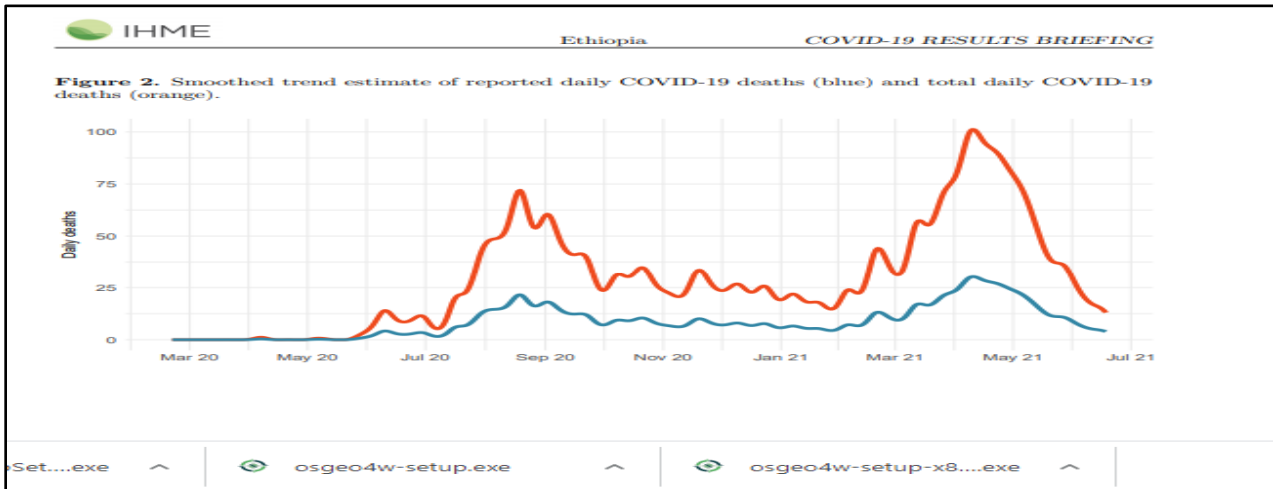


Figure 5: Daily deaths in the last week decreased to 13 per day on average compared to 17 the week before

Table 3: Estimated total daily COVID-19 deaths were 3.3 times larger than the reported number of deaths. This makes COVID-19 the number 24 cause of death in Ethiopia this week

**Table 1.** Ranking of COVID-19 among the leading causes of mortality this week, assuming uniform deaths of non-COVID causes throughout the year

Cause name	Weekly deaths	Ranking
Neonatal disorders	1,489	1
Diarrheal diseases	976	2
Lower respiratory infections	890	3
Stroke	590	4
Tuberculosis	575	5
Ischemic heart disease	546	6
HIV/AIDS	511	7
Cirrhosis and other chronic liver diseases	438	8
Congenital birth defects	276	9
Malaria	252	10
COVID-19	93	24

**Figure 5.** Estimated percent of the population infected with COVID-19 on June 21, 2021

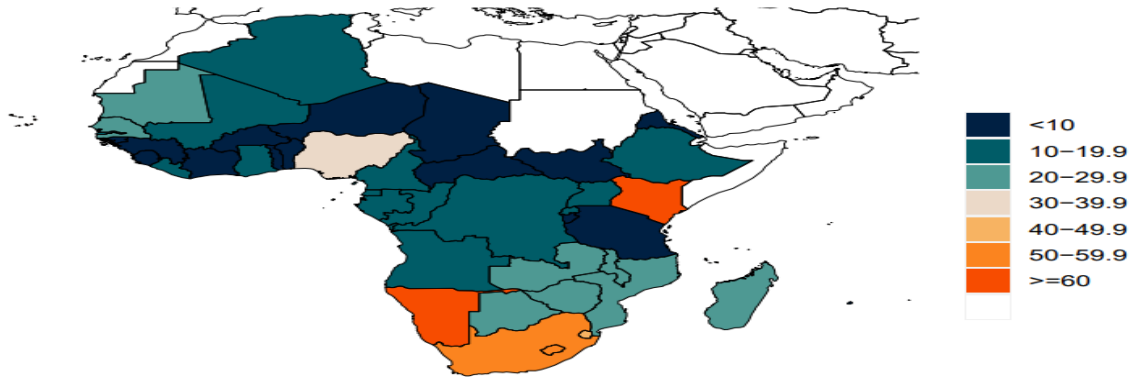


Figure 6: Institute for Health Metrics and Evaluation estimated that 20% of people in Ethiopia have been infected as of June 21

Effective R, computed using cases, hospitalizations, and deaths, is greater than 1 in 34 countries. The Effective R in Ethiopia on June 10 was 0.89. The infection-detection rate in Ethiopia was close to 1% on June 21. This is nearly similar to last week COVID-19 update report of COVID - 19 cases were 1.44% (3,961 to 275,502), death, 2.96% (127 to 4,292), and recovered 7.03% (18,053 to 256,787) respectively

**Reference**

1. COVID-19 Results Briefing, June 24, 2021 of Institute for Health Metrics and Evaluation:- [covid19.healthdata.org](https://covid19.healthdata.org)

## **Animal models of SARS-CoV-2 transmission**

- SARS-CoV-2 is a zoonotic virus that is thought to have emerged from bats. Human-to-human transmission of SARS-CoV-2 is the major driver of the pandemic.
- Since the majority of COVID-19 outbreaks occurred in household settings or events involving clusters of people in close contact, it is thought that SARS-CoV-2 is primarily transmitted via direct, indirect or close contact with infected individuals through contaminated secretions like saliva, respiratory droplets and aerosols.
- In addition to respiratory transmission, viable SARS-CoV-2 has been demonstrated in urine and stool specimens obtained from infected humans, but transmission via the fecal-oral route is thought to be of limited relevance in the spread of the virus among humans.
- SARS-CoV-2 RNA can be detected by RT-PCR on nasopharyngeal swab material 1-3 days before symptom onset, with peak values around symptom onset, followed by a gradual decline over time
- Transmission by individuals without symptoms was already suspected early in the pandemic. Two transmission ‘types’ can be distinguished: transmission by asymptomatic or by pre-symptomatic individuals. The true extent of asymptomatic infections is still unclear, but a recent systematic review and meta-analysis estimated the proportion of truly asymptomatic cases to be 1 in 6 infections.

## **Emergence of other zoonotic coronaviruses**

- Two other zoonotic coronaviruses recently emerged to cause outbreaks in humans.
- In 2003 SARS-coronavirus emerged from bats, most likely via infection of palm civets as intermediate host. The outbreak was associated with high case-fatality rates. However, in contrast to SARS-CoV-2, SARS-CoV proved to be only moderately transmissible among humans. This was probably due to the fact that viral excretion peaked relatively late, around 10 days post symptoms onset, leading to a predominant occurrence of transmission in the second week of illness.
- In 2012 another zoonotic coronavirus was identified as the causative agent of a cluster of severe respiratory tract disease patients in the Middle East and was named Middle East Respiratory Syndrome (MERS)-coronavirus. Dromedary camels were identified as intermediate host and it is thought that the virus likely originated from bats. Although



MERS-CoV rapidly spread globally, it is generally regarded less human-to-human transmissible than SARS-CoV or SARS-CoV-2.

### **Animal models to study coronavirus transmission**

- Natural SARS-CoV-2 transmission in animals has been described in companion animals (*e.g.*, cats and dogs) and on mink farms.
- Experimental animal transmission models remain limited to the cat, ferret and hamster model. Although it has been shown that rabbits are susceptible to experimental SARS-CoV-2 infection, given the high dose needed to establish productive infection, transmission of the virus from rabbit-to-rabbit is unlikely.

### **Human-to-animal transmission**

- Naturally occurring human-to-animal transmission was already reported during the SARS-CoV outbreak in 2002/2003.
- Viral RNA was detected in oropharyngeal swabs obtained from cats after contact with infected individuals, and infections were confirmed serologically. Susceptibility of cats was subsequently confirmed experimentally. Due to these reports, several studies performed in Hong Kong describe swabbing of companion animals in close contact with confirmed COVID-19 cases.
- Here, household transmission to dogs and cats was observed, but in most cases infected animals remained asymptomatic. This remains to be determined for emerging variants. Experimental infections confirmed susceptibility of cats, but dogs proved poorly susceptible
- In conclusion, SARS-CoV-2 transmission and transmission intervention studies in animal models remain scarce and have mostly been performed with the classical variant of SARS-CoV-2

### **Reference**

1. *Rory D de Vries, Barry Rockx, Bart L Haagmans, Sander Herfst, Marion PG Koopmans, Rik L de Swart, Animal models of SARS-CoV-2 transmission, Current Opinion in Virology, 2021, <https://doi.org/10.1016/j.coviro.2021.06.007>.*