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COVID-19 AND 'CORONAVIRUS' UPDATES

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THE IMPACT ON OUR HEALTH SYSTEM

This is the 11th update for Regents regarding the SARS-CoV-2 virus pandemic and the impact on the University's health and academic enterprise.

As of April 23, California had 39,254 confirmed cases of COVID-19 with 1,562 fatalities, according to the [California Department of Public Health \(CDPH\)](#), and 865,585 cases nationally with 48,816 deaths, according to the [Centers for Disease Control and Prevention \(CDC\)](#). Other credible sources report that the pandemic has already cost 50,000 lives in the U.S.

Closer to home, I am deeply saddened by the loss of an employee at one of our health campuses from COVID-19. Our sincerest condolences go out to the employee's family, friends and coworkers. I will provide more information in subsequent updates.

Other notable developments include recognition that the SARS-CoV-2 virus has been circulating in California weeks earlier than widely thought. Tests run posthumously on three people in the Bay Area reattributed their deaths, which happened on February 6, 17 and March 6, to the virus.

Given the lag time between infection and death, these findings suggests the virus has been present in the state since January and pre-dates the first COVID-19 attributed death in Washington State on February 29. To gain a better understanding of when the pandemic first started in the U.S., Governor Newsom has asked medical examiners and coroners to review death records as far back as December. We are convening our pathologists across UC Health to plan how we might conduct the research necessary to answer the Governor's request.

MANAGING THE SURGE

Although the number of new cases in California continues to rise as testing becomes more accessible, we have not yet experienced the same level of inpatient surge as seen elsewhere. On, April 1 we had 101 inpatients confirmed to have COVID-19 compared with 128 today, April 24. However, we continue to be vigilant and prepared. Like many hospitals, UC Health facilities delayed urgent procedures to draw down census. Our surgical units, for example, are operating at approximately 50 percent of capacity. Many Emergency Departments have seen reduced volume as well, as it appears people are worried about contracting SARS-CoV-2 while getting care for other conditions, as reported in the San Jose Mercury News and [New York Times](#).

Governor Newsom noted that extensive delays in procedures can harm patients and that hospitals made substantial progress in adding surge capacity. As a result, on April 22, the Governor announced plans to allow hospitals to resume essential non-emergency surgeries and medical procedures. The California Hospital Association, along with UC Health, is working with the Governor's office on a reasonable resumption plan that will preserve surge capacity as one of the six pillars necessary to support a gradual move to a 'new normal.'

I appreciate the Governor's focus on a science-informed process and his concern for patients and their families who are awaiting badly needed procedures. Our academic health centers are developing appropriate resumption plans.

UC HEALTH RECEIVES ITS FIRST SYSTEMWIDE RESEARCH GRANT

The country's largest philanthropic foundation focused solely on health, the Robert Wood Johnson Foundation (**RWJF**), has issued a grant to UC Health. This is the first grant directly to UC Health at the system level and recognizes the innovative work underway by its Center for Data-Driven Insights and Innovation (**CDI2**), under the leadership of Atul Butte, MD, UC Health chief data scientist.



The \$100,000 grant for the next six months enables UC Health to join the [Health Data for Action \(HD4A\) COVID Collaboration](#) to support exchange of data critical in the fight against COVID-19.

UC Health has built a secure central data warehouse for operational improvement, promotion of quality patient care, and to enable the next generation of clinical research.

The repository currently securely holds data from all of the UC academic health centers and contains information on nearly six million patients seen since 2012, treated by approximately 100,000 health care providers during 200 million encounters.

The data contain information on 300 million procedures, more than 600 million medication orders, and over two billion vital signs measurements and test results. Over 600,000 of these patients are primary care patients.

The CDI2 data scientists have created a standardized dataset for COVID-19 patients cared for across the system that enables researchers, clinicians, and policy makers to understand the impact and progression of COVID-19. De-identification of the data has already been completed to enable clinical research projects, under guidance from UC campus institutional review boards, privacy and compliance officers, and information security officers. Several state and national policy leaders receive our daily data visualizations, similar to ones shared in these Regent's updates.

By participating in the RWJF COVID collaboration, we will non-exclusively use our data repository to collectively answer and address important questions around policy and care management for COVID-19. Patient-level individualized data will not be released, but we will participate in important clinical queries across several medical centers and have our aggregate query results merged with the other centers. Beyond answering these distributed queries, we will also contribute our expertise in clinical data modeling and visualization.

Please join me in congratulating Dr. Butte and the entire CDI2 team on this national recognition.

WORKING TO ADDRESS HEALTH DISPARITIES ASSOCIATED WITH COVID-19

Testing remains crucial for informed decision-making across all communities. UCSF Health, which previously announced it would provide testing for nine Bay Area public health departments, took the extraordinary step of offering [no-cost testing for all 58 public health departments in the state](#). This expands testing capacity in under-served areas of the state.

Additionally, UCSF Health, the Latino Task Force for COVID-19 and San Francisco's Public Health Department, will hold a [community testing event in the Mission District April 25-28](#). This

substantial expansion in community testing was made possible by the [Chan Zuckerberg Biohub](#). I greatly appreciate the support of Priscilla Chan and Mark Zuckerberg who established the Chan Zuckerberg Initiative, which provided critical support to open the biohub.

While testing has been problematic across the state, it has especially lagged in our Latino communities. Latino workers fill a large percentage of essential jobs that range from nursing home care to grocery store workers. As a Mexican-American physician, I applaud UCSF's outreach and [a new commentary from UCLA Health's Center for the Study of Latino Health and Culture published in Academic Medicine](#).

ACTING IN SOLIDARITY WITH THE NAVAJO NATION

Working together with our Navajo colleagues and the 49 [UCSF HEAL](#) Fellows, UCSF Health sent 21 health workers to Navajo Nation to further reinforce the health response. The Navajo Nation covers more than 27,000 square miles and suffers from chronic poverty and inadequate access to health care.



While many people know that New York City, Detroit and Chicago are 'hot spots' for COVID-19, the [Navajo Nation has seen an explosion in the number of cases for a lightly populated area](#). There are 1,360 confirmed cases and 52 deaths through April 23. This compares with 1,312 cases and 21 deaths in San Francisco County, which is much more densely populated.

NEW FEDERAL STIMULUS BILL

A new interim emergency bill includes expanded funding for small businesses and hospitals, and money for coronavirus testing. On April 24, [President Trump signed the Paycheck Protection Program and Healthcare Enhancement Act](#), which includes \$75 billion for the Public Health and Social Services Emergency Fund (**PHSSEF**) and \$25 billion for additional disease testing. The PHSSEF, which was funded with \$100 billion in previous pandemic response legislation, allows hospitals and health care providers like those at UC Health to receive reimbursement for preparing for and treating COVID-19 patients. This new funding bolsters Congress' initial \$100 billion investment in the Fund and supports UC Health's providers caring for patients with COVID-19 in our communities.

The investments in testing will address an array of capacity issues, including workforce, epidemiology and the scale-up of testing by laboratories, including those in-house at UC Health. Further investments in the National Institutes of Health (**NIH**), the CDC and other federal agencies aim to streamline testing and associated technologies, including serological testing, as well as to ensure we continue to expand resources dedicated to surveillance, epidemiology, contact tracing, and public health agency support.

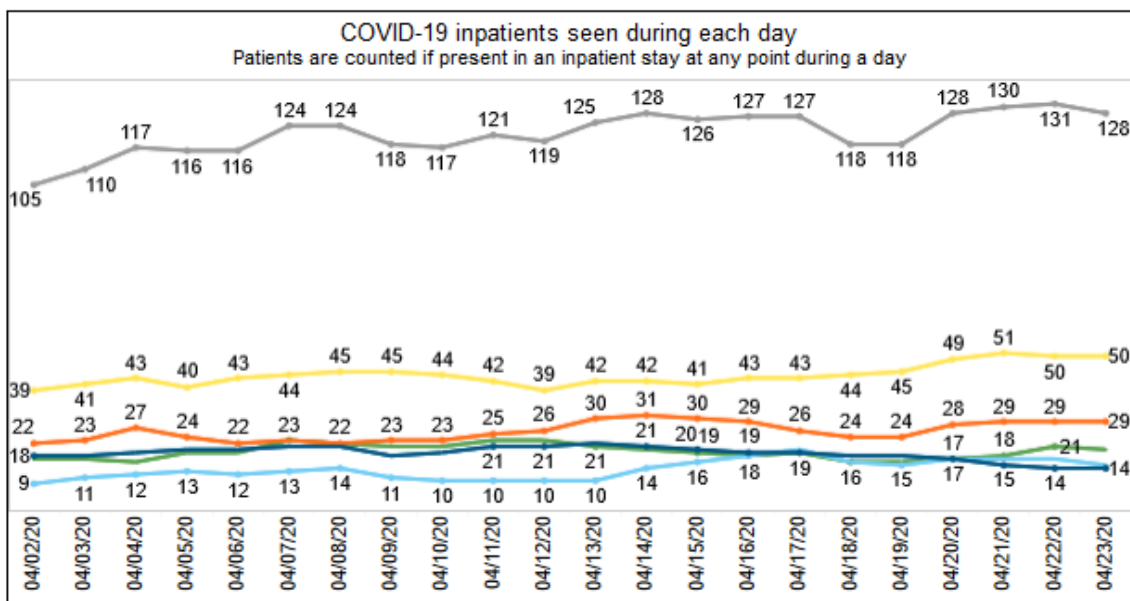
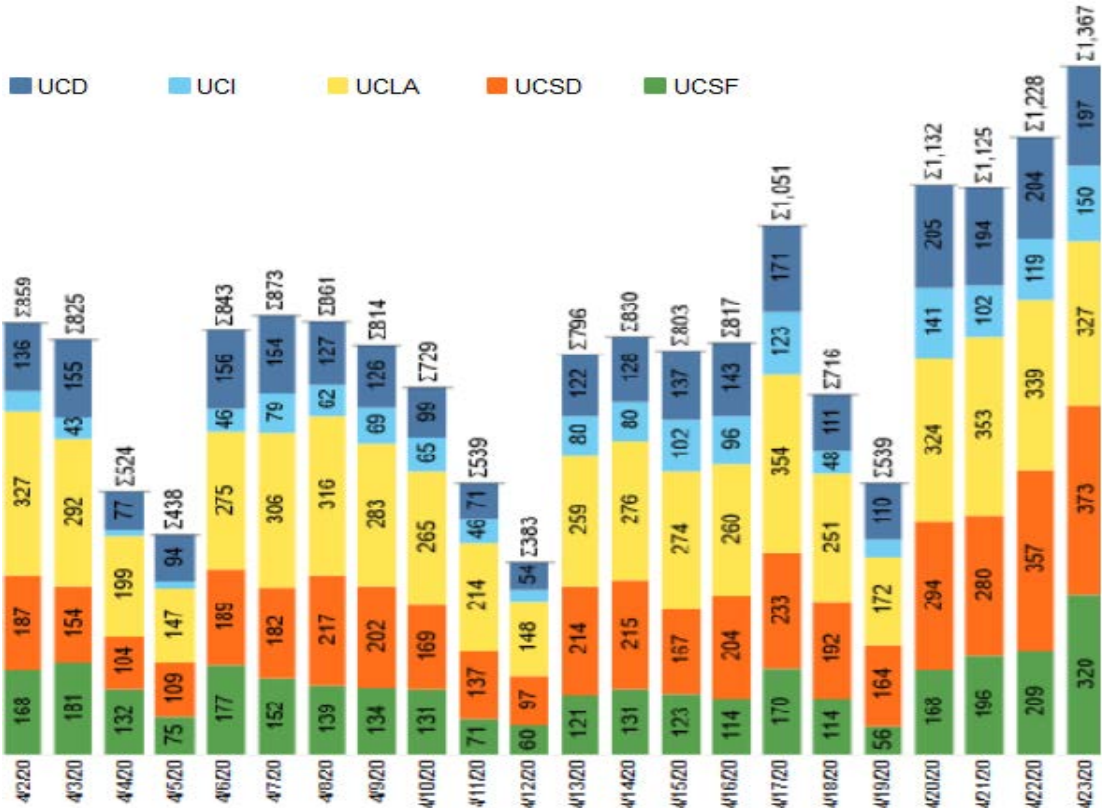
COVID-19 TESTING UPDATES

We have tested more than 26,000 UC Health patients and performed nearly that many tests for other hospitals and public health departments. The positive rate for the UC Health population is 5 percent, which is fairly low compared with states like New York that has reported positive test rates of 25-75 percent in some counties. Systemwide, our 'doubling time,' the days it takes for

the number of positive tests to double, has improved from nine days in early April to 21 days now. This is an encouraging sign that we are flattening the curve. Additionally, UC Health is working to test all patients admitted as an important adjunct to our infection prevention practices. We also are monitoring [new studies that show saliva-based testing may](#) be as accurate as nasal swab tests. This would reduce use of personal protective equipment (PPE).

COVID-19 Testing of UC Health Patients

Does not include testing performed for other hospitals or public health departments



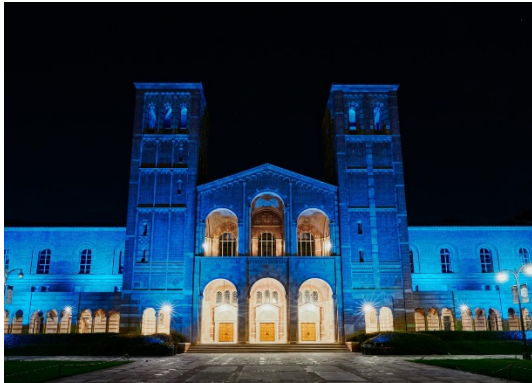
SOME OF THE HEROES OF THE COVID-19 PANDEMIC



UC Davis physicians head to New York's Elmhurst Hospital to help provide relief to patients and staff. #HealthCareHeroes



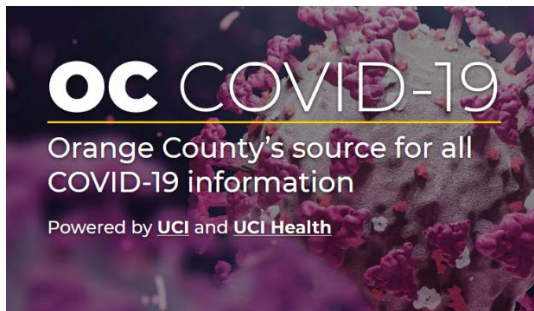
Dr. Susan Huang, UCI Health medical director of Epidemiology & Infection Prevention, shares COVID-19 information.



UCLA and UCLA Health joined the #LightItBlue effort each Thursday.



Joseph and Clara Tsai donated 500,000 medical-grade masks and goggles.



UCI Health launched an informational website for Orange County.



UC Riverside Health School of Medicine students help distribute donated masks.

THE ACADEMIC ENTERPRISE RISES TO THE CHALLENGE

Thank you Dr. Steven A. Goldstein, Vice Chancellor of Health Affairs at UCI, for your opinion piece in [Modern Healthcare](#) about the value of the academic enterprise.



"A single academic institution is always amplified by others. In our case, we are empowered first by collaborations across the entirety of the 10-campus University of California system (including five AHCs) where over 330 basic, translational and clinical COVID-19 efforts were already underway by mid-March," said Goldstein who noted the numerous cross-functional collaborations underway. "COVID-19 will find its place in the history books and loom large in our memories. It will produce fundamental changes in healthcare that are already underway—for example, the ready uptake by patients and caregivers of virtual visits that improve access and ease of service while decreasing costs. It will also offer

lessons we can choose to embrace to prevent future crises; these include the provision of basic healthcare for all and addressing inequalities manifesting now as strikingly disproportionate deaths among the underserved."

RAPID RESPONSE, INNOVATION & COMMUNICATION IS KEY IN A CRISIS

What are the some of the lessons from our COVID-19 experience thus far? Dr. David Lubarsky, CEO of UC Davis Health, shared his thoughts with [NEJM Catalyst](#):

"When the United States' first case of community transmission of Covid-19 was admitted to UC Davis Medical Center, the need for rapid response and innovation was immediate. Old lessons became new again - communication, facts, and transparency are everything in a crisis.

People had a hunger for details. The first of a series of leadership town halls sharing the status of PPE supply, Covid-19 patient load, and ICU and ventilator capacity hit a virtual maximum of 2,000 participants. We learned hearing from leadership wasn't enough — there was equally strong interest in non-leadership subject-matter expertise, such as from our Division Chief of Infectious Diseases.



This is hard — really hard. The anxiety is real. The enormity and complexity of the work is astounding. Never has it been more important to serve together with love and excellence. Because, part of serving together means that no one ever has to serve alone.

Due to social distancing and other public response, UC Davis Medical Center, like many hospitals, experienced a significant decline in both emergency room visits and hospital admissions by late March. Post-pandemic, I predict a meaningful shift toward wider acceptance of care delivery via telemedicine. Even as a national leader in telemedicine adoption, UC Davis Health only saw about 1% of patients using this technology in February. In the early weeks of a state-mandated lockdown in March, that number spiked to more than 50% of outpatient visits. More patients are likely to seek the ease and convenience of this model when this challenging moment passes."

FROM PROFESSIONAL TO PATIENT – A PERSONAL COVID-19 STORY

It was late February when Marilyn Stebbins, PharmD, a UC San Francisco School of Pharmacy faculty member, first thought she was catching a cold. Still, she was determined to go on a ski trip to Idaho with her husband and brother-in-law. After some skiing, she felt fatigued but attributed it to the time on the slopes. After few days later she felt a burning in her lungs, then gastrointestinal distress and a headache.



Could I have the flu, she wondered, even though she had received a flu shot?

Her doctor asked her about recent travel to China or Europe, the two 'hot spots' known in the world at that time. She had not travelled, and she knew she had no contact in her work at UCSF Health with the few confirmed COVID-19 patients. She finally went to the hospital where a chest X-ray showed what seemed to be extensive pneumonia. That was the beginning of her journey into being a COVID-19 patient and a COVID-19 survivor. [She shares her experience from illness into a slow recovery here.](#)

CAN THE VIRUS BE TRANSMITTED THROUGH BREASTFEEDING?

New mothers have wondered if they can transmit the virus to their newborn through breastmilk.

Although data is still emerging, it appears that transmission through breastmilk is unlikely, but the close contact between mother and child creates the possibility of person-to-person transmission. The [CDC has released its guidance to help new mothers](#) navigate an already challenging time.

MORE CLINICAL TRIALS UNDERWAY

Active Clinical Trials at All Five Medical Centers	Active and Pending Clinical Trials at One or More Medical Centers
Remdesivir (NCT04280705)	Sarilumab – Davis and UCLA (NCT04315298) DAS181 – UCLA and UCSD (NCT03808922) Tocilizumab – UCLA and UCSD (NCT04320615) Azithromycin – UCSF (NCT04332107) Mesenchymal stem cells – UCSF (NCT03818854) HCQ (prevention) - –Davis and UCSF (NCT04332991) HCQ (treatment) – UCLA (NCT04328961) Acetaminophen and Ascorbate – UCSF (NCT04291508) Colchicine – UCSF (NCT4322682) Aviptadil - Irvine (NCT0431697)

Some recently launched trials are not yet listed on ClinicalTrials.gov at the time of this publication.

PUL-042 – Irvine ([NCT04313023](https://clinicaltrials.gov/ct2/show/study/NCT04313023))
PUL-042 – Irvine ([NCT04312997](https://clinicaltrials.gov/ct2/show/study/NCT04312997))
Azithromycin/HCQ- UCSF VA (pending)
Azithromycin/HCQ- UCSF ([NCT04358081](https://clinicaltrials.gov/ct2/show/study/NCT04358081))
Azithromycin/HCQ- UCSF (pending)
Leronlimab – UCLA ([NCT04347239](https://clinicaltrials.gov/ct2/show/study/NCT04347239))
Canakinumab – UCSF ([pending](#))
Selinexor – Davis and UCLA ([NCT04349098](https://clinicaltrials.gov/ct2/show/study/NCT04349098))
Gimsilumab –UCLA ([NCT04351243](https://clinicaltrials.gov/ct2/show/study/NCT04351243))
Mavrilimumab – UCLA (Pending)
Hyperbaric Oxygen – UCSD ([NCT04327505](https://clinicaltrials.gov/ct2/show/study/NCT04327505))
Inhaled Nitric Oxide – Davis and UCSD ([NCT02725372](https://clinicaltrials.gov/ct2/show/study/NCT02725372))
Oral Vaccine- UCSD ([NCT04334980](https://clinicaltrials.gov/ct2/show/study/NCT04334980))

THE IMPACT ON THE ACADEMIC ENTERPRISE

- UCTV, based at UC San Diego continues working and producing video remotely. Online viewer numbers are up, and COVID-19 content is popular. Non-COVID content also has seen increased viewer numbers. UCTV is now offering to distribute UC COVID-19 related webinars through its media platforms at no charge, which adds substantially to the live audience. Revenues are down with no event recording or editing taking place. That said, UCTV has secured some funding for school at home content.
- At the California Digital Library (CDL), the HathiTrust Emergency Library has now been activated for all UC campuses, as well as UCOP. As a result, UC faculty, students and staff now have access to more than 13 million digital volumes in HathiTrust, representing access to more than 45% of local physical library collections plus additional digital content held throughout the remainder of the system. More information on how to access this wealth of information is [here](#). The UC Libraries were a co-founder of HathiTrust in 2008, have contributed 4.5 million scanned volumes, and are hosting parts of the HathiTrust technical infrastructure at CDL.

KEEPING PEOPLE INFORMED THROUGH PUBLISHED MATERIALS

UC campuses and OP are publishing informational and educational materials for the public, our students and staff. UCOP is distributing guidance to facilitate smooth operations, including:

- [President's Letter to Governor Senate President pro Tem and Assembly Speaker](#)
- [President's Letter to UC Community Announcing No COVID-19 Related Layoffs](#)
- [UCOP Innovation & Entrepreneurship Research Collaborations](#)
- [Equity and Inclusion in the Face of COVID-19](#)
- [Novel Coronavirus 2019 \(COVID-19\) Paid Leave and Remote Work Provisions -](#)
- [President's Letter to the UC Community](#)
- [President's Directive on Travel to Level 2/3 Countries; MRT Emergency Powers](#)

- [How UC is Responding to the Coronavirus \(COVID-19\)](#)
- [Guidance for UC Locations](#)
- [President's Directive on Travel to China](#)
- [President's Directive on Travel to Korea and other Warning - Level 3 Countries](#)
- [Information for Parents and Students](#)
- [A Summary of UC's System Involvement in COVID-19 Patient Care and Research](#)

You can also find the latest travel information on the CDC website - [Information for Travel](#).

IN CLOSING

We've made enormous progress in surge preparations over the last two months.

While California's surge has been smaller than predicted due to the Governor's early decisions and the actions of the people of California, the financial and operational challenges associated with our COVID-19 response are profound.

On April 17, I had the opportunity to join President Napolitano for a 90-minute, online roundtable with state legislators and staff. On April 23, I provided an update at the federal level along with Dr. Robert Cherry, chief medical and quality officer of UCLA Health, Dr. Steven Gonias, chairman of Department of Pathology at UCSD Health, and Dr. Joseph DeRisi, chair of the Department of Biochemistry and Biophysics at UCSF Health.

These sessions are part of an overarching strategy to keep legislators updated about COVID-19 in general and specifically the 'whole of UC' response to the pandemic.

I know that there is considerable pressure on our elected officials to 'reopen the country.' Those who advocate for immediate action sometimes point to the decline in some metrics as evidence that the restrictions are unnecessary.

To the contrary, the restrictions are slowing the spread of the virus and keeping hospitalizations at a manageable level. New [projections suggest 34,000 – 44,000 lives were saved in the Bay Area](#) through physical distancing, sheltering in place, and other efforts to prevent coronavirus transmission.

Every life that we lose is a tragedy – and today is a reminder of that.

I encourage patience at this time, and a thoughtful, gradual resumption of activities that is in the interest of public health.

Fiat Lux.

Sincerely,
Carrie L. Byington, MD
Executive Vice President
UC Health