

University of New Mexico

UNM Digital Repository

HSC Covid 19 Briefings

HSC Institutional and Academic Materials

6-7-2020

2020-06-5/6/7 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

Recommended Citation

Lambert, Christophe G.; Shawn Stoicu; Ingrid Hendrix; Lori Sloane; Anastasiya Nestsiarovich; Praveen Kumar; Nicolas Lauve; Mala Htun; Ariel Hurwitz; Morgan Edwards-Fligner; Alexandra Yingling; Perez Olewe; Cristian Bologna; Orrin Myers; and Douglas J. Perkins. "2020-06-5/6/7 DAILY UNM GLOBAL HEALTH COVID-19 BRIEFING." (2020). https://digitalrepository.unm.edu/hsc_covid19_briefings/48

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, Mala Htun, Ariel Hurwitz, Morgan Edwards-Fligner, Alexandra Yingling, Perez Olewe, Cristian Bologna, Orrin Myers, and Douglas J. Perkins

DAILY UNM GLOBAL HEALTH COVID-19 BRIEFING

June 5-7, 2020

Executive Summary

NM Highlights: HSD Secretary presented coronavirus updates. NM case count. Otero County Prison cases surge. PPE deal scam. Cases rise among health care workers. Navajo Nation paused weekend lockdown. Veterans helping NM. NM allows maximum SNAP benefits. City of Roswell budget cut. Carlsbad cancels 4th July fireworks. Navajo Nation casino closure extended. City grant for nonprofits. Die-in protest at UNMH. Tenure and promotion after pandemic.

US Highlights: ER visits declined. Nursing homes hit hardest.

Economics, Workforce, Supply Chain, PPE: FDA reissues emergency use authorization. FFP3 masks reusable after decontamination.

Epidemiology Highlights: SEIRA model informs on COVID-19 spread. High chronic disease comorbidity risk.

Healthcare Policy Recommendations: WHO mask guidelines. Fingernail hygiene. Novel social distancing strategies. CDC on safer youth sports.

Practice Guidelines: The guidelines are provided on intensive support, rural and remote cardiology, radiology procedures, managing type 2 diabetes mellitus, hepatology and liver transplant, HPV prophylaxis and surgery, forensic pathology practices.

Testing: Portable, ultra-fast biosensor. Patient collected swabs.

Drugs, Vaccines, Therapies, Clinical Trials: Neutralizing antibodies isolated. Lengthened QT interval. Acalabrutinib and inflammation. Convalescent plasma review. 18 new COVID-19 trials.

Other Science: Human antibodies. Covid-19 in children. Liver injury. Chest CT diagnosis. AST predicts hospitalization length. COVID-19 coagulation. ECMO outcomes. Smoking and COVID-19. Liver fat associated with infection. Pediatric inflammatory syndrome.

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 HSD Secretary David Scrase MD Presents June 5 update on state numbers, models, and mask literature evidence](#)

In a video presentation, Dr. Scrase shows cumulative COVID-19 cases, including a county-level breakdown. There is a

downward trend in both cases and hospitalizations. He describes the organizational chart of the Medical Advisory Team and the various MAT advisory team resources hosted [here](#). He then discusses the literature on several science topics, including the effectiveness of masks, social distancing, and the Swedish herd immunity experiment. He discusses target metrics for safe reopening and more on healthcare capacity within New Mexico. There is also a substantial question and answer session.

- [NM reports 4 more COVID-19 deaths and 143 additional cases on June 7](#)

As of today (6/7), the total positive cases and total deaths in the state are 8,940 and 396, respectively. The state has performed 234,375 tests, there are 177 individuals currently hospitalized for COVID-19, and 3,307 COVID-19 cases have recovered. [NMDOH portal featuring epidemiologic breakdown of cases](#).

- [218 new cases reported today with 110 from Otero County Prison Facility](#)

Governor predicts more cases in areas of active George Floyd protests. She is hoping to move protests to an online environment. She held a press conference on racism on [Thursday](#).

- [State of NM suspects scam in PPE deal](#)

Bionet, a real estate and medical marijuana company, is under criminal investigation for possible forgery and price gouging in the sale of millions of dollars of personal protective equipment and medical supplies to the New Mexico Department of Health, according to a spokesman for the state Attorney General's office.

- [COVID-19 cases soar among NM health care workers](#)

As of April 21, 154 health care workers in the state had tested positive for the coronavirus. An additional 492 workers were diagnosed the following month, a 219% increase, according to new data provided by the Department of Health. The largest increase came in Bernalillo County, where another 181 workers tested positive. San Juan and McKinley counties also had a surge.

- [Navajo Nation pause the 57-hour weekend-long lockdowns](#)

Navajo Nation President Jonathan Nez is suspending the 57-hour weekend curfew that has been in place for the last eight weekends. The daily curfew from 8 p.m. to 5 a.m. remains in place.

- [Local veterans help NM though the COVID-19 pandemic](#)

The vice president of UNM's Gallup branch campus's veterans resource center, along with other veterans are unloading food trucks full of five to 50-pound bags of food and supplies for families in the northwest region of the state. They've handed out more than 800 care packages since March.

- [New Mexico extends program allowing maximum amount in SNAP benefits](#)

The state Human Services Department announced Friday it was extending a pandemic-related initiative that allows everyone in the program to receive the maximum amount in benefits for June. New applicants in June also will see supplemental benefits.

- [City of Roswell to cut \\$31 million from budget](#)

The coronavirus pandemic, drop in oil prices, and gross receipt taxes have cities across New Mexico scrambling to cover the budget shortfall. To cut the \$31 million from the budget, the city worked with 35 employees to offer early retirement. City Manager Joe Neeb said they will not be laying anyone off or cutting public services.

- [Carlsbad cancels 4th of July fireworks show](#)

The city of Carlsbad is planning a future fireworks display once the COVID-19 restrictions are lifted further but a date has not been set. They say all beach and park areas will remain open to the public on the fourth of July.

- [Navajo Nation gaming board extends casino closure through July 5](#)

The Board of Directors of the Navajo Nation Gaming Enterprise has extended the closure of all Navajo gaming operations in adherence to the Navajo Nation Executive Order issued by President Johnathan Nez and Vice President Myron Lizer. The Navajo Gaming Board will continue to give their employees paid administrative leave.

- [COVID-affected nonprofits share \\$1M city grant](#)

44 nonprofits and governmental agencies will share the \$1 million Coronavirus Community Support and Recovery Fund

recently approved by Albuquerque city councilors. The awards range from \$5,000 to \$50,000.

- [Hundreds of medical students and staff stage die-in at UNM](#)

Around 200 medical students and staff staged a die-in Thursday afternoon at the Health Sciences Library to bring attention to racial disparities within the medical community and to honor George Floyd, the man killed in police custody in Minneapolis on Memorial Day.

- [Tenure and promotion after the pandemic](#)

In this short piece, UNM political science prof and ADVANCE co-PI proposes strategies for universities to make tenure and promotion equitable and mitigate the disadvantages of the Covid-19 pandemic on parents and caregivers, human subjects' researchers, international field researchers, and more.

US Highlights

- [US emergency room visits declined 42% over April 2019](#)

CDC: Serious issues going untreated? The National Syndromic Surveillance Program found that emergency department (ED) visits declined 42% during the early COVID-19 pandemic, from a mean of 2.1 million per week (March 31–April 27, 2019) to 1.2 million (March 29–April 25, 2020), with the steepest decreases in persons aged ≤14 years, females, and the Northeast. Fewer visits for critical conditions might result in complications or death.

- [Most COVID-19 deaths occurred in nursing homes](#)

Journal of the American Geriatrics Society: Deaths occurring in long-term care facilities (LTCFs) with Minnesota and Rhode Island at 81%, Connecticut at 71%, New Hampshire at 71%, and New York at 21% but probably undercounting. New Mexico is among 11 states the authors say do not report the number of deaths in LTCFs. According to co-author [Lisa Caruso](#), “the asymptomatic spread of this virus allows it to easily sneak into these facilities where essential staff go from nursing home to nursing home, like x-ray technicians, phlebotomists, nurses and nursing assistants who have to work more than one job to make ends meet.”

Economics, Workforce, Supply Chain, PPE Highlights

- [FDA Reissues Emergency Use Authorizations \(EUA\) revising list respirators for reuse](#)

The FDA has learned from the Centers for Disease Control and Prevention's (CDC) National Institute for Occupational Safety and Health (NIOSH) testing that authorized respirators manufactured in China may vary in their design and performance. The two EUAs covering imported respirators by tightening criteria in the Non-NIOSH-Approved Disposable Filtering Facepiece Respirators Manufactured in China. New language related to decontamination, revised Scope of Authorization with respect to which jurisdictions, and no longer authorize decontamination or reuse of respirators that have exhalation valves are included in the criteria for eligibility in both EUAs, among other revisions.

- [Contamination of FFP3 masks test negative after decontamination](#)

Infection Control & Hospital Epidemiology: In this study the authors sampled eight 3M Aura Filtering Face Piece 3 (FFP3) masks after exposure to COVID-19 positive patients. Two masks were worn by healthcare workers during routine patient care on a normal shift on a ward of confirmed COVID-19 patients. The masks were decontaminated on the Antigermix AE1 Probe Disinfectant using a 40 second cycle of ultraviolet germicidal irradiation (UVGI). Low levels of SARS-CoV-2 were detected from 2 out of 6 samples taken from two masks used as positive controls. Both samples were taken from masks held to the side of a patient during endotracheal intubation (one positive from each patient). Both masks tested negative after decontamination with UVGI. SARS-CoV-2 was not detected from any samples taken after decontamination using UVGI.

Epidemiology Highlights

- [A multi-group SEIRA model for spread of COVID-19 among heterogeneous populations](#)

Science Direct: The authors present a general multi-group SEIRA model for representing the spread of COVID-19 among a heterogeneous population and test it in a numerical case of study. By highlighting its applicability and the ease with which its

general formulation can be adapted to particular studies, they expect the model to provide a better understanding of the evolution of this pandemic and to better public-health policies to control it.

- [Comorbid chronic diseases are strongly correlated with COVID-19](#)

Aging and Disease: Severity in 24 peer-reviewed articles, including 10948 COVID-19 cases were selected for the systemic review and meta-analysis. Diabetes was present in 10.0%, coronary artery disease/cardiovascular disease (CAD/CVD) was in 8.0%, and hypertension was in 20.0%, which were much higher than that of chronic pulmonary disease (3.0%). Preexisting chronic conditions strongly correlated with disease severity [OR 3.50, 95% CI 1.78 to 6.90], and being admitted to ICU (OR 3.36, 95% CI 1.67 to 6.76); in addition, compared to COVID-19 patients with no preexisting chronic diseases, COVID-19 patients who present with either diabetes, hypertension, CAD/CVD, or chronic pulmonary disease have a higher risk of developing severe disease, with an OR of 2.61 (95% CI 1.93 to 3.52), 2.84 (95% CI 2.22 to 3.63), 4.18 (95% CI 2.87 to 6.09) and 3.83 (95% CI 2.15 to 6.80), respectively.

Healthcare Policy Recommendations

- [WHO updates guidance on the use of masks for control of COVID-19](#)

On June 5, the World Health Organization released new guidance, based on evolving evidence. It provides updates on who should wear a mask, when a mask should be worn, and what a mask should be made of. They also subsequently released a correction for pages 15-16 of the guidance [here](#).

- [Fingernail hygiene in preventing transmission of COVID-19](#)

Journal of the American Academy of Dermatology: Nails with chipped polish may serve as reservoirs for microbes. Gel nails are UV-cured, and while they are unlikely to chip, physical gaps form as the natural nail grows out. Gel nails have greater number of pathogenic microorganisms compared to bare nails and should be avoided. Damaged nail polish should be promptly removed, although intact polish is acceptable practice and likely does not promote pathogen spread.

- [Flattening the COVID-19 curve in post-lockdown through social network-based distancing strategies](#)

Nature Human Behavior: The authors introduce strategies to both flatten the curve with distancing while mitigating the negative consequences of social isolation. These strategies are limiting interaction to a few repeated contacts akin to forming social bubbles; seeking similarity across contacts (e.g. by location, age, or same workplace); and strengthening communities via triadic strategies (interacting with people who also know the same people you know). They demonstrate that a strategic social network-based reduction of contact strongly enhances the effectiveness of social distancing measures while keeping risks lower. They provide evidence for effective social distancing that can be applied in public health messaging and that can mitigate negative consequences of social isolation.

- [CDC provides recommendations for safe youth sports amid pandemic](#)

The Centers for Disease Control released tips for maintaining healthy operations in youth sports, such as staggered schedules, and options for individuals at higher risk for severe illness.

Practice Guidelines

- [Portuguese intensive support recommendations](#)

Einstein: Intensive support recommendations for critically ill patients with suspected or confirmed COVID-19 infection are provided based on the experts' opinion.

- [The Cardiac Society of Australia and New Zealand consensus statement on rural and remote cardiology](#)

Heart, Lung and Circulation: The suggested changes in management include: 1) Improved access to telehealth consultation for regional and rural outpatients. Specialist-led 24/7 ECG reading and acute cardiology services, uniformly covering all rural inpatients; 2) Transfer models incorporating discussion between clinicians and ambulance, balancing urgency with considerations of ambulance capacity in rural locations; 3) Protection of the role of specialist cardiovascular nurses, avoiding COVID-19 redeployment to maintain rural cardiac service capacity; 4) An urgent shift to regional models for pacing services, utilizing remote monitoring supported by local device implantation and local technicians.

- [Chinese Society of Interventional Radiology expert consensus on in interventional radiology procedures](#)
Quantitative Imaging in Medicine and Surgery: The key points include the following: 1) non-emergency interventional diagnosis and treatment should be suspended while work is ongoing to prevent and control the spread of COVID-19; 2) protective measures should be taken according to the appropriate level designated for COVID-19 infection prevention and control; 3) patients should take measures to protect themselves when they want to see a doctor
- [Managing type 2 diabetes mellitus during COVID-19 pandemic](#)
Diabetes Metabolism: Type 2 diabetes mellitus (T2DM) is a risk factor for worse prognosis in patients with COVID-19. Continuing agents such as SGLT2 inhibitors or GLP1RA in T2DM patients with COVID-19 is reasonable due to their established cardiorenal protective effects, in addition to potential anti-inflammatory effects, yet maintaining hydration and frequent blood glucose monitoring is advised. DPP4 inhibitors also represent an appropriate choice, especially for patients who are prone to hypoglycemia and do not tolerate SGLT2 inhibitors and/or GLP1RA. In those with COVID-19 and admitted to the hospital, intravenous insulin remains the drug of choice, while discontinuation of oral agents should be considered. Of note, DPP4 inhibitors remain safe and potentially have a protective role, therefore its continuation may not be necessary.
- [Liver associations recommendations for hepatology and liver transplant care](#)
Clinical Liver Disease: All associations recommend reducing patient visits and a delay in hepatocellular carcinoma (HCC) ultrasound surveillance. American Association for the Study of Liver Disease (AASLD) recommends HCC treatments should proceed. European Association for the Study of the Liver (EASL) recommends locoregional therapies should be postponed whenever possible and immune-checkpoint inhibitor therapy be temporarily withdrawn. Tyrosine kinase inhibitors (TKI) in non-severe COVID-19 should be taken on a case-by-case basis. Asian Pacific Association for the Study of the Liver (APASL) recommends postponing elective transplant/resection surgery, whereas radiofrequency ablation, transcatheter arterial chemoembolization, TKI, or immunotherapy can be initiated with change of immunotherapy schedules to every 4 to 6 weeks. AASLD recommends against liver transplantation (LT) in patients with COVID-19. LT can proceed 21 days after symptom resolution and negative diagnostic tests in recipients. APASL suggests balancing risks of delaying LT against risks of transmission to health care workers. APASL recommends LT be performed only in patients with COVID-19 with at least two consecutive negative SARS-CoV-2 nucleic acid results and the presence of antibodies. There is debate whether immunosuppression should be reduced during the COVID-19 pandemic. All of the guidance suggests that the underlying cause of liver injury may be related to SARS-CoV-2, exacerbation of preexisting chronic liver disease, or drug-induced hepatotoxicity.
- [European considerations about HPV vaccination, screening, colposcopy, and surgery](#)
BMJ: The joint advice from the European Federation for Colposcopy (EFC) and the European Society of Gynecological Oncology (ESGO) suggest the following. Human papillomavirus (HPV) vaccination and cervical cancer screening may continue in countries with no cases or sporadic cases of COVID-19. However, when health professionals involved in primary/secondary prevention of cervical cancer are engaged in COVID-19 preparation and response measures, HPV vaccination and screening activities may be halted. Vaccination and screening programs should be delayed in countries with clusters of cases and/or community transmission of COVID-19 as long as national or regional authorities in charge of COVID-19 control judge that mobility of the girls/women of the target population and healthcare givers must be restricted to minimize SARS-CoV-2 transmission. Careful planning is needed to handle the backlogs accumulated due to the COVID-19 measures to minimize drops in mid- and long-term population coverage. Measures should be taken to complete the vaccination schedule for girls or young women who have already started HPV vaccination, assuring an interval less than 12–15 months from the first dose.
- [Chinese guide to forensic pathology practice for death cases related to COVID-19](#)
Forensic Sciences Research: The Guide to Forensic Pathology Practice for Death Cases Related to COVID-19 (Trial Draft) describes the background investigation of the death cases, autopsy room requirements, PPE, external examinations, autopsy practices, and auxiliary examinations.

Testing

- [A portable, ultra-rapid and ultra-sensitive cell-based biosensor for SARS-CoV-2 antigen](#)
Sensors: Authors report the proof-of-concept development of a biosensor able to detect the SARS-CoV-2 S1 spike protein

expressed on the surface of the virus. The novel biosensor provided results in an ultra-rapid manner (3 min), with a detection limit of 1 fg/mL and a semi-linear range of response between 10 fg and 1 micro-g/mL. In addition, no cross-reactivity was observed against the SARS-CoV-2 nucleocapsid protein. Furthermore, the biosensor was configured as a ready-to-use platform, including a portable read-out device operated via smartphone/tablet.

- [Swabs collected by patients or health care workers for SARS-CoV-2 testing](#)

NEJM letter to editor: Swab samples were obtained from the naso-pharynx and from at least one other location in 530 patients with symptoms of upper respiratory infection. When a nasopharyngeal sample collected by a health care worker was used as the comparator, the estimated sensitivities of the tongue, nasal, and mid-turbinate samples collected by the patients were 89.8% (one-sided 97.5% confidence interval [CI], 78.2 to 100.0), 94.0% (97.5% CI, 83.8 to 100.0), and 96.2% (97.5% CI, 87.0 to 100.0), respectively.

Drugs, Vaccines, Therapies, Clinical Trials

- [Isolation of neutralizing antibodies from SARS-COV-2 infected individuals](#)

Nature: Reports the isolation of 2 specific human monoclonal antibodies (MAbs) from a convalescent COVID-19 patient. CA1 and CB6 demonstrated potent SARS-CoV-2-specific neutralization activity in vitro. CB6 inhibited SARS-CoV-2 infection in rhesus monkeys at both prophylactic and treatment settings. Further structural studies revealed that CB6 recognizes an epitope that overlaps with angiotensin converting enzyme 2 (ACE2)-binding sites in SARS-CoV-2 receptor binding domain (RBD), thereby interfering with the virus/receptor interactions by both steric hindrance and direct interface-residue competition. The results suggest CB6 deserves further clinical translation.

- [QT interval increased in COVID-19 patients treated with hydroxychloroquine and azithromycin](#)

Nature Medicine Letter to Editor: Authors reviewed the charts and followed the corrected QT (QTc) interval in a consecutive cohort of 84 patients. Hydroxychloroquine and azithromycin were administered orally for 5 days. There was a prolongation of the QTc from a baseline average of 435 ± 24 ms (mean \pm s.d.) to a maximal average value of 463 ± 32 ms ($P < 0.001$ (one-sample t-test)), which occurred on day 3.6 ± 1.6 of therapy. In a subset of nine (11%) of those patients, the QTc was severely prolonged to >500 ms, a known marker of high risk of malignant arrhythmia and sudden cardiac death. In this high-risk group, the QTc increased from a baseline average of 447 ± 30 ms to 527 ± 17 ms ($P < 0.01$ (one-sample t-test)).

- [Off-label observational study: acalabrutinib may calm the hyperinflammatory response](#)

Science Immunology: Bruton tyrosine kinase (BTK) regulates macrophage signaling and activation. Acalabrutinib, a selective BTK inhibitor, was administered off-label to 19 patients with severe COVID-19. Over a 10-14 day treatment course, acalabrutinib improved oxygenation in the majority of patients, often within 1-3 days, and had no discernable toxicity. C-reactive protein and IL-6 – normalized quickly in most patients, as did lymphopenia, in correlation with improved oxygenation. At the end of acalabrutinib treatment, 8/11 (72.7%) patients in the supplemental oxygen cohort were discharged on room air, and 4/8 (50%) patients in the mechanical ventilation cohort had been successfully extubated, with 2/8 (25%) discharged on room air. Significantly elevated BTK activity, as evidenced by autophosphorylation, and increased IL-6 production in blood monocytes was found from patients with severe COVID-19 compared with blood monocytes from healthy volunteers.

- [Convalescent plasma treatment does not improve recovery for elderly patients](#)

MedRxiv preprint: Systematic review found that younger patients treated with convalescent plasma recovered in less than a week of receiving plasma treatment. Elderly patients, however, showed no improvement in recovery time.

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

Treatment trials: Nafamostat mesylate, Vielight RXPlus, ELISpot, N-Acetylcysteine (NAC), Peri-Operative NLR, TL-895. At time of writing, a total of [1856](#) were active, [123](#) completed, and [4](#) posted results.

Other Science

- [Isolation of neutralizing antibodies from SARS-COV-2 infected individuals](#)

Nature: Chinese authors report the isolation of 2 specific human monoclonal antibodies (MAbs) from a convalescent COVID-19 patient. CA1 and CB6 demonstrated potent SARS-CoV-2-specific neutralization activity in vitro against SARS-CoV-2. CB6 inhibited SARS-CoV-2 infection in rhesus monkeys at both prophylactic and treatment settings. Further structural studies revealed that CB6 recognizes an epitope that overlaps with angiotensin converting enzyme 2 (ACE2)-binding sites in SARS-CoV-2 receptor binding domain (RBD), thereby interfering with the virus/receptor interactions by both steric hindrance and direct interface-residue competition. The results suggest CB6 deserves further clinical translation.

- [Clinical manifestations of children with COVID-19: a systematic review](#)

Pediatric Pulmonology: 38 studies (1,124 cases) were included. 14.2% of cases were asymptomatic, 36.3% were mild, 46.0% moderate, 2.1% severe and 1.2% critical. The most prevalent symptom was fever (47.5%), followed by cough (41.5%), nasal symptoms (11.2%), diarrhea (8.1%) and nausea/vomiting (7.1%). 36.9% children were diagnosed with pneumonia and in 10.9% the upper airway infections were reported. Reduced lymphocyte counts were reported in 12.9% of cases. Abnormalities on CT were reported in 63.0% of cases (most prevalent being ground glass opacities, patchy shadows and consolidations). Only one death was reported.

- [Systematic analysis of acute liver injury during SARS-CoV-2 infection](#)

Digestive and Liver Disease: 15 articles (N=3109 COVID-19) from China were analyzed. 6.5% of subjects presented with GI symptoms, most frequently diarrhea and vomiting. Only 2% had underlying liver disease. A quarter of subjects requiring hospitalization had acute liver injury (mainly represented by minimal elevation of ALT and AST with normal values of total bilirubin). In most studies, AST showed a slightly higher value than ALT. No association was found between GI symptoms and the presence of liver injury. There was an association between higher degree of liver injury, expressed by levels of ALT or AST, and admission to the ICU.

- [High utility of chest CT in diagnosis of COVID-19 pneumonia](#)

Diagnostic and Interventional Radiology: In a retrospective study on 70 patients with suspected COVID-19, 84.3% showed bilateral lung involvement on CT; 38.6% showed ground-glass opacity (GGO), which was mostly distributed in the subpleural area (55.7%), and this sign was mainly observed in early COVID-19 cases. 58.6% manifested GGO combined with focal consolidation opacity, 2.8% had flake-like consolidation opacity, with involvements of the periphery of lung field and the central zone (44.3%), and this sign was mostly observed in severe or critical patients. Concomitant signs such as pleural effusion and mediastinal lymph node enlargement were rare. Among patients with epidemiological history, the sensitivity of CT in diagnosing COVID-19 was 89.7% (70/78), and the specificity was 88.7% (55/62).

- [Elevated serum AST predicts the length of hospital stay](#)

Journal of Clinical Laboratory Analysis: The analysis included clinical data of 23 patients with suspected COVID-19 and 66 patients with confirmed COVID-19. Serum albumin (Alb) level was lower in patients with COVID-19 confirmed on admission than in patients with suspected COVID-19 ($P = .016$), while the level of AST was higher ($P = .005$). Abnormal results of liver blood tests in patients with COVID-19 included increased levels of ALT (21.2%), AST (15.2%), and gamma-glutamyl transpeptidase (GGT) (22.7%). After 5-10 days of treatment, levels of Alb and AST in COVID-19 patients were significantly decreased ($P < .001$ and $P = .027$, respectively). Abnormal levels of Alb and AST in patients with COVID-19 were not associated with the liver condition (all $P > .05$). In addition, only levels of AST were positively correlated with the duration of hospital stay ($r = .334$, $P = .007$).

- [CT is not recommended as a screening tool: a systematic review](#)

Quantitative Imaging in Medicine and Surgery: The review included a total of 55 studies with reported cases ranging from 10 to 1,099. Pulmonary lesions more often involved bilateral lungs (78%) and were more likely to have a peripheral (65.35%) and peripheral plus central distribution (31.12%), but less likely to have a central distribution (3.57%). Ground glass opacities (GGO) (58.05%), consolidation (44.18%) and GGO plus consolidation (52.99%) were the most common findings reported in 94.5% (52/55) of the studies, followed by air bronchogram (42.50%), linear opacities (41.29%), crazy-paving pattern (23.57%) and interlobular septal thickening (22.91%). CT has low specificity in differentiating pneumonia-related lung changes due to significant overlap between COVID-19 and non-COVID-19 patients with no significant differences in most of the imaging findings between these two groups ($P > 0.05$). Normal CT (13.31%) was reported in 47.3% studies. Despite widespread use of CT in the diagnosis of COVID-19 patients based on the current literature, CT findings are not pathognomonic as it lacks

specificity in differentiating imaging appearances caused by different types of pneumonia. Further, there is a relatively high percentage of normal CT scans. Use of CT as a first-line diagnostic or screening tool in COVID-19 is not recommended.

- [COVID and coagulation: bleeding and thrombotic manifestations of SARS-CoV2](#)

Blood: This multicenter, retrospective study described the rate and severity of hemostatic and thrombotic complications of 400 hospital-admitted COVID-19 patients (144 critically ill) primarily receiving standard-dose prophylactic anticoagulation. The radiographically-confirmed VTE rate was 4.8% and the overall thrombotic complication rate was 9.5%. The overall and major bleeding rates were 4.8% and 2.3%. In the critically ill, radiographically-confirmed VTE and major bleeding rates were 7.6% and 5.6%. Elevated D-dimer at initial presentation was predictive of coagulation-associated complications during hospitalization [D-dimer >2,500 ng/mL, adjusted OR for thrombosis, 6.79, adjusted OR for bleeding, 3.56], critical illness, and death. Additional markers at initial presentation predictive of thrombosis during hospitalization included platelet count >450x10⁹/L [adjusted OR, 3.56], C-reactive protein (CRP) >100 mg/L [adjusted OR, 2.71], and ESR rate >40 mm/h [adjusted OR, 2.64]. ESR, CRP, fibrinogen, ferritin, and procalcitonin were higher in patients with thrombotic complications than those without them. DIC, clinically-relevant thrombocytopenia, and reduced fibrinogen were rare and were associated with significant bleeding manifestations.

- [Clinical features and outcomes of 161 patients with severe and critical COVID-19](#)

Journal of Clinical Laboratory Analysis: 161 consecutive severe and critical COVID-19 patients admitted in ICU were retrospectively reviewed in this multicenter study. Hypertension and diabetes were the most common medical histories. Fever and dry cough were the most common symptoms. Blood routine indexes, hepatic and renal function indexes, and inflammation indexes were commonly abnormal. ARDS was the most common post-admission complication (42.86%), followed by electrolyte disorders (29.81%), multiple organ dysfunction (MODS) (22.98%), and hypoproteinemia (22.36%). The most commonly used antiviral drug was lopinavir/ritonavir tablet. 31.06% of patients died, while 48.45% patients healed and discharged, and the last 20.50% patients remained in hospital. The mean hospital stay of deaths was 21.66 +/- 11.18 days, while the mean hospital stay of discharged patients was 18.42 +/- 12.77 days. ARDS (P < .001) and MODS (P = .008) correlated with increased mortality rate.

- [Outcomes of extracorporeal membrane oxygenation support for patients with COVID-19](#)

American Journal of Emergency Medicine: 10 studies and 4 registry databases were included, incorporating 331 cases. Of these, 155 patients died. Overall, the pooled prevalence of mortality in ECMO patients was 46% (95%CI = 34–59). There was no asymmetry in the Doi plot (LFK index = -0.58).

- [Characteristics of hospitalized adult smokers and never-smokers with COVID-19](#)

Tobacco Induced Diseases: Prior meta-analyses reported that active smoking is significantly associated with the risk of severe COVID-19. The authors describe characteristics of tobacco use among 193 COVID-19 patients who were interviewed during their hospitalization in Iran. The most common COVID-19 symptoms were fever and dry cough, which did not differ significantly between smokers (cigarettes or waterpipe) and never-smokers. However, shortness of breath was reported more frequently by cigarette smokers compared to never-smokers and waterpipe smokers. Body pain was reported more frequently among waterpipe smokers compared to cigarette smokers and never-smokers.

- [High liver fat associated with higher risk of symptomatic infection](#)

MedRxiv preprint: From 502,506 participants from the UK Biobank, 42,146 underwent MRI, and had measures of liver fat, liver fibroinflammatory disease and liver iron. The increased liver fat was associated with a higher risk for symptomatic confirmed COVID-19 (OR:1.85, p=0.03). In obese participants, only those with concomitant fatty liver (≥10%) were at increased risk (OR:2.96, p=0.02), with those having normal liver fat (<5%) showing no increased risk (OR:0.36, p=0.09)

- [SARS-CoV-2 infection in PCR-negative children presenting with Pediatric Inflammatory Multi-System Syndrome](#)

MedRxiv preprint: Strong IgG antibody responses can be detected in PCR-negative children with PIMS-TS. The low detection rate of IgM in these patients is consistent with infection having occurred weeks previously and that the syndrome onset occurs well after the control of SARS-CoV-2 viral load.

Contributing team members: Christophe G. Lambert, Shawn Stoicu, Ingrid Hendrix, Lori Sloane, Anastasiya Nestsiarovich, Praveen Kumar, Nicolas Lauve, Mala Htun, Ariel Hurwitz, Morgan Edwards-Fligner, Alexandra Yingling, Perez Olewe, Cristian Bologa, Orrin Myers, Douglas J. Perkins.

Disclaimer: The UNM Global Health COVID-19 Briefing is provided as a public service. Sources include not only peer-reviewed literature, but also preliminary research manuscripts that have not been peer reviewed along with lay news media reports. The peer-review process often results in manuscript improvement, with corrections made for errors and unsubstantiated conclusions being corrected. Furthermore, many headlines and summaries in the briefing are written by student volunteers and others who may lack subject matter expertise in this rapidly evolving field. As such, the headlines and summaries should not be regarded as conclusive. Instead, readers are encouraged to use the briefing to identify areas of interest and then use the embedded links to read and critically evaluate the primary sources.