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2020-04-16 DAILY UNM GLOBAL HEALTH COVID-19 BRIEFING

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DAILY UNM GLOBAL HEALTH COVID-19 BRIEFING

April 16, 2020

Executive Summary

Daily NM recap. Public Catholic masses resume. Chaplains stand down. Food delivered to tribal communities. Governors order face coverings use. Campfires restricted. NY hospitalizations fall. Nursing home probe in NJ. GOP call WHO Chief resignation. Africa cases up 51% and deaths up 60%. Sub-Saharan Africa prediction. Resurgence in Japan. UK conditions to reopen. France deaths up. UNMH protests over PPE. Med center financial stress. Hospitals bailout insufficient. 55% US healthcare worker cases hospital spread. Cruise ship transmission. Essential contact tracing. JAMA editors discuss policy. Guideline updates: treatment, emergency dep, ophthalmology, cath lab, telemedicine, liver disease, caregiver, health care facilities, FEMA, homeless services. Calcium channel blocker reduces fatality. Interferon lambda treatment. No benefit for lopinavir/ritonavir or arbidol in RCT. Donate plasma. Mixed results for antivirals on clearance. 37 new trials. Population-scale testing proposed. New rapid assay. Serology + RT-PCR needed. Hemoglobin monitoring. Co-infection of SARS-CoV-2. Urine glucose and proteinuria predict severity. Use damp cloth covers.

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

- [8 new deaths and 116 additional positive COVID-19 cases reported in NM](#)
The total positive cases and total deaths in the state are 1,597 and 44 respectively. As of today, the state has done 34,488 tests, there are 90 individuals hospitalized for COVID-19, and 353 COVID-19 cases have recovered. New NMDOH portal featuring epidemiologic breakdown of cases
- [Catholic bishop of Las Cruces will resume public masses in compliance with social distancing orders](#)
The bishop, Peter Baldacchino of Las Cruces, announced Wednesday afternoon that his diocese will resume public masses, making it the first in the United States to do so. Baldacchino said he will remain in compliance with social distancing orders from New Mexico Gov. Michelle Lujan Grisham and restrict attendance to five people at all masses within churches, including the celebrant. He also recommended that priests celebrate masses outside or as drive-in services.
- [Chaplains at UNMH exposed to Coronavirus, APD chaplains standing down](#)
Albuquerque Police's Chaplain Unit is standing down after learning chaplains at the University of New Mexico Hospital have tested positive for the coronavirus. A spokesperson from UNMH says some of their chaplains were asked to quarantine but would not confirm how many tested positive or how many are still working. Only 9/17 of APD chaplains are still volunteering their time specifically to police officer. Many of the chaplains are older than 60 and are afraid for their own health.
- [Incredible success in partnering with the Navajo Nation & pueblos to deliver food to tribal communities](#)
Over 80,000 lbs. of rice, beans, potatoes, watermelons, apples, and onions have been delivered to the Navajo Nation. Food for nearly 4,000 tribal citizens has been delivered to the pueblos of San Felipe, Zia, and Isleta. 4,000 food boxes have been delivered to tribal senior centers.

US Highlights

- [Governors across the country order use of masks in public as people emerge from isolation](#)
As the president speaks of reopening economy, state governments are cautiously preparing constituents as lockdowns unwind. Some states are ordering the use of face masks when in public, others are only recommending.
- [New Mexico National Forests restrict campfires during COVID-19 pandemic](#)

The U.S. Department of Agriculture's Forest Service Southwest Region, which includes Lincoln National Forest, enacted the measure effective April 15 until further notice, according to a news release. The Southwest Region includes all five New Mexico National Forests as well as six sites in Arizona.

- [Hospitalization for coronavirus falls in New York, New Jersey launches nursing home probe](#)

The number of people hospitalized for the coronavirus and related deaths in New York fell to their lowest levels in more than a week, adding to evidence the hardest-hit state was controlling its spread, Governor Andrew Cuomo said on Thursday (4/16). New Jersey Governor Phil Murphy ordered a review of long-term care facilities across the state after learning that one nursing home had piled up dead bodies in a makeshift morgue.

- [U.S. Republicans back Trump and call for WHO chief to resign](#)

Seventeen of Trump's fellow Republicans on the House of Representatives Foreign Affairs Committee called on President Donald Trump on Thursday to withhold payments to the World Health Organization until its director general resigns.

- [FDA cautions slower drug review activity due to reallocation of staff to COVID-19](#)

The US Food & Drug Administration said it may not be able to sustain its current level of timely reviews and approvals of marketing applications due to shortage of staff. Many staff are allocated to the coronavirus crisis but working to ensure that the drug programs continue to see minimal interruptions during this time. If there was an increase in drug shortages and supply disruptions, the FDA will be ready to reprioritize its work.

International Highlights

- [WHO releases weekly Africa situation report: 10,759 cases and 520 deaths](#)

There has been a 51% increase in the number of cases and a 60% increase in the number of deaths reported in the WHO African Region over the past one week. By 14th April 2020, a cumulative total of 10,759 confirmed COVID-19 cases with 520 deaths (case fatality ratio CFR:4.8%) have been reported across the 45 affected countries in the region.

- [The anticipated COVID-19 crisis in Sub-Saharan Africa: timely investments are needed](#)

Tropical Medicine and Health Letter to the Editor: The authors predict the African crisis to be greater than it is in other regions due to its weak health systems. African governments and WHO should invest immediately in preparedness for the worst-case scenario given Africa has high volume of air traffic with China.

- [Hokkaido, Japan declares state of emergency for second time due to resurgence of cases](#)

The first state of emergency declaration was lifted March 19, now 26 days later, it is reinstated. A second wave has come, with 135 new cases confirmed last week. Japanese professor warns that local containment may seem simple, but transmission will continue as long as people continue to move around.

- [Five conditions which must be met before UK eases lockdown](#)

Foreign Secretary Dominic Raab extended Britain's lockdown for three more weeks and set out five conditions that must be satisfied before the government will ease far-reaching restrictions.

- [Coronavirus death toll up again in France but number of hospitalized people declined](#)

France registered 753 more deaths from coronavirus infections on Thursday, bringing the total to 17,920, the fourth-highest tally in the world, but the number of people in hospital has declined for a second day running.

Economics, Workforce, Supply Chain, PPE Highlights

- [UNMH staff protest lack of PPE and other concerns](#)

Daily Lobo reports University of New Mexico Hospital employees and allies hold protest in front of hospital Wednesday. Grievances include: only nurses and doctors get N95 masks with staff getting surgical masks, concerns about N95 reuse, and 14-day mandated quarantines that come out of paid time off or sick leave.

- [Mitigating academic medical centers financial stress: policy options](#)

Academic Medicine: this Invited Commentary reviews existing data on academic medical centers debt levels; summarizes

relief provided in the Coronavirus Aid, Relief, and Economic Security Act; and suggests policy options to help mitigate risk.

- [Both urban and rural hospitals raise concerns that federal bailout falls short](#)

New York received roughly \$1.9 billion from the first round of federal support, or \$11,600 per reported COVID-19 patient and states with fewer cases up to 16 more per patient because of the funding approach used. Hospitals need the money to pay for overtime, and for PPE among other things. Rural hospitals are concerned that they won't be effectively represented for the next round of funding later this week which is supposed to help the hotspots of covid outbreak.

Epidemiology Highlights

- [CDC report on 9,282 US healthcare worker cases: 55% of infection appears hospital spread](#)

CDC MMWR report: Of 9,282 U.S. COVID-19 cases reported among health care personnel (HCP): median age 42, 73% female, reflecting distributions in health workforce. 55% of HCP patients reported no contact with COVID outside health care context. 27 deaths occurred; rates were highest among those 65 and over.

- [Cruise ship study suggests no central air conditioning transmission](#)

MedRxiv preprint: Looking at timing of positive testing and quarantines, modeling of transmission appeared to happen prior to quarantine among those in the same staterooms and upon disembarking. Authors infer that the ship central air conditioning system did not play a role, and thus long-range airborne route was absent in this outbreak.

- [Why contact tracing is essential to stop the coronavirus from spreading](#)

Contact tracing is a process designed to halt the chain of transmission of an infectious pathogen — like the coronavirus — and slow community spread. The whole point of this process is to make sure that people who have the virus are separated from those who don't. That includes the original case being isolated, and the contacts who might be incubating the disease.

- [Contact tracing helped reduce viral infections in Iceland](#)

Containment efforts through contact tracing and population screening has shown reduced incidence of infection in Iceland.

Healthcare Policy Recommendations

- [JAMA Health Forum editors talk about changes in U.S. health care policy](#)

Youtube video: JAMA Health Forum editors John Ayanian, MD, MPP, and Melinda Buntin, PhD discuss changes in U.S. health care and health policy driven by the pandemic. Recorded on April 16, 2020.

Practice Guidelines

- [Society of Infectious Diseases Pharmacists review on COVID-19 treatment](#)

The Society of Infectious Diseases Pharmacists summarize the current evidence as of March 18, 2020 to provide guidance on potential COVID-19 treatment options.

- [SARS-CoV-2: an overview for emergency clinicians](#)

A review analyzes information from worldwide research and experience on the epidemiology, prevention, and treatment of COVID-19, and offers links to the most reliable and trustworthy resources to help equip healthcare professionals in managing this public health challenge.

- [Chinese experience against SARS-CoV-2 in ophthalmology](#)

Based on 33 articles published by Chinese scholars, guidelines and clinical practice experience in domestic hospitals, the authors have summarized the Chinese experience to protect ophthalmologists and patients.

- [Catheterization laboratory priorities during COVID-19: guidelines and recommendations](#)

European Heart Journal offers guidelines on how to manage a catheterization lab during the pandemic to complement earlier guidelines from 1) [Journal of the American College of Cardiology](#); 2) [National Institute for Health and Care Excellence](#).

- [Management of liver disease during the COVID-19](#)

European Association for the Study of the Liver (EASL) and the European Society of Clinical Microbiology and Infectious Diseases (ESCMID) issued a position paper, providing recommendations for clinicians caring for patients with liver diseases during the current pandemic.

- [CDC launches new podcast on caregivers and unsafe caregiving practices](#)

Caregivers provide crucial support for their care recipient and the health care system but may be compromising their own health in the process and many are providing "unsafe caregiving".

- [Best practices for healthcare facilities](#)

The FEMA Federal Healthcare Resilience Task Force published the "COVID-19 Hospital Resource Package", which is intended to provide publicly accessible guidance and tools to better enable the healthcare response to COVID-19. The document provides guidance on surge planning for the emergency department, critical care, and mortuary services; crisis standards of care; staffing surge and resilience; workforce protection; regulatory concerns; PPE and healthcare supply chains; and telemedicine to support US health systems' efforts to combat the growing epidemic.

- [CDC guidelines for healthcare professionals](#)

CDC offers trainings on clinical care and infection control, personal protective equipment, non-pharmaceutical infections, and emergency preparedness and response specific to COVID-19 to Healthcare professionals.

- [Interim guidance for homeless service providers to plan and respond to COVID-19](#)

CDC has developed recommendations for homeless service providers, including overnight emergency shelters, day shelters, and meal service providers and how to protect their staff, clients, and guests.

- [Monitor hemoglobin in COVID-19 patients: evidence from a meta-analysis](#)

Meta-analysis of 4 studies show in 3/4 that hemoglobin was significantly lower in COVID patients with severe disease than with milder forms, yielding a weighted mean difference of -7.1 g/L; (95% CI, -8.3 to -5.9 g/L). Advise initial assessment and longitudinal monitoring of hemoglobin, and urge research to assess whether transfusion support may reduce morbidity and mortality.

Drugs, Vaccines, Therapies, Clinical Trials

- [Calcium channel blocker amlodipine is associated with reduced case fatality](#)

MedRxiv preprint: 4 calcium channel blocker (CCB) antihypertensives showed in vitro inhibition of viral replication. In this retrospective study of hospitalized hypertensive patients ($n=90$) with 15 fatalities, amlodipine besylate (Norvasc) was compared to no treatment and other antihypertensives. Case fatality rate (CFR) was decreased from 26.1% (12/46) in non-amlodipine treated group to 6.8% (3/44) in amlodipine treated group ($P = 0.022$). Kaplan-Meier analysis demonstrated reduced risk of death in amlodipine group, in comparison with non-amlodipine one ($P = 0.033$, log-rank test). Other CCBs ($n=4$) did not have enough sample size for comparison. In vitro studies also suggest synergism of chloroquine and CCBs.

- [A viewpoint on the interferon lambda treatment option, pros and cons](#)

This Viewpoint presents an opinion on the benefits and potential limitations of using IFN-lambda to prevent, limit, and treat COVID-19.

- [Neither lopinavir/ritonavir or arbidol provided virologic or clinical benefit in an RCT](#)

In a randomized controlled trial (partially blinded) 34 patients with mild/moderate disease were assigned to LPV/r, 35 to arbidol and 17 had no antiviral medication. There were no significant differences in duration of viral shedding, rates of symptoms resolution or improvement of chest CT, or rates of progression to severe states.

- [FDA encourages recovered patients to donate plasma for development of blood-related therapies](#)

The FDA is providing an update on convalescent plasma and encouraging those who have recovered from COVID-19 to donate plasma to help others fight this disease.

- [Antivirals do not reduce time of viral clearance, lopinavir/ritonavir delayed viral clearance](#)

MedRxiv preprint: Guangzhou study examined 284 consecutive COVID-19 cases. 280 patients achieved viral RNA clearance

with a median length of 12 days (IQR: 8-16) after onset of illness. 66.1% of them had viral RNA cleared within 14 days, and 89.3% within 21 days. Older age, severity of disease, time lag from illness onset to hospital admission, fever, and corticosteroid use were associated with delayed clearance of viral RNA. None of the antiviral regimens (chloroquine, oseltamivir, arbidol, and lopinavir/ritonavir) improved viral RNA clearance. Lopinavir/ritonavir was associated with delayed clearance of viral RNA after adjusting for confounders.

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

Treatment trials: Plasma Rich Antibodies. Management with Favipiravir. Automated Serologic Testing. Transmissibility and Viral Load via Oral Secretions. Convalescent Plasma. Hydroxychloroquine and Azithromycin ambulatory patients. Longitudinal Energy Expenditure and Metabolic Effects. Allogeneic HB-adMSCs Immune Support. Evaluating Immune Response. Clazakizumab (Anti-IL-6 Monoclonal) vs. Placebo. Subcutaneous Canakinumab Pneumonia. Defibotidefor Respiratory Distress and Cytokine Storm. Nitazoxanide Efficacy and Safety for Hospitalized Patients. Immune and Inflammatory Response Allogeneic Haematopoietic Stem Cell Transplantation (SCT). HCQ Prophylaxis HCP. Activity and Safety Oral Selinexor Severe Disease. Fleming [FMTVDM] Directed Treatment. Safety and Efficacy HB-adMSCs. Ruxolitinib Plus Simvastatin Respiratory Failure. Triiodothyronine Critically Ill Patients. BCG Vaccine for HCP. Hydrocortisone and Severe Hypoxia. Dexmedetomidine Light to Moderate Sedation Palliative Situation. Ultraprotective Ventilation w/o Extracorporeal Circulation Pneumonia. ICU Trial Critical Ill. Antibody Self-testing Virtual Point-of-care. Qatar Prospective RCT Therapy. Resilience During Epidemic. Birth Experience. Emotional Burden of HCP. Symptom, Exposure and Immune Response Registry. Virus Outbreak Affects Antimicrobial Resistance LMICs. Using Mesenchymal Stromal Cells. Early Extubation Acute Hypoxemic Respiratory Failure. At time of writing, a total of [611](#) were active, [28](#) completed, and [3](#) posted results.

Other Science

- [Viral load as function of antiviral potency and timing of Tx initiation -- early Tx essential](#)

Model shows expected viral reduction as function of drug efficacy and how early or late treatment starts. Potent drug therapy ideal when presymptomatic, with less efficacy the longer one waits. Immunotherapy ineffective if started prior to peak viral load. Viral load peaks just as symptoms appear. This highlights the need for earlier detection and contact tracing. Model suggests clinical trial endpoints based on reducing viral load may fail when agents introduced late.

- [Enabling population-scale COVID-19 diagnostics using a compressed barcode space](#)

In a testing protocol proposed by researchers from Broad Institute, every sample being tested for SARS-CoV-2 would be tagged with a unique DNA sequence that would serve as a biological barcode. High-speed sequencing instruments common in research laboratories around the world could then be used to analyze as many as 100,000 DNA samples at one time.

- [A new rapid and accurate assay developed: a better alternative to PCR](#)

A rapid (<40 min), easy-to-implement and accurate CRISPR-Cas12-based lateral flow assay is developed for detection of SARS-CoV-2 from respiratory swab RNA extracts. It was validated on patients in the US, including 36 patients with COVID-19 and 42 patients with other viral respiratory infections. The assay provides a visual and faster alternative to the US CDC SARS-CoV-2 real-time RT-PCR assay, with 95% positive predictive agreement and 100% negative predictive agreement.

- [Serology testing complements RT-PCR for better diagnostic coverage](#)

The results of a comprehensive analysis of a family cluster study emphasized the significance of serology testing to assist timely diagnosis of SARS-CoV-2 infections, especially for COVID-19 close contacts screening. A family cluster of SARS-CoV-2 was identified and analyzed based on clinical characteristics, chest CT, SARS-CoV-2 molecular detection, and serology. Five of 6 family members tested positive for SARS-CoV-2-specific immunoglobulin serology. However, molecular assays only detected 2 of these 5 patients. Two patients were diagnosed with COVID-19, two were suspected of COVID-19, and two were considered close contacts. Repeated RT-PCR assays and serology testing should be performed for patients who are IgM positive, while dynamic change of SARS-CoV-2-specific IgG from negative to positive supporting the COVID-19 diagnosis.

- [Hemoglobin may be decreased in patients with severe disease](#)

Meta-analysis of 4 studies show in 3/4 that the hemoglobin value was significantly lower in COVID-19 patients with severe disease than in those with milder forms, yielding a WMD of -7.1 g/L; (95% CI, -8.3 to -5.9 g/L). Initial assessment and

longitudinal monitoring of hemoglobin values is advised. Subsequent studies are urged to assess whether transfusion support may help to reduce morbidity and mortality.

- [Rates of co-infection SARS-CoV-2 and other respiratory pathogen more common than reported prior](#)

A total of 1217 specimens were tested for SARS-CoV-2 and other respiratory pathogens from 1206 unique patients. None of the differences in rates of non-SARS-CoV-2 pathogens between specimens positive and negative for SARS-CoV-2 were statistically significant. The most common co-infections were rhinovirus/enterovirus (6.9%), respiratory syncytial virus (5.2%), and non-SARS-CoV-2 Coronaviridae (4.3%). These results suggest higher rates of co-infection between SARS-CoV-2 and other respiratory pathogens than previously reported.

- [Urine glucose and proteinuria are predictors of COVID-19 severity](#)

119 COVID-19 patient and 45 control Wuhan prospective study shows higher urine pH, and higher urine glucose and proteinuria (PRO) in the severe and critical groups versus moderate. Versus controls, COVID-19 patients have statistically significantly elevated occult blood, and PRO, lowered urine specific gravity.

- [Laser tests show effectiveness of damp cloth mouth covers to reduce COVID exposures](#)

An experiment visualizing speech-generated, oral fluid droplets with laser light scattering demonstrated that droplets generated through speech might have the potential to spread the COVID virus, particularly with specific speech sounds and with loud voices. When using a wet cloth in front of the mouth, droplet spread was reduced near background levels. More work is needed to demonstrate whether cloth coverings will effectively protect people from COVID exposures and whether wetting the cloth is crucial to make covers more effective.

Contributing team members: Christophe G. Lambert, Shawn Stoicu, Anastasiya Nestsiarovich, Praveen Kumar, Nicolas Lauve, Hannah Groves, Estefania Montanez, Rachel D. King, Elly Munde, Perez Olewe, Cristian Bologa, Gregory Mertz, Kristine Tollestrup, Andrew Rowland, Orrin Myers, Douglas J. Perkins.