LIFE AFTER COVID-19

مؤسسة دبي للمستقبل
DUBAI FUTURE FOUNDATION

In collaboration with

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INSIGHTS IN BRIEF

The first case of COVID-19 was reported in December 2019 in China. Many countries did not appear to foresee the rapid spread of the virus beyond its Asian origins and therefore did not act quickly enough.

Healthcare systems worldwide have been under pressure with limited testing kits, medical staff and supplies, ventilators and beds. This has led to the repurposing of public spaces, such as stadiums and exhibition centers as hospitals.
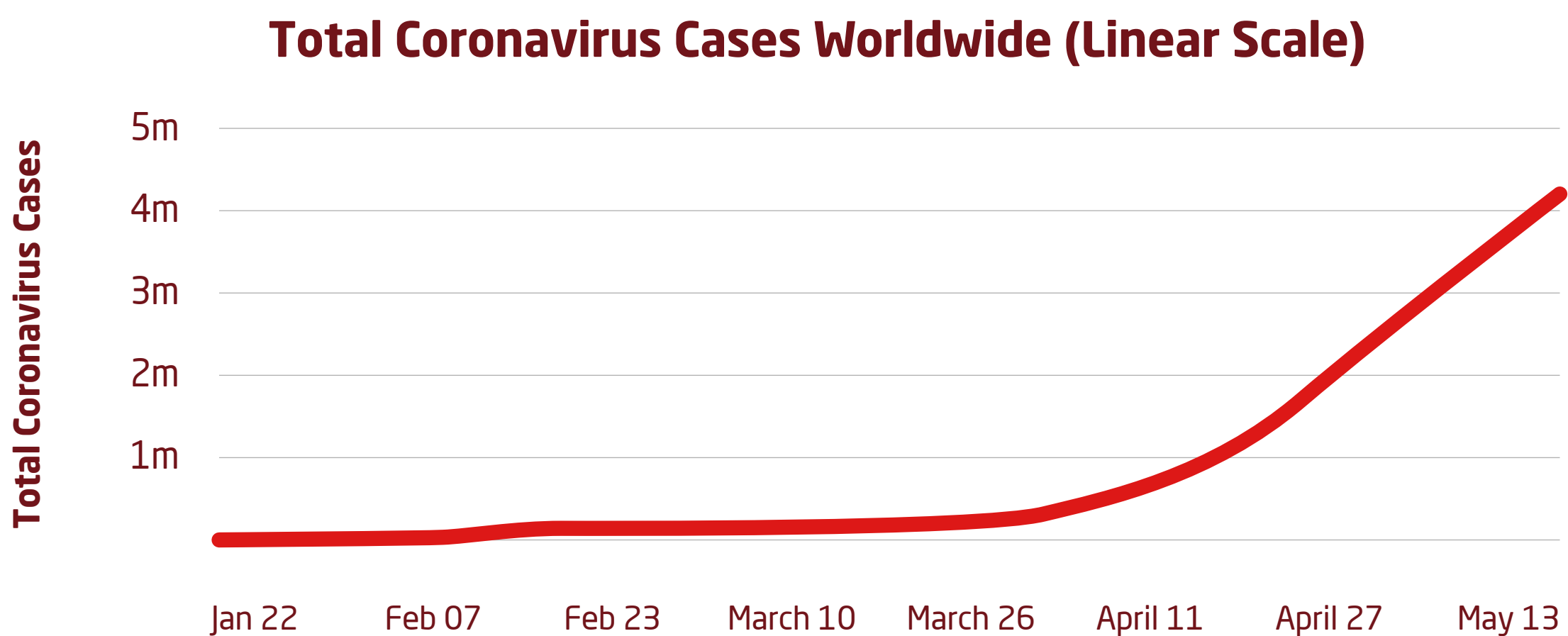
There is no COVID-19 vaccine as of now and countries have attempted to use different forms of treatment to tackle the virus.

CURRENT SITUATION

At the end of December, in 2019, the World Health Organization (WHO) announced that people in the city of Wuhan in the Hubei Province in China had contracted a type of pneumonia from an unknown source. Although many initially suggested this virus was predominantly an Asian phenomenon, by February 2020, COVID-19, identified as a new coronavirus, similar to SARS in 2003 and MERS in 2012, had spread to Australia, Germany, the USA, and France. By March, Italy had the third largest number of reported cases worldwide at 1,689 followed by Iran with 978[1] and by the week of June 14th, more than 7.8 million people were infected globally.[2]

Total Coronavirus Cases Worldwide (Linear Scale)

Total Coronavirus Cases

5m	
4m	
3m	
2m	
1m	

Jan 22   Feb 07   Feb 23   March 10   March 26   April 11   April 27   May 13

There were varied responses from governments and international organizations. Many countries did not react as quickly as they might have done to anticipate the global transmission of the virus from its Chinese origins.[3] In addition, several of the first few cases reported in China were in people over 60 years old, and the World Health Organization (WHO) confirmed that senior citizens were more susceptible to the virus causing younger people to feel less threatened. This meant that even well into March, globally, younger people were still going out and mixing with others, potentially contracting the virus and transmitting it.

[1] "WHO Timeline – COVID-19", World Health Organization, 2020.
[2] "Worldometers", 2020.
[3] Webel, M., "Calling COVID-19 a 'Chinese virus' is wrong and dangerous – the pandemic is global", The Conversation, 2020.

Once the risks were clear, lockdowns were put in place in many countries to stop people leaving their homes. Widespread social media campaigns were mounted to encourage people to stay at home. These were led by organizations such as Google and the Ad Council, with advertisements on YouTube, websites and mediums such as Snapchat, Facebook, Twitter and Verizon Media. Typical hashtags have read #stayhome or #alonetogether.[4] Celebrities have been recruited to promote these messages, as well. In the UAE, the Dubai Media Office enlisted popular public figures with appeal to people from the many cultures represented in the country to record videos urging people to stay home.[5]

As of March 31, 2020, 93% of the world's population lives in a country with travel restrictions or border closures due to COVID-19.[6]

[4] Watson, I., "The Ad Council and Google push '#StayHome. Save lives' industry-wide movement", The Drum, 2020.
[5] 'Stay in your homes' Bollywood star Shah Rukh Khan tells Dubai residents", Arabian Business, 2020.
[6] Connor, P., "More than nine-in-ten people worldwide live in countries with travel restrictions amid COVID-19", Pew Research Center, 2020.

Closing borders has also meant stopping large volumes of trade and disrupting supply chains – the impacts of which are discussed in more detail in the Dubai Future Research report on Commerce and the report on the Retail sector.[7] In response, government-backed stimulus packages have been injected into domestic economies globally, and countries such as the US are offering stipends for citizens to counter a rise in redundancies and unemployment.

Healthcare systems worldwide are being tested by the crisis. Centralized infrastructures are necessary to tackle such a pandemic and it is notable that some countries in Asia have responded to the spread faster than many in Europe and North America.[8] Countries worldwide, however, are struggling with limited staff, hospital beds, medical supplies, and ventilators. In the UAE, the country moved quickly to ensure the virus was mitigated, beginning a disinfection program in March, and repurposed large public buildings such as the World Trade Centre,[9] in Dubai, for bed space, a practice also followed in other countries such as the UK and USA. The Emirate currently hosts 5,000 beds for patients. The hope is that countries in the MENA region will not have increased numbers, but this also depends on the number of tests available to identify cases and thus help authorities contain the virus.

[7] Commerce, Dubai Future Foundation, 8 April 2020.
[8] Beech, H., "Tackling the Coronavirus: How Crowded Asian Cities Tackled an Epidemic", The New York Times, 2020.
[9] Salama, S., "Coronavirus: Field hospital at Dubai World Trade Centre with capacity to treat 3,000 COVID-19 patients opens Thursday", Gulf News, 2020.

Currently, there are almost 600,000 cases in the MENA region and this is on the rise.[10] These numbers may not be completely accurate as not all countries in the region have a sufficient number of tests or accessible sites for testing; a common challenge across the globe. For example, as of the week of June 14th, Saudi Arabia has reported 123,308 cases, the highest in the region other than Iran which makes up 31 percent of the COVID-19 cases in MENA. Yemen, however, has reported 636 cases. Syria, which has only reported 164 cases, may have more, but due to the current situation in the country, it is difficult to know what the real numbers are.[11]

In the UAE, testing has been a top priority, both internally and externally, as the country has donated testing kits as part of more than 523 tonnes of aid sent to countries in need.[12] Over 2.5 million tests have been administered in the UAE, ranking the UAE as one of the top countries in testing per capita worldwide.[13] Testing is only one part of the UAE's broader 'Life After COVID-19' strategy, that HH Sheikh Mohammed bin Rashid Al Maktoum outlined during the Annual Government Meeting that took place in mid-May. Within Dubai, the healthcare sector will continue to be a strategic priority, with a focus on public health and communicable diseases. The emirate will also develop a base for professionals specializing in infectious diseases and ongoing research.[14]

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[10] Bhatia, Neha, "Covid-19 cases cross 450,000-mark in Mena", MEED, 2020.
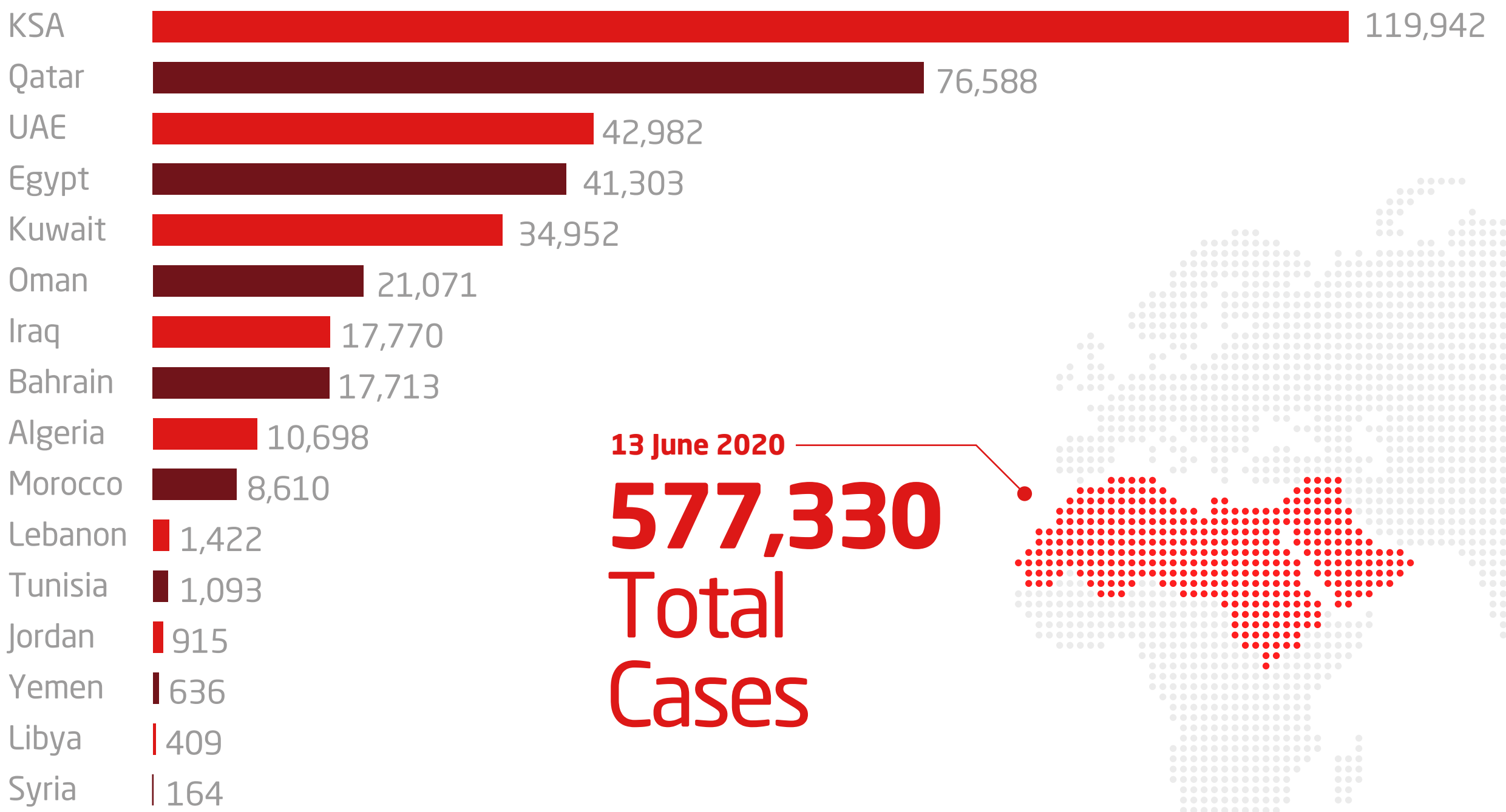[11] "Northwest Syria: 'COVID-19 adds another layer of complexity to an already catastrophic situation'", MSF, 2020.
[12] Clarke, K., "Coronavirus: UAE sends more than 523 tonnes of aid to help 47 countries", The National, 2020.
[13] "Combating coronavirus: 1.5m Covid-19 tests carried out in UAE so far", Khaleej Times, 2020.
[14] "Dubai government has developed plans to prepare all sectors for the post-COVID-19 phase", Dubai Media Office, 2020.

MENA COVID-19 Cases Since 1 March (Excluding Iran)

Country	Cases
KSA	119,942
Qatar	76,588
UAE	42,982
Egypt	41,303
Kuwait	34,952
Oman	21,071
Iraq	17,770
Bahrain	17,713
Algeria	10,698
Morocco	8,610
Lebanon	1,422
Tunisia	1,093
Jordan	915
Yemen	636
Libya	409
Syria	164

13 June 2020

577,330
Total
Cases

Source: MEED / Case Data: WHO

Currently, there is no antiviral medication to treat COVID-19. As with flu, if patients have mild symptoms, they may be able to treat themselves at home using pain relievers, cough syrup and fluids. However, severe symptoms require different forms of treatment and full-time monitoring. Symptoms have also diversified from the original flu-like symptoms which healthcare professionals associated with COVID-19.[15]

The fatality rate worldwide is increasing. As of the week of June 14th, 432,638 deaths have been reported globally, with approximately 13,714 of those cases in the MENA region. The majority have been in Iran, which makes up 8,730 of the cases.[16] It is important to note, however, that the death rate may be lower in the MENA region not solely because of a lack of reporting in some countries, but also because the MENA region has a relatively young population, with a median age of 27. This means that even if people catch the virus, they are likely to be able to fight it and recover.

[15] Bloomberg, "Is the coronavirus mutating? China's new COVID-19 outbreak is raising concerns", Fortune, 2020.
[16] "COVID-19 Coronavirus Pandemic", Worldometer, 2020.

OPPORTUNITY

As healthcare professionals attempt to limit the increase in cases, and the unfortunate rise in fatalities, researchers are attempting to crack the epidemiology of the virus. There is still no clear consensus on where the virus originated. Although many believe it was contracted by vendors from livestock at a Chinese seafood market, various other theories have been raised, including whether it originated in a laboratory.
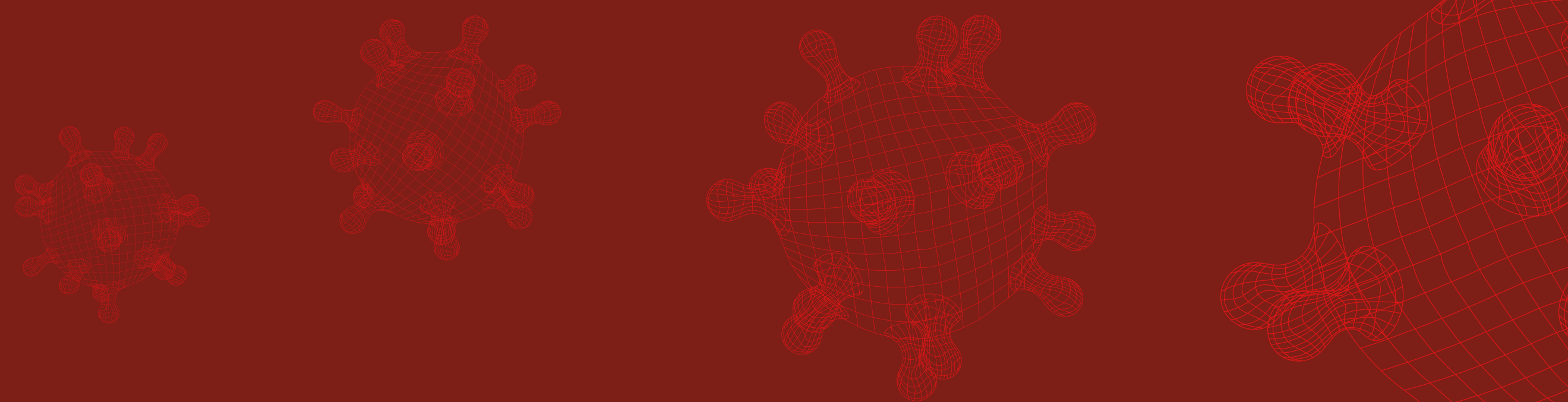
Some epidemiologists are tracing the virus using genomic data, as it is possible to trace how fast a virus can mutate and by studying its genetic base. For example, during the 2014 Ebola outbreak, genome analyses helped trace the origin of the virus to a strain that had been missed by clinicians, allowing the disease to spread quietly for months in Sierra Leone.[17]

In the case of COVID-19, researchers in the Fred Hutchinson Cancer Research Center in Seattle, have since January been analyzing genetic data from Wuhan that was added to the GISAID website, an initiative that promotes cross border sharing of influenza data.[18] Initially, there was uncertainty around whether the virus could be transmitted between people, but researchers could quickly tell that the viral genomes were too similar to not have been spread between patients. If such use of genomic data can become common practice across countries, it may be possible to limit the spread of the virus and share valuable research. However, it is important to note that just as tests can be hard to acquire and use, it is also very difficult to have a widespread genome sequencing program applicable to all patients.

[17] Coltart, C.E.M., Lindsey, B., Ghinai, I., Johnson, A.M. & Heymann, D.L., "The Ebola outbreak, 2013-2016: old lessons for new epidemics", Philosophical Transactions of the Royal Society London B; Biological Sciences, 2017.
[18] "About Us," GISAID, 2020.

The WHO has also developed its own standardized protocol for worldwide tracking and is asking countries to use the tool to collect and share aggregated and analyzed data across many different contexts for a better estimate of COVID-19's severity and transmissibility.

For individuals, companies such as Google and Apple are developing applications to show people if they have come into contact with people who have COVID-19.[19] Governments have also released relevant apps. Bahrain, for example, has launched a contact tracing app called 'BeAware'. The app, linked to a wristband, alerts a monitoring system if COVID-19 patients, self-isolating at home, breach the quarantine policies.[20] The UAE has launched its own app, called AlHosn UAE, which uses Bluetooth to identify if a person has been in contact with someone with COVID-19.[21]
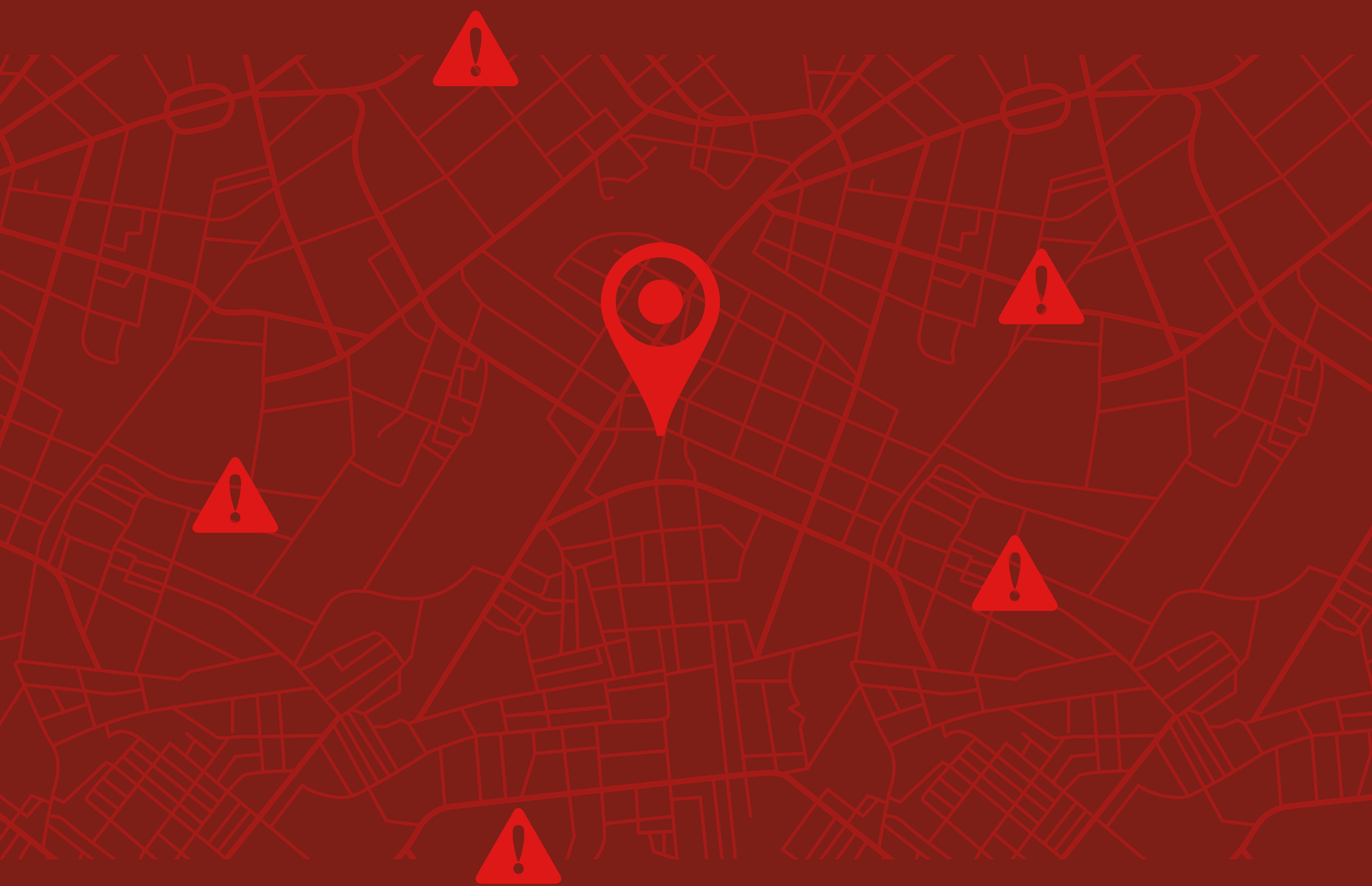
[19] Kellen, L., "Coronavirus: Apple and Google team up to contact trace Covid-19" BBC News, 2020.
[20] McArthur, R., "Bahrain launches electronic bracelets to keep track of active COVID-19 cases", Mobihealth News, 2020.
[21] Alhosn UAE App, NCEMA, 2020.

In addition to genome sequencing, countries across the world are looking at alternative therapies to cure COVID-19 victims. Hospitals in countries such as the UAE, Kuwait, India, Turkey and the USA, are deploying therapy using plasma, the largest component of an individual's blood. So-called 'convalescent' plasma, donated by recovered patients, is injected into patients and with the intention that it should act as an antibody to fight the virus.[22] Doctors have found that 40-50% of patients show positive results, and the Dubai Health Authority (DHA) have approved both DHA and private hospitals to provide convalescent plasma therapy.[23] Stem cell therapy is also being tested as a potential treatment. In the UAE, at the Abu Dhabi Stem Cell Centre, researchers are testing the therapy on COVID-19 patients. As of the beginning of May, 73 patients had received the treatment and had all recovered.[24]

Researchers, the WHO, and governments worldwide are investing heavily in efforts to develop a vaccine for COVID-19. Healthcare professionals around the world believe that it will take at least another 12 months to manufacture a vaccine that can be disseminated across the globe due to the set number of phases required for a pharmaceutical development cycle.[25] However, there is potential for a short-term vaccine to be rolled out in the next few months, particularly if countries attempt to develop their own domestic vaccines.[26]

[22] Al Nowais, S., "Coronavirus: UAE hospitals begin plasma treatment for Covid-19 patients", The National, 2020.
[23] "DHA set to start treating COVID-19 patients with blood plasma this week", Dubai Media Office, 2020.
[24] "Coronavirus: UAE stem cell centre develops potential breakthrough Covid-19 treatment", The National, 2020.
[25] Spinney, L., "Coronavirus vaccine: when will we have one?", The Guardian, 2020.
[26] Spinney, L., "When will a coronavirus vaccine be ready?", The Guardian, 2020.

LOOKING AHEAD

Short term insights
(during the COVID-19 outbreak)

A continuous ramp up of testing is necessary. As numbers fluctuate across the world, there is a need to stay vigilant even if the situation seems to be moving towards positive results.

Short to long term insights
(post COVID-19)

• Telemedicine may play a more prominent role in the future of healthcare, with more patients likely to have initial consultations online or via AI chatbots. The development of clear security protocols, like the Dubai Health Authority and Dubai Electronic Security Center's "Security Standard for Electronic Biomedical Devices" will be vital to protecting patients' privacy and providing accurate information.

• The use of emerging technologies in healthcare may also increase, such as 3D printing of medical supplies including masks and oxygen valves, to the possibilities for 3D printing of cells and biomaterial that makes up human tissue.[27]

• Artificial Intelligence (AI) will become more prevalent in diagnostic treatments, as AI has been seen to outperform doctors in diagnosing diseases and disorders such as diabetes and thalassemia.

• Globally, there may be a surge in students' interest for epidemiology, global health and medicine.

[27] Yasinski, E., "On the Road to 3-D Printed Organs", The Scientist, 2020.

THE LONG VIEW

Viruses will continue to evolve rapidly and emerge from the most remote corners of the world as globalization continues to connect countries and cities. Bacteria will continue to evolve in dense environments due to the proximity of people. In reaction, individuals may become immune to the benefits of certain drugs, as they over-use antibiotics or sanitizers, causing new viruses to emerge without vaccinations being available.[28]

[28] Agudelo Higuita, NI & Huycke MM, "Enterococcal Disease, Epidemiology, and Implications for Treatment", Enterococci: From Commensals to Leading Causes of Drug Resistant Infection, 2014.

The healthcare sector will need to be prepared for unknown challenges. Air samplers placed in public spaces to test people's health may become the norm in the future. Portable genomic sequencers that can be installed in public and domestic areas may become a way to identify new viruses that may be infiltrating the air. By sequencing their genome almost immediately and sharing it with labs around the world in real time, such technology would enable viruses to be assessed before they spread rapidly. The virus information could then be matched against certain individual DNA types, allowing people to know whether they are at risk. Cameras housing such genetic samplers, body-heat detectors and facial recognition software may be used in the future to trace infected persons and estimate the risks faced by first and second-degree contacts, notifying them by mobile phone, or potentially through neural interfaces. Employers, family and friends will also be notified and where necessary quarantines will be imposed.

Data on citizens and residents will begin to include genomic information, in addition to our family history, living location and bank account details. Health, disease, life extension and preservation will rely on endless strings of zeros and ones. As AI becomes more prevalent in healthcare, quantum computers will be depended on for computational speed and diagnostics. This will allow for more healthcare data but may result in a healthcare sector that is increasingly more machine-based than human.
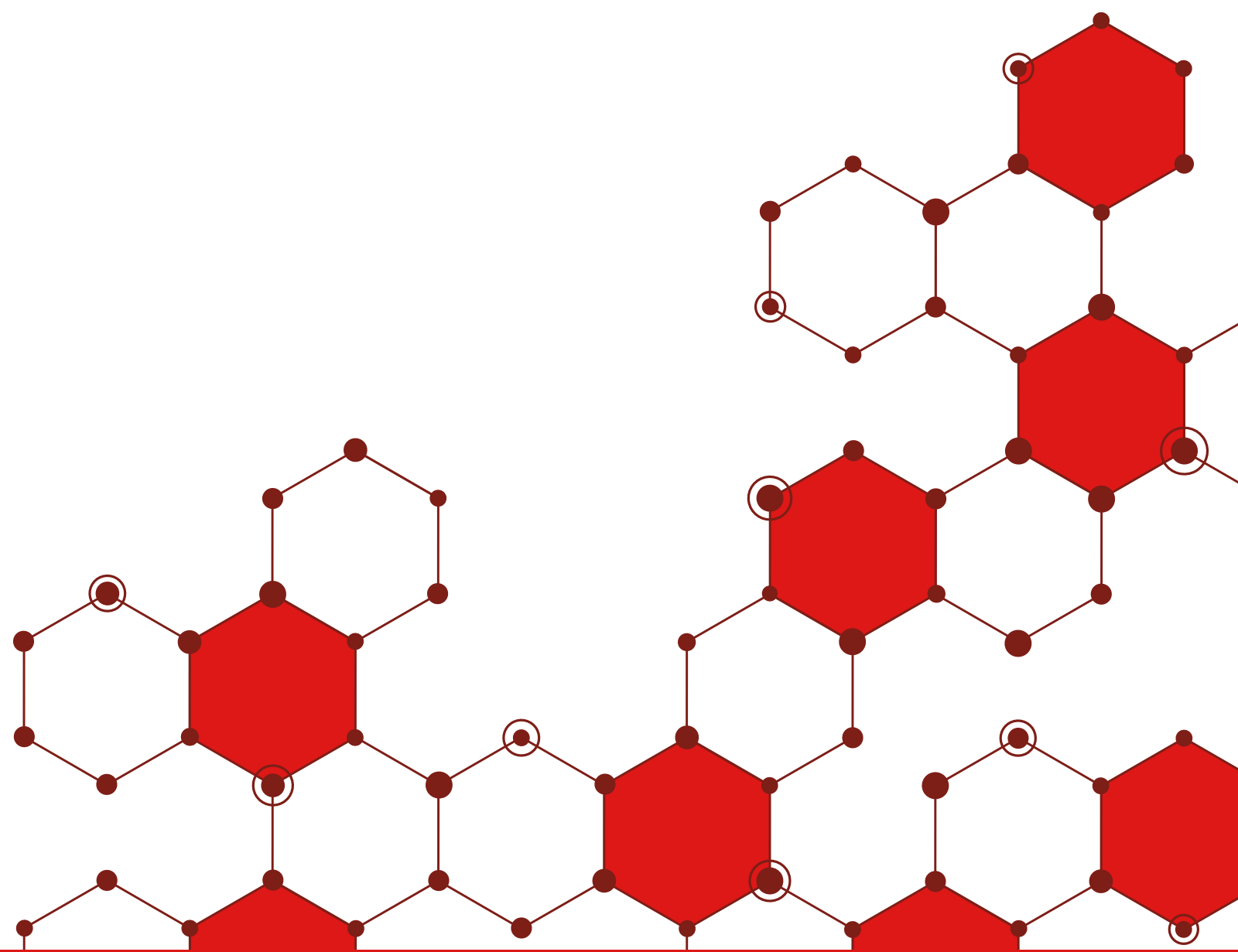
If you, or someone you know, is suffering from symptoms, call your doctor or get yourself tested at authorized clinics. For more information, please visit the Dubai Health Authority website: **www.dha.gov.ae/Covid19/Pages/home.aspx**