

In a bid to maintain tighter control against the spread of Covid-19 in Rwanda, sniffer dogs are being deployed to detect suspected cases for faster response to the pandemic.

In this East African country, detector dogs – stationed at Kigali International airport – have become the newest front line detectors in supporting efforts to control Covid-19's spread by detecting the virus among passengers.

The trained dogs detect the Covid-19 under the supervision of their handlers, in a pilot project alongside more usual testing at Kigali International airport.



The move comes at time the World Health Organisation (WHO) has already warned that temperature screening, which was until recently the most common practice in Rwanda and several other countries in detecting Covid-19 cases, could yield false positives and is not effective for those who are asymptomatic.

Complement existing innovations

The “Odor identification of Covid-19 using dogs” was adopted in December 2020 from Germany and Finland where the dogs are conditioned to scent out the “Covid-19 ” that comes from cells in infected people.

The initiative which is supervised by Rwanda Biomedical Center (RBC) is being implemented to complement other existing innovations with digital tools to enhance community testing with a view to easing lockdown measures and enabling people to get back to work.

“The deployment of sniffer dogs to detect suspected cases of COVID-19 is part of national efforts to tackle this unprecedented crisis with the available resources, “said Dr Sabin Nsanzimana, the Director General of RBC, referring to the situation in Rwanda.



Rwanda's current efforts to control the spread of virus has focused on the development of various testing capacity but sniffer dogs are now being deployed in public places where mass testing are especially needed.

Strict supervision by dog handler

Although the effort started out small, with the existing trained sniffer dogs under Rwanda National Police's Canine Brigade, which were initially trained in detecting explosives and narcotic drugs, some of them have been retrained to detect suspected Covid-19 cases.

"These dogs have the ability to perform better under the supervision of experienced handlers," Dr Nsanzimana said.

Currently Rwanda National Police has three dog breeds: the German shepherd, the English springer spaniel and the Labrador retriever. Each of these breeds, according to the Assistant Commissioner of Police (ACP) Benoit Kayijuka, head of Canine Brigade, have their advantages that are based on either size or speed.

Covid-19 sniffers

Through a joint collaboration, these dogs are used to test for coronavirus in public places such as Kigali International Airport but health officials say this initiative to check for coronavirus will be expanded to cover bus stations and schools in the near future.

During an exclusive interview, Dr Jose Nyamusore, Division Manager in charge of Epidemic Surveillance and Response within the Rwanda Biomedical Center, said any breed could in theory be trained - a process that takes between two and 10 weeks - raising the prospect of canines joining an army of Covid-19 sniffers.

Sniffer dogs that normally look for explosives or drugs have been used previously to smell various cancers and hypoglycemia in diabetics. This medical application motivated veterinary scientists to research the potential ability of sniffer dogs to detect the new coronavirus.

In July 2020, Researchers in Germany found that army sniffer dogs can discern between samples from coronavirus-infected and healthy patients.

Scientists at the University of Veterinary Medicine Hanover found that trained sniffer dogs could be used to detect COVID-19 in human samples with a relatively high rate of accuracy.

Identifying patients at low cost

Eight sniffer dogs from the German Bundeswehr were trained for only a week to distinguish between the mucus and saliva of patients infected with coronavirus and non-infected individuals.

The dogs were then presented with positive and negative samples on a random basis by a machine.

The animals were able to positively detect SARS-CoV-2 infected secretions with an 83% success rate, and control secretions at a rate of 96%. The overall detection rate, combining both, was 94%.

In its conclusion based on more than 1,000 sniffed samples, published in the BMC Infectious Diseases journal, the team from the University of Veterinary Medicine Hanover said dogs could play a role in detecting infected individuals.

The method has been applied in many countries including Germany, Finland, the United Arab Emirates (UAE) , Chile and most recently in Rwanda being the first African country to introduce this innovative testing approach proved that dogs can identify Covid-19 patients at low cost.

These trained dogs, according to the Dr Nsanzimana are being deployed to boost the country's capacity to test Covid-19 and complements ongoing efforts to contain effects of the pandemic.

"We are emphasizing to deploy many sniffer dogs as it can possibly handle as part of these prevention and control efforts," he said.

Before being deployed, each medical detection dog should have passed the first training, it moves on level two of obedience which is followed by a joint training with its handler.

"These dogs are well trained and we are now trying to use them to identify travelers entering the country infected with the Covid-19," said a paramedical staff at Kigali International Airport speaking on condition of anonymity because he was not authorized to speak to journalists.

In addition to that, Rwanda National Police's Canine Brigade explains that sniffer dogs are also trained in detecting explosives and narcotic drugs.



According to Juvenal Marizamunda, the Deputy Inspector General of Police (DIGP) in charge of Administration and Personnel, using sniffer dogs for crime prevention and detection is one of the policing means that has proven successful all over the world.

“For sniffer dogs to operate, they must undertake rigorous training to give them the focus, discipline and skills required to achieve a specific task, depending on the purpose of training, for three roles: detection, tracking and patrol,” he said.

In Rwanda, sniffer dogs have also been introduced in Akagera National Park (East) to patrol poaching of endangered animal species as opposed to detection of wildlife products, technically referred to as trophies.

But with current efforts to control Covid-19 outbreaks, these trained dogs are being put to use in sniffing out asymptomatic and symptomatic patients (End)

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