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2020-05-14 DAILY UNM GLOBAL HEALTH COVID-19 BRIEFING

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DAILY UNM GLOBAL HEALTH COVID-19 BRIEFING

May 14, 2020

Executive Summary

NM restrictions loosen. NM case count. Navajo Nation case count. 9 state parks open. Sunport revenue loss. Trump projects vaccine delivery. Wisconsin court case. Smokers quit. Ireland reopening. Danish schools open. Philippine typhoon evacuation. PPE-induced pressure injuries and facial dermatoses. U.S. mask stockpile. PPE for surgeons. Intubation time with aerosol box. Consumer spending with social restrictions. Suicide increase expected. Undetected virus homeless. Chinese infection control. 5% Spain infected. Sanitizing booth. Healthcare worker infection routes. Kawasaki disease France. CDC Kawaski guidance. Italian deaths characterized. CDC reopening school guidance. COVID-19 and epistemology. Monitoring misleading claims. UN mental health policy brief. CDC vaccination schedules. Guidelines on managing endoscopy units. COVID-19 lab testing (for lab professionals). Cancer surgery triage. Operating room practices. Orthodontic treatment. 3D printed NP swabs effective. Salt-water irrigation reduces duration. Corticosteroids ineffectual. Vaccines require biomanufacturing infrastructure. French pharm giant promises fair vaccine distribution. 26 new trials registered. LDH, lymphocytes and hs-CRP predict mortality. Fibrinogen higher in SARS. Insulin resistance. Glycemic monitoring. Hemostasis abnormalities. New phobia scale. OR global consensus. Inpatient cognitive assessments are challenging. Loud speech increases transmission. Monkeys present similarly. Human-to-dog transmission. Cat transmission.

All of our past briefings are maintained in a UNM library repository here.

Our continuously curated practice guidelines in the context of COVID-19 can be found here.

Our continuously curated therapeutic evidence is maintained here.

You may submit content for future briefings here.

NM Highlights

Governor extends public health order through May 31 and lifts numerous restrictions

On Saturday (5/16), a lot more businesses throughout New Mexico can reopen except for Cibola, San Juan and McKinley Counties. Dining in restaurants, malls, salons, and gyms will have to wait until early June for reopening. All retailers and nonessential businesses can operate at no more than 25% of capacity. Churches can operate at 10% occupancy. Programs and sports camps will be restricted to a 5-to-1 child to adult rations. There will be no contact or competitive play. Face coverings will be required in all public places, with exceptions to eating, drinking, exercising, and medical requirements.

<u>NM reports 11 more COVID-19 deaths and 143 additional cases on May 14</u>

As of today (5/14), the total positive cases and total deaths in the state are 5,503 and 242, respectively. The state has performed 119,601 tests, there are 209 individuals currently hospitalized for COVID-19, and 1,576 COVID-19 cases have recovered. NMDOH portal featuring epidemiologic breakdown of cases.

• COVID-19 cases rise to 3,392 on Navajo Nation and 119 total reported deaths

The Navajo Department of Health reported 147 new COVID-19 cases and 16 additional deaths Wednesday (5/13), bringing the Navajo Nation to a total of 3,392 cases with 119 confirmed deaths. 1414 of the cases are in NM counties.

• <u>9 additional state parks to reopen May 15th</u>

The parks will be day use only and all planned events have been cancelled through the end of May. Many parks will have capacity limits. The parks that are reopening are: Oasis, Oliver Lee, Clayton Lake & Dinosaur Trackways, Pancho Villa, Mesilla Valley Bosque, Living Desert Zoo and Gardens, Coyote Creek, City of Rocks, and Rockhound State Parks.

• Albuquerque International Sunport predicts \$31 million revenue loss through fiscal year 2022

The current forecasts anticipate \$31 million in total revenue losses through fiscal year 2022 as the air traffic dropped due to coronavirus pandemic. Albuquerque officials are unsure of how much of the flight activity lost in recent months will return to the marketplace. Airlines benefiting from federal CARES Act relief money are required to maintain a minimum level of air service around the country.

US Highlights

President Trump mobilizing U.S. military to deliver coronavirus vaccine by end of 2020

President Trumps' plans to utilize the US military for vaccine distribution with a set goal of 300 million vaccine doses by the end of 2020.

• Wisconsin Supreme Court lifts governor's stay-at-home order

<u>NYT</u>- A 4 - 3 Supreme Court vote ruled that the state's top health official had not followed proper protocol when setting the limits for the residents. Consequently, the ruling lifted the statewide measures requiring residents to stay home. <u>CNN's view</u>.

• Fear of coronavirus propels some smokers to quit

Early studies suggest that smokers who develop COVID-19 are 14 times more likely to need intensive treatment compared with nonsmokers. Doctors in California highlight the connection between COVID-19 and smoking as another reason people should quit.

International Highlights

• Ireland planning on reopening

Dublin reports a reproductive range of 0.4-0.6 which has remained below 1 for several weeks. Admissions have fallen from 100/day at the beginning of April to 15/day this week.

• Primary schools in Denmark have been open for a month

Denmark first to reopen primary schools in order to relieve working parents. The students are separated into groups of 10 in the classroom, and only allowed to play with 4 other students while on recess. They wash their hands 5-6x per day without close contact, such as hugging each other. Denmark was able to control the virus early on having fewer than 550 deaths.

• Typhoon Vongfong hits Philippines, coronavirus complicates evacuation

Strapped for resources, Provincial and city governments are grappling with logistical and space issues evacuating approximately 200,000 people. Overcrowding in emergency shelters is common during typhoon season and social distancing makes the evacuation more difficult. All emergency shelters have been turned into quarantine facilities with medical equipment but may have to be rearranged back into evacuation centers.

Economics, Workforce, Supply Chain, PPE Highlights

• <u>N95 respirator associated pressure ulcer amongst health care workers</u>

International Wound Journal: The authors conducted a study on five healthcare workers serving in the ICU at Hospital Sungai Buloh in Malaysia. The HCWs presented with pressure ulcers over the dorsum of the nose following prolonged usage (over 5 hours) of the N95 respirator. The HCWs reported securing the N95 respirator tighter than required due to fear of contracting the virus. To prevent the development of pressure ulcers, the authors advocate for proper PPE training and recommend HCWs to apply prophylactic barrier cream 30 minutes prior to donning.

• The prevalence and characteristics of pressure injury in medical staff wearing PPE in China

A multicenter cross-sectional survey. Medical staff has been experiencing device-related pressure injury (DRPI) from PPE use. This study conducted a cross-sectional survey to investigate DRPI. The study found that risk factors for DRPI included wearing level 3 PPE, sweating, being male, and having a longer wearing time.

• PPE induced facial dermatoses in healthcare workers managing COVID-19 cases

A study using telemedicine to interview HCWs determines air-conditioning, proper fitting masks, use of better material in goggles (avoid latex straps) and regular breaks with removal of the mask and wiping of skin to remove sweat, may help in alleviation of dermatoses in HCW. Adequate hydration is useful to avoid dehydration induced dermatoses and dry skin. Moisturizers or emollients are needed to restore the integrity of skin barrier and should be applied at least 30 minutes before wearing mask, to prevent damage to mask. Staff is advised not to smoke if they have applied emollient containing white soft paraffin, as it is flammable. Low potency topical steroid or tacrolimus is required in some cases if above measures fail.

• Trump administrations' plan to stockpile 300 million N95 masks

As states begin to reopen in order to try and curb the economic impact of nationwide shutdowns, the Trump administration seeks to add 300 million N95 masks to the nation's stockpile by fall 2020 in order to be prepared for any future outbreaks. The nation's stockpile had previously only contained 13 million masks.

• PPE for surgeons during COVID-19 pandemic

This systematic review details practical advice on all aspects of PPE (Availability, Usage, and Rationing) specifically to inform surgeons.

• "Aerosol box" use increased intubation time, risking hypoxia for patients

A study of 36 intubations investigated the aerosol box that was developed to protect clinicians from the risk of transmission during intubation. Intubations without a box were <1 minute, whereas intubation time with an aerosol box was >1 minute 75% of the time. First-pass success was obtained in all intubations without the aerosol box and in 19/24 intubations with the aerosol box. Certain aerosol box types were found to cause failure of intubation and breach of PPE.

<u>Relationship between social restrictions and consumer spending: Denmark vs Sweden</u>

This paper uses transaction data from a large bank in Scandinavia to estimate the effect of social distancing laws on consumer spending in the COVID-19 pandemic. Denmark and Sweden were similarly exposed to the pandemic but only Denmark imposed significant restrictions on social and economic activities. We estimate that aggregate spending dropped by about 25 percent in Sweden and, as a result of the shutdown, by 4 additional percentage points in Denmark. This implies that most of the economic contraction is caused by population response to the virus and occurs regardless of whether governments mandate social distancing or not.

Epidemiology Highlights

• Increased suicide rates are estimated following COVID-19 pandemic

The authors used time-trend regression models to assess and forecast excess suicides attributable to the economic downturn following the COVID-19 pandemic. With unemployment rate remaining relatively consistent, the predicted suicide rates per 100,000 are 15.7 in 2020 and 16.2. With a moderate increase in projected unemployment rate, suicide rates per 100,000 will increase to 16.9 in 2020 and 17.5 in 2021, an excess of 3,235 excess suicides over the 2020-2021 period. With an extreme increase in projected unemployment rate, suicide rates per 100,000 are projected to increase to 17.0 in 2020 and 17.4 in 2021, an excess of 8,164 suicides over the two-year period.

• Coronavirus is spreading under the radar in US homeless shelters

There is a lack of testing in homeless shelters and outbreaks are spreading below the radar in the homeless population. Efforts are made to collect data and model spread in at-risk groups (homeless shelters, nursing homes and prisons). Asymptomatic spread in these settings are leading to outbreaks and most shelters still reserve tests for people with symptoms or they only test broadly after an outbreak has occurred. Researchers are concerned that policymakers aren't putting more resources into helping marginalized populations.

<u>Non-pharmacological interventions in China prevented significant amount of infections</u>

Nature: It is estimated that there were a total of 114,325 COVID-19 cases in mainland China as of February 29, 2020. Without non-pharmacological interventions (NPIs), there would have been a 67-fold increase in cases by February 29, 2020, with the effectiveness of different interventions varying. The early detection and isolation of cases was estimated to have prevented more infections than travel restrictions and contact reductions. Combined NPIs achieved the strongest and most rapid effect. If travel restrictions are lifted, an increase in cases can be prevented if social distancing interventions can be maintained, even at a limited level of 25% reduction on average through late April.

• <u>5% of Spanish population is affected by coronavirus</u>

Preliminary data from a nationwide antibody study finds 5% of the Spanish population is affected by coronavirus. Testing results vary widely from region to region.

• Walk-through sanitizing booth for South African commuters

South Africa has recorded over 12,000 cases of COVID-19 and 219 deaths. Sanitation booths are in use at bus stations, a train station and mine. The government has rolled out disinfectant tunnels, sprayed pavements with bleach and used drones to spray public spaces. Researchers say that while disinfectants can kill the coronavirus on surfaces, the sprays tend to degrade quickly, so these efforts are far less important than personal hygiene and social distancing.

Infected healthcare workers perceive close contact as main mode of infection

This study investigated the infection routes, psychosocial impacts, and management procedures for healthcare workers infected with COVID-19. The results found that the perceived main mode of infection was having close contact with infected individuals and not maintaining necessary protection. Psychological support may also be needed.

<u>Report of French children presenting with Kawasaki Disease</u>

Seventeen children in Paris were admitted to the hospital with Kawasaki disease and positive for COVID-19. They displayed early gastrointestinal symptoms and high levels of inflammatory markers. Eleven presented with KD shock syndrome (KDSS) requiring intensive care support, 12 had myocarditis, and 59% were of African ancestry. The clinical outcome was favorable in all patients.

• CDC Health Advisory issued for Multi-System Inflammatory Syndrome in Children (MIS-C)

Guidance issued today (5-14) for how to identify and report the syndrome, which has a similar presentation to Kawasaki disease and toxic shock. Case definition is based on a) <21 years presenting with fever, laboratory evidence of inflammation and evidence of clinically severe illness requiring hospitalization with multisystem (>2) organ involvement (cardiac, renal, respiratory, hematologic, gastrointestinal, dermatologic or neurological); and b) No alternative plausible diagnoses; and c) Positive for current or recent SARS-CoV-2 infection by reverse-transcriptase polymerase chain reaction, serology or antigen test; or COVID-19 exposure within the four weeks prior to the onset of symptoms.

• Characteristics of SARS-CoV-2 patients dying in Italy (up to May 7th, 2020)

27,955 SARS-CoV-2 patients (as tested by RT PCR) died in Italy. Regions with the most deaths: Lombardia (52.3%), Emilia Romagna (13.4%) and Piemonte (7.8%). Most common symptoms were Fever (76%), Dyspnea (73%) and Cough (38%). However, 5.8% of the dying patients did not present any symptoms at hospital admission. Median age of patients dying of infection was 81, whereas the median age of patients diagnosed with SARS-CoV-2 infection was 62. Women comprised 39.1% of mortalities and were older (median age 85) than men (median age 79).

Healthcare Policy Recommendations

• CDC issues guidelines on how to reopen schools, transit and workplaces

The <u>guidelines</u> include six decision trees that cover yes-or-no scenarios to help assess readiness for opening workplaces, restaurants and bars, mass transit, childcare, camps and schools. The tools stress working with state and local health officials. They are intended to help business owners develop policies for their employees.

• Philosophy of science -- epistemology in an era when speed of publication trumps rigor

In this editorial, epistemology is considered in the context of how the demand for rapid information results in neglect of

peer-review, with public policy often uncritically driven by thin evidence. Philosophy of science perspectives from Kuhn, Popper, Feyerabend, and Lakatos are considered. Speed being currently prioritized over rigor can be offset by networks of criticism from scientists and the public, with more vigilance demanded of readers in an era of "emergency science".

Internet analytics used to monitor misleading claims

This study looks at the use of text mining by a Canadian chiropractic regulator to determine their registrant's compliance with three regulations: (1) specific health conditions, (2) pregnancy conditions and, (3) claims of improved immunity during the COVID-19 crisis. 20% had inappropriate mentions of specific health conditions. 6% had inappropriate mentions of pregnancy-related terms. 7% used "immune" inappropriately regarding COVID-19. Internet analytics are an effective way for regulators to monitor internet activity to protect the public from misleading statements. The processes described were effective at bringing about rapid practitioner compliance. Given the increasing volume of internet activity by healthcare professionals, automated text mining and internet analytics are an important addition for health care regulators to protect the public.

• UN policy brief: COVID-19 and the need for mental health

A newly released United Nations policy brief Includes overview information regarding overall impact of pandemic on mental health and associated services, populations at higher risk including first responders, health/long-term care workers, older adults, those living with pre-existing health conditions, adolescents and children, women, and those in humanitarian and conflict settings and recommended actions. These include applying a whole-society-approach to promote and protect mental health, ensure availability of widespread support, and aid efforts to bolster mental health services in the future.

• CDC recommended schedules for infant and child vaccinations in 2020

Amid a significant reduction in pediatric vaccine administration due to COVID-19, a parent-friendly schedule of vaccinations for children 0 to 18 years old is provided in a printable format. A description of the diseases the vaccines prevent is also included.

Practice Guidelines

<u>Guidelines to manage an endoscopy unit during pandemic</u>

A video (available online atwww.VideoGIE.org/) shows how to manage an endoscopy unit during the COVID-19 pandemic, with specific details on workflow, screening of staff, screening of patients, management in pre-procedure areas and endoscopy rooms, postprocedural management, environment disinfection, endoscopy disinfection, and patient follow-up. The authors also provide details on how to put on and remove personal protective equipment.

<u>Recommendations on COVID-19 for laboratory professionals</u>

International Federation of Clinical Chemistry and Laboratory Medicine (IFCC) provides recommendations on COVID-19 laboratory screening, testing protocols, diagnosis, and other general information for laboratory professionals, including links to helpful resources and interim guidelines. It will be continually updated as new guidelines and literature become available.

• Review of guidelines on cancer surgery triage

The review focuses on different types of cancers, stating which of them can be postponed and which ones cannot. Thorough evaluation and discussion by an expert and experienced multidisciplinary team appears to be the most effective way forward; however, the pandemic is likely to have an adverse impact on a number of cancer patients due to the inevitable delay caused in their treatment.

• Systematic review of recommended operating room practice during pandemic

All recommendations were based on low levels of evidence. The highest number of overlapping recommendations related to physical OR (n=8) and procedural factors (n=13). Although few recommendations were related to personnel factors, consensus was high in this domain, with all studies mandating the use of PPE. Within the operating suite, common recommendations focused on room design, in particular geographic segregation of COVID-19 positive areas and the use of negative pressure ventilation. All recommended health questionnaires and nasal or nasopharyngeal swabs as a minimum to screen surgical patients, with additional thoracic CT screening recommended by almost half of the sources.

Orthodontic management during the COVID-19 pandemic

A comprehensive summary is provided with suggestions such as suspending elective treatment as well as contingency plans in case of emergency and for day to day practice. There is also a discussion of viral transmission in the context of orthodontic procedures.

Testing

• <u>3D-printed nasopharyngeal collection swabs are as effective as current swabs</u>

The authors performed a multi-step preclinical evaluation on 160 swab designs and 48 materials from 24 companies, laboratories, and individuals. They validated four prototypes through an IRB-approved clinical trial that involved 276 outpatient volunteers who presented to our hospital's drive-through testing center with symptoms suspicious for COVID-19. Each participant was swabbed with a reference swab (the control) and a prototype, and SARS-COV-2 RT-PCR results were compared. All prototypes displayed excellent concordance with the control (kappa=0.85-0.89). Cycle-threshold (Ct) values were not significantly different between each prototype and the control, supporting the new swabs' non-inferiority (Mann-Whitney U [MWU] p>0.05). Contact information for ordering can be found at http://printedswabs.org

Drugs, Vaccines, Therapies, Clinical Trials

• Salt water nasal irrigation and gargling reduced coronavirus infections by about 2.5 days

Post-hoc secondary analysis from a randomized controlled trial (n=66) indicates that hypertonic saline nasal irrigation and gargling (HSNIG) intervention reduces duration of coronavirus upper respiratory tract infection by an average of 2.5 days. Blocked nose, cough, and hoarseness of voice duration was decreased through the intervention. With caution due to the low amount of individuals in this study, HSNIG may have a role in reducing symptoms and duration of illness in COVID-19 and needs to be further studied.

<u>Corticosteroids show no retrospective benefit in severe or critical cases in Wuhan</u>

Corticosteroid use showed no benefit in reducing in-hospital mortality for severe or critical cases in two medical centers in Wuhan, China. Corticosteroids were administered in 35.1% of severe cases (531 out of 1514 total) and 63.9% (159 out of 249 total) of critical cases. Since this was not a randomized controlled trial and patients with more severe disease were more likely to be given systemic corticosteroids, results should be interpreted with caution.

<u>COVID-19 vaccine will require funded infrastructure and global cooperation</u>

The ability to manufacture hundreds of millions to billions of doses of vaccine requires the vaccine-manufacturing capacity of the entire world. Although new technologies and factories can be developed to sustain production, there is an immediate need to fund the necessary biomanufacturing infrastructure. Cost, distribution system, cold chain requirements, and delivery of widespread coverage are all potential constriction points in the eventual delivery of vaccines to individuals and communities. All of these issues require global cooperation among organizations involved in health care delivery and economics.

• French pharmaceutical giant rescinds previous statement and promises equal distribution of vaccine

The CEO of Sanofi pharmaceuticals, Paul Hudson, has angered French officials after he told Bloomberg the U.S. could get priority access to any vaccines produced there. The French Prime Minister responded by saying equal distribution of the vaccine to all countries is "non-negotiable." Hudson has since apologized and promised for equal distribution. Sanofi has two vaccine projects, one partnering with Britain and the other with the U.S. company Translate Bio.

<u>26 New COVID-19 Trials registered today at clinicaltrials.gov</u>

Treatment trials: peginterferon Lambda-1A, convalescent plasma, ayurvedic kadha, hydroxychloroquine vs favipiravir, dornase alfa, veru-111, nitric oxide]. Diagnostic trials: [serologies, presto test, echo doppler, chilblain biopsies. At time of writing, a total of <u>1407</u> were active, <u>77</u> completed, and <u>3</u> posted results.

Other Science

• <u>3 crucial biomarkers predicting mortality: LDH, lymphocytes, hs-CRP</u>

This study analyzes a database of blood samples from 485 infected patients in the region of Wuhan, China, to identify crucial predictive biomarkers of disease mortality. Machine learning tools selected three biomarkers that predict the mortality of individual patients more than 10 days in advance with more than 90% accuracy: lactic dehydrogenase (LDH), lymphocyte and high-sensitivity C-reactive protein (hs-CRP). In particular, relatively high levels of LDH alone seem to play a crucial role in distinguishing the vast majority of cases that require immediate medical attention.

<u>Fibrinogen associated with SARS progression</u>

This cohort study (n=67) aims to describe the basic clotting parameters in patients and their prognoses. The treatment group was divided into presence or absence of SARS. Upon admission, COVID-19 patients showed statistically significant increased levels of fibrinogen (601.5 vs. 455; p = 0.0000064) and higher percent of fibrinogen levels >400 mg/dL (86% vs 58%; p = 0.0054) compared to control. Fibrinogen levels were higher in COVID-19 patients with SARS compared to those without SARS (747 vs. 567; p = 0.0003). Researchers suggest fibrinogen is a marker for SARS risk.

• Association of the insulin resistance marker TyG index with the severity and mortality of Covid-19

The authors used regression models to evaluate the association between the insulin resistance marker, TyG, with severity and mortality of Covid-19 in 151 patients admitted to a hospital in Wuhan. The TyG index levels were found to be significantly higher (P<0.001) in patients with severe cases and in those that died. After adjusting for confounding factors, the TyG index was significantly (P<0.007) associated with an increased risk of severity and mortality. The study suggests that the TyG index may be used as a good predictor of poor outcomes in patients with Covid-19.

• <u>No detectable negative outcomes on glycemic control amidst pandemic</u>

A study of adults with type 1 diabetes (n=147) using either continuous glucose monitoring (CGM; n=68) or flash glucose monitoring (FGM; n=79). Estimated HbA1c was reduced from 7.3% to 7.16% (p<0.001) in 62% (n=91) of the subjects. Time in hypoglycemia remained unchanged. In the studied population, no deterioration in glycemic control was found as a result of lockdown due to the COVID-19 pandemic.

• COVID-19-associated hemostasis abnormalities: pulmonary microthrombi or emboli

COVID-19-associated hemostasis abnormalities (CAHA) can cause localized pulmonary microthrombi. It is important to differentiate this phenomenon from a pulmonary embolism, as treatment may be different. It remains important to identify the basis of the underlying pulmonary pathologies and the need for prophylactic anti-coagulant therapy.

• New COVID-19 Phobia Scale (C19P-S)

In this study, the authors suggest a new type of specific phobia. The current study developed a self-report instrument whose items address the specific phobia diagnosis criteria of the DSM-V and tested its initial psychometric properties. Results show that the scale has initial evidence of construct, convergent, and discriminant validity, and internal consistency reliability. It should be further tested; however, the COVID-19 Phobia Scale (C19P-S) items provide support for assessing the levels of phobia reactions among a wide range of age groups.

International Delphi process: operation room guidelines

The Delphi exercise (evaluating the agreement on one sentence COVID-19 statements) was completed via social media by 339 individuals from 41 countries. The highest level of consensus was achieved for statements related to PPE and risk distribution (96-99%), informed consent processes (96%), multidisciplinary decision-making and working (97%). Statements yielding equivocal responses were predominantly related to technical and procedure choices, including: decontamination (40-68%), laminar flow systems (13-61%), PPE reuse (58%), risk stratification of patients (21-48%), open vs. laparoscopic surgery (63%), preferential cholecystostomy in biliary disease (48%), and definition of aerosol generating procedures (19%).

• Challenges of bedside cognitive assessment of COVID-19 inpatients

The authors outline some of the challenges encountered when performing bedside cognitive assessment of COVID-19 inpatients with acquired brain injury, degenerative conditions or other neurological diagnoses. Wearing PPE poses several logistical challenges for performing bedside cognitive assessment. Perceptual problems are accentuated by wearing PPE.

Factors related to COVID-19 itself can influence the findings of bedside cognitive assessment. anxiety can influence the reliability and validity of their performance. The consultation per patient takes more time.

• <u>Viral transmission via small speech droplets</u>

Highly sensitive laser light scattering observations revealed loud speech can emit thousands of oral fluid droplets per second. In a closed, stagnant air environment, they disappear from the window of view with time constants in the range of 8 to 14 min. The authors suggest that there is a substantial probability that normal speaking causes airborne virus transmission in confined environments.

• Respiratory disease in rhesus macaques inoculated with SARS-CoV-2

Nature accelerated article preview: This study found that SARS-CoV-2 causes respiratory disease in infected rhesus macaques, with disease lasting 8-16 days. Radiographs show pulmonary infiltrates like the human manifestation. High viral loads were detected in swabs from the nose and throat of all animals as well as in bronchoalveolar lavages; in one animal the authors observed prolonged rectal shedding. Taken together, the rhesus macaque recapitulates moderate disease observed in the majority of human cases.

Human to animal transmission in Hong Kong

Nature: 2/15 dogs from households with confirmed human cases in Hong Kong were found to be infected using quantitative RT–PCR, serology, sequencing the viral genome, and in 1 dog, virus isolation. The dogs were asymptomatic. The evidence suggests that these are instances of human-to-animal transmission of SARS-CoV-2. It is unclear whether infected dogs can transmit the virus to other animals or humans.

• Virus able to spread between cats

NEJM: One day post inoculation, 3 inoculated cats were housed with viral-free cats. 2-5 days later, the viral-free cats were infected and all were asymptomatic. Viral shedding continued for 4-5 days. IgG antibody titers remained elevated for up to 24 days after initial inoculation. The authors speculate that cats may serve as a silent intermediate host.

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