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2020-04-27 DAILY UNM GLOBAL HEALTH COVID-19 BRIEFING

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DAILY UNM GLOBAL HEALTH COVID-19 BRIEFING

April 27, 2020

Executive Summary

NM daily cases. McKinley surpasses Bernalillo cases. NM personal stories. Pushes for earlier reopening: Grants, Roosevelt, Lea, Albuquerque. Bus route reopening. Unpaid substitute teachers. Union nurse protest. Georgia reopening. CVS Walgreens LabCorp testing. WHO endorses federal plan. Australians embrace tracing. Brazil overwhelmed. Kawasaki disease elevated. Contamination simulations. Rice cooker mask steaming. Novel eye mask. 3 million worldwide cases. Contact tracing pitfalls. Malaria inverse relationship. Wastewater surveillance. Homeless testing. Predicting death rates. Urban informal settlements. Global health guide. Improving quarantine adherence. Practice guidelines: multiple myeloma, pediatric management, pediatric dialysis, PPE in oro/nasopharyngeal conditions. Recombinant ACE2 blocks virus. Viral life cycle targets. Addressing HCO+azithromycin long QT. 43 clinical trials. Diabetes risk meta-analysis. Pancreatic damage risk. Nicotine protective hypothesis. High elevation lower risk.

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

- [New Mexico surpasses 100 COVID-19 deaths and reports 101 additional cases](#)
The total positive cases and total deaths in the state are 2,823 and 104, respectively. As of today, the state has performed 58,803 tests, there are 155 individuals currently hospitalized for COVID-19, and 666 COVID-19 cases have recovered. New NMDOH portal featuring epidemiologic breakdown of cases.
- [McKinley county leads NM in cases \(708\) surpassing Bernalillo county](#)
As of Saturday (4/25), health officials reported 69 additional COVID-19 cases in McKinley county, making it the New Mexico county with the most reported cases (708) surpassing Bernalillo county (670). McKinley county includes a corner of the main part of the Navajo Nation, which has been hit hard by the pandemic.
- [New Mexico launching PSAs featuring personal stories of those affected by COVID-19](#)
The state government is launching a series of PSAs Monday to highlight the personal stories of New Mexicans who have experienced first-hand pain and suffering from the COVID-19 pandemic. The series, "From the Frontline," features two doctors, a critical care nurse, a small business owner and a woman who lost her mother to COVID-19, officials said. New Mexicans who are willing to share their personal COVID-19 stories for inclusion in another series of PSAs are encouraged to contact: judy.robinson@state.nm.us
- [Grants mayor preparing to open non-essential businesses defying shutdown](#)
Grants has become a focal point in a revolt brewing around the state. Some city and county governments around New Mexico have passed emergency declarations asking the governor to lift closings of nonessential businesses. Grants Mayor Martin Hicks said he will be allowing businesses to reopen, including the municipal golf course.
- [Roosevelt and Lea County Sheriff's office say they will not enforce governor's public health mandates](#)
Recognizing the hardship faced by local businesses, both the Roosevelt and Lea County Sheriff's office have posted

statements on Facebook declaring that they will not be enforcing the public health mandates set by New Mexico Gov. Michelle Lujan Grisham and the New Mexico Department of Health (NMDOH).

- [Albuquerque city councilors propose earlier reopening for ABQ](#)

Councilors Don Harris and Brook Bassan on Sunday introduced the resolution, which argues that Albuquerque is an economic hub for the state and should have different business closure protocol. It will be taken up by the City Council on May 4.

- [ABQ Ride restarting North Valley bus route](#)

ABQ Ride is restarting a bus route through the North Valley based on public interest. Monday through Friday it will start at the Alvarado Transportation Center, heading West on Lomas to Central and Rio Grande before circling back to 12th Street and back to the transportation center.

- [Many school substitutes not getting paid during closures due to COVID-19 outbreak](#)

State Public Education Department spokeswoman Deborah Martinez told that in general substitutes aren't expected to be paid unless they are performing other duties during the closures or if they are taking on long-term subbing roles.

- [Union nurses protest PPE restrictions, lack of paid leave, and profit based hospital system](#)

Nurses concerned about lack of healthcare worker protections and lack of statewide COVID preparations despite adequate time to prepare. Many feel the lack of preparedness displays the underlying problems of healthcare. Some reported that not everyone is given N95 masks and believe PPE should be provided to all workers: technicians, respiratory therapists, EVS, social workers, and paramedics.

US Highlights

- [Georgia reopens some nonessential businesses](#)

Georgia has been criticized by the U.S. President and healthcare experts for reopening of restaurants, movie theaters, nail salons, barber shops, and tattoo parlors last week. Some restaurants and movie theaters decided to stay closed.

- [CVS and Walgreens ramp up testing, LabCorp to offer free testing](#)

CVS hopes to test 1.5 million/month by end of May with scheduling online and testing done in parking lots or at drive-thru windows. Walgreens hopes to test 100,000/month using similar methods. LabCorp to offer free antibody testing.

- [WHO says U.S. federal coronavirus plan is clear and science-based](#)

Dr. Mike Ryan, WHO's top emergencies expert, said on Monday that the United States seemed to have a "very clearly laid-out", science-based federal plan for fighting its coronavirus epidemics.

International Highlights

- [8% of Australian population using Bluetooth CovidSafe contact tracing app](#)

A Reuters article describes the adoption of an app using Singaporean *TraceTogether* software to track infected persons interactions. There has been some pushback regarding invasion of privacy since this app tracks the proximity of users using an always-on Bluetooth system. Australia plans to begin testing asymptomatic patients as their new cases in each state are in the single digits.

- [Manaus, Brazil experiencing high infection and death rates](#)

Hospitals at 96% capacity with high physician shortage. Mayor of Manaus devastated at death rates as the virus reaches vulnerable indigenous communities.

- [Italy and UK explore possible COVID-19 link to Kawasaki Disease](#)

Italian and British medical experts are investigating a possible link between the coronavirus pandemic and clusters of Kawasaki Disease (KD), an otherwise largely idiopathic condition. Areas in northern Italy that were hard-hit by the pandemic have experienced a rise in KD equivalent to 6x what they would normally see in an entire year. KD has been anecdotally linked to Coronavirus strains in the past but there is no definitive proof.

Economics, Workforce, Supply Chain, PPE Highlights

- [46% contamination of skin and clothing observed during glove and gown removal simulations](#)
JAMA editorial covers *JAMA Internal Medicine* article. Fluorescent markers in lotion were used to observe contamination patterns. Higher contamination rates were observed during simulations (n=435) of glove removal vs gown removal (52.9% vs 37.8%, P=.002) and when lapses in technique were observed vs not observed (70.3% vs 30.0%, P<.001). The intervention resulted in a reduction in contamination during glove and gown removal (60.0% before the intervention vs 18.9% after, P<.001).
- [Mask steaming method shows MRSA and bacteriophage MS2 inactivation](#)
The *Association for Professionals in Infection Control and Epidemiology, Inc.* conducted a study that compared steaming method (rice cooker) and dry heat (oven) methods for the bacterial inactivation in N95, surgical, and cloth masks. The rice cooker and oven methods showed a reduction of >5 log₁₀ and <3 log₁₀ in organism recovery, respectively. The authors did not investigate mask integrity past visual observations.
- [Novel filtered eye mask may reduce spread while minimizing fogging](#)
This study built and tested a new filtered eye mask (FEM) to protect the eyes from airborne particles while being usable without excessive fog build up. The standard eye mask showed minimal fog at 1 minutes, very foggy at 5 minutes and dripping with condensation at 60 min. The FEM was clear at 1 and 5 minutes and showed minimal fog at 60 minutes.

Epidemiology Highlights

- [Global confirmed coronavirus cases surpassed 3 million on Monday \(4/27\)](#)
An average of 82,000 cases have been reported per day in the past week. Over a quarter of all cases are in the United States, and over 43% have been recorded in Europe. The death toll from the virus stood at more than 205,000 as of April 27, and almost one in seven reported cases of the disease has been fatal.
- [Pitfalls in using automated contact tracing](#)
Automated contact tracing alone cannot contain a pandemic driven by a pathogen such as COVID-19 due to the unique nature of this disease. Such a strategy will not work because of the large degree of spreading by asymptomatic and subclinical hosts and the rapid spread of the disease. To be effective, the majority of the population has to enroll and actively participate in an automated contact tracing program.
- [Lower COVID-19 incidence found in countries affected by malaria](#)
In a letter to the editor, the author hypothesizes that the lower incidence of COVID-19 may be due to the presence of malarial drugs, including hydroxychloroquine. Poisson regression showed the COVID-19 incidence rate decreases by 8.82% as the malarial incidence rate increases by 1 per 1,000 population.
- [Wastewater analysis as an epidemiological surveillance tool for re-emerging infections](#)
Wastewater analysis is a sensitive and cost-effective strategy for COVID-19 epidemiological surveillance and is shown to detect early community transmission and subsequent infections.
- [Homeless shelter residents in Boston: 36% PCR positive, 88.5% asymptomatic](#)
A survey was conducted among adult residents of a homeless shelter in Boston (N=408). Information on age, sex, race, ethnicity, history of cough, shortness of breath and other symptoms was recorded and a PCR completed. 88.5% reported no symptoms, but 36.0% had positive PCR.
- [A patient information based algorithm shown to effectively estimate death toll and mortality rates](#)
The authors report a new method, Patient Information Based Algorithm (PIBA), for predicting death rates based on early patient information in specific regions. In China, the estimated time from admission to death was 6 to 30 days (n=33). The estimated death rate ranged from 0.75% to 3%, which was in congruence with the real-time data. It was tested using South Korean data and was able to predict these successfully.

Healthcare Policy Recommendations

- [Recommendations for improving well-being in urban informal settlements during COVID-19](#)
A global research group outlines a set of practice and policy suggestions to minimize the virus spread; provide economic, social, and physical improvements; and increase accessibility of healthcare to the urban informal settlements.
- [Global Health guide](#)
This is a general guide on Global Health, which now includes a box for major resources (CDC, JHU, WHO) on Covid-19. The guide (use TOC on left bar) was created in the support of student research, especially in the fields of COPH, Economics, Sociology, among other disciplines.
- [How to improve adherence to quarantine protocols](#)
This rapid review of 3,163 articles identified factors associated with quarantine adherence. Adherence to quarantine ranged 0% to 92.8%. Main factors of influence on adherence were: disease knowledge, quarantine procedure, social norms, perceived benefits of quarantine, perceived risk of disease, and practical issues related to food and employment. Authors recommend the public be provided with timely, clear rationale for quarantine and ensure that sufficient essential supplies are provided.

Practice Guidelines

- [Caring for older adults with multiple myeloma during the COVID-19 pandemic](#)
In this review, strategies are discussed for treatment stratification of multiple myeloma and the goals of care for older adults with this disorder during the COVID-19 pandemic.
- [Pediatric clinical management of COVID-19: expert consensus guidelines](#)
An experts' committee was called up to formulate a consensus statement based on the Novel Coronavirus Infection Pneumonia Diagnosis and Treatment Standards (the fourth edition) (National Health Committee) and other previous diagnosis and treatment strategies for pediatric virus infections. The present consensus statement summarizes current strategies on diagnosis, treatment, and prevention of 2019-nCoV infection in children
- [Recommendations for care of children receiving chronic dialysis at home and hemodialysis centers](#)
The authors have proposed recommendations for prevention and control of SARS-CoV-2 infection and COVID-19 in pediatric HD centers and in-home PD settings for children who reside in geographic regions where COVID-19 is highly prevalent. Guidelines include proper hygiene, PPE, disinfection, frequent temperature monitoring, and up to date education.
- [Personal and protective equipment in emergency oro/nasopharyngeal conditions: UK guidelines](#)
New personal and protective equipment guidance from the British Association of Oral and Maxillofacial Surgeons (BAOMS) and ENT UK advises surgeons on how to treat patients with emergency oropharyngeal and nasopharyngeal conditions. For full information about the new guidance go to BAOMS: www.baoms.org.uk; ENT UK: www.entuk.org and BAOS: www.baos.org.uk.

Drugs, Vaccines, Therapies, Clinical Trials

- [Human recombinant soluble ACE2 shown to block early stages of SARS-CoV-2 infections in lab](#)
A study in *Cell* shows the results of human recombinant soluble ACE2 (hrsACE2) for blocking viral entry and growth into cells. SARS-CoV-2 was shown to directly infect engineered human blood vessel organoids and human kidney organoids, which can be inhibited by hrsACE2. This data demonstrates that hrsACE2 can significantly block early stages of infections. Study design is limited by looking at early stages of infection, thus cannot predict later stages of disease. They did not study lung organoids.
- [Targeting the SARS-COV-2 Life Cycle for drug development](#)
In a research letter published in *Travel Medicine and Infectious Disease*, the authors argue that for development of an effective therapy, good understanding of the viral life cycle is required, and that different phases of the virus cycle could be

simultaneously targeted for therapy.

- [Prevention and treatment of QT prolongation with hydroxychloroquine and azithromycin](#)

This letter responds to hydroxychloroquine and azithromycin use and its increase risk for *torsades de pointes* through QT prolongation. The author urges physicians to monitor patients being treated with these drugs through baseline EKG with continuous monitoring, limiting polypharmacy especially drugs known to prolong QT interval and supplemental potassium. In the event of torsades, the author recommends discontinuation of offending drug, IV magnesium and/or isoproterenol.

- [43 New COVID-19 Trials registered today at clinicaltrials.gov](#)

Treatment trials: Hydroxychloroquine, FT516, Live Biotherapeutic MRx4DP0004, B- and T-cell Repertoire and Immune Response, Canakinumab Treatment, CEDiD Study, COVID-19 Biomarkers, Tocilizumab, Pharmacologic Ascorbic Acid, BACTEK-R, Azithromycin+Amoxicillin/Clavulanate vs Amoxicillin/Clavulanate, Serology, Thermotherapy, Anakinra, Early Aspirin and Vitamin D, Chronic Fatigue Etiology, Interleukin-6 Inhibitor Clazakizumab. At time of writing, a total of [918](#) were active, [40](#) completed, and [3](#) posted results.

Other Science

- [Diabetes mellitus has a strong association with increased disease severity, ARDS, and mortality](#)

A meta-analysis using 6452 patients showed relative risk of severe disease to be 2.45, mortality in DM patients to be 2.12, and acute respiratory distress syndrome (ARDS) to be 4.64.

- [ACE2 expression in pancreas causes concern for pancreatic damage with COVID-19](#)

This retrospective cohort study looked at pancreatic damage from COVID-19. It was found that ACE2 receptors, major receptors in the pathogenesis of COVID-19 infections, are also expressed on the pancreas. 1-2% of non-severe and 17% of severe patients with COVID-19 had pancreatic injury. Limitations on the study are the possibility of drug-induced pancreatitis and pancreatic damage before admission.

- [French scientists to test hypothesis that nicotine combats COVID-19 infection](#)

The scientists hypothesized in their study that nicotine could influence whether or not the coronavirus molecules are able to attach themselves to receptors in the body. They will launch a human trial on groups of healthcare workers and patients wearing nicotine patches and other groups wearing placebo patches to test their hypothesis.

- [Possible reduced infection rate and virulence in populations living at high elevation](#)

A Quebec group hypothesizes virulence may be reduced for persons living about 3,000 m (9840 ft) due to the physiological acclimatization of its inhabitants and environmental characteristics, like UV radiation. The authors describe a possible correlation between the virus infection rate and ACE2 in pulmonary epithelial cells.

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