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2020-04-28 DAILY UNM GLOBAL HEALTH COVID-19 BRIEFING

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DAILY UNM GLOBAL HEALTH COVID-19 BRIEFING

April 28, 2020

Executive Summary

NM case update. NM antibody testing. Las Cruces essential worker screening. Small business closure inequity. More jobless benefits. Santa Fe furloughs. NM Funeral homes prepared. NM oil sector hit. State-by-state restrictions/reopenings. US testing expansion. JAMA on prisons. NY reopening focus. Farmers euthanizing animals. New Zealand success. Stockholm herd immunity. UK worst-hit in Europe. Japanese island lockdown. Spain multi-phase plan. Economic damage lockdown duration. Oil price impacts. Aerosol intubation box. Family cluster transmission. US contact tracing lacking. Chinese tracing system. Early US deaths undercounted. More poison center calls. Homeless shelter infection. Reduced coronary syndrome admissions. Italian predicted model. GIS spatial modeling. Exit strategy schemes. Reopening public buildings. Preventive health screening declines. Stress prevention on return to work. Mental health consequences. Protecting healthcare worker well-being. Mental health training lacking. Hospital toilet viral hotspot. Mobile phone tracking. Creating equitable society. Prone positioning protocol. Negative-pressure tracheostomy. Glucocorticoids adrenal insufficiency. ICU team models. Healthcare worker grief. Conducting clinical trials. UK home-care testing. Dry swabbing. ACE inhibitor benefits. 90 vaccines in development. Heparin and thrombocytopenia. 53 clinical trials registered. Respirator comparison. SARS-coV-2 genetic diversity. Transmission with temperature. Antibody dynamics. Vitamin D and severity. Immunosuppression and severity. Temporal artery thermometers low sensitivity. Digestive symptoms and hospitalization.

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](#).

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NM Highlights

- [New Mexico reports 6 more COVID-19 deaths and 153 new cases](#)

The total positive cases and total deaths in the state are 2,974 and 110, respectively. As of today, the state has performed 61,745 tests, there are 157 individuals currently hospitalized for COVID-19, and 705 COVID-19 cases have recovered. New NMDOH portal featuring epidemiologic breakdown of cases.

- [Antibody testing to start this week in New Mexico to determine the spread of coronavirus](#)

Doctors at the University of New Mexico Hospital said the new antibody test is going to tell us how many people may have had the coronavirus without symptoms and possibly immunity to it. Testing results will show accurate spread of the virus. More New Mexicans may be exposed to COVID-19 than what was reported.

- [Christus St. Vincent begins antibody testing and plasma transfusions in COVID-19 patients](#)

The antibody test shows if a person has ever been exposed to the virus, which would allow for a more accurate quantification of the infected population. It is still unknown what level of antibodies are needed to make a person immune or how long the immunity may last. The hospital is a part of a nation-wide study to determine the efficacy of convalescent plasma transfusion and has begun testing.

- [Drive up screening for all essential workers in Las Cruces on Wednesday](#)
NM Department of Health announces the screening will be held on April 29th from 7 am to noon (or until supplies last) at the Las Cruces Public Health Office, 1170 N. Solano Drive. Organizers ask those getting testing to limit two people per vehicle to minimize spread. No insurance required.
- [Closed non-essential businesses point out inequity that big box stores continue selling same items](#)
Liquor stores, toy stores and others ask to be allowed to prudently open or at least require roping off sections of big-box stores that they perceive as unfairly competing. At a [press conference](#) on Sunday, Albuquerque City Councilor Don Harris spoke to the broader issue. "It does not seem like there is any reason that are local businesses who sell these so-called 'non-essential items' shouldn't be open. We trust our small businesses, we trust that they'll follow these rules about social distancing," Harris said.
- [Small-business owners, contractors and gig economy workers can now apply for jobless benefits](#)
A previously ineligible group of workers (small-business owners, contractors and gig economy workers) are now able to apply for aid under the federally funded Pandemic Unemployment Assistance program. Claims can be retroactive to as early as January 27. Applications found at jobs.state.nm.us.
- [City workers in Santa Fe brace for furloughs due to budget deficit](#)
New Mexico's capital city is planning to implement a series of cost-cutting measures to address a budget deficit that has resulted from the coronavirus outbreak. This includes furloughs for all city of Santa Fe workers except front-line public safety employees. The furloughs are projected to save \$1.43 million, or just 3% of the gap the city needs to close over the next two months.
- [New Mexico funeral homes adequately prepared](#)
The number of COVID-19 deaths has overwhelmed the capacity of many mortuaries around the globe, but New Mexico funeral homes remain under capacity. Funeral homes send out a nightly report of vacancies to the governor. Despite adequate preparations so far, the state is bringing in additional refrigeration trucks to remain prepared.
- [NM drops 30 oil and gas rigs in one week as oil prices continue to collapse](#)
Domestic crude oil was priced at \$16/barrel on Monday (4/27). Multiple oil and gas companies announced reductions in capital spending and operations across the country, including in the Permian Basin. A report from Rystad Energy expects demand to drop by 10 million barrels/day this year and gasoline accounted for 32% of demand loss.

US Highlights

- [A state-by-state rundown of stay-at-home orders and business re-openings](#)
Each US state is profiled in terms of current public health containment restrictions and whether/how they are being eased.
- [US expands testing platforms, sample collection and lab capacity](#)
US President Donald Trump revealed the blueprint for testing plans and rapid response programs, ns to increasing testing capacity to 2 million tests per week across the country. The Blueprint delineates roles and responsibilities of the federal government, state/local/tribal governments, and the private sector in order to reach this goal. The Blueprint highlights several areas in which capacity could be scaled, including expanding the number of testing platforms, enhancing sample collection, and maximizing laboratory capacity.
- [JAMA Viewpoint on COVID-19 in prisons and jails in the United States](#)
In a viewpoint article in JAMA, the authors offer suggestions to address difficulties in social distancing in prisons and jails by releasing prisoners at high risk for severe infection and death without risking public safety. Authors recommend providing resources to help prisoners transition outside of the criminal justice system and avoid increased mortality risk.
- [New York coronavirus hospitalizations drop to month low, governor shifting focus to reopening state](#)
The three-day rolling average of new hospitalizations for COVID-19 in NY dropped below 1,000 for the first time in a month. Cuomo shifting focus to reopening regions of state with fewer cases. New York remains on lockdown until at least May 15. In

order to reopen, Cuomo says hospital capacity will have to be at 70% or less and transmission rates will have to decrease.

- [Farmers lose \\$5B as they are forced to euthanize animals amid processing facility closures](#)

According to Reuters, recent closures of large corporations' slaughterhouses and processing plants have forced farmers to euthanize hundreds of animals to prevent unhealthy overcrowding. Consequences include an expected loss to farmers upwards of \$5 billion, a large contribution to landfills, and price increases for consumers.

International Highlights

- [New Zealand's relative success in containing Covid-19](#)

New Zealand (NZ) has had success in controlling the spread due to its rapid response, strict enforcement of border closures and social distancing, and testing capacity. NZ has now transitioned its response to Alert Level 3, which includes lifting some of the strictest movement measures and allows certain businesses to reopen.

- [Stockholm set to reach herd immunity by end of May after loosening lockdown guidelines](#)

Sweden's controversial approach includes reduced social distancing guidelines, keeping restaurants open, and restricting gatherings to less than 50 people. While they have reported a higher infection rate than neighboring countries, they believe this will allow their economy to recover sooner.

- [UK one of worst-hit European country when including non-hospital deaths](#)

When including the death rates outside of hospitals, the number jumps 52% from estimated according to the Office of National Statistics. Figures from the health ministry claim more than 21,000 people have died in hospitals across the UK after testing positive.

- [Hokkaido, Japan reinstates lockdown after sharp spike in COVID-19 cases](#)

TIME published an article discussing the island's decisions to relax physical distancing measures and the sharp spike in incidence that followed. Japan still has relatively fewer cases compared to other countries, but the numbers have more than doubled in the last 2 weeks.

- [Spain's multi-phase plan to return to normalcy by end of June](#)

Spain announced a 4-phase plan to open the country starting with hairdressers, take-out restaurants, and short walks. Each phase will be assessed before moving to the next. They aim to open schools and beaches by the end of June.

Economics, Workforce, Supply Chain, PPE Highlights

- [Economic losses are more sensitive to the duration of a lockdown than strictness](#)

In a *Nature* preprint, authors from U.S., U.K., China, and the Netherlands suggest that more severe restrictions can reduce economic damages if they shorten the duration of a lockdown.

- [The oil price decline and the economic recession will hit oil states the hardest](#)

New Mexico relies on oil and gas royalties and taxes for more than 1/3 of the general fund. Major oil companies have announced a reduction in drilling for the rest of the year and many small companies will be driven to the ground.

- [New "Aerosol Box" for minimizing droplet exposure while intubating](#)

Intubating and extubating patients presents a high risk of exposure to aerosol droplets to healthcare workers. Development of an "aerosol box" minimizes exposure, and the device can be constructed for roughly \$40 USD and is reusable.

Epidemiology Highlights

- [COVID-19 transmission high in family clusters in Beijing](#)

Journal of Infection: A case report of 4 families looked at family clusters as the mode of transmission. 22/24 infections were observed. Among those infected, 20/22 had mild symptoms and 2/22 had moderate to severe symptoms. While infection rate is high within the cluster, the disease manifestations, latent period, and virus shedding period varied greatly. Authors

recommend testing contacts even if asymptomatic and consider whether viral shedding has ceased before stopping isolation measures.

- [Contact tracers lacking in all US states; 30 per 100,000 needed](#)

30 contact tracers per 100,000 people are needed during the COVID-19 pandemic to minimize spread, according to estimates from the National Association of County and City Health Officials. Except for North Dakota, all US states do not meet the estimated number of contact tracers.

- [Contact tracing system in Shenzhen China study shows time to isolation can be cut in half](#)

The Lancet Infectious Diseases: contact tracing reduced the time between developing symptoms and case isolation from 4 to 2 days; household contacts and those travelling with a case had about 7x higher risk of infection; the household secondary attack rate was 11%, and children were as likely to be infected as adults. The analysis shows that isolation and contact tracing reduce the time during which cases are infectious in the community.

- [U.S. deaths soared in early weeks of pandemic; exceeding number attributed to covid-19](#)

Researchers at the Yale School of Public Health with The Washington Post found that 15,400 deaths above the expected total were reported nationwide from March through April 4. This total includes both reported COVID-19 deaths and deaths due to other causes. 8,128 COVID-19 deaths had been reported in the U.S. The additional 7,000+ excess deaths could include COVID-19 deaths that were not detected, or individuals being unable to obtain necessary care for other conditions, and other causes.

- [CDC reports increased calls to U.S. poison centers regarding cleaner and disinfectant poisonings](#)

The daily number of calls to poison centers increased sharply at the beginning of March 2020 for exposures to cleaners and disinfectants. The increase was in all age groups, but exposures among children aged ≤ 5 years made up a large percentage of calls. Bleach accounted for the largest percentage of the increase (1,949; 62.1%) for cleaners, whereas nonalcohol disinfectants (1,684; 36.7%) and hand sanitizers (1,684; 36.7%) accounted for the largest percentages of the increase for disinfectants.

- [Prevalence of infection in residents of a large homeless shelter show 87% asymptomatic](#)

JAMA research letter: Researchers from Massachusetts General Hospital present the results of an investigation on 408 residents at a single large homeless shelter in Boston affected by COVID-19. Among the 147 (36%) individuals with PCR test results positive for SARS-CoV-2, cough (7.5%), shortness of breath (1.4%), and fever (0.7%) were all uncommon, and 87.8% were asymptomatic.

- [Reduced acute coronary syndrome admissions during COVID-19 in northern Italy](#)

NEJM letter: experts from 15 Italian hospitals bring to attention a significant decrease in acute coronary syndrome (ACS) daily rate of admissions during the early days of the epidemic in northern Italy (13.3 vs. 18.0 and 18.9 admissions for the two control periods). Additional data showed a significant increase in mortality that was not explained by Covid-19 cases alone. This indicates that some patients may have died from ACS without seeking medical attention during the pandemic due to fear of getting infected in the hospital setting.

- [A new model to predict the course of the COVID19 pandemic in Italy](#)

Nature Medicine: The authors proposed a new model that predicts the course of the epidemic to help plan an effective control strategy. The model considers eight stages of infection: susceptible (S), infected (I), diagnosed (D), ailing (A), recognized (R), threatened (T), healed (H) and extinct (E), collectively termed SIDARTHE.

- [GIS-based spatial modeling of COVID-19 incidence rate in the U.S.](#)

The authors compiled a geodatabase of 35 environmental, socioeconomic, topographic, and demographic variables that could explain the spatial variability of disease incidence. Further, they employed spatial lag and spatial error models to investigate spatial dependence and geographically weighted regression (GWR) and multiscale GWR (MGWR) models to locally examine spatial non-stationarity. GWR and MGWR models that include combinations of median household income, income inequality, percentage of nurse practitioners, and percentage of black female population could explain a relatively high variability (>67%) of the disease incidence in the continental United States.

Healthcare Policy Recommendations

- [Improvement and comparison of exit strategies' building-blocks](#)

In the medRxiv preprint, the Israeli authors stress the importance of not just the amount of population that is released, but also the pattern. Mixed schemes can allow relatively convenient life while controlling for the epidemic spread in a reasonable amount of time and with a reasonable socio-economic burden.

- [Models for safe strategies to reopen public buildings](#)

Modeling from the Università Politecnica Delle Marche in Italy indicates that for safe reopening of public buildings, mitigation strategies such as the use of facial masks and limiting the occupation density can be put in place to avoid secondary peaks in virus spread. The models can be modified to integrate different environments and epidemiological data.

- [Rates of medical screenings and preventative care declined due to COVID](#)

National data shows that completion of common screening tests for primary prevention have dropped significantly during the COVID-19 pandemic. Cholesterol panels, cervical cancer screening, and diabetes screening are down 67%, 68%, and 65% respectively. Decrease in testing and associated follow-up procedures has led to a substantial decrease in health-care revenue.

- [Prevention measures may decrease the stress of returning to work during the pandemic](#)

A survey study on mental health status of Chinese workforce showed that 10.8% of respondents suffered from post-traumatic stress disorder after returning to work, but otherwise had low prevalence of depression, anxiety, stress and insomnia. Infection prevention measures including workplace ventilation and face masks were associated with fewer symptoms. The low prevalence of psychiatric symptoms could be due to confidence instilled by prevention measures.

- [A second curve to flatten - mental health consequences of the pandemic](#)

Healthcare workers in China, Italy, and the United States are experiencing a plethora of mental health problems as COVID-19 continues its spread, including higher rates of stress, anxiety, depression, and insomnia. Experts suggest that the burden on health care workers will continue to rise and recommend talk therapy or medication treatment on an as-needed basis.

- [Recommendations to protect healthcare worker psychological well-being as public health safety](#)

Chinese authors provide their recommendations on psychological support for healthcare workers for the international community during the ongoing outbreak of COVID-19: transparent information and communication, adequate medical supplies and support materials, psychological support, and regular clinical screening for psychological distress.

- [Most medical professionals untrained to provide mental health support](#)

COVID-19 deaths and reporting raise community anxiety and underscore gaps in available mental health treatment availability. Most front-line healthcare professionals receive no training on providing mental health support. Older adults and undocumented immigrants may be particularly vulnerable populations.

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- [Hospital toilets can be a hotspot for airborne viral RNA](#)

In an article in Nature, researchers from two Wuhan hospitals report that viral RNA was detected in air in crowded areas at non-negligible concentrations. The highest concentration was observed inside a mobile toilet room (19 copies/m³). The authors suggest that room ventilation, open space, sanitization of protective apparel, and proper use and disinfection of toilet areas can effectively limit the concentration. The major caveat, not stated by the authors, is that they measured viral RNA, not infectious virus.

- [Mobile phone data for informing public health actions](#)

In an editorial in Science, International authors argue for using aggregate mobile phone data for tracking virus spread in order to determine priority areas for immediate action.

- [Pandemic provides opportunity to create more equitable society](#)

Drawing parallels from the Great Depression, U.S. researchers suggest policymakers rebuild society by beginning with a focus on the fair distribution of resources, thereby building long-term resiliency.

Practice Guidelines

- [A protocol for prone positioning in SARS \(University of Nebraska Medical Center\)](#)

The protocol is presented for prone positioning in patients with Severe Acute Respiratory Distress Syndrome, to avoid putting patients on mechanical ventilators if possible at all. A video is available [here](#).

- [A novel negative-pressure aerosol cover for COVID-19 tracheostomy](#)

The authors from Washington University in St Louis present their novel negative-pressure aerosol cover made of readily available operating room materials as an additional barrier to limit the spread of aerosols during tracheostomy. They were able to perform a complete open tracheostomy procedure while operating entirely under this cover. As the highest risk for aerosolization begins when the airway is entered, it is reasonable to deploy the cover immediately prior to this portion of the procedure. The cover setup was generally easy to perform and able to be completed in less than 5 minutes.

- [COVID-19 and glucocorticoids in adrenal insufficiency: update from the Italian Society of Endocrinology](#)

For adrenal insufficiency (AI) patients suspected to have COVID-19, who have mild upper respiratory tract symptoms and no lung impairment, doubling the usual dose of hydrocortisone (alongside adequate fluid replacement) in a circadian fashion seems a safe measure to preserve the early activation of the immune response. The latter is also because symptoms are not specific and may last, even if minor, for 2 weeks or more. As soon as symptoms worsen, it is advisable to further increase the dose up to 100 mg, commence thromboembolic prophylaxis and consider prompt hospitalization as the condition could deteriorate within few hours. In hospital, parenteral treatment with high doses (200 mg) of continuous intravenous hydrocortisone is only required following evolution towards a critical stage (rapid drop in oxygenation) or adrenal crisis.

- [Novel COVID-19 ICU care team models in New York](#)

New York-Presbyterian, in partnership with Weill Cornell Medicine and Columbia University Vagelos College of Physicians and Surgeons, has redeployed physician teams to over 550 incremental ICU beds, structured around a supervised pyramid-staffing model. They supported these new teams by reimagining care models, utilizing e-consultation (e.g., e-ICU), and extending palliative care. Lessons learned include the need to maintain flexibility, off-load tasks to novel team members, and embrace the use of technology.

- [Adaptation of health workers to grief](#)

“Brain, behavior and Immunity” discusses grief experienced by frontline healthcare workers in response to patient death. Loss adaptations (continually adjusting to changes) should be preferred over loss coping (time-limited response with specific skills). Mental health professionals should encourage the exploration and employment of adaptive strategies (affective, cognitive, behavioral, physical, spiritual) consistent with griever’s personality and situation. Identifying and developing resilience traits (self-efficacy and social support) will empower grievers to adapt.

- [Webinar: conducting clinical trials during the COVID-19 pandemics](#)

On 4/30/2020 11-11:45 MDT FDA will discuss the challenges of, and guidance for, supporting clinical trials during the COVID-19 public health emergency. Note: This webinar is now full, but the recording of the webinar will be available shortly after the webinar concludes.

Testing

- [UK widens testing scheme to all care home residents](#)

The testing scheme will also include testing symptomatic patients over the age of 65 that are not living in care homes and those who are travelling to work. The government states that 43,000 daily tests have been completed and that it is on track to meet the 100,000 tests/day target by the end of the month.

- [Dry swabbing offers a workaround to test-chemical scarcity](#)

Wide-scale genetic testing for SARS-CoV-2 has been hampered, in part, by shortages of the solutions used to store sampling swabs and extract viral RNA from them. To overcome this difficulty, a team from University of Washington in Seattle developed a procedure for detecting viral RNA in swabs without using those solutions. The dry swab, extraction-free procedure correctly detected viral RNA in 9 out of 11 samples from people known to have SARS-CoV-2 infections, while the conventional extraction methods yielded positive results in only 8 of the 11. If confirmed by other labs, the new protocol could enable a massive scale-up in the use of self-collected samples for genetic testing at centralized laboratories.

Drugs, Vaccines, Therapies, Clinical Trials

- [Angiotensin converting enzyme inhibitors and receptor blockers may have positive effect on severity](#)

A *medRxiv* preprint presents a meta-analysis of 5 available studies published before 4/21 and found a statistically significant 44% reduction in odds of developing severe disease, and 62% reduction in odds of death, in patients on an ACEi or ARB. It also found a non-significant 19% reduction in odds of hospitalization among those on an ACEi or ARB. This adds to current knowledge confirming that it safe to use ACEi/ARB in patients with COVID-19 and indicates that they may provide a clinical benefit.

- [More than 90 vaccines are being developed for SARS-CoV-2](#)

Nature News: This guide outlines the 90+ vaccines currently in development, including virus, viral-vector, nucleic-acid, protein-based, and virus-like particle vaccines. At least six research groups have begun safety trials with volunteers.

- [High doses of heparin may trigger severe thrombocytopenia in COVID-19 patients](#)

A *medRxiv* preprint of a Wuhan hospital study investigated critical ICU patients (n=61), 41% of which had severe thrombocytopenia (ST) with a platelet count (PLT) less than 50x10⁹/L. 76% of patients with ST had a platelet decrease of >50% and 96% died. Continuous renal replacement therapy significantly decreased PLT in 81.3% of patients (n=16) causing a fatal outcome. A high level of anti-heparin-PF4 antibodies was observed in most ICU patients. Heparin-induced thrombopenia (HIT) occurred in patients both with and without heparin exposure, suggesting that spontaneous HIT may occur.

- [53 New COVID-19 trials registered today at clinicaltrials.gov](#)

Treatment trials: convalescent and hyperimmune plasma, hydroxychloroquine/azithromycin, lopinavir/ritonavir/interferon β -1b/hydroxychloroquine; prazosin, prone position, remdesivir, progesterone, anakinra/ruxolitinib, AVM0703, Ramipril, hydrocortisone, stannous protoporphyrin, canakinumab, naltrexone, etamine, aspirin, sitagliptin. At time of writing, a total of 966 were active, 45 completed, and 3 posted results.

Other Science

- [The impact of respirators during simulated difficult airway scenarios](#)

A randomized, crossover study of 25 anesthetists showed that standard and powered air purifying respirators do not significantly prolong simulated advanced intubation procedures (aerosol-generating procedure with high risk of pathogen transmission). The use of powered respirators is most suitable for prolonged airway procedures, surgical procedures, and for members of staff who have failed their fit-testing during the current COVID-19 pandemic. The powered respirators scored significantly better in user rating for heat and vision while noise levels were perceived to be significantly lower while using the standard respirators.

- [Emerging genetic diversity among clinical isolates of SARS-CoV-2](#)

In analyzing n=250+ clinical isolates of SARS-CoV-2, researchers found a great deal of genetic diversity with certain "hotspots" being more variable and prone to mutations. The researchers believe that these emerging mutations, once corroborated with viral pathogenesis and clinical characteristics along with epidemiological correlates, would be valuable in predicting disease progression and in tracing pathogen mobility and re-emergence.

- [Transmission associated with temperature and humidity in China](#)

A time-series analysis suggests that both daily temperature and relative humidity has a negative influence on occurrence of COVID-19 in several Chinese provinces. However, the association between COVID-19 and average temperature and relative humidity across the provinces was not consistent. This is attributed to different meteorological factors as well as intervention measures across provinces.

- [Dynamics of anti-SARS-Cov-2 IgM and IgG antibodies among COVID-19 patients](#)

Letter to editor: A Taiwan clinical study (N=14) demonstrated dynamics of anti-SARS-CoV-2 IgM or IgG among patients with different clinical manifestations. The duration of positive rRT-PCR persistence was associated with antibody response and clinical manifestations. Patients with prominent symptoms and development of anti-SARS-CoV 2 IgM antibodies tended to have shorter durations of viral shedding by rRT-PCR.

- [Low levels of vitamin D linked to COVID-19 severity](#)

In a retrospective observational study (n=20), vitamin D insufficiency (VDI) prevalence in ICU patients (n=13) was 84.6%, vs. 57.1% in floor patients (n=7). 100% of ICU patients <75 years old had VDI. Some ICU patients had coagulopathy (62.5%) and lymphopenia (92.3%). The authors hypothesize that VDI enhances COVID-19 severity via prothrombotic effects and derangement of the immune response.

- [Immunosuppression in pediatric and adult patients may not increase disease severity](#)

Compared to the general population, transplant and chemotherapy patients appear not to have greater risk for severe pulmonary involvement, possibly due to their decreased innate immunity. However, their COVID infection may present mildly which may cause them to serve as a source for viral shedding.

- [Temporal artery thermometers \(TATs\) provide low sensitivity measure of fever](#)

TATs are commonly used for screening for fever, but have low sensitivity (0.27 compared with rectal, 0.23 compared with oral). Lowering the screening threshold for classification of febrile from 100.4°F to 99°F shows improved sensitivity of TATs. Therefore, TATs should be used with caution as a screening tool.

- [Digestive symptoms in COVID-19 patients widespread and linked with hospitalization](#)

In a medRxiv preprint, a study (n=207) finds 34.5% patients noted concurrent gastrointestinal (GI) symptoms, 90% of which were mild GI symptoms. A multivariate regression model showed patients with GI symptoms had an increased risk for hospitalization (adjusted OR 4.84 95% CI: 1.68-13.94]. Diarrhea had a 7x higher likelihood for hospitalization (adjusted OR=7.58, 95% CI: 2.49-20.02, P<0.001) while nausea or vomiting had 4x higher odds (adjusted OR 4.39, 95% CI: 1.61-11.4, P=0.005).

Contributing team members: Christophe G. Lambert, Shawn Stoicu, Lori Sloane, Susan Atlas, Anastasiya Nestsiarovich, Praveen Kumar, Nicolas Lauve, Kathryn Foos, Emma Wolinsky, Melissa Cossé, Jenny Situ, Susie Pham, Jennifer Thompson, Fiona Nguyen, Ryen Ormesher, Avanika Mahajan, Timothy Campbell, LynnMarie Jarratt, Samantha Paltrow-Krulwich, Alyse Raboff, Stephen Esguerra, Lauren Tagliaferro Epler, Ariel Hurwitz, Alexandra Yingling, Clinton Onyango, Perez Olewe, Cristian Bologna, Jens Langsjoen, Orrin Myers, Douglas J. Perkins.