

4-17-2020

2020-04-17/18 DAILY UNM GLOBAL HEALTH COVID-19 BRIEFING

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Recommended Citation

Lambert, Christophe G.; Shawn Stoicu; Anastasiya Nestsiarovich; Praveen Kumar; Nicolas Lauve; Lori D. Sloane; Samuel Anyona; Perez Olewe; Evans Raballh; Elly Munde; Cristian Bologna; Orrin Myers; Andrew S. Rowland; Kristine Tollestrup; and Douglas J. Perkins. "2020-04-17/18 DAILY UNM GLOBAL HEALTH COVID-19 BRIEFING." (2020). https://digitalrepository.unm.edu/hsc_covid19_briefings/10

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DAILY UNM GLOBAL HEALTH COVID-19 BRIEFING

April 17, 2020

Executive Summary

Daily NM Recap. Stimulus checks. Whitehouse reopening guidelines. Increased suicide calls. Commentary on COVID and African Americans. NYC ventilation rate. 300K African deaths predicted. Thai horse virus outbreak. Europe eases lockdown. UK vaccine research. Chinese death undercount. Biosafety breaches. General wearing of masks. PPE for emergency physician. FDA approves safer swabs. Mental health lockdown impact. Intermittent social distancing. Undetected US cases. NYC hospitalization characteristics. Adapting veterinary surveillance. "Infectious disease" hospital. NIH vaccine and treatment partnership. Repurposing anesthetic machines as ventilators. Guidance for psychiatrists. Elective surgery risk stratification. Hemodialysis facility. Pathologist on IgG/M tests. Abnormal coagulation and ECMO. Paramedic guidance. Dialysis and transplants. Critically ill management. GI guidance. Otorhinolaryngology head & neck surgery. Emergency nursing management. Lung surgery. Metabolic & bariatric surgery. Convalescent plasma therapy effectiveness. Potential antivirals. UK testing. Spike proteins for potential vaccine. Cytokines suggest IL-6 antagonist treatments. Mental health messaging. \$483 million for mRNA-1273 vaccine trial. WHO unsure about antibody protection. Complications for IBD. Hospitalizations characterized. Social distancing and personality. Digital COVID-19 literature database available.

Our continuously curated practice guidelines in the context of COVID-19 can be found [here](#).

You may submit content for future briefings [here](#).

NM Highlights

- [7 new deaths and 115 additional positive COVID-19 cases reported in NM](#)
The total positive cases and total deaths in the state are 1,711 and 51, respectively. As of today, the state has performed 35,613 tests, there are 96 individuals hospitalized for COVID-19, and 382 COVID-19 cases have recovered. New NMDOH portal featuring epidemiologic breakdown of cases
- [New Mexicans started getting stimulus checks](#)
The stimulus checks from the US government have started coming to people's bank accounts yesterday. The stimulus checks went out first to those who filed 2018 taxes. Many people are using it to pay bills, and some are putting it in savings as their jobs are still stable.

US Highlights

- [Whitehouse releases guidelines for opening America](#)
Before starting opening states/regions with a 3-phased plan, influenza- and COVID-like illnesses must be down, documented cases must be down, and positive COVID-19 tests as fraction of total tests all must be down within a 14-day period. Hospitals must also be able to treat all patients without crisis care and have a robust testing program in place for testing at-risk healthcare workers. [Three phase plan](#): Phase 1 keeps vulnerable individuals sheltered in place, social distancing in public with no groups more than 10 people and minimizing non-essential travel. Business guidelines include telework, returning to work in phases, closing common areas, and protecting vulnerable persons. Schools and bars would remain closed, senior center visits prohibited, and gyms and large venues open with physical distancing protocols. Elective surgeries resume. Phase 2 continues shelter-in-place for vulnerable, public physical distancing and avoidance of social gatherings >50 people. Employer guidelines similar, with bars able to open with diminished occupancy. Phase 3 has vulnerable individuals resume public

interactions but practice physical distancing. Employers to resume unrestricted staffing, public venues and healthcare facilities resume full functionality while continuing physical distancing and limiting occupancy.

- [Increased suicide hotline calls related to coronavirus](#)

Montgomery County had twice more common calls than usually. Other suicide hotlines across the country are experiencing similar patterns. A Los Angeles mental health clinic reported 1,800 COVID-19 related calls in March, compared with just 20 in February. Montana's Department of Public Health and Human Services said it has seen calls double since March 13. On April 1, Pennsylvania created a toll-free 24-hour support line for people struggling with anxiety from the pandemic. The line has taken more than 2,000 calls since its launch <https://t.co/IM59HBgFoH>

- [A viewpoint on 6-fold higher rate of African American COVID-19 deaths](#)

JAMA commentary: A cardiologist suggests that untreated risk factors for heart disease (diabetes, obesity, high blood pressure) partly explain why studies have reported death rates in counties that are predominately African-American. In addition, the author asserts that staying at home in place is a luxury not usually afforded to many African-Americans. The author states, "A 6-fold increase in the rate of death for African Americans due to a now ubiquitous virus should be deemed unconscionable. This is a moment of ethical reckoning. The scourge of COVID-19 will end, but health care disparities will persist. "

- [NYC hospitals higher ventilation rate than China](#)

A retrospective case series with 393 adults with Covid-19 admitted March 5 -27 to two NYC hospitals. Gastrointestinal symptoms were more common than in China. Obesity was common and may be a risk factor for respiratory failure leading to invasive mechanical ventilation. % of those receiving invasive mechanical ventilation was more than 10 times as high as that in China. Patients who received invasive mechanical ventilation almost universally received vasopressor support and many also received new renal replacement therapy, thus, there is a need to strengthen stockpiles and supply chains for these resources. A high demand for invasive mechanical ventilation has the potential to overwhelm hospital resources.

International Highlights

- [U.N. agency predicts at least 300,000 deaths in Africa due to COVID-19 outbreak](#)

Africa's 54 countries have so far reported fewer than 20,000 confirmed cases of the coronavirus. The pandemic will likely kill at least 300,000 Africans and risks pushing 29 million into extreme poverty, the U.N. Economic Commission for Africa (UNECA) said on Friday (4/17), calling for a \$100 billion safety net for the continent.

- [Outbreak of Horse Virus amid COVID-19 in Thailand](#)

Thailand, already battling the spread of coronavirus, is now contending with another deadly viral outbreak—in horses. Hundreds of horses died there in the last 3 weeks due to the virus for African horse sickness (AHS). Some scientists suspect that zebras, imported from Africa, led to the outbreak.

- [Some European countries begin easing coronavirus lockdowns](#)

European countries had imposed lockdown since mid-March to battle the spread of the coronavirus. Now some of them have announced plans to ease restrictions on social life, transport and cross-border travel.

- [Britain to fund coronavirus vaccine research projects](#)

The British government will fund 21 new research projects from a 14-million-pound investment pool "to rapidly progress treatments and vaccines". The taskforce will include AstraZeneca and research charity the Wellcome Trust.

- [China cites early lapses in counting death tolls in Wuhan](#)

As per the Chinese state media, nearly 1,300 people who died of the coronavirus in the Chinese city of Wuhan were not counted in death tolls because of lapses. But the Chinese government dismissed claims that there had been any kind of cover-up.

Economics, Workforce, Supply Chain, Testing, PPE Highlights

- [Biosafety breaches in donning and doffing PPE during COVID-19 pandemic](#)

Common errors and recommendations for putting on and removing PPE used with Covid-19 patients.

- [Wearing masks in general population could be beneficial](#)

In addition to the prescribed control measures, mask wearing in the general population appears to be beneficial. A fundamental difference between South Korea and Italy in the initial stages of the pandemic is that, while South Korea recommended masks for general population, Italy and other European countries (France and Germany), did not. This plausibly explain the fewer cases of COVID-19 in South Korea, relative to these countries. Possibly critical role of wearing masks in general population in controlling COVID-19.

- [PPE for the emergency physician during COVID-19 pandemic](#)

In addition to the PPE described, EMS clinicians should exercise caution if an aerosol-generating procedure, such as bag valvemask (BVM) ventilation, oropharyngeal suctioning, endotracheal intubation, nebulizer treatment, continuous positive airway pressure(CPAP), bi-phasic positive airway pressure (biPAP), or resuscitation involving emergency intubation or cardiopulmonary resuscitation (CPR) is necessary. BVMs, and other ventilatory equipment, should be equipped with HEPA filtration to filter expired air.

- [Synthetic swabs finally get a nod from FDA](#)

Spun synthetic swabs could be used for coronavirus testing by self-collecting a sample from front of the nose. This will limit exposure of healthcare providers, said FDA.

Epidemiology Highlights

- [Severe mental health impact of Italian lockdown measures: 18,147-person survey](#)

A web-based survey was conducted for 18,147 people (80% females) regarding the 3-4 weeks of lockdown. The respondents reported post-traumatic stress symptoms (PTSS) (37%), depression (17.3%), anxiety (20.8%), insomnia (7.3%), high stress perceived (21.8%) and adjustment disorder symptoms (22.9%). These outcomes were associated with recent COVID-19-related stressful life events, including discontinued working activity, working more than usual, having a loved one deceased.

- [Social distancing may need to be intermittently maintained into 2022](#)

Science: The incidence of COVID-19 infections over the next 5 years will depend on whether it enters into regular circulation after the initial pandemic wave, also is influenced by the duration of immunity. The intensity and timing of pandemic and post-pandemic outbreaks will depend on the time of year when widespread infection becomes established and, to a lesser degree, on seasonal variation in transmissibility and the level of cross-immunity that exists between the beta coronaviruses. Social distancing strategies could reduce the extent to which SARS-CoV-2 infections strain health care systems.

- [A new statistic reveals high level of undetected US COVID-19 cases](#)

Commentary in The Atlantic, Jason Andrews, a Stanford infectious-disease professor, suggests using COVID-19 "test positivity rate" as a proxy for estimating the prevalence and the course of the epidemic. With expanded testing, it would normally be expected that test-positivity rate would decrease (due to testing more non-cases); however, this has not happened yet in the US, suggesting that there may still be many more COVID-19 cases in the US that are going undetected.

- [COVID hospitalizations in New York City: importance of ventilation, vasopressors, renal replacement](#)

In a series of 393 consecutive cases of patients admitted with COVID-19 to two NYC hospitals from March 5 to March 27, a third of patients received invasive mechanical ventilation, 10% of patients died, and 24% were still hospitalized as of April 10. The observations that the patients who received invasive mechanical ventilation almost universally received vasopressor support and that many also received new renal replacement therapy suggest a tremendous need to strengthen stockpiles and supply chains for these critical resources.

- [Adapting long-used techniques in veterinary medicine for COVID-19 surveillance](#)

The techniques for random surveys and samples to detect the infection level in the population for the purpose of ongoing surveillance and resource prioritization are described.

Healthcare Policy Recommendations

- [How to transform a general hospital into an "infectious disease" one: Wuhan experience](#)

The Wuhan Red Cross Hospital became a designated hospital only receiving febrile patients after January 22. All uninfected patients were transferred to other hospitals. A 16-story building was redesigned, and two independent observation area and ICU units were rebuilt for COVID-19 test patients; the ICU beds should occupy between 26% and 32% of total beds. These and other lessons are described.

- [NIH to launch public-private partnership to speed COVID-19 vaccine and treatment options](#)

The planned Accelerating COVID-19 Therapeutic Interventions and Vaccines (ACTIV) partnership will develop a collaborative framework for prioritizing vaccine and drug candidates, streamlining clinical trials, coordinating regulatory processes and leveraging assets among all partners to rapidly respond to the COVID-19 and future pandemics.

Practice Guidelines

- [Guidelines for repurposing anesthetic machines as ICU ventilators](#)

New guidelines have been produced by the [American Society of Anesthesiologists](#) and the [Anesthesia Patient Safety Foundation](#). A Canadian group has modified these [guidelines](#) and produced their own: [click on link here](#). In addition, strategies to protect anesthetic machines from contamination have also been published by the Anesthesia Patient Safety Foundation: [click on link here](#).

- [Guidance for psychiatrists and support for patients: Royal College of Psychiatrists resources](#)

The website of the Royal College of Psychiatrists provides information, advice and support for psychiatrists, patients, and their careers. This includes free webinars, expert's interviews, telephone peer support for psychiatrists, and latest COVID-19 news: www.rcpsych.ac.uk

- [The algorithm for elective surgery risk stratification during COVID-19 pandemic](#)

Elective surgery cancellations might have a more dramatic impact on health than COVID-19 morbidity and mortality. The paper provides a decision-making algorithm based on elective surgical indications and predicted perioperative utilization of critical resources, including consideration for intra-/postoperative blood product transfusions, estimated postoperative hospital length of stay, and the expected requirement for prolonged ventilation and need for postoperative ICU admission.

- [Control of COVID-19 in a hemodialysis facility: screening procedures](#)

The reported is experience of a HD facility with 16.1% COVID-19 cases among 230 HD patients and 12.1% cases among 33 staff members. Most HD patients were asymptomatic or had mild clinical signs. None of patients died of severe COVID-19 pneumonia. Procedures for Screening for COVID-19 used in this HD Facility are presented. It is advisable to timely upgrade PPE, implement universal screening, followed by quarantine and isolation as required.

- [The Royal College of Pathologists of Australasia position on COVID-19: IgG/M tests are not diagnostic](#)

A position statement on COVID-19 IgG/IgM rapid point-of-care tests states: 1) Molecular testing on a single throat with deep nasal swab is the current test of choice for the diagnosis of acute COVID-19 ; 2) COVID-19 IgG/IgM rapid tests play no role in the acute diagnosis of COVID-19; 3) COVID-19 IgG/IgM rapid tests will miss patients in the early stages of disease when they are infectious to other people.

- [Abnormal coagulation has poor prognosis: caution with DIC and extracorporeal membrane oxygenation](#)

The authors warn that patients with severe COVID-19 are at greater risk of disseminated intravascular coagulation (DIC) which may be further complicated by the effects of the extracorporeal membrane oxygenation (ECMO) circuit and the combination may increase thrombo-hemorrhagic morbidity. Careful correction of the DIC, and systemic anticoagulation will be required, and standard protocols may need adapting to this new disorder.

- [A summary for paramedics on COVID-19](#)

An author's summary provides guidance to paramedics on best approach to COVID-19 patients in the prehospital settings.

- [Dialysis and kidney transplantation management during the SARS-CoV-2 pandemic](#)

The therapeutic approach used in Brescia (Italy) for managing COVID-19 patients who underwent kidney transplantation and are receiving hemodialysis can be viewed as a 2-phase approach. The first phase of disease (0-7 days) is associated with viral replication and cytopathic effect, therefore antiviral drugs (chloroquine-HCQ, lopinavir/ritonavir, darunavir ritonavir, and darunavir/cobicistat) may be considered. The second phase of the disease (>7-10 days) is characterized by progressive lung involvement with escalating needs of oxygen supplementation and ventilatory support, which seems to be secondary to hyperinflammatory and cytokine release syndromes. Immunosuppressive and immunomodulatory drugs may be of benefit during this phase. Corticosteroids would be contraindicated in the 1st phase but may play a role in the 2nd phase.

- [German recommendations on critically ill patients with COVID-19](#)

The recommendations provide the guidance to physicians treating COVID-19 patients in ICUs. Apart from specific recommendations, a need for multidisciplinary approach is emphasized involving infectious disease and infection control specialists on the team.

- [The preventive strategies for GI physicians during COVID-19: experience of Iran clinic](#)

The authors describe preventive strategies that may significantly reduce the close contact between patients and gastrointestinal (GI) physicians. These measures were implemented in one Iran's hospital after a 20% increase in the number of referred COVID-19 patients with unusual GI symptoms, forcing an intensive diagnostic.

- [Prevention suggestions for department of otorhinolaryngology head and neck surgery](#)

The suggestions are: 1) routine clinic and ward work for non-emergency patients should be minimized in COVID-19 outbreak areas; 2) clinic health care workers need to be protected by Grade II or Grade III precautions in COVID-19 outbreak areas, while Grade III precautions are recommended for surgical staffs; 3) it needs to kept in mind that there is currently no effective screening method for asymptomatic carriers.

- [Emergency management of nursing human resources and supplies: Wuhan hospital example](#)

The Nursing Department of the Wuhan hospital fully executed its functional authority to establish a three-level echelon of sustainable support, allocate human resources dynamically, organize pre-service training, supervise the key working steps, formulate positive incentive methods, and deploy medical supplies scientifically. By taking these strategies, the hospital effectively improved the coping capacity of the nursing team and contributed to prevention and treatment of COVID-19.

- [Preliminary recommendations for lung surgery during COVID-19 epidemic](#)

In this commentary proposal, the nucleic acid test of SARS-CoV-2 is not taken as the gold standard for positive or negative new coronavirus (unverified techniques, lack of unified standards, variable tests specificity and sensitivity, many false negative results). Epidemiological exposure history, clinical characteristics, routine biochemical test including CRP and comprehensive review of chest CT are important judgment bases before pulmonary surgery is considered. The isolation and observation for two weeks before the operation is helpful to further exclude the possibility of new COVID-19 pneumonia.

- [IFSO recommendations on metabolic and bariatric surgery during COVID-19 epidemic](#)

The International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO) has issued these recommendations for global healthcare providers to help keep patients and practice staff safe.

Promising Drugs, Vaccines, Therapies, Clinical Trials

- [Convalescent plasma therapy is effective and specific for COVID-19](#)

The efficacy of convalescent plasma therapy was assessed by the alleviation of symptoms, changes in radiologic abnormalities and laboratory tests in a study of six patients. No obvious adverse effect observed during the treatment. The authors conclude that convalescent plasma therapy is effective and specific for COVID-19. Treatment with convalescent plasma for COVID-19 patients in Wuhan, China.

- [In silico molecular docking analysis reveal potential antivirals](#)

Authors conclude that Zanamivir, Indinavir, Saquinavir, and Remdesivir are among the exciting hits on the 3CL(PRO) main proteinase. In addition, Flavin Adenine Dinucleotide (FAD) Adeflavin, B2 Deficiency medicine, and Coenzyme A, a coenzyme, may also be potentially used for the treatment of SARS-CoV-2 infections. A The use of these off-label medications may be

beneficial in the treatment of the COVID-19.

- [Roll-out of SARS-CoV-2 testing for healthcare workers at a large UK hospital](#)

The results are reported from the first 14 days following the roll-out of staff testing for COVID-19 at Sheffield Teaching Hospitals NHS Foundation Trust, UK. Between 16 and 29 March 2020, 1,533 symptomatic health care workers were tested, of whom only 18% were positive for SARS-CoV-2. Facilitating testing may substantially decrease absence in staff when SARS-CoV-2 can be excluded.

- [Virus spike protein a potential vaccine candidate](#)

The spike (S) protein mediates entry of SARS-CoV-2 into cells expressing the angiotensin-converting enzyme 2 (ACE2). It engages ACE2 through its receptor-binding domain (RBD). These rodent data suggest that an RBD-based vaccine for SARS-CoV-2 could be safe and effective.

- [Infection results in monocyte, macrophage, and dendritic cell activation](#)

This perspective piece draws on experience with arthritis and cancer therapy. The resulting increased systemic cytokine production contributes to the pathophysiology, including hypotension and acute respiratory distress syndrome (ARDS). These might be treated with IL-6 antagonists such as tocilizumab, sarilumab, and siltuximab.

- [Mental health and psychosocial considerations during the COVID-19 outbreak](#)

Coronavirus has plunged the world into uncertainty and the constant news about the pandemic can feel relentless. The WHO provided a series of messages that can be used in communications to support mental and psychosocial well-being in different target groups during the outbreak.

- [Moderna receives \\$483 million BARDA award for COVID-19 vaccine development](#)

Moderna said BARDA funding would support the vaccine's clinical development program, as well as the scale-up manufacture of the vaccine candidate, mRNA-1273, in 2020. The experimental vaccine is being tested in an early-stage trial conducted by the U.S. National Institutes of Health, and Moderna expects to begin mid-stage trial in the second quarter.

- [38 new COVID-19 trials registered today at clinicaltrials.gov](#)

Treatment trials: Lung Ultrasound Study, Efficacy and Safety of Lenzilumab, Cellular Therapy With SARS-CoV-2 Specific T Cells, BCG Vaccine For Immune-prophylaxis, Dapagliflozin in Respiratory Failure, Interferon Beta 1a, Umifenovir, Chloroquine Compounds, Hydroxychloroquine Sulfate, Renin-angiotensin, Hydroxychloroquine Treatment, Amiodarone or Verapamil, Colchicine, Psychological Impact of Quarantine in Osteoporosis, Efficacy and Safety of HCQ an Antibiotics, SAD and MAD Study of Inhaled TD-0903, Influence of Zinc and Vitamin D3, Psychological Effect of Quarantine in Rheumatoid Arthritis, Hypoxemic Patients, Minimal Psychoeducational Intervention on Anxiety, Respiratory Mechanics in Patients with SARS-CoV-2 Associated ARDS, Efficacy of Faviprevir, Ayurveda, Efficacy of Ivermectin and Nitazoxanide, Extracorporeal Carbon Dioxide Removal, IFN-beta 1b and Hydroxychloroquine, Efficacy and Safety of Gimsilumab. At time of writing, a total of 648 were active, 29 completed, and 3 posted results.

Other Science

- [WHO unsure antibodies protect against reinfection with the COVID-19](#)

The World Health Organization said that even if antibodies were effective there was little sign that large numbers of people had developed them and were beginning to offer so-called "herd immunity" to the broader population.

- [COVID-19 concerns compromise compliance in patients with inflammatory bowel disease](#)

The proportion of IBD patients who maintained the assigned appointments for scheduled visits at one center was evaluated. During the last 3 weeks 42.9% of the 84 scheduled outpatient visits were cancelled. 88.8% of them were cancelled by personnel to prevent any potentially avoidable contact of patients with hospitals, and 11.2% were cancelled by the patients because of fears related to infection. The concerns were significantly more tangible among IBD patients on immunosuppressive drugs. With counselling and telematics tools to provide patients with prompt and reliable answers, only 2 of the 107 patients on biological drugs withdrew treatment (1.9%), and none of the patients on clinical trials or on antimetabolites.

- [Hospitalization rates and characteristics of patients hospitalized with laboratory-confirmed COVID-19](#)

A US CDC study of hospitalized COVID-19 cases reported in March provides preliminary insight into the clinical features among hospitalized patients early in the US epidemic. Among 1,482 hospitalized COVID-19 patients, nearly 75% were aged 50 years or older, and hospitalization rates increased with age. Obesity, chronic lung disease and diabetes were the most common risk factors for people 18-49 years.

- [COVID-19 management is associated with personality differences](#)

Human engagement with containment measures in a pandemic situation should be more comfortable for some people than others. This study investigated to what extent extroversion and conscientiousness are associated with engagement with social distancing and handwashing. Higher scores for extroversion were associated with lower means for social distancing and higher scores for conscientiousness were associated with higher means for social distancing and handwashing.

- [NIH Resource Available to Analyze COVID-19 literature](#)

National Library of Medicine has released the COVID-19 Open Research Dataset (CORD-19) and challenged the AI community to develop text mining tools to analyze the more than 45,000 coronavirus articles. The CORD-19 dataset represents the most comprehensive, freely available library of machine-readable coronavirus scholarly literature to date, with hundreds of AI tools and technologies already created.

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