

Research

A Novel Coronavirus Emerging in World — Key Questions for Developing Countries and Under Developed Countries

Dr. Siddhartha Manandhar

Zhejiang University School of Medicine, Second Affiliated Hospital of Zhejiang University (SAHZU), 866 Yu Hang Tang Lu, Xihu, Hangzhou, Zhejiang, P.R. China

Dr. Prami Nakarmi

Kathmandu Medical College and Teaching Hospital, Affiliated to Kathmandu University, Sinamangal Road, Kathmandu 44600, Nepal

Nishchal Baniya

College of Chemical Engineering and Technology, Zhejiang University of Technology, No 288 Liuhe Road, Xihu, Hangzhou, Zhejiang 310023, P.R. China

***Corresponding author**

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Abstract: Novel coronavirus, assigned as 2019-nCoV, rose in Wuhan, China, toward the finish of 2019. As of January 24, 2020, in any event 830 cases had been analyzed in nine nations: China, Thailand, Japan, South Korea, Singapore, Vietnam, Taiwan, Nepal, and the United States. Twenty-six fatalities happened, for the most part in patients who had genuine hidden illness. Although numerous subtleties of the rise of this infection —, for example, its birthplace and its capacity to spread among people — stay obscure, an expanding number of cases seem to have come about because of human-to-human transmission. Given the serious intense respiratory disorder coronavirus (SARS-CoV) episode in 2002 and the Middle East respiratory disorder coronavirus (MERS-CoV) flare-up in 2012, 2019-nCoV is the third coronavirus to develop in the human populace in the previous two decades — a rise that has put worldwide general wellbeing establishments on high alarm.

Keywords: coronavirus, 2019-nCoV, China, Country, world

Introduction

Coronaviruses, a family of viruses within the Nidovirus superfamily, were divided into three groups (1, 2, 3), originally based on antigenic reactivity, later confirmed by genome sequencing. Recently, a new taxonomic nomenclature was adapted by the International Committee on Taxonomy of Viruses (2009) (<http://talk.ictvonline.org/media/g/vertebrate-2008/default.aspx>).

As such, coronaviruses are divided into three genera (alpha, beta and gammacoronaviruses), corresponding to groups 1, 2, 3, within the subfamily coronavirinae, within the family of coronaviridae, and within the order or superfamily of nidovirales. Coronaviruses cause diseases in a variety of domestic and wild animals as well as in humans. Probably the most well-studied coronavirus is the betacoronavirus, murine coronavirus (MuCoV), mouse hepatitis virus (commonly referred to as MHV) that has long provided model systems for the study of central nervous system (CNS) diseases such as encephalitis and multiple sclerosis (MS) and acute hepatitis. While most coronavirus infections cause the common cold in humans, the emergence of the agent for severe acute respiratory syndrome (SARS), the SARS-associated coronavirus (SARS-CoV), also a betacoronavirus, demonstrated the potential for further significant human diseases to result from coronavirus infections. Indeed, shortly after the identification of the SARS-associated human coronavirus (HCoV), new coronavirus were identified in association with more severe infections in humans, NL63 an alphacoronavirus, believed to cause bronchiolitis in children, and HKU1, a betacoronavirus, associated with chronic respiratory disease in the elderly (Pyrce *et al.*, 2007). This review will concentrate on the model MuCoV and the human SARS-CoV.

II. Genome and Virion

Coronaviruses are enveloped positive strand RNA viruses with the largest known RNA genomes, of 30–32 kb (Fig. 1). All coronavirus genomes are arranged similarly with the replicase locus encoded within the 5' end and the structural proteins encoded in the 3' third of the genome arranged in the order hemagglutinin esterase (HE), if present (HE is only present in some betacoronaviruses), spike (S), small membrane (E), membrane (M) and nucleocapsid (N) and internal (I) protein, encoded within the N gene (Fig. 1). The nucleocapsid protein complexes with the genome RNA to form a helical capsid structure found within the viral envelope. Trimers of the spike protein form the peplomers embedded in the envelope giving the virion its corona or crown-like morphology. In some coronavirus virions, the HE protein forms smaller spikes on the membrane. M and E are also transmembrane proteins involved in virus assembly

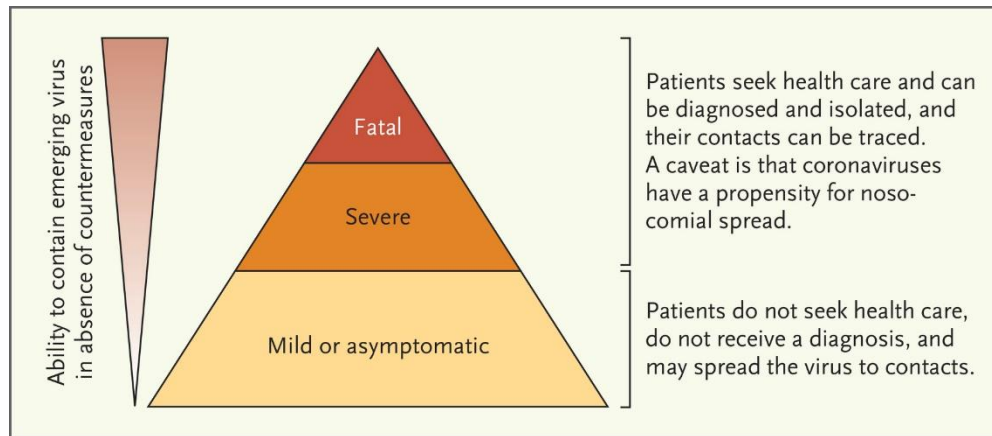


Figure 1. Surveillance Pyramid and Its Relation to Outbreak Containment.

A lot of our reasoning with respect to the connection among transmissibility and pathogenicity of respiratory infections has been impacted by our comprehension of flu. An infection: the adjustment in receptor particularity fundamental for productive human-to-human transmission of avian flu infections prompts a tropism move from the lower to the upper respiratory tract, bringing about a lower sickness trouble. Two essential — and later — models are the pandemic H1N1 infection and the avian flu H7N9 infection. Though the pandemic H1N1 infection — authoritative to receptors in the upper respiratory tract — caused generally gentle malady and got endemic in the populace, the H7N9 infection — official to receptors in the lower respiratory tract — has a case-casualty pace of roughly 40% and has so far brought about just a couple of little bunches of human-to-human transmission.

It is enticing to accept that this affiliation would apply to different infections too, yet such a comparability is anything but guaranteed: two coronaviruses that utilization a similar receptor (ACE2) — NL63 and SARS-CoV — cause malady of various seriousness. Though NL63 generally causes mellow upper respiratory tract infection and is endemic in the human populace, SARS-CoV prompted serious lower respiratory tract malady with a case-casualty pace of about 11% (see table). SARS-CoV was in the long run contained by methods for syndromic reconnaissance, detachment of patients, and isolate of their contacts. Accordingly, illness seriousness isn't really connected to transmission productivity.

Regardless of whether an infection causes subclinical or gentle sickness all in all, a few people might be progressively powerless and wind up looking for care. Most of SARS-CoV and MERS-CoV cases were related with nosocomial transmission in hospitals,⁵ coming about in any event to some degree from the utilization of vaporized producing methodology in patients with

respiratory sickness. Specifically, nosocomial super-spreader occasions seem to have driven enormous flare-ups inside and between medicinal services settings. For instance, venture out from Hong Kong to Toronto by one individual with SARS-CoV brought about 128 SARS cases in a neighborhood medical clinic. So also, the presentation of a solitary patient with MERS-CoV from Saudi Arabia into the South Korean medicinal services framework brought about 186 MERS cases.

The generous contribution of nosocomial transmission in both SARS-CoV and MERS-CoV flare-ups recommends that such transmission is a genuine hazard with other recently developing respiratory coronaviruses. Notwithstanding the powerlessness of social insurance settings to episodes of rising coronaviruses, medical clinic populaces are at fundamentally expanded hazard for inconveniences from contamination. Age and existing together conditions, (for example, diabetes or coronary illness) are autonomous indicators of unfriendly result in SARS-CoV and MERS-CoV. In this manner, developing infections that may go undetected in view of an absence of extreme malady in sound individuals can present noteworthy hazard to defenseless populaces with hidden ailments.

An absence of extreme ailment indications influences our capacity to contain the spread of the infection. Recognizable proof of chains of transmission and resulting contact following are significantly more confused if many contaminated individuals stay asymptomatic or somewhat symptomatic (expecting that these individuals can transmit the infection). Increasingly pathogenic infections that transmit well between people can by and large be contained adequately through syndromic (fever) reconnaissance and contact following, as exemplified by SARS-CoV and, all the more as of late, Ebola infection. In spite of the fact that regulation of the progressing Ebola infection flare-up in the Democratic Republic of Congo is convoluted by rough clash, every single past episode were contained through distinguishing proof of cases and following of contacts, regardless of the infection's proficient individual to-individual transmission.

We as of now don't have a clue where 2019-nCoV falls on the size of human-to-human transmissibility. In any case, it is protected to expect that if this infection transmits effectively, its apparently lower pathogenicity as contrasted and SARS, conceivably joined with super-spreader occasions in explicit cases, could permit huge scope spread. Right now, infection that represents a low wellbeing danger on the individual level can represent a high hazard on the populace level,

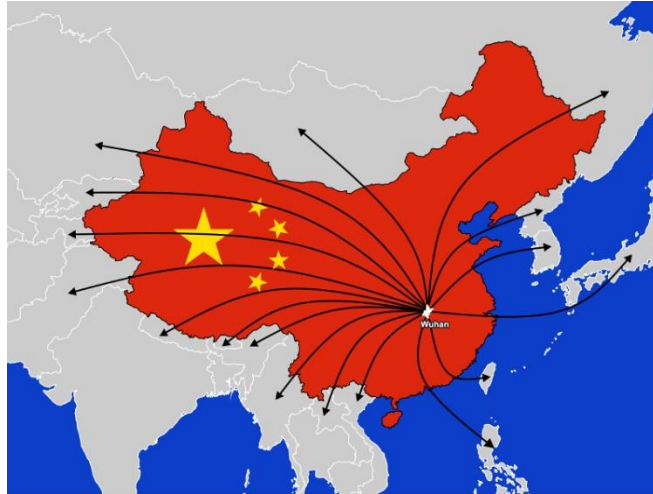
with the possibility to cause disturbances of worldwide general wellbeing frameworks and monetary misfortunes. This chance warrants the current forceful reaction planned for following and diagnosing each tainted patient and along these lines breaking the transmission chain of 2019-nCoV.

Epidemiologic data on the pathogenicity and transmissibility of this infection acquired by methods for atomic discovery and serosurveillance is expected to fill in the subtleties in the observation pyramid and guide the reaction to this flare-up. In addition, the affinity of novel coronaviruses to spread in medicinal services habitats shows a requirement for fringe human services offices to be on reserve to distinguish potential cases also. What's more, expanded readiness is required at creature markets and other creature offices, while the conceivable wellspring of this developing infection is being examined. On the off chance that we are proactive in these manners, maybe we will never need to find the genuine scourge or pandemic capability of 2019-nCoV.

Table 1. Pathogenicity and Transmissibility Characteristics of Recently Emerged Viruses in Relation to Outbreak Containment.

| Pathogenicity and Transmissibility Characteristics of Recently Emerged Viruses in Relation to Outbreak Containment. | | | | |
|---|------------------------|----------|---|--|
| Virus | Case Fatality Rate (%) | Pandemic | Contained | Remarks |
| 2019-nCoV | Unknown* | Unknown | No, efforts ongoing | |
| pH1N1 | 0.02–0.4 | Yes | No, postpandemic circulation and establishment in human population | |
| H7N9 | 39 | No | No, eradication efforts in poultry reservoir ongoing | |
| NL63 | Unknown | Unknown | No, endemic in human population | |
| SARS-CoV | 9.5 | Yes | Yes, eradicated from intermediate animal reservoir | 58% of cases result from nosocomial transmission |
| MERS-CoV | 34.4 | No | No, continuous circulation in animal reservoir and zoonotic spillover | 70% of cases result from nosocomial transmission |
| Ebola virus (West Africa) | 63 | No | Yes | |

* Number will most likely continue to change until all infected persons recover.



The World Health Organisation (WHO) has declared the Covid-19 outbreak as a global public health emergency. The US also declared the outbreak as a public health emergency on 1 February, followed by many other countries, as coronavirus numbers continue to rise. Airports across the world are deploying screening measures to isolate passengers with symptoms related to the disease to contain the spread of the disease.

Covid-19 currently has no cure but researchers in China and pharmaceutical companies including Abbvie, Inovio, and Gilead Sciences are working on developing treatments.

Below is the list of coronavirus affected countries and the number of confirmed cases of coronavirus by country.

Republic of Korea (South Korea)

As of 25 February, a total of 977 confirmed coronavirus cases and ten deaths have been reported in Korea. The country recorded 100 cases on 21 February and 229 more on 22 February in Daegu-city and Gyengbuk province. On 24 February, it reported a further 231 cases. New cases were reported in Busan, Seoul, and Gyeongsang Province on 25 February.

Majority of the new cases are linked to the Shincheonji Church of Jesus in Daegu and Cheongdo Daenam Hospital in Gyengbuk province. A total of 9,300 members of the Shincheonji group are planned to be tested for the virus. All the members have been directed to self-isolate to contain the spread of the virus.

The government has raised the level of warning for coronavirus from border to severe, following the spike in new cases. People in the Daegu and Gyeongbuk areas have been advised to avoid public gatherings, and seek medical attention if they have any symptoms of coronavirus.

The first coronavirus case was reported in a 35-year-old Chinese woman from Wuhan who travelled to Korea on 20 January 2020.

Thailand

A total of 37 confirmed cases have been reported in Thailand. The latest cases include a 31-year-old woman, who had close contact with a family member with a travel history to China. Another case is a taxi driver who was in close contact with Chinese tourists.

The first imported case of the coronavirus was confirmed in a 61-year woman by the Thailand Ministry of Public Health on 13 January 2020. The woman travelled to Wuhan, along with five members and a tour group of 16 people.

Thailand receives the highest number of travellers from the high-risk cities in Mainland China, according to WorldPop data.

Italy

Italy has a total of 272 coronavirus-confirmed cases as of 25 February. The country also reported the first death in the country on 22 February, followed by another a day later and five more on 24 February. A total of seven deaths have been reported in the country, as of 25 February.

Majority of the new cases are being reported in Lombardy and Veneto regions. The government has implemented various measures to control the spread of virus including ban on public events in ten municipalities, limited transport, and closure of public buildings. The Venice Carnival, an annual event, has been closed as part of the measures.

Italy earlier reported three confirmed coronavirus cases, the third one being one of 56 Italian nationals who departed from Wuhan and placed under isolation. He has been shifted to Rome's Spallanzani Institute for treatment.

The first two coronavirus cases were reported on 30 January 2020. The patients are Chinese tourists who arrived in Rome and are currently placed under isolation in Spallanzani institute.

As an immediate measure, Italy has cancelled all direct flights to China and made quarantine mandatory to those traced to have contact with the infected.

China

As of 25 February, a total of 77,754 confirmed cases have been reported in Mainland China. The number of new cases reported in China declined for the first time since the outbreak on 18 February. More than 1,800 patients were discharged on 18 February.

The highest number of confirmed cases continue to be reported from the Hubei province, where the virus originated. The number of coronavirus deaths and cured cases is also the highest in the province.

The province reported 14,840 new confirmed cases on a single day, on 12 February. The spike in coronavirus numbers in Hubei occurred after healthcare workers began using a new methodology of CT scans for faster diagnosis of the disease. Nucleic acid tests were used earlier to evaluate suspected cases. China has started reporting cases confirmed using the new methodology under the clinically diagnosed category.

China reported the first confirmed case of the coronavirus infection originating in Wuhan in December 2019. The special administrative regions of Macau and Hong Kong reported the first confirmed cases on 22 January and 23 January, respectively. As of 25 February, ten confirmed cases have been reported in Macau.

Hong Kong reported a total of 81 confirmed cases including two deaths, as of 25 February. The second death in the country reported on 19 February was of a 70-year-old man, who was being treated at the Princess Margaret Hospital.

A total of 364 Hong Kong nationals were onboard the Diamond Princess cruise ship. More than 200 nationals have been evacuated and placed under quarantine.

Some of the coronavirus cases reported in Hong Kong were reported to have spread through open vent pipes within a residential building named Hong Mei House. Two confirmed cases were reported from among 100 residents living in 30 apartments in the building. The remaining residents have been shifted to quarantine centres. Health authorities decided to perform a thorough cleaning and disinfection in the building.

Japan

Japan has reported a total of 160 confirmed cases as of 25 February, excluding 691 cases confirmed on the Diamond Princess cruise ship.

First coronavirus death in Japan was reported on 13 February. The death was of a woman in her 80s in Kanagawa Prefecture near Tokyo.

Japan was the second country to report a coronavirus infection outside China in a man who travelled to Wuhan. The first Covid-19 case was reported on 16 January 2020.

Increasing cases are being reported from a group of tourists aboard the Diamond Princess cruise ship, which has been quarantined off Yokohama. A total of 3,711 passengers and crew were on

board the cruise ship. Two elderly people including an 87-year-old man and an 84-year-old woman out of the confirmed cases died on 20 February. A third death of an 80-year-old man was reported on 23 February.

The Japanese health officials allowed passengers who did not exhibit any symptoms of the disease since the beginning of the quarantine period and tested negative for the virus to disembark the ship on 19 February.

According to WorldPop data, Japan receives the second-highest number of travellers from the high-risk Chinese cities affected by the COVID-19. Japan has evacuated more than 800 citizens from Wuhan city and Hubei province in five evacuation flights, as of 17 February.

Kuwait

Kuwait announced eight confirmed cases of coronavirus infection on 25 February. The patients include a 53-year-old Kuwaiti national, a 61 year old Saudi national, and another 21-year-old man of unknown nationality.

The confirmed cases are part of 700 people evacuated from the Mashhad city in Iran. All three patients are reported to be in a stable condition.

Bahrain

Eight confirmed cases of coronavirus infection were reported in Bahrain on 25 February. The patient is a Bahraini citizen who arrived in the country from Iran. He has been transferred to the Ebrahim Khalil Kanoo Medical Centre for treatment.

Bahrain announced preventive measures to contain the spread of the virus including monitoring of passengers arriving from infected countries. The country has advised citizens experiencing symptoms of the disease to self-isolate and seek immediate medical attention.

Singapore

A total of 90 confirmed cases have been reported by the Ministry of Health in Singapore, as of 25 February.

Some of the recent cases confirmed by the government are linked to a cluster at two churches including Grace Assembly of God and The Life Church and Missions. Other cases are contacts of previously confirmed cases. Health authorities are currently tracing persons who may have come in contact with the latest cases.

A two-year-old female Singapore citizen, who was evacuated from Wuhan on 30 January, is also one of the confirmed cases. A total of 937 suspected cases have tested negative for the virus. Test results from a total of 103 suspected cases are currently pending.

The first confirmed case of the disease was reported on 23 January 2020 in a 53-year-old female Chinese national from Wuhan. The initial cases were related to a 56-year-old male from China who arrived in Singapore with his family. Another case was of a 35-year-old male also from Wuhan, China, who arrived with friends and family.

US

The US has reported 53 confirmed cases of the coronavirus infection till date. Among the total cases, 39 are reported from evacuees from China and the Diamond Princess cruise ship.

The first case of the infection was reported in Washington on 21 January 2020 in a person who travelled to Wuhan and returned to the US.

The second case was reported in Illinois in another person who travelled to Wuhan. The states with confirmed cases of the infection are Arizona, California, Illinois, Massachusetts, Wisconsin and Washington.

Taiwan

Taiwan's Central Epidemic Command Center (CECC) confirmed additional cases of coronavirus infection on 25 February bringing the total cases to 30. Taiwan became the third Asian country to report a death from coronavirus infection on 17 February. The latest cases included a female in her 80s and a male in his 30s. Both the new cases are contacts of previously confirmed cases.

A total of 1,913 cases have been reported in the country, out of which 1,812 have tested negative and results are awaited for the remaining.

Taiwan reported the first case of the coronavirus infection on 21 January 2020. The initial confirmed cases included two 70-year-old Chinese women who worked in Wuhan.

Canada

Ten confirmed cases have been reported in Canada as of 25 February, the latest one being in British Columbia. The regions with confirmed cases include British Columbia and Ontario.

A total of 352 Canadians are on board the Diamond Princess cruise ship, out of whom 43 have tested positive for the infection. The Canadian government will send a charter flight will arrive in Tokyo on 19 February to evacuate its citizens.

The first case of coronavirus infection was reported on 25 January 2020 by the Government of Ontario in a man who visited Wuhan. The second case was that of the patient's wife and confirmed of having the infection on 27 January 2020.

On 28 January 2020, a third case was confirmed by the Government of British Columbia in a patient who visited the city of Wuhan.

Iraq

As of 25 February, six confirmed cases of coronavirus infection have been reported in Iraq. The country confirmed its first case of coronavirus on 24 February. The patient is a Iranian student living in Najaf city.

Iraq has since banned the entry of foreign nationals and closed its borders to Iran and Kuwait.

Oman

Two confirmed coronavirus cases were reported in Oman on 24 February. The patients are two women who entered the country from Iran.

The country has suspended all civilian flights to Iran, after the cases were confirmed.

Iran

As of 24 February, Iran has reported 61 confirmed cases and 12 deaths, the highest outside China.

The country reported two coronavirus-related deaths on 20 February in the city of Qom, near Tehran. Iran is the first to report deaths in the Middle East region. The two deaths were of elderly people who tested positive for the virus and developed acute lung infections, soon after.

Suspected cases of coronavirus were previously reported, although the number was not officially announced. Iran has made available digital thermometers at 36 borders and is observing the suspected at hospitals.

The sanctions imposed by the US are making it difficult for Iran to handle the outbreak as it struggles to find access to coronavirus diagnostic kits and treatments.

Afghanistan

Afghanistan announced the first confirmed case of coronavirus in the country on 24 February in the Herat province, which borders Iran. Three suspected cases of the coronavirus have been announced in the country.

The government has temporarily suspended air and land travel between Iran as well as the import of meat and eggs from the country.

Israel

Two confirmed cases of coronavirus infection has been reported among 11 evacuees who were on board the Diamond Princess cruise ship. The person has been transferred to the Sheba Medical Center in Tel Hashomer. The remaining evacuees will be placed under quarantine for two weeks.

Four more Israelis who were on board the cruise ship in Japan tested positive for the virus. The patients have been transferred to a medical center in Japan and are reported to have a mild case of infection.

The government is also implementing various measures to fight the spread of coronavirus including closure of hotel tourist sites, setting up of isolation units and restrictions on large gatherings.

United Kingdom (UK)

A total of 13 cases have been reported in the UK, till date. The UK Department of Health and Social Care confirmed four new cases on 24 February. The patients acquired the infection on the Diamond Princess cruise ship.

An additional case of coronavirus infection on 12 February. The new case is of a person who acquired the virus in China. The latest cases have been placed under specialist care at the Guy's and St Thomas' Royal Free hospitals.

The UK Secretary of State also announced new regulations to deal with the prevention of coronavirus infection, which has now been categorised as a serious and imminent threat to public health. Further, the Arrows Park Hospital and Kents Hill Park have been designated as isolation facilities and Wuhan city and Hubei province have been classified as infected areas.

The first two coronavirus cases in the UK were confirmed on 31 January. The two patients are members of the same family and currently undergoing specialist care by the National Health Service.

A third case was confirmed on 06 February by the Department of Health and Social Care. The UK has so far tested 795 suspected cases of the Wuhan coronavirus.

More than 70 UK citizens are onboard the Diamond Princess cruise ship in Japan. The UK government evacuated 30 citizens along with two Irish citizens on the cruise ship on 22 February.

Spain

A total of three cases have been confirmed in Spain by the Spanish National Centre for Microbiology. The second case is one of four family members of British origin who came in contact with a person in France who was diagnosed with the virus. He is currently placed under observation in Mallorca. The remaining members of the family have tested negative for the virus. The first confirmed case of the novel coronavirus infection was reported in Spain on 1 February by the country's National Centre for Microbiology. The male patient was part of group of five other people who came in contact with a German national who was diagnosed with the infection. The patient along with the other people in the group have been placed under isolation in the La Gomera island.

World Mobile Congress cancelled due to coronavirus outbreak

The organisers of World Mobile Congress to be held in Barcelona, Spain, cancelled the event considering the coronavirus risks and the ongoing outbreak.

Lebanon

Lebanon reported the first confirmed case of coronavirus infection on 22 February. The patient is a 45-year-old woman who arrived in the country from the the city of Qom in Iran, reported Anadolu Agency. The health authorities have contacted all passengers on the flight taken by the confirmed case.

Two more suspected cases have been reported in the country.

Australia

Australia has reported 22 confirmed cases of the coronavirus infection, including five in Queensland, four in New South Wales, four in Victoria, and two in South Australia. Two new cases were confirmed on 21 February in citizens that were evacuated from the Diamond Princess cruise ship. The two patients tested negative in previous diagnoses in Japan.

Health authorities are currently testing suspected cases who have shown symptoms of the virus.

The first coronavirus infection in Australia was confirmed on 25 January 2020 in a man who travelled from Guangzhou to Melbourne. On 29 January 2020, two new cases of the infection were reported including one in Queensland and another in Victoria.

Australia has evacuated its citizens from Wuhan since the outbreak. The citizens who were placed under quarantine in Christmas Island for a period of 14 days were allowed to travel to their homes on 17 February.

France

A total of 12 confirmed coronavirus cases have been reported in France as of 22 February. The first coronavirus-related death occurred in France on 15 February, making it the first death in Europe.

The latest cases reported are of five British nationals who came in contact with another British national who recently returned from Singapore, as reported by the BBC. The British nationals were staying at the Contamines-Montjoie ski resort, in Haute-Savoie in Southeastern France.

France was the first European country to report two coronavirus cases on 24 January 2020. A third case, confirmed on 25 January 2020, was that of a relative of one of the confirmed cases. The three patients contracted the virus during their stay in China according to France's Ministry of Solidarity and Health. Two of the patients are being treated in Paris while the other is undergoing treatment in Bordeaux.

The fourth case was confirmed on 29 January 2020. The case is an elderly Chinese tourist from the Hubei Province. The daughter of the fourth patient has been identified as the fifth confirmed case in France.

Egypt

Egypt confirmed the first and the only coronavirus infection case so far in the country, on 14 February. The person is a Chinese national who arrived in the country but did not show any symptoms of the disease.

The case was confirmed through active follow-up by the government with people arriving from countries affected by coronavirus. The patient has been placed under isolation in the Matrouh governorate in northwestern Egypt.

Malaysia

Coronavirus cases in Malaysia are at 22 as of 21 February. The Malaysian Ministry of Health announced on 16 February that the number of confirmed cases of coronavirus infection in the country increased to 22. The latest cases are of Chinese citizens including a 27-year-old man and a 32-year-old woman.

The 14th case reported in Malaysia was the first human to human transmission to have occurred in the country. Out of the 22 confirmed cases, eight patients have recovered and have been discharged from the hospital.

The first case in the country was reported on 25 January 2020. A 40-year-old man from Wuhan who was travelling to Johor with a group 17 Chinese nationals was one of the first cases reported.

Three new cases of the infection were reported on 29 January 2020. These cases included a close contact case who is the daughter-in-law of the one first patient who tested positive for the infection. The other two cases were of a four-year-old girl and a 52-year old man.

India

A total of three confirmed cases have been reported in India. The Ministry of Health & Family Welfare of India confirmed the first case of coronavirus on 30 January 2020, followed by the second on 02 February. The first confirmed case was of a student who arrived in Kerala from Wuhan and tested positive for the virus. All three confirmed cases have recovered and have been discharged from the hospital.

The highest number of coronavirus suspected cases are in Kerala, while suspects have also been reported in other states including Delhi, Punjab, Haryana, Bihar, Maharashtra, Telangana, Karnataka, and Rajasthan.

Apart from the confirmed cases in Kerala, five passengers on board the Diamond Princess cruise ship have tested positive for the coronavirus infection, as of 17 February. A total of 138 passengers and crew members are onboard the ship. The Indian Embassy is working towards disembarking all Indians on board the vessel.

India temporarily suspended the e-visa issue to those in China and cancelled the ones already issued, on 02 February.

The Indian embassy announced a special flight to Wuhan on 17 February that will carry medical supplies. During its return journey, the flight will carry Indian citizens planning to return to the country.

United Arab Emirates

A total of 13 confirmed cases have been reported by the UAE Ministry of Health and Prevention in the United Arab Emirates (UAE). The latest case is an Indian national who came in contact with an infected person.

The first coronavirus case was confirmed on 29 January 2020 in a family, which arrived from Wuhan. The remaining three members of the family were later confirmed to have contracted the infection.

The Dubai and Abu Dhabi International airports in the UAE are ranked as some of the world's busiest airports in the world. The country is carrying out screening procedures for all passengers arriving from China as a precautionary measure to control the spread of the virus.

Vietnam

The total number of confirmed cases of coronavirus infection have increased to 16 in Vietnam. The confirmed cases include two Chinese citizens (recovered and discharged), six Vietnamese citizens from Wuhan (four recovered and discharged), six Vietnamese citizens (one recovered and discharged) and one America citizen who transited through China. The 15th case is reported to be of a three-month-old baby girl.

The latest cases were in close contact with previously infected patients. The 16th case is a 50-year-old male who is the father of a previously confirmed case in the Son Loi commune in Vinh Phuc province. The Vietnam government has placed the Son Loi commune under lockdown, as the number of confirmed cases reported in the commune increased. Residents are not allowed to leave the commune for a period of 20 days to prevent the spread of the disease. This is the first such lockdown issued outside of China.

The government is also implementing various steps to control the spread of the disease including postponing the reopening of schools until February 23. Further, a field hospital with 300 beds has been prepared in Vinh Phuc province to quarantine and treating COVID-19 patients. A quarantine area with 200 beds has also been set up in Vinh Yen city.

Vietnam joined the list of coronavirus countries when the first confirmed case was reported on 23 January 2020 in a Chinese national who returned from Wuhan. His son later contracted the infection, but is reported to have been cured although the father is still on oxygen support due to a lung injury. The Vietnam cases confirmed that the 2019-nCoV can spread from person to person.

The Vietnam National Administration of Tourism is planning to stop the flow of tourists from China in order to contain the spread of the virus.

Germany

A total of 16 confirmed cases of the coronavirus infection have been reported in Germany. The latest cases are reported among staff at a company based in the Starnberg district west of Munich, reported Reuters.

The Bavarian State Office for Health and Food Safety disclosed the first confirmed case of coronavirus infection on 28 January 2020. The male patient residing in Starnberg near Munich did not travel to China, but had a meeting with a Chinese national and is in stable condition.

Three new cases of coronavirus infection were reported on 29 January 2020. The patients are employees of the same company where the first confirmed case was reported. They are currently being treated in isolation at a hospital in Munich. All the three are reported to have contracted the disease from the Chinese national who visited their company but did not know that she was infected.

Philippines

A total of three confirmed cases have been reported in the country. The country also reported the first death due to coronavirus outside China when a 44-year old male died on 01 February.

More than half the crew onboard the Diamond Princess cruise ship are Filipinos, apart from seven passengers. The government has approved the repatriation of the citizens in a special charter flight.

The first case of coronavirus infection in the Philippines was confirmed on 30 January 2020. A 38-year-old Chinese woman from Wuhan tested positive for the virus and is currently undergoing treatment at a government hospital. She is a close contact of the person who died due to the infection.

The Philippines reported a total of 133 suspected cases in the country. Japanese experts initially helped the country in testing potential cases. The RNA primer required for conducting the testing has now been provided to the country to carry out tests on its own.

Belgium

Belgium confirmed its first coronavirus case on 04 February when one of those repatriated tested positive for the virus. The case refers to a person who returned from Wuhan recently. The patient has recovered and has been discharged.

A total of nine suspected cases of Covid-19 were reported in the country, including the one that was tested positive and recovered eventually.

Russia

Two cases of the novel coronavirus were confirmed in Russia on 31 January in Chinese citizens, in Zabaikalsky and Tyumen regions.

Russia's first coronavirus suspect was reported on 30 January, according to Turkish state-run Anadolu Agency. The case was of a Russian citizen who returned from Moscow and found to have symptoms associated with the infection.

To prevent spread, Russia has already closed its border with China and restricted rail services to the affected Chinese regions.

Sweden

The Swedish Public Health Authority has confirmed the first coronavirus case in Jonkoping on 31 January.

The infected is a woman who arrived in Sweden from Wuhan on 24 January but didn't have associated symptoms at that time. She is currently isolated at the Ryhov county hospital.

Finland

Finland confirmed its first case of the coronavirus infection on 29 January 2020. The patient is a 32-year old female Chinese tourist from Wuhan. She was treated at the Lapland Central Hospital in northern Finland and has since recovered.

Another 15 persons may have been exposed to the infection, according to the Finnish Institute for Health and Welfare.

Sri Lanka

One confirmed case of coronavirus infection has been reported in Sri Lanka on 27 January 2020. The patient, a 40-year-old Chinese woman, tested positive for the virus. Sri Lanka has since taken preventive measures to contain the spread of the virus including suspension of granting of on-arrival visa for Chinese travellers.

The country has emerged as a major tourist destination for Chinese nationals in the recent past and also has several Chinese workers employed in various infrastructure projects. Students from Sri Lanka are also studying at various universities in China. The government has evacuated more than 30 students from Wuhan.

Cambodia

Cambodia reported the first case of the coronavirus infection on 27 January 2020. The patient is a 60-year-old man from Wuhan who travelled to Cambodia's Preah Sihanouk province. He arrived in the country along with three family members who have tested negative for the virus. The patient has reportedly recovered and left the country.

Cambodian aviation authorities have cancelled all flights between the country and Wuhan City to contain the spread of the virus.

Nepal

The first coronavirus infection case was confirmed by Nepal's Ministry of Health and Population on 25 January 2020 in a male student studying in China. The person has since recovered and discharged from the hospital.

Two more suspected cases have been reported in a man and woman who are currently being tested for the virus. Both the patients have been placed under isolation at the Sukraraj Tropical and Infectious Disease Hospital in Kathmandu.

The Nepalese government evacuated 175 Nepali citizens from various parts of the Hubei province on 16 February. A chartered Airbus A330 aircraft flew the citizens, including students and visitors, back to the country. The evacuees will be placed under quarantine for two weeks.

African wellbeing specialists are venturing up readiness for coronavirus after the leader of the World Health Organization depicted the episode as a "grave risk for the remainder of the world".

Despite the fact that the quantity of cases in China seemed to have balanced out and begun to decrease, "this flare-up could even now go toward any path," said Dr Tedros Adhanom Ghebreyesus on Wednesday.

Talking after the WHO's choice not to portray the status of the Ebola pestilence in the Democratic Republic of the Congo as a general wellbeing crisis of worldwide concern, Tedros underscored the need to improve wellbeing frameworks against the new coronavirus and other destructive flare-ups. "Our biggest dread remains the harm the coronavirus could do in a nation like DRC," he said.

Summary and Recommendations

●Coronaviruses are the cause of 5 to 10 percent of community-acquired upper respiratory tract infections in adults, occurring sporadically or in outbreaks of variable size, and probably also play a role in severe respiratory infections in both children and adults, particularly adults with underlying pulmonary disease and older adults. (See 'Introduction' above and 'Clinical manifestations' above.)

●Coronaviruses are medium-sized enveloped positive-stranded RNA viruses whose name derives from their characteristic crown-like appearance in electron micrographs (picture 1). (See 'Viral composition' above.)

- Community-acquired coronaviruses are ubiquitous; wherever investigators have looked, they have been detected. In temperate climates, coronavirus respiratory infections occur primarily in the winter, although smaller peaks are sometimes seen in the fall or spring, and infections can occur at any time of the year. (See 'Epidemiology' above.)
- Most community-acquired coronavirus infections are diagnosed clinically, although reverse-transcriptase polymerase chain reaction applied to respiratory secretions is the diagnostic test of choice. (See 'Diagnosis' above and "Middle East respiratory syndrome coronavirus: Clinical manifestations and diagnosis", section on 'Diagnosis'.)
- There is currently no treatment recommended for coronavirus infections except for supportive care as needed. (See 'Treatment and prevention' above and "Middle East respiratory syndrome coronavirus: Treatment and prevention", section on 'Treatment'.)
- Severe acute respiratory syndrome coronavirus and Middle East respiratory syndrome coronavirus are discussed in detail separately. (See "Severe acute respiratory syndrome (SARS)" and "Middle East respiratory syndrome coronavirus: Virology, pathogenesis, and epidemiology".)
- In late 2019, a novel coronavirus was identified as the cause of a cluster of pneumonia cases in Wuhan, a city in China. It subsequently spread throughout China and elsewhere, becoming a global health emergency. In February 2020, the World Health Organization designated the disease COVID-19, which stands for coronavirus disease 2019. Previously, this virus was referred to as 2019-nCoV. COVID-19 is discussed in detail elsewhere. (See "Coronavirus disease 2019 (COVID-19)".)

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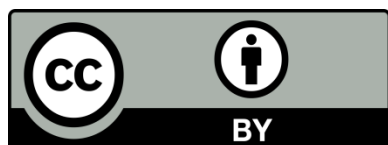
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Dedication

Not mentioned.

Conflicts of Interest

There are no conflicts to declare.



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