

University of New Mexico

UNM Digital Repository

HSC Covid 19 Briefings

HSC Institutional and Academic Materials

4-20-2020

2020-04-20 DAILY UNM GLOBAL HEALTH COVID-19 BRIEFING

Christophe G. Lambert

Shawn Stoicu

Ingrid Hendrix

Lori Sloane

Anastasiya Nestsiarovich

See next page for additional authors

Follow this and additional works at: https://digitalrepository.unm.edu/hsc_covid19_briefings



Part of the [Public Health Commons](#)

Recommended Citation

Lambert, Christophe G.; Shawn Stoicu; Ingrid Hendrix; Lori Sloane; Anastasiya Nestsiarovich; Praveen Kumar; Nicolas Lauve; Hannah Groves; Rachel D. King; Estefania Montanez; Malik Alqawasmi; Samuel Anyona; Evans Raballah; Elly Munde; Cristian Bologna; Alexandra YinglIng; Gregory Mertz; Kristine Tollestrup; Orrin Myers; and Douglas J. Perkins. "2020-04-20 DAILY UNM GLOBAL HEALTH COVID-19 BRIEFING." (2020). https://digitalrepository.unm.edu/hsc_covid19_briefings/17

This Brief is brought to you for free and open access by the HSC Institutional and Academic Materials at UNM Digital Repository. It has been accepted for inclusion in HSC Covid 19 Briefings by an authorized administrator of UNM Digital Repository. For more information, please contact amywinter@unm.edu, lsloane@salud.unm.edu, sarahrk@unm.edu.

Authors

Christophe G. Lambert, Shawn Stoicu, Ingrid Hendrix, Lori Sloane, Anastasiya Nestsiarovich, Praveen Kumar, Nicolas Lauve, Hannah Groves, Rachel D. King, Estefania Montanez, Malik Alqawasmi, Samuel Anyona, Evans Raballah, Elly Munde, Cristian Bologna, Alexandra Yingling, Gregory Mertz, Kristine Tollestrup, Orrin Myers, and Douglas J. Perkins

DAILY UNM GLOBAL HEALTH COVID-19 BRIEFING

April 20, 2020

Executive Summary

NM highlights. Immigration detention centers. US outbreak perceptions. States lockdown protests. Drones sample transport. Black market antivirals. NZ eases lockdown. Germany partial reopening. Low temperature/humidity favors transmission. Wastewater epidemiology. Contact tracing privacy. D-dimer severity prediction. China fatality factors. Group testing. High throughput testing. Pet testing. WHO misinformation countermeasure. WHO produce washing. Public health strategies. Fellows education adaptations. Mental health priorities. Practice guidelines: immunocompromised cancer patients, IBD, tracheostomy, trauma surgery, neurovascular management, head & neck cancer surgery, long-term care, and respiratory home care. Remdesivir macaque clinical benefit. Hydroxychloroquine meta-analysis. Heparin anticoagulant therapy. Hypothiocyanite hypothesis. 36 new clinical trials. Neutrophil lymphocyte ratio. Blood coagulation. Viral organ system reach. Optimal antiviral dosing.

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

- [3 new deaths and 126 additional confirmed COVID-19 cases reported in NM](#)

The total positive cases and total deaths in the state are 1,971 and 58, respectively. As of today, the state has performed 38,755 tests, there are 116 individuals currently hospitalized for COVID-19, and 501 COVID-19 cases have recovered. New NMDOH portal featuring epidemiologic breakdown of cases.

US Highlights

- [COVID-19 in US immigration detention centers](#)

Lancet editorial: Individuals who are incarcerated, including immigrants in ICE detention, are among the most vulnerable to infection and complicated disease because of existing drivers of inequality. From a public health perspective, mitigation strategies in detention facilities should be complemented by routine screening and containment procedures e.g. screening individuals in detention, staff, visitors, and vendors, and quarantining those who test positive for COVID-19 exposure.

- [Perceptions of the adult US population regarding the novel coronavirus outbreak](#)

A survey of 718 adults in the US in early February 2020 found that 69% of the respondents wanted the scientific/public health leadership (either the CDC Director or NIH Director) to lead the US response to COVID-19 outbreak as compared to 14% who wanted the political leadership (either the president or Congress) to lead the response. Risk perception was low (median score of 5 out of 10) with the respondents trusting health professionals and health officials for information on COVID-19. The majority of respondents were in favor of strict infection prevention policies to control the outbreak.

- [More protests in US over stay-at-home orders as governors push back](#)

An estimated 2,500 people rallied at the Washington State capital in Olympia to protest Democratic Governor Jay Inslee's stay-at-home order, defying a ban on gatherings of 50 or more people. Stay-at-home measures have battered the US economy and more than 22 million Americans have filed for unemployment benefits in the past month. Demonstrations to demand an end to the stay-at-home order have previously erupted in a few spots in Colorado, Texas, Wisconsin and the capitals of Ohio, Minnesota, Michigan and Virginia.

International Highlights

- [Ghana uses Zipline drones to transport COVID-19 test samples from rural areas](#)
Ghana has tested 57,000 coronavirus samples by operating Zipline drones which are present in Ghana and Rwanda.
- [In Russia, a black market for an antiviral HIV drug as a possible treatment for coronavirus](#)
Over 20 trials are testing Kaletra as a COVID-19 treatment or post-exposure prophylaxis. In Russia, the cost of Kaletra increased from 900 roubles (\$12) to 3,800 roubles. Some people are anticipating supply interruptions and purchasing 100-700 boxes to resell at a higher price.
- [NZ relaxes its Level 4 lockdown to allow for some businesses and schools to open with limited capacity](#)
The PM says that the aggressive proactive measures taken were effective and the success of low transmission has been due to the public's cooperation with lockdown orders.
- [Germany begins reopening shops and schools](#)
Germany has claimed the virus was tentatively under control and the curve flattened. Small shops, bookshops, garages and bicycle stores of any size are being allowed to open their doors, as long as they apply social distancing measures. Schools remain largely closed, but universities may proctor exams.

Epidemiology Highlights

- [Low temperature, mild diurnal temperature range and low humidity favor SARS-CoV-2 transmission](#)
In this Chinese multi-city study, cold and dry weather was beneficial for the survival and spread of droplet-mediated viral diseases. Each 1 °C increase in ambient temperature and diurnal temperature range was related to decline of daily confirmed case counts. Therefore, meteorological factors play an independent role in the COVID-19 transmission after controlling for population migration.
- [Temporal detection and phylogenetic assessment of SARS-CoV-2 in municipal wastewater](#)
Researchers at Montana State University, Bozeman have used two different sampling methods to monitor SARS-CoV-2 in wastewater over a 17-day period; sequencing was used to infer viral ancestry. They concluded that while SARS-CoV-2 is detected over the entire time course, viral RNA has been steadily decreasing over the last week suggesting that state mandated social isolation is having a measurable impact on containment of the outbreak.
- [Researchers ask for data control measures for contact tracing apps in Europe](#)
Researchers call for solutions to mitigate potential misuse of personal data collected by European surveillance apps. The German initiative, Pan-European Privacy-Preserving Proximity Tracing, has been at the focal point of this call because of its centralized data storage system. Critics back a de-centralized contact tracing protocol.

Testing

- [IL-6 and D-dimer have high specificity and sensitivity for early prediction of clinical severity](#)
In a research article from Journal of Medical Virology, scientists from Fuyang Hospital, China, describe a retrospective diagnosis study in a cohort of 43 patients with laboratory-confirmed COVID-19, aimed at finding lab tests able to predict early on the severity of disease. From the 19 lab tests analyzed, the authors chose IL-6 and D-dimer which together have a 93% specificity and 96% sensitivity.
- [Non-surviving patients in China have a higher incidence of laboratory abnormalities](#)
In addition to the established patient risk factors, a study of 1590 patients showed laboratory abnormalities (procalcitonin>0.5ng/mL (HR: 8.72, 95% CI: 3.42-22.28); aspartate aminotransferase>40U/L (HR: 2.2, 95% CI: 1.1-6.73)) were independent risk factors associated with fatal outcome. Accurate prediction model of clinical outcomes in hospitalized subjects proposes management based on individual characteristics that could be associated with fatal outcomes.
- [Group testing as a means of saving reagents and human resources](#)

The study reports that with an infection incidence of 10% or less, group testing will result in the saving of reagents and personnel time with an overall increase in testing capability of at least 69%.

- [Efficient high throughput SARS-CoV-2 testing to detect asymptomatic carriers](#)

Authors developed P-BEST - a method for Pooling-Based Efficient SARS-CoV-2 Testing, using a non-adaptive group-testing approach, which significantly reduces the number of tests required to identify all positive subjects within a large set of samples. Instead of testing each sample separately, samples are pooled into groups and each pool is tested for SARS-CoV-2 using the standard clinically approved PCR-based diagnostic assay.

- [IDEXX Labs launches COVID-19 test for pets amid rare cases of human-to-pet transmission](#)

Veterinarians will be provided with a COVID-19 test for pets. Although there is currently no evidence that dogs and cats transmit the disease to humans, they are at risk for infection of COVID-19.

Healthcare Policy Recommendations

- [WHO creates interactive chat to combat misinformation](#)

WHO Viber chatbox allows people to access reliable health information on their mobile device in their local language. The free service is offered in over 20 languages.

- [WHO: No extra precautions necessary in washing and preparing produce](#)

WHO states there are no extra steps needed for proper washing of produce; wash them as you would normally: wash hands with soap and water before handling fruits and vegetables, then wash produce thoroughly with clean water before eating.

- [Youtube discussion of public health strategies and policies related to COVID-19](#)

Rochelle Walensky, MD, MPH of Harvard University discusses public health strategies and policies for lifting shelter-in-place and quarantine and for returning the U.S. to a new post-first-wave normal.

- [Adapting the educational environment for cardiovascular fellows-in-training](#)

The authors discuss strategies to support fellows-in-training in the early stages of the COVID-19 pandemic and the anticipated challenges as we navigate its course in the United States.

- [Multidisciplinary research priorities for COVID-19: mental health science call for action](#)

This position paper summarizes the priorities put forward by an interdisciplinary group of 24 world-leading experts, including people with lived experience of a mental health issue, from across the bio-psycho-social spectrum of expertise in mental health science in March and April, 2020. The survey findings, combined with the published scientific literature, informed the development of the research priorities.

Practice Guidelines

- [Management of immunocompromised cancer patients during COVID-19 pandemic](#)

The review examines the impact of COVID-19 on a cancer patient and discusses management options and recommendation in addition to highlighting the currently available clinical guidelines and resources.

- [Management of inflammatory bowel disease during Covid-19 pandemic](#)

The British Society of Gastroenterology COVID-19 Inflammatory Bowel Disease (IBD) Working Group has generated a risk grid that groups patients into highest, moderate and lowest risk categories for management of IBD. Further, consideration is given to service provision, medical and surgical therapy, endoscopy, imaging and clinical trials.

- [The New York Head and Neck Society recommendations for tracheostomy during COVID-19 pandemic](#)

This study summarizes the precautions that should be taken to ensure successful tracheostomy.

- [ESTES recommendations for trauma and emergency surgery preparation](#)

European Society of Trauma and Emergency Surgery's recommendations regarding hospital perioperative preparation for COVID-19: (1) General recommendation for surgical services; (2) Emergency Surgery for critically ill COVID-19 positive or

suspected patients -Preoperative planning and case selection; (3) Operating Room setup; (4) patient transport to the OR; (5) Surgical staff preparation; (6) Anesthesia considerations; (7) Surgical approach; and (8) Case Completion. The European Society of Emergency Surgery board endorsed these recommendations

- [ESMINT recommendations for interventional neurovascular management during COVID-19](#)
European Society of Minimally Invasive Neurological Therapy recommendations are provided on several domains: patient categorization, health care workers precautions, training, angiography suite management, neurointerventional materials and others.
- [French consensus on management of head and neck cancer surgery during COVID-19](#)
This advice applies to both consultations and surgical procedures and is likely to change on a day-by-day basis. The rule is to limit as much as possible the number of patients in order to reduce the risks of contamination by the SARS-Cov-2 for both patients and the caregivers, who are particularly exposed in ENT.
- [Traffic Control Bundling should be implemented in long term care facilities](#)
Traffic Control Bundling through compartmentalization within zones and active surveillance has been implemented in hospitals to reduce the spread of COVID-19 and is now being recommended for protecting against and mitigating the spread of COVID-19 in long-term care facilities.
- [CDC's factsheet for patients with respiratory symptoms to manage their care at home](#)
CDC's new factsheet explains 10 ways people can manage their care at home. 1. stay home, 2. monitor your symptoms, 3. get rest and stay hydrated, 4. call the healthcare provider if you have symptoms, 5. notify the dispatch personnel, 6. cover your cough and sneezes, 7. wash your hands often, 8. stay away from other people, 9. avoid sharing personal items, 10. clean all surfaces.

Promising Drugs, Vaccines, Therapies, Clinical Trials

- [Intravenous remdesivir shows clinical benefit in the rhesus macaque model of SARS-CoV-2 infection](#)
Biorxiv preprint: Remdesivir in doses mimicking human dosing was started 12 hours after inoculation with SARS-CoV-2 and continued through day six. Compared to vehicle solution-treated control animals, 1) virus titers were significantly reduced as soon as 12 hours after initiation of treatment in bronchoalveolar lavages (BAL) 2) blinded clinical scores were reduced, and 3) lung viral loads (but not nose and rectal swab viral loads) were significantly lower and there was clear reduction in pneumonia (assessed by a veterinary pathologist blinded to treatment) at necropsy 7 days after inoculation. Authors note that improved clinical signs should not be confused with lack of infectiousness, and also that persistent nasal shedding could mask significant antiviral effects in lung.
- [Hydroxychloroquine versus COVID-19: a rapid systematic review and meta-analysis](#)
A medRxiv preprint: Seven studies including four clinical trials and three observational studies have entered into the study. The results of meta-analysis of three clinical trial studies (128 patients) showed that there were no significant differences between patients who received the standard treatment with HCQ regimen and the patients that received the standard treatment without HCQ (RR: 1.44, 95% CI, 0.80-2.59). Among the individual clinical trials, two studies reported a benefit and another did not.
- [Heparin anticoagulant therapy improves hypoxia in COVID-19 patients - Brazilian case series](#)
MedRxiv preprint: A non-randomized case series of 27 consecutive COVID-19 patients admitted to hospital were treated with heparin in doses tailored to clinical severity, ranging from 1 - 2 mg/kg of enoxaparin BD. PaO₂/FiO₂ ratio increased significantly over the 72 hours following the start of anticoagulation, from 254(SD 90) to 325(SD 80), p=0.013, and 56% of the patients were discharged home within an average time of 7.3 (SD 4.0) days. Half of mechanically ventilated patients were extubated within 10.3 (SD 1.5) days. No deaths or hemorrhagic complications occurred.
- [Hypothiocyanite should be investigated for possible use against SARS-CoV-2](#)
The hypothiocyanite ion (OSCN⁻) is part of the human natural protective system against infectious agents. The reactive mixture LPO/H₂O₂/OSCN⁻ already proved effective viricidal activity against a range of viruses as HIV, herpes-simplex virus

(HSV-1), adenovirus, echovirus and respiratory syncytial virus (RSV). Authors claim in vitro testing of OSCN- is warranted.

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

Treatment trials: Antibody Based Lateral Flow Immunosassay Tests, Efficacy of Melatonin, Hydroxychloroquine in COVID-19 Kinetics, ACE-inhibitors in COVID, Efficacy in Chloroquine, Prolific Chemoprophylaxis, Safety and Immunogenicity Study of 2019-nCoV Vaccine, Camostat Mesylate, Efficacy and Safety of MTX-loaded Nanoparticles, Mycobacterium, IgG Seroconversion, Adipose Mesenchymal Cells, Efficacy of Nafamostat, Echocardiographic Manifestation, Hematological Malignancies, Retinoic Acid, Modulation of Hyperinflammation, Chronic Inflammatory Rheumatism, Auto-immune, or Auto-inflammatory Rare and Non-rare Diseases. At time of writing, a total of [681](#) were active, [30](#) completed, and [3](#) posted results.

Other Science

- [Elevated neutrophil-to-lymphocyte ratio and age predict poor clinical outcomes](#)

In a research paper published in International Immunopharmacology, researchers from China present results indicating that elevated neutrophil to lymphocyte ratio (NLR) was an independent prognostic biomarker that affected pneumonia progression in COVID-19 patients.

- [Meta-analysis of blood coagulation parameters in mild and severe cases](#)

The authors of a research letter accepted for publication in British Journal of Haematology report a quantitative meta-analysis on the difference in blood coagulation parameters between severe and mild COVID-19 cases.

- [Virus can extend to many organs including the heart and blood vessels, kidneys, gut, and brain](#)

Staff writers from Science Magazine describe to the general public how the coronavirus infection affects the entire body.

- [Optimal dosing of antivirals for COVID-19](#)

This commentary highlights the critical need for the collection and sharing of the key data, which will be required to prioritize and evaluate potential repurposed drug candidates, and to design COVID-19 targeted dosing paradigms. The principles of clinical pharmacology that are critical to the successful design and implementation of an optimal dosing regimen for drugs repurposed against SARS-CoV-2 are reviewed.

Contributing team members: Christophe G. Lambert, Shawn Stoicu, Ingrid Hendrix, Lori Sloane, Anastasiya Nestsiarovich, Praveen Kumar, Nicolas Lauve, Hannah Groves, Rachel King, Estefania Montanez, Malik Alqawasmi, Samuel Anyona, Evans Raballah, Elly Munde, Cristian Bologna, Alexandra Yingling, Greg Mertz, Kristine Tollestrup, Orrin Myers, Douglas J. Perkins.