

UNIVERSITY OF MALAYA JOIN COVID-19 TESTING BATTLE



Recently, diagnostic laboratories at public universities have been appointed to help the Ministry of Health in conducting 16,500 Covid-19 tests daily.

Prof. Dr. Sazaly Abu Bakar, the director of UM's Tropical Infectious Diseases Research and Education Centre (TIDREC) in addressing the pandemic, commented that universities can contribute beyond diagnostic testing.

TIDREC is the only national Higher Institution Centre of Excellence for infectious diseases. It houses the World Health Organisation's (WHO) Collaborating Centre for Arbovirus Reference and Research.

With extensive experience in research in tropical infectious diseases, especially in

arthropod-borne and emerging virulent pathogens, TIDREC can contribute in a meaningful way to the Health Ministry. TIDREC is equipped with the necessary instruments, biosafety protective equipment and the reagents, needed to carry out the testing. The facility is equipped to handle highly virulent pathogens, including the SARS-CoV-2 virus, the agent that causes Covid-19.

TIDREC has been involved in the development of anti-viral agents for dengue, chikungunya and Zika in collaboration with WHO for many years. Covid-19 may be a different virus, but all we have to do is develop a new set of protocols," said Prof. Dr. Sazaly, adding that TIDREC offers to test 100 samples a day for this initiative.

SUPPORTING OUR FRONTLINERS



One of the main ways medical workers get infected with the Covid-19 virus is when they come into close contact with infected patients while examining and administering breathing support machine to the patients.

Responding to the rising needs of doctors to prevent infection while treating patients, researchers from the UM Centre for Innovation in Medical Engineering (CIME) have taken the initiative to fabricate 54 intubation protective boxes (based on Lai's design) produced using 3D printing technology for our frontliners.

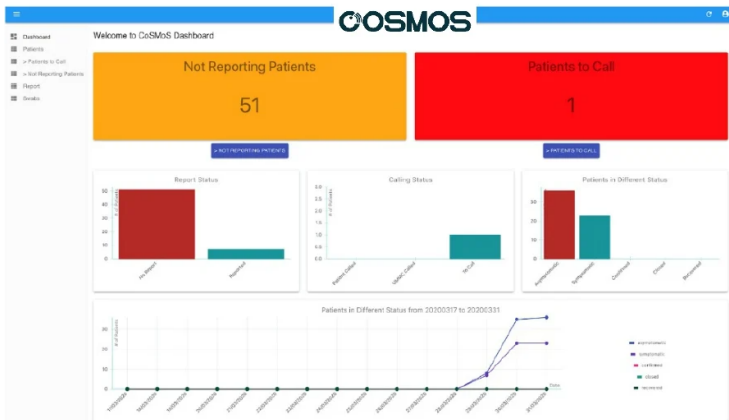
The innovative protective box named the 'aerosol box' was created by Lai Hsien-yung, an anesthesiologist with the Mennonite Christian Hospital in Hualien, Taiwan. The invention is able to help physicians perform endotracheal intubations safely on infected patients as it acts as a barrier between the doctor and infected patient.

Prof. Dr. Fatimah Ibrahim, the founder and advisor for CIME said the boxes were given to frontline healthcare personnel at UM Medical Centre (UMMC). The boxes were also delivered to hospitals in Sungai Buloh, Klang, Shah Alam, and Melaka.

CIME has been granted seed funding by the varsity to improve on the current design by incorporating more safety and ergonomic features to the box.

CIME has also assisted in obtaining the Medical Device Authority (MDA) exemption to bring in Real-time Polymerase Chain Reaction Covid-19 test kits for non-commercial use. The test kits will help ease the burden of laboratories that are running out of reagents to conduct tests. It will also save lab technicians' time as these kits allow them to do tests without the hassle of having to replicate new components for every patient.

COSMOS: UM DEVELOPS APP TO MONITOR SUSPECTED COVID-19 PATIENTS



A group of researchers at UM has developed the Covid Symptom Monitoring System (CoSMoS) to help medical staff monitor patients suspected of Covid-19 infection. The system has already been used at the Universiti Malaya Medical Centre (UMMC) to monitor individuals suspected of having contracted Covid-19 and those in home quarantine, and is expected to also be of use in monitoring medical teams exposed to Covid-19 patients.

CoSMoS is 100 percent produced by UM using a public messaging engine, artificial intelligence and web technology. It was developed by a team of Malaysian computer scientists at the faculty.

Currently, a large number of medical staff monitor these patients by making routine calls to them or visiting them at home. Through the CoSMoS application, the monitoring process will be automated and patients can insert their daily symptoms into CoSMoS, which would be transmitted to the CoSMoS primary system at UMMC where doctors can access real-time information through dashboards.

Through this system, medical staff would have to make calls to only 10 percent of patients in need of supervision, while the rest could be monitored through CoSMoS, thus allowing 80-90 percent of medical staff to perform other tasks such as contact tracing and screening.

CoSMoS would change the management of patients suspected of being infected with Covid-19 who are quarantined at home. CoSMoS also leverages existing technology to make it accessible to the majority of the community,

Datuk Prof. Dr. Adeeba Kamarulzaman, Dean of the Faculty of Medicine, who is also chairman of the UMMC Covid-19 Working Group, said CoSMoS – developed in eight days through a collaboration with Malaysian researchers in various countries – is still undergoing pilot testing at UMMC but has already received approval from the university's Medical Research Ethics Committee. All patients using CoSMoS have given their consent for their data to be used for clinical research and monitoring purposes.

PRODUCING HAND SANITISERS IN UM LAB



A group of researchers from Centre for Natural Products Research and Drug Discovery (CENAR), UM and Mr. Murali Prasad Y. Vandayar, Country Lead, The US State Department's Global Innovation Through Science and Technology (GIST) Movement collaborated to produce hand sanitiser following the difficulty in procuring the product in the market.

These hand sanitisers are produced using a simple dilution process. Denatured pharmaceutical grade ethanol is diluted and

added to a few other compounds. There are several universities producing these hand sanitisers in labs according to their laboratory capacity. UM, for instance, can produce up to 75 litres a day.

The idea is to set up a temporary hand sanitiser production facility in the campus. These hand sanitisers will then be distributed to areas outside the university and to high-risk areas near the university such as petrol stations, drive-throughs and restaurants.

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