

CU

Medicine

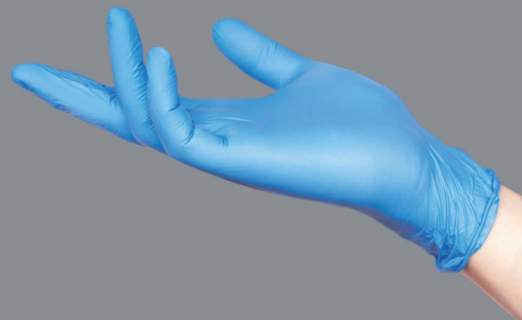
The Inauguration Issue



DANCES

with a DISEASE

how CUMED takes on COVID-19



Shall we...?

Bacteria and viruses have been with the human race for as long as we existed. When they become unbalanced and unchecked diseases may result and harm be done, and we have to fight against them.

In the face of COVID-19, those at CUMED have shown exemplary ingenuity and solidarity. We analysed and tested the virus, advised the government and the public on the science and strategy of the pandemic, while pursuing our educational missions nonetheless. The stories of our efforts retold in this inauguration issue of *CU Medicine* are as relevant as they are inspiring. I hope you enjoy reading them, give us your feedback and follow us in future issues.

Like it or not, the COVID-19 threat is real and continuing. We must not let our guards down or lose our poise. Let's work together, friends and colleagues, to fight it out, shall we?



A handwritten signature in black ink, appearing to read 'Francis Chan'. The signature is stylized and fluid.

Prof. Francis Chan

Dean

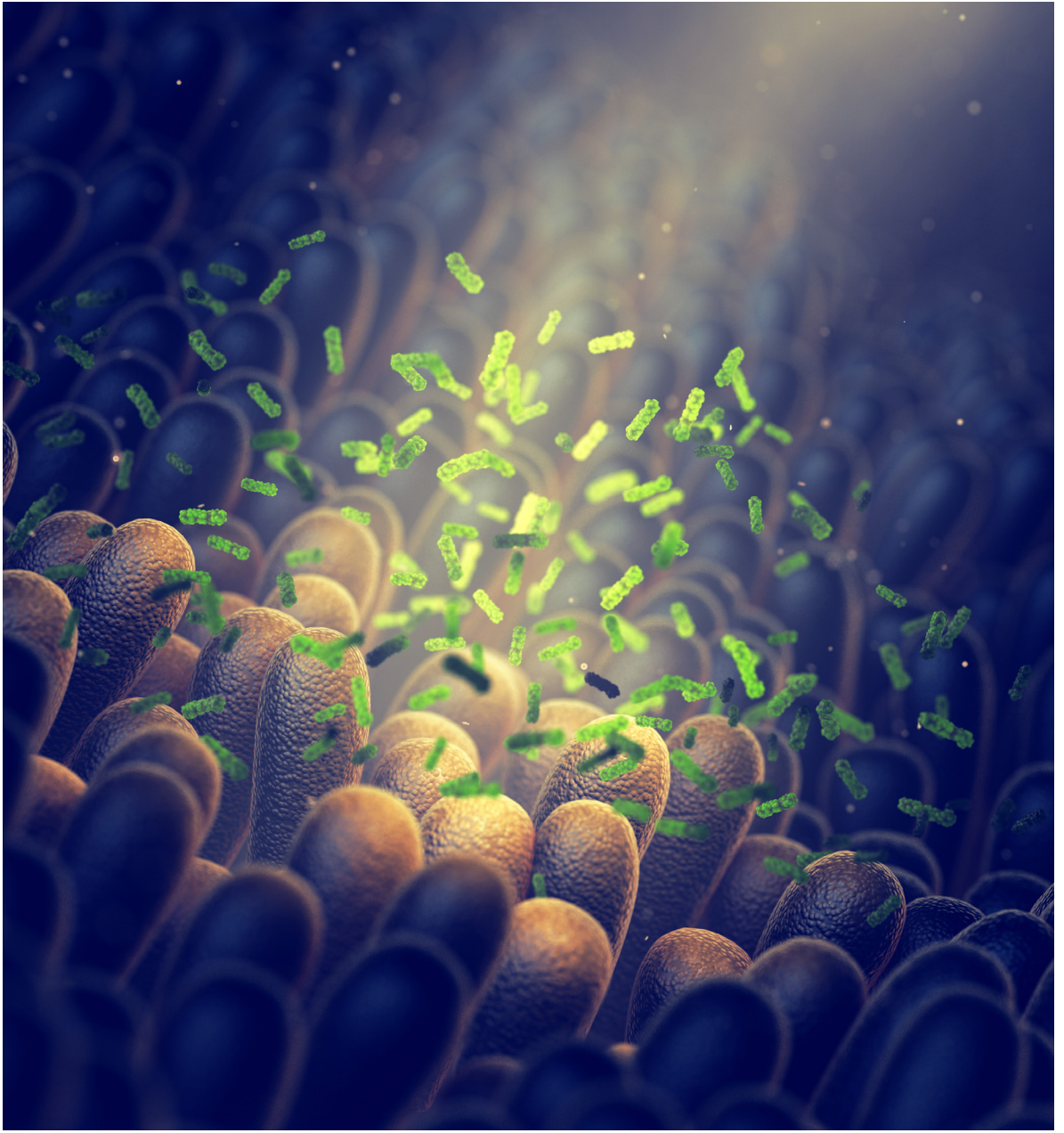
Choh-Ming Li Professor of Medicine and Therapeutics

On Our Toes



It is dangerous and deadly.
But nothing we could not deter.





The Yin and Yang of a Healthy Gut

Siew Ng restores gut bacteria balance to help fight COVID-19

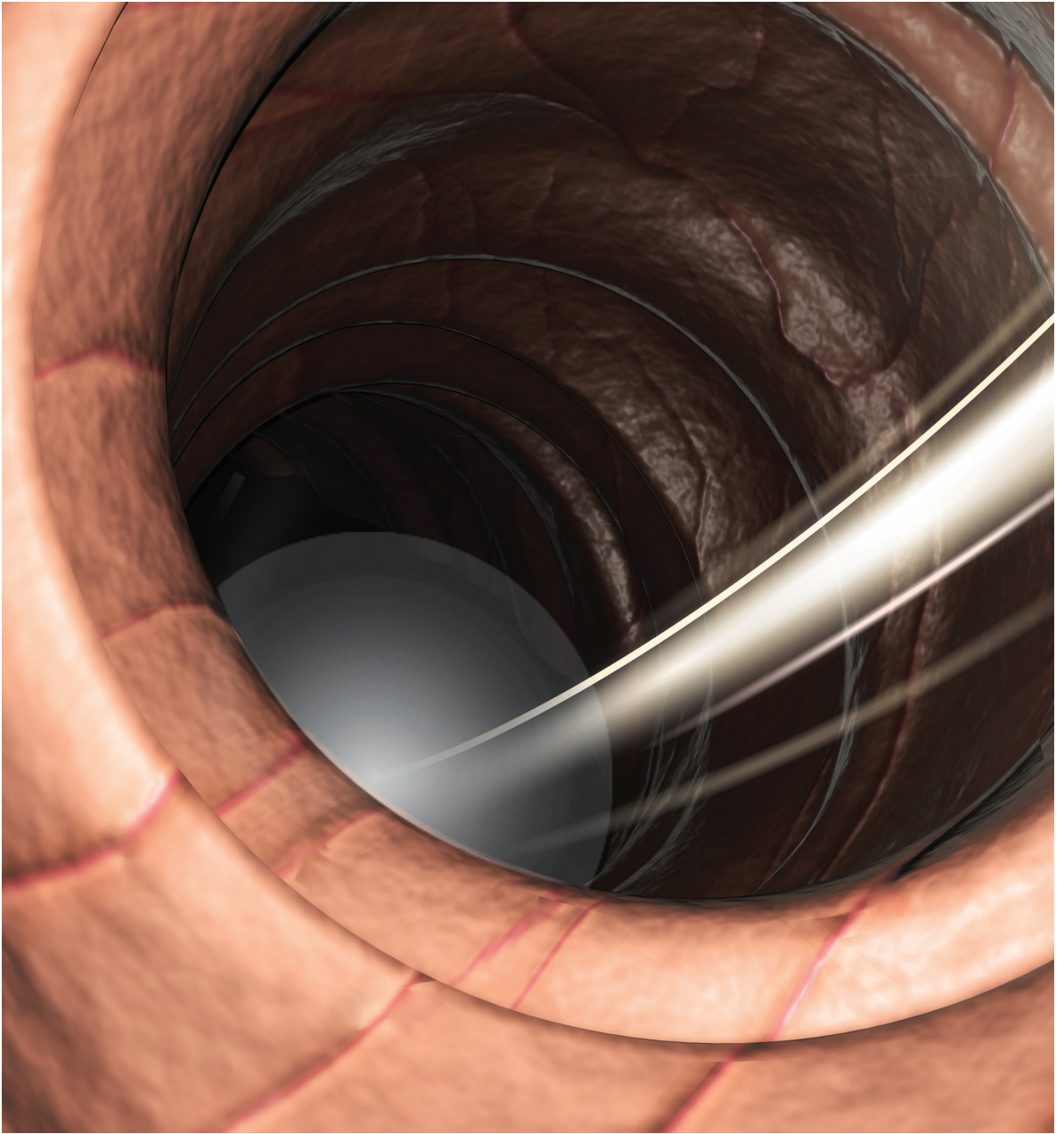
COVID-19 is commonly regarded as a respiratory disease but we now know that it is also closely linked to our gut health. The research team led by Prof. **Siew Ng**, a gastroenterologist and Associate Director of the Centre for Gut Microbiota Research at CUHK, discovered that COVID-19 patients have imbalanced gut microbiota associated with impaired immunity.

Her team studied the gut microorganisms present in over 100 COVID-19 patients and compared them with related data from 1,500 healthy individuals in Hong Kong and the mainland. They found that some commensal symbionts, generally good bacteria, were missing while pathogens were increased in the patients' gut. They believe that alterations in the gut microbiome are associated with the severity of COVID-19 infection.

While probiotics such as lactobacillus may have potential benefits to boost our immunity, the efficacy of bacteria is population-specific. What appears to be useful in the West may not be as



beneficial among the Chinese population. Using cutting-edge techniques in metagenomics and big data analysis, the team has derived a probiotic formula which could potentially help restore the balance of microbiota in the gut and boost our immune system to prevent or fight against COVID-19 infection.



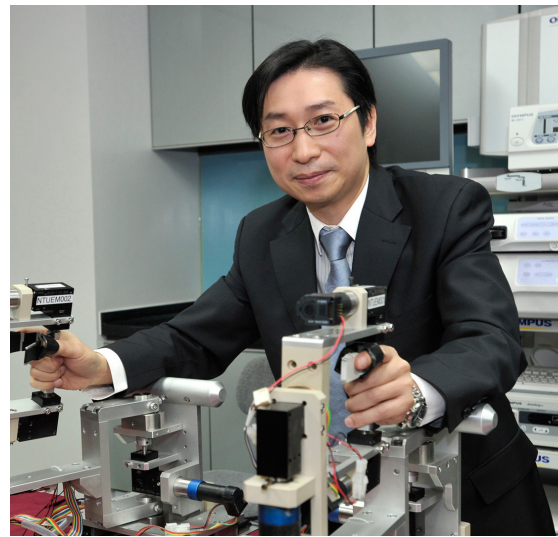
For Fellows to Follow

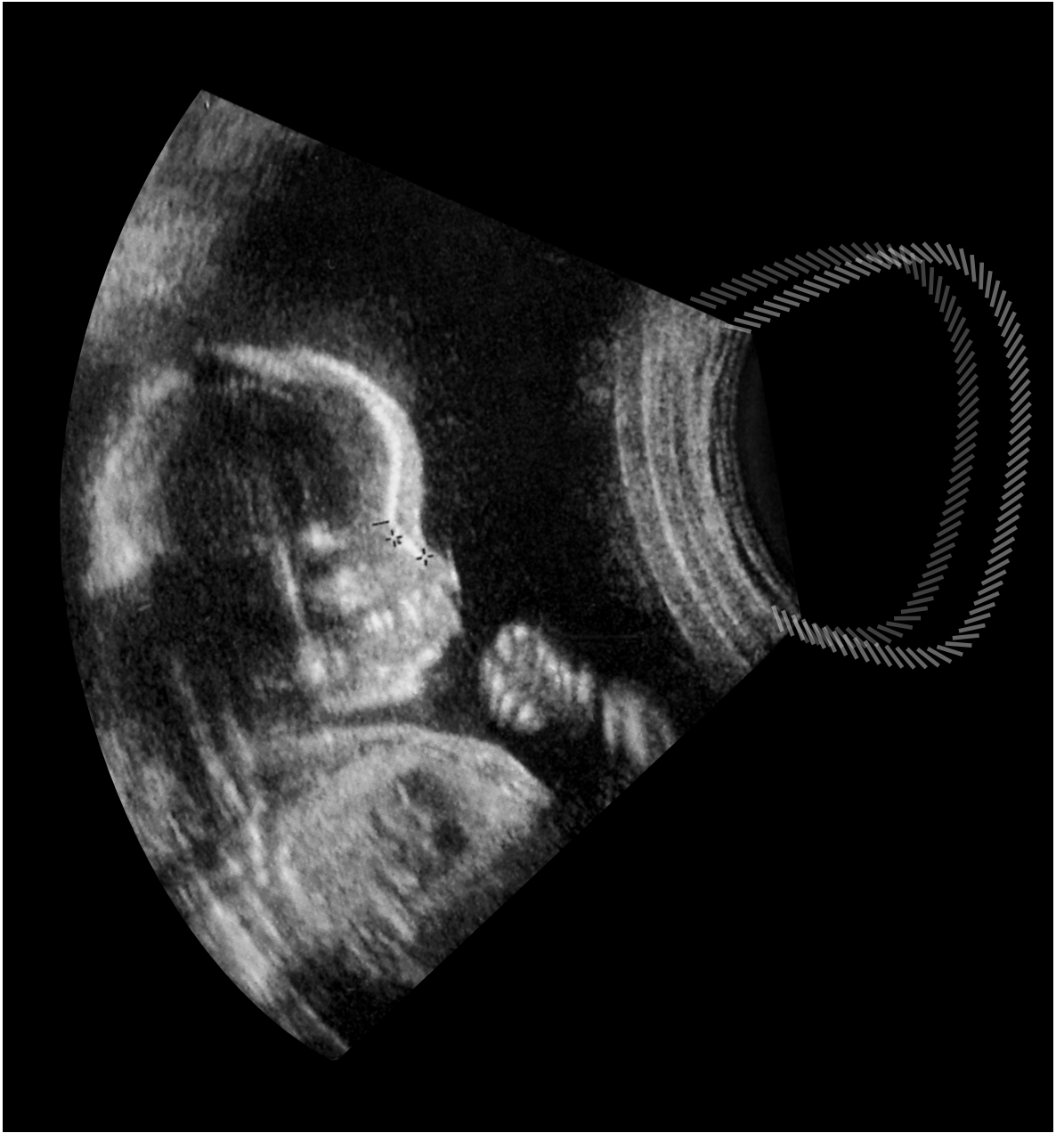
Leading author Philip Chiu of safe endoscopy procedures

The spread of SARS-CoV-2 is mainly through respiratory droplets or direct contact. But it can also travel via aerosols (tiny water particles in the air) which are abundant in the conduct of medical procedures including endoscopy. Performing endoscopy on infected patients therefore presents real and grave risks to healthcare professionals. Prof. **Philip Chiu** of the Department of Surgery and leading endoscopic surgeon led international experts to develop official guidance and position statements on endoscopic practice to minimize COVID-19 infection among healthcare professionals when they provide essential services to patients.

In April 2020, Professor Chiu led 15 experts in developing the 11 position statements of the Asian Pacific Society for Digestive Endoscopy (APSDE-COVID statements). These include patient triage and risk assessment before endoscopy and go a long way to maintain safe and high-quality endoscopy practice under highly-stressed conditions.

The International Society for Diseases of the Esophagus (ISDE) issued its official guidance statements for the management of upper-GI endoscopy and surgery in the COVID-19 outbreak in March 2020. Professor Chiu is the leading author of its set of 14 recommendations that define a common pathway for managing the COVID-19 concerns of medical personnel involved in GI-endoscopy and surgery.





Ultrasafe for Ultrasound

Liona Poon helps free pregnant women of COVID-19 threats

Pregnant women require special attention in relation to the prevention, diagnosis and management of COVID-19. The extended period of pre-natal examinations inevitably augments the exposure to the virus and the possibility of infection which may have dire consequences for the pregnant women and their unborn children and the healthcare personnel involved.



Prof. **Liona Poon** of the Department of Obstetrics and Gynaecology led a number of international physicians in consolidating the insights and best practices of the management of ultrasound examinations and clinical pathways in the context of COVID-19. She is the lead author of the International Society of Ultrasound in Obstetrics and Gynecology's (ISUOG) position statement on the safe performance of obstetric and gynaecological scans and equipment cleaning in the context of COVID-19 issued in March 2020.

In the same month, ISUOG issued a consensus statement, of which Professor Poon is an author, that provides doctors and medical staff offering obstetric ultrasound services with proposals and options for managing patient workflows and clinical pathways in the context of COVID-19. Professor Poon's work goes beyond obstetric ultrasound. She is again the lead author of ISUOG's interim guidance issued in May 2020 that provides updated information on the neonatal care of women as well.



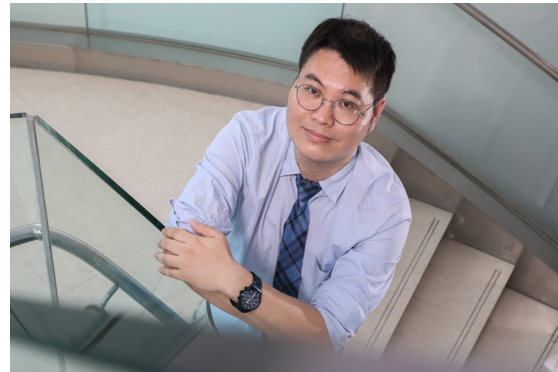
From the Lighthouse

Kin-on Kwok shines a beacon on the disease

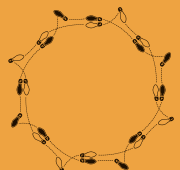
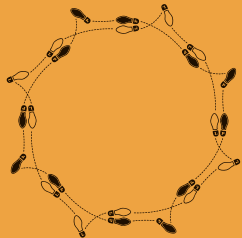
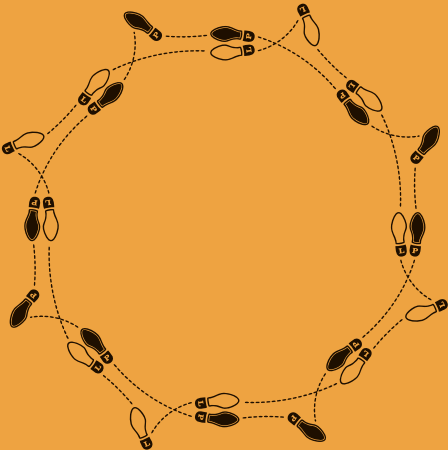
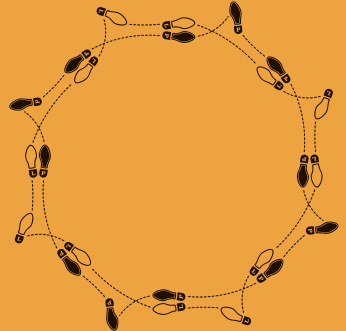
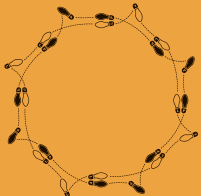
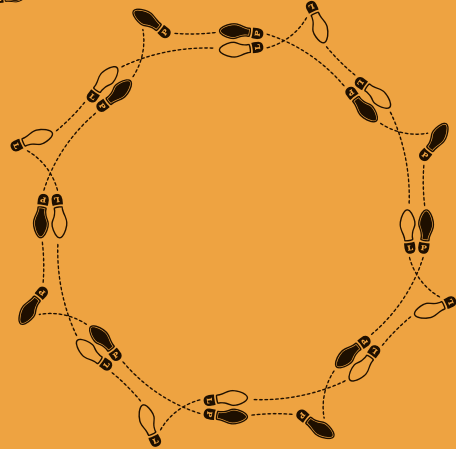
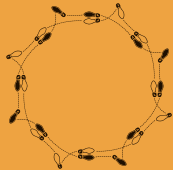
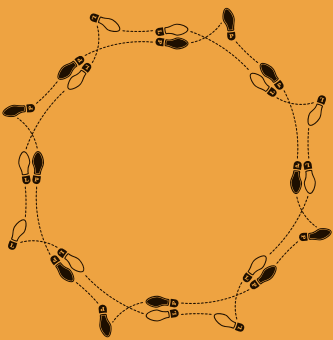
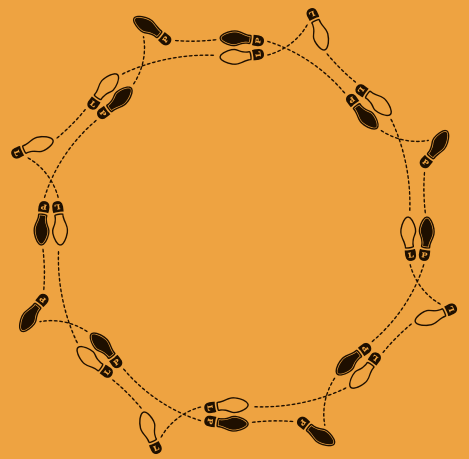
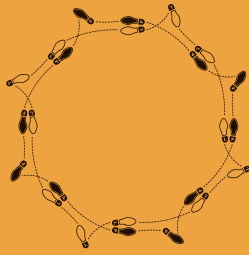
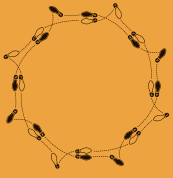
The COVID-19 pandemic is both a medical and a community challenge. Public health specialists must be ahead of any treatments or policies. Prof. **Kin-on Kwok** from The Jockey Club School of Public Health and Primary Care, a specialist in infectious disease epidemiology, had lent a helping hand to improve our understanding in COVID-19 epidemiology in the early phase of the global epidemic.

In response to the early stage of local outbreak, Professor Kwok had studied the first 53 laboratory-confirmed cases in Hong Kong to provide the 'semi-intrinsic' epidemiological properties of SARS-CoV-2 as a reference for other countries where drastic interventions had not yet been implemented. His research, published in April 2020, highlighted the transmission risk of social interaction and the pivotal role of physical distancing in combating the pandemic.

At the same time, Professor Kwok conducted another parallel study to examine the psycho-



behavioural responses of the public. Based on a survey of 1,715 respondents and the analysis of their anxiety level and preventive measures taken, he attributed the success of Hong Kong in containing the disease to the high level of risk perception of its populace and their voluntary adoption of self-protective measures. Particularly efficacious are enhanced personal hygiene and travel avoidance. His findings used behavioural insights to support pandemic response, fueled the formulation of policies by public health institutions and provided lessons for other countries and regions.



Step by Sure Step



It disrupts schools worldwide.

We refuse to be shut or slowed.

Can we...?

A medical curriculum comprises more than lectures and tutorials. The grooming of the next generations of healthcare professionals necessarily requires more in-person interactions in the form of practicum and clinical sessions. How can we achieve our educational objectives under the threat of the COVID-19 pandemic?

Rapid response and emergency preparedness are bitter but effective pills. Barring a few teething problems, both faculty and students have conducted themselves very well in this difficult time. We have grown more confident of the new normal of medical education. After all, we cannot afford to be slack or unresponsive, can we?




Prof. Samuel Wong

Associate Dean (Education)

Director, The Jockey Club School of
Public Health and Primary Care





The **3** Steps

of Rapid Response and Emergency Preparedness



Step **1**

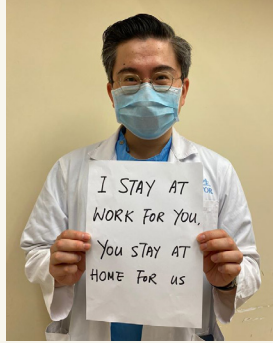
Rapid Response Team

As early as January 2020 when evidence of the spread of COVID-19 in the community began to emerge, a rapid response team on medical education was promptly set up to monitor the situation and to take all necessary actions.

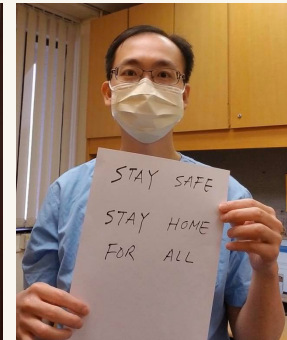
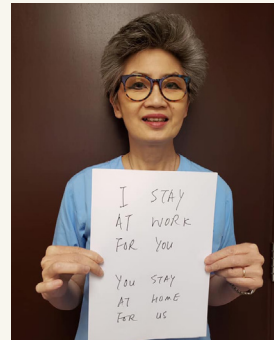
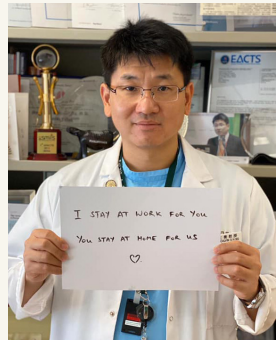
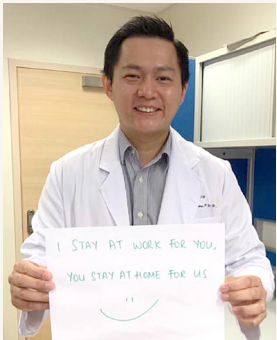
The rapid response team is led by Prof. **Paul Lai** of the Office of Medical Education who had first-hand experience from the SARS outbreak in 2003. The team consists of professors in public health, medical education and clinician specialists, all actively teaching and working in public hospitals and the community who are prepared to assess and tackle issues arising from COVID-19.

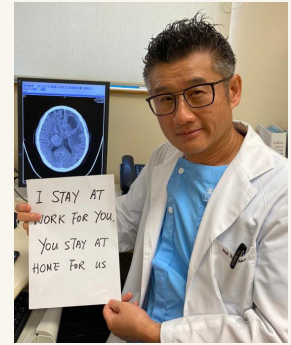
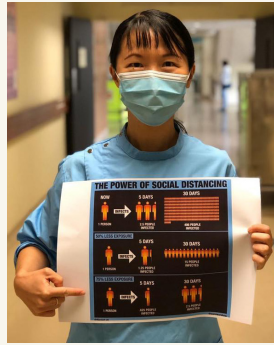
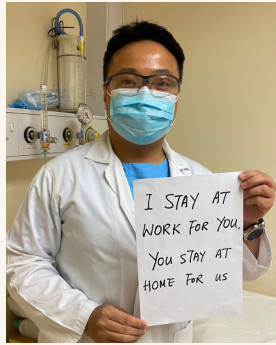
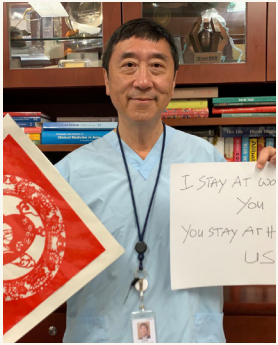


Prof. Paul Lai
Director, Office of Medical Education



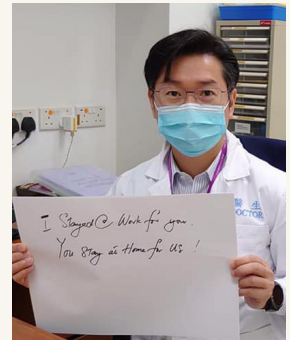
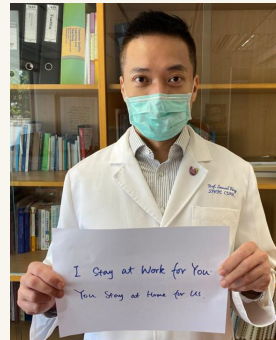
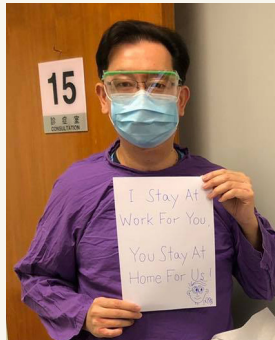
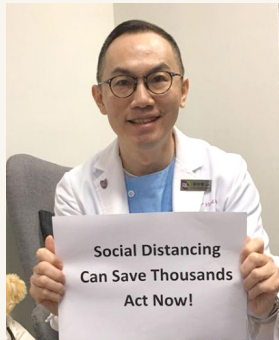
We stay at You stay at





WORK for you. HOME for us.

CUMED members joined a global campaign on social media to urge citizens to play their part in the fight against COVID-19 by staying at home, while healthcare professionals in hospitals, clinics and testing centres fought on the battlefronts.

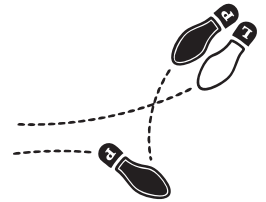


Step 2

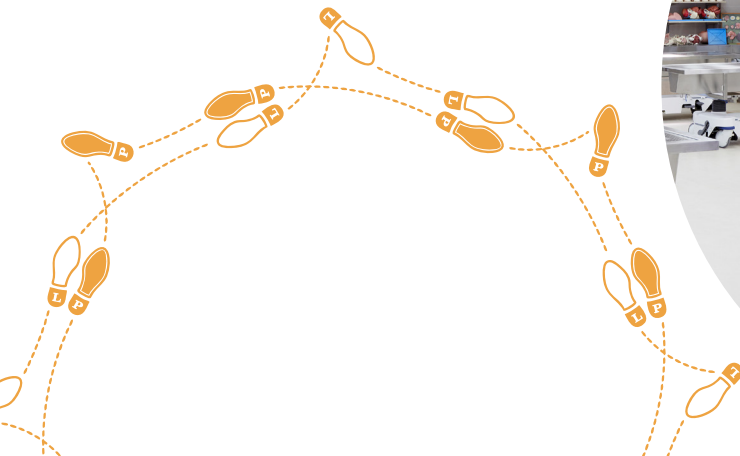
Social but not Academic Distancing

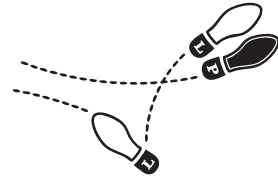
With the first case reported in Hong Kong on 23 January 2020, safeguarding our students from the risk of potential COVID-19 exposure during their clinical attachments in public hospitals was a top priority and the decision was made to suspend all clinical teaching for Years 4, 5 and 6 students in wards and hospitals and community clinics on the same day.

The timely decision allowed early exploration of online platforms and tools and planning of online teaching strategies whilst many university students were still on their Lunar New Year break. The rapid response team facilitated communication and coordination across the teaching faculty and students as well as the supporting personnel.



Dissecting Lab





Step 3

Online Teaching and Assessment

Rapid responses included a number of workshops organized to engage teachers in the 'know-how' of running online teaching using the Zoom platform, and a skilled technical team and virtual helpdesk created at the Office of Medical Education to fast track support for teachers and students at a time when there was increasing anxiety and disruption of general services in Hong Kong.

Formal online medical education commenced as soon as 3 February 2020 with minimal disruption to the original academic calendar and ahead of online teaching in other tertiary institutions which started on 17 February. Since then, more than 1,000 online classes, lectures, tutorials and flipped classroom sessions have been successfully conducted and medical students can keep track of their learning by accessing the newly developed online interactive timetable.

Careful planning and infection control meant minimal disruption to student assessment schedules so that final year medical students were able to graduate on time. Upon the advice given by our in-house expert clinicians, professional examinations including clinical ones were conducted with detailed infection control measures to avoid cross infection among students and examiners.

Two is a Crowd

It travels fast.

We act faster in finding answers and cures.





Getting to the Bottom of It

Free stool test for children arriving at airport

Children arriving by air in Hong Kong are being offered free stool tests to see if asymptomatic kids may unknowingly be carrying COVID-19.

CUMED has volunteered to run the free tests of the stools of young children and infants coming into the Hong Kong International Airport. Working with the Department of Health, the CUMED team arranged for stool test kits to be distributed from 29 March onwards to arriving children, including specimen collection details. A CUHK laboratory tested the specimens and provided the results to the Department of Health within a day of receiving the stool samples.

Deep-throat saliva tests, used to detect the virus in adults, provide a false negative result for the virus at a rate of more than 40% if the sample is collected incorrectly. It is particularly hard to collect a deep-throat sample from young children or infants, who will generally struggle to avoid it.

CUMED has shown that the virus is detectable in the stool samples of all COVID-19 patients, regardless of the severity of illness. The stool sample returned a positive test in 20% to 30% of patients who no longer registered any trace of the virus in their respiratory-tract samples.

Although often spared symptoms, children are thought to be silent carriers of the SARS-CoV-2 virus. Avoiding any undetected imported cases in families returning from abroad will be key in preventing its spread.





Hidden in Plain View

Serology test to locate asymptomatic patients

A CUMED team is leading an initiative to uncover the extent of hidden infections of COVID-19.

The team has recruited 3,000 Hongkongers who provided blood and saliva samples to test whether they have unwittingly been infected with the virus. This will establish the extent of mild and asymptomatic cases.

Members of the public were invited to volunteer, with registrants randomly selected once balanced by age group and sex. They then received a testing slot at the CUHK Lek Yuen Family Medicine Teaching Clinic, with results returned to them within six to eight weeks.

Establishing what proportion of the Hong Kong population has experienced hidden infection will inform how to combat future waves of COVID-19. It is also important to find out what, if any, symptoms or signs the hidden cases in Hong Kong may have displayed that could have

allowed for detection. These insights can help improve the method of surveillance for catching hard-to-identify cases of the disease.

The US Centers for Disease Control and Prevention warn that one in four coronavirus infections could be asymptomatic. This suggests the battle against the disease may be a long one. The information will be instrumental in improving containment strategies for a disease that may resurface in Hong Kong as long as a cure is not found.



Prof. Paul Chan, Chairman of the Department of Microbiology, leads a team to get a full idea of hidden infections in Hong Kong

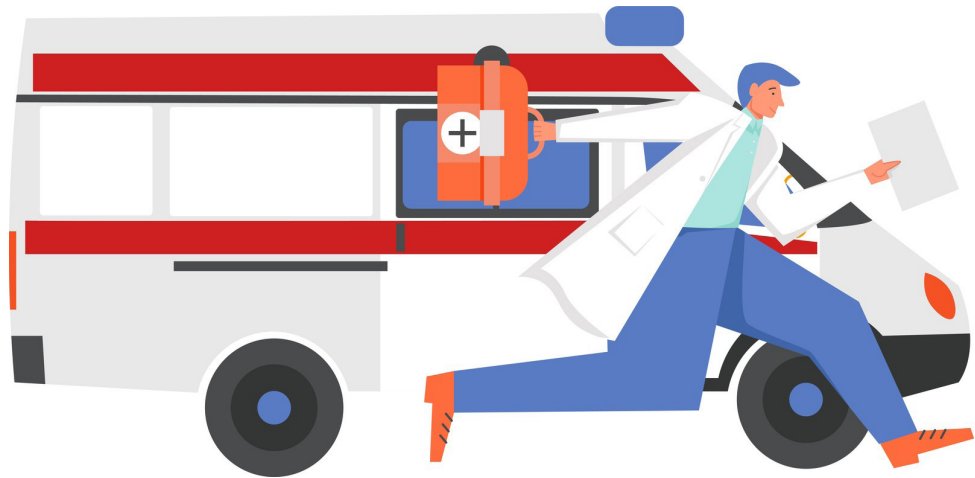
First Response First Aid



**CUMED takes the
community temperature**

CUHK epidemiologists and public health researchers drove the study of community response to COVID-19 even before it was so named by the World Health Organization. A research team from The Jockey Club School of Public Health and Primary Care surveyed 1,168 Hong Kong residents in the first two weeks after the first case of the new coronavirus was reported on 23 January to investigate the public's risk perception and psychobehavioural responses.

Among their findings are that an overwhelming majority of the respondents were alert to the disease progression (99.5%), perceived a high chance of getting infection (88%), and had enhanced personal hygiene practices such as wearing masks and washing hands (90%). The release of such findings in mid-February was a timely reminder to policymakers and public that psychobehavioural changes are also effective interventions in the control of the disease.



In another study, the researchers analysed the first 56 confirmed COVID-19 cases in Hong Kong from demographic and epidemiological data. They found that over 90% of the cases had a delay of an average six days from the onset of symptoms to isolation but might take as many as 14 in the worst case

and that most patients had sought medical assistance more than once before diagnosis was made. Given the relatively long period of incubation and deceptively mild symptoms at the onset, the team exhorted the government and the public to adopt social distancing policies and practices.

A Tribute to the Dirty Team of CUMED Alumni



WE SALUTE OUR ALUMNI WHO ARE FRONTLINE
SOLDIERS IN THE FIGHT AGAINST COVID-19.

THEIR GARRISON AT CLINICS AND HOSPITAL
WARDS HAS KEPT THE VIRUS AT BAY
AND THE COMMUNITY SAFE.

NO WARD OR BED IS TOO DIRTY FOR THESE
BRAVE YOUNG MEN AND WOMEN,
TAUGHT AND GROOMED BY CUMED
TO SERVE AND SAVE.

THE REDNESS ON THEIR FACES AND HANDS ARE
MARKS OF HEROISM AND COURAGE
FROM THEIR COUNTLESS DAYS AND NIGHTS IN
FULL PROTECTIVE GEAR.

THEY CONTAIN THE VIRUS,
CONSOLE THE SICK,
AND CONVEY THE TRUE SENSE OF
THE CUMED MOTTO:

'TRANSFORMING OUR PASSION INTO PERFECTION'

Will we...?

When will a vaccine for COVID-19 be available? How will the world look when it emerges from this pandemic? While it is a matter for the scientists and policymakers, it is also a matter for every one of us.

Different societies have responded in different ways to the pandemic, to various degrees of success. In some parts of the world including this city, a simple face mask plus a few feet of space would do the trick. We have passed the stress test. We won't be far from seeing the light at the tunnel's end, will we?

David Hui

Prof. David Hui

Stanley Ho Professor of Respiratory Medicine



COVID-19 in Numbers

(as of end of May 2020)



12 **HMRF**

CUMED studies supported by government's Health and Medical Research Fund



HK \$34.7m

Amount of funding under HMRF



123
Publications with CUMED members



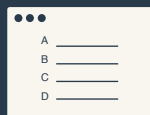
700+
Free stool screening tests



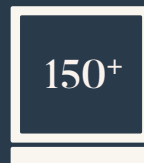
3,000
Volunteers for serology tests



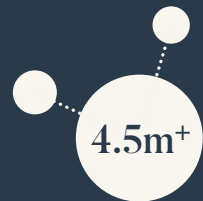
1,000
Online medical classes



80+
Online exams



Social media posts



Social media reach

CU **Medicine**

Stay Tuned
for the
Next Issue
in **Fall 2020.**



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