

# Tales from the COVID-19 frontline



**Souha Kanj**  
ISAC Executive Committee  
Member / APUA Board Member  
American University of Beirut  
Medical University, Beirut, Lebanon

As of 10 June, Lebanon has reported 1,368 cases of COVID-19 with 2.2% mortality. Today the country is in partial lockdown. At the American University of Beirut Medical Center (AUBMC), we were very prompt in recognising the need to be prepared for the pandemic.

The following steps were taken. As Head of the Infectious Diseases Division and Chair of the Infection Control and Prevention Programme, I was appointed as a member of two taskforces—one formed by the leadership of the medical centre to prepare a COVID unit, and another formed by the AUB President to decide on issues related to students, employees and faculty members. Early decisions were taken about stopping all classes and minimising the number of employees on campus.

In the Medical Centre, together with a very dynamic Infection Control Prevention and Prevention team, we achieved the following:

1. Algorithms for triaging and testing in the emergency department were developed and updated daily.
2. A dedicated unit was prepared, physically separated from the main hospital, including an outpatient walk-in clinic, a medical ward staffed by infectious disease clinicians and a medical intensive care unit staffed by the pulmonary / critical care faculty members.
3. Reverse transcriptase polymerase chain reaction (RT-PCR) was acquired very early in the pandemic. To date, we have tested 7,000 cases, 98 of which were positive.
4. AUBMC treatment protocol was developed for management of COVID-19 infected patients including guidance depending on severity of illness and included antimicrobial and other required therapies.
5. Multiple educational videos were shared on social

media addressed to healthcare workers and lay people.

6. A video was developed with the help of the communication office on proper donning and doffing of PPEs.

7. A video was developed on mask wearing directives.

8. Protocols for re-sterilisation of the N 95 masks in view of the worldwide shortage with H2O2 and UV light.

9. Educational webinars addressed to medical doctors.

10. New flyers were developed on required COVID-19 precautions.

11. Developed educational leaflets for patients and visitors about the disease and the instructions for self quarantine.

12. Development of a resource website with useful information in both Arabic and English.

**DIRECTIVES FOR MASK WEARING FOR ALL AUBMC TEAM MEMBERS**

All team members are required to wear a face mask while working on one of our clinical premises.

This will help protect our team members and patients when it is hard to practice physical distancing.

1. Don mask by grabbing the elastics or ties.
2. Pinch the bridge of the nose.
3. Pull the mask under your chin.

**HAND HYGIENE**  
When you arrive to the clinical area, you will perform hand hygiene.

**MAKE DISPOSAL BAG**  
You should wear your mask for the entire shift.

**MAKE DISPOSAL BAG**  
Safely store your mask when you go outside, eat, drink or go to the bathroom.

**1**  
Before touching your mask, perform hand hygiene.

**1**  
You will be given one mask to wear. Take care of your mask each day.

**DISCARD MASK**  
You will only be provided a replacement if the mask is wet, damaged, or visibly soiled.

**DISCARD MASK**  
Discard your mask in the appropriate bin at the end of your workday.

Thank you for your support as we work to keep our team members and patients safe.



**Sam Kariuki**  
APUA Kenya Chapter Leader  
Kenya Medical Research  
Institute, Nairobi, Kenya

Currently, our Kenya Medical Research Institute (KEMRI) team is involved in supporting the Ministry of Health with testing suspected cases of COVID-19. Our team is spread across five labs with capacity for reverse transcription polymerase chain reaction (RT-PCR). Over 46,500 have been tested so far and we aim to do more once rapid testing kits are available. In the last four weeks, we have embarked on sampling disease hotspots in community-based testing so we can establish the extent of infection in these settings.

Our team is also involved in providing technical support for validation and evaluation of PCR and RDT kits imported into the country.



**Peg Riley**  
**APUA Board Member**  
**University of Massachusetts, Boston,**  
**MA, USA**

The COVID-19 situation in my home state of Massachusetts is 103,000 confirmed cases, 78,000 recovered and 7,316 deaths as of 8 June. As an academic, the greatest immediate impact of COVID-19 was the rapid transition to an online learning environment. The faculty scrambled to pull together the technologies and course materials to permit us to re-engage our students as quickly as possible. The first two weeks of online teaching focused primarily on student support and conversations about the virus and how students could educate their family and friends about the guidance materials being provided by the Centres for Disease Control and Prevention (CDC) and state and national government offices. I was delighted when several students proposed to help develop COVID-19 mitigation strategies. I sponsored their application to engage in the Johns Hopkins CBID COVID-19 Design Challenge and they were one of 230 teams chosen out of an astounding 515 team applications from 35 countries around the world! The team spent ~14 hours a day over the four-day competition focused on addressing the challenge of handwashing in regions under drought conditions and with limited access to soap. Their proposed solution was to use tea leaves and clay, both readily available in the target regions and with a substantial body of evidence of efficacy in eliminating viral particles from the skin. I cannot describe how proud I was that, in the midst of the confusion and anxiety of social isolation, they chose to remain connected to other scientists and health care workers and devote their considerable energy, enthusiasm and empathy to help others experiencing far more challenging lives. Finally, our university has been coordinating efforts to help hospitals in our community obtain PPE. One highly successful effort employed 3D printing to create face shields that were deployed across the state.



**Minggui Wang**  
**ISAC Executive Committee Member**  
**Huashan Hospital, Fudan**  
**University, Shanghai, China**

Up to 12 April (the time of writing), China had 83,485 confirmed COVID-19 cases with 1,280 imported cases, 3,349 died, 78,038 cured and 2,098 are currently in hospitals for treatment with 139 severe cases. Currently, less than ten new confirmed cases of Chinese residents are reported each day in the mainland of China, but there are 10 - 100 imported new cases each day. Now, most people can go back to work and some schools have reopened, although people are required to wear masks when they go out and when in a room with other people.

As an ID specialist, I have participated in the management of COVID-19 in Shanghai for more than two months in several areas. First, I had to give up Chinese Spring Holidays and participate in the diagnosis and treatment of COVID-19 directly in the hospital in which I work. Second, I frequently communicate with leaders and professionals of the hospital to develop and update strategies for the management of COVID-19. Third, as the director of the department, I arrange the work of colleagues during this extraordinary time: two colleagues were dispatched to Wuhan for combating COVID-19; one colleague was dispatched to Shanghai Public Clinical Center where confirmed COVID-19 patients are treated; two colleagues are responsible for infection control in two campuses of the hospital; and eight colleagues participate in the diagnosis of COVID-19 in the fever outpatient clinic which is open 24 hours per day.

**Matthew Dryden**

**ISAC Executive Committee Member**

**Hampshire Hospitals, Winchester & University of Southampton; Public Health England, Porton, UK**

**April 2020:** I work in two organisations – one of which is the Rare and Imported Pathogens Department in Porton Down where we continue to run the Imported Fever Service. At the moment the most imported fever is COVID-19! I had a case from Southern Sudan yesterday! We are also validating COVID-19 testing technologies for the UK there. My other role is in infection and microbiology at the Hampshire Hospitals. We run a large lab in Basingstoke, but I am on clinical duty in Winchester for the next three days until Easter Sunday. We have hot wards and ICU for COVID patients on one floor, and non COVID patients elsewhere. I am just off to do a ward round. We have about 40 non-ventilated COVID patients today and eight ventilated ones. We are hoping to start a trial of Reactive Oxygen spray with the aim of reducing nasopharyngeal viral load and reducing transmission in patients, staff and contacts. Stay safe everyone.





**Sade Ogunsola**  
 ISAC Executive Committee Member  
 University of Lagos  
 Lagos, Nigeria

On the 28 February, Nigeria recorded her first case of COVID-19. The Nigerian Centre for Disease Control (NCDC) was notified, and the patient was immediately transferred to an isolation unit in Lagos and his contacts monitored. As of 8 April, Nigeria had recorded 276 laboratory confirmed cases with six deaths. Contrary to the situation in Europe and America, the patients we have seen so far are mostly between the ages of 19—59 years old and have not required ventilation. States with a high number of cases are on lockdown which includes Lagos state where I live, and which is the epicentre of this disease in Nigeria. There is panic in the country even amongst healthcare workers. Healthcare workers in many states in Nigeria believe they must wear full coverall to be safe and we have our work cut out getting them to realise they don't need that. The virus is spreading across the country and many states are setting up isolation facilities for COVID-19 for which we are assisting with technical advice.

I am representing Infection Control Africa Network (ICAN) on the Steering Committee of the Technical Working Group for infection prevention and control (IPC) of the NCDC and African Centres for Disease Control and Prevention to strengthen human capacity in IPC by developing locally appropriate content for IPC training across Africa. ICAN is also an implementing partners to deliver this training. We have trained healthcare workers, case managers as well as port health workers in 38 African countries. We are also providing technical assistance on contextualising guidance documents for the African continent. In a personal capacity, I sit on the COVID-19 strategic committee of Ondo state and on the Lagos state COVID-19 Research Steering Committee which is driving the research agenda for the state. I also provide technical support on IPC to the Lagos state response team and Think Tank. One major issue we continue to have is in the area of personal protective equipment. We are also preparing for the explosion of cases by beginning the strengthening of IPC at primary healthcare level.



**Ray Saginur**  
 ISAC Executive Officer / APUA  
 Board Member  
 Ottawa Hospital, Ottawa, ON,  
 Canada

Having retired from clinical practice just over a year ago, I anticipated a deceleration of my professional activities. I migrated to an almost full time position in the Ottawa Hospital Research Institute, chairing the research ethics board.

I described my situation immediately before the pandemic as an unsuccessful attempt at reducing my work to part time.

The pandemic has been an opportunity to link my infectious disease networks to my institute. I have been facilitating research, working on institutional priorities (clinical, research), guiding investigators in a variety of disciplines, from cardiology to bariatric medicine to surgical specialties to psychology. There has been a brisk and fascinating response from our research community to address immediate and longer term issues. My involvement has ranged from international, to national, regional and local. I am now working most of my waking hours.

COVID-19 started in earnest in Canada in late March and has expanded tremendously, about 100,000 cases at the time of writing this (10 June) (over 2500/million population), and is now apparently declining. Most deaths were of the elderly in chronic care. We were running about two weeks behind western Europe and the impact much less intense thus far than the U.S. or Europe. There was an anticipated surge of importation in mid-March, with returning travellers mostly from warmer climes, more or less concurrent with the imposition of distancing measures. At this stage, new cases are all locally acquired. Although Canada has low population density overall, the great majority is in a few centres, so most of the disease and response is urban. The remote North, once it is hit in earnest, is anticipated to suffer particularly, in view of domestic overcrowding, high endemicity of co-morbidities increasing risk, limited capacity to respond, and precarious logistics.



**Heiman Wertheim**  
**ISAC Executive Committee Member /**  
**APUA Board Member**  
**Radboud University Medical Center,**  
**Nijmegen, the Netherlands**

I am a medical microbiologist and Head of the Radboudumc Center for Infectious Diseases. Everyday, I work side by side with a multidisciplinary team in Radboud University Medical Center to deal proactively with the coronavirus crisis in my region and as an academic center to add new insights to COVID-19.

Before the first COVID-19 case was reported in the Netherlands in February, I was on a skiing trip with my family in the French alps. From the slopes, I would be on the phone with our hospital leadership to kick start a crisis team to be well prepared once SARS-CoV-2 turned up. In my current role as one of the two Chairs of the Infection Outbreak Team, it is a key responsibility to prepare and adapt our hospital to the daily changing coronavirus landscape for the benefit of our patients and healthcare workers.

We have a well-organised crisis team structure with an overarching team where big issues are discussed and policies are made. At the same time, I am also head of the Medical Microbiology Department, which includes the Infection Prevention and Control (IPC) team. The IPC teams in the Netherlands are usually organised within medical microbiology departments which has resulted in an active IPC society in the Netherlands. For instance, the low antibiotic resistance rates in the Netherlands are partly a result of that.

To deal with COVID-19 we needed to scale up the infection control team with medical students (to great satisfaction!), deal with shortages in testing capabilities (reagents and plastic ware) and shortages in masks, gowns, and many other important supplies. At the moment, we see that COVID-19 numbers are declining, except those requiring intensive care, and we have started to downscale the cohorting departments for COVID-19 patients. We used cohorting as it allows us to be more sustainable in the number of staff required



**View from Radboud University Medical Center.**  
 Translates as "Thank you Superstars"

and decrease the use of protective gear for healthcare workers.

Like everywhere in the world, the shortages in many critical supplies is a major issue. It is an ongoing hunt to have sufficient protective gear like masks to protect doctors and nurses. There has been some controversy regarding safety of surgical masks versus N95 masks. In the Netherlands we find surgical masks (type IIR) are safe for non-aerosol generating care.

Furthermore, we have an Innovation Lab where we look for alternatives and are able now to produce our own face shields. We have mitigated the increased use of masks by specifying in more detail the indications and prolonged wearing of N95 and surgical masks. We found in day to day practice that for non-aerosol generating procedures we could safely use surgical masks (IIR) in caring for COVID-19 patients.

Besides the concerns we have on how COVID-19 impacts society, it is also a heart-warming experience. It is amazing to see how flexible, creative and focused everyone is. There is a very good harmony and I really experience this also as a very special and warm time. Great team building moment!



**Kumud Kafle**  
**APUA Nepal Chapter Leader**  
**Tribhuvan University,**  
**Kathmandu, Nepal**

As of 8 June, the COVID-19 situation in Nepal is as follows:

1. Total confirmed cases ( PCR test): 3,762
2. Total number of PCR test done: 100,971
3. Deaths: 14
4. Total discharged: 488

Of the total positive cases, six have a flight history by four different airlines from different sectors. Two cases have travel history from India by train and bus. One case has no travel history. Of the nine confirmed cases, one case has been discharged after treatment, the remaining patients are receiving treatment in different hospitals.



**Pierre Tattevin**  
**APUA Board Chair**  
**Centre Hospitalier Universitaire**  
**de Rennes, Rennes, France**

As of 16 April 2020, France seems to be slowly recovering from a devastating wave that affected at least 108,000 people (cumulative number of documented cases), and killed more than 15,000. Healthcare workers have faced situations they never thought possible, in terms of workload, staff and drugs shortages, and saturation of intensive care resources.

Sadly, antimicrobial stewardship (AMS) has been totally neglected in most settings, as the situation has left limited space for clinical reasoning. In addition, efforts on microbiological tests have been concentrated on the diagnosis of SARS-CoV-2 infection, and many laboratories had to interrupt some of their routine activities, including rapid diagnostic tests of bacterial infections, and drug susceptibility testing. The French Society of Infectious Diseases, together with other scientific societies, and the High Council of Public Health, issued guidelines for the appropriate use of antibiotics in COVID-19 patients, but these guidelines were probably poorly implemented, due to lack of communication, and lack of time. In this dreadful situation of overwhelmed healthcare systems, any suggestion that antibiotics may help to improve the condition of a worsening patient was immediately followed by antibiotic prescription, despite accumulating evidence that COVID-19 patients rarely suffer from bacterial superinfection during the first two weeks of illness.

Another collateral damage of the COVID-19 outbreak was the sub-optimal management of other infectious diseases, as any fever was first suspected as COVID-19. We all experienced erratic trajectories of patients with classical and easy-to-diagnose infectious diseases, but delayed diagnosis due to the time spent in the COVID-19 unit of an emergency department, waiting for thoracic CT scans and results of nasopharyngeal swabs, although a basic clinical examination would have easily disclosed acute pyelonephritis, or leg cellulitis.

Will we do better next time? It is probably too early to address this question, as our hospitals are still full of COVID-19 patients slowly recovering, or developing complications. But we have a duty to look back at our actions, when this outbreak will be totally controlled, be it through robust infection control actions, large immunization programmes, or only by the natural history of this pandemic. Hopefully, we will not see such tragedy again soon and we will have time to learn from our mistakes. AMS will be among the list of activities we need to do better on next time, if we are to mitigate the consequences of this scourge.



**Fiona MacKenzie**  
**ISAC Chief Executive Officer**  
**Aberdeen Royal Infirmary,**  
**Aberdeen, Scotland**

Sadly, on 15 June 2020 the UK (population c. 68 million) had 296,857 lab confirmed cases and 41,736 deaths of people who had a positive test result. The peak was reached around mid-April with numbers falling steadily since then.

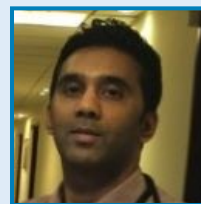
Within Scotland (population 5.5 million) there have been 18,030 confirmed cases and 2,448 deaths (over 50% are > 80 years of age and many were care home residents).

The epidemiology varies across the UK, leading to variance in the lifting of lockdown restrictions across the devolved nations – currently England is lifting restrictions more quickly than Scotland, Wales and Northern Ireland.

My role has changed significantly this year. I usually work half time as ISAC CEO and half time as a Clinical Scientist for the National Health Service in Scotland. Since March, I have been seconded to work full time for the Scottish Government on the response to the SARS CoV-2 pandemic. I chair the National COVID-19 Technical Group. My role includes co-ordinating and overseeing rollout and continued provision of testing across all Scottish hospital Microbiology / Virology laboratories. Challenges have included providing a testing service from small multidisciplinary laboratories in remote / rural locations to the large specialist laboratories in tertiary referral hospitals. Global supply chain issues have impacted Scottish testing but, thankfully, are now easing.

Current tasks include increasing testing to meet the “Test & Protect” policy and planning to incorporate SARS CoV-2 into respiratory testing panels in preparation for winter.

The pandemic has brought out the very best in people and has highlighted the role of the hidden heroes within our hospitals.



**Abdul Ghafur**  
**APUA Board Member**  
**Apollo Hospital**  
**Chennai, India**

**April 2020:** The situation in India is still manageable. We have 6,000 patients and 200 deaths. India initiated lockdown well before any definite community spread. The lockdown is expected to have long term economic implications. The lockdown has already affected the income of daily wage workers. We have cancelled all elective admissions and non-emergency surgeries. The trend doesn't look bad so far. Fingers crossed!