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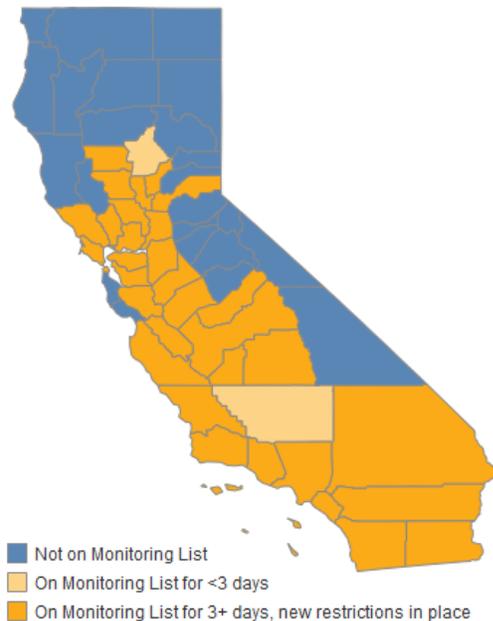
THE IMPACT ON OUR HEALTH SYSTEM

This is the 21st update for Regents regarding the SARS-CoV-2 virus pandemic and its impact on the University's health and academic enterprise.

COVID-19 BY THE NUMBERS

Since the last update on July 10, the pandemic's epicenter in the United States has shifted to Florida and Texas for hospitalized patients and to California for the total number of cases.

In our state, the total number of cases has reached 425,616, surpassing New York for the highest number of cases. Fortunately, California, which is more than twice the size of New York state, has only 25% of the number of deaths recorded in New York City. We have now reported 8,023 deaths, an increase of 20%, since the July 10 update, based on data from the California Department of Public Health (CDPH). The statewide positivity rate, averaged over a 7-day rolling period of tests analyzed at 25 public labs, has risen from 7.3% to 7.6%. University of California Health (UCH) now reports test positivity rates by health center location in addition to a systemwide average on [Twitter](#). Overall we are at 5.44%, but range from 2.41% at UC San Diego Health to 11.15% at UC Irvine Health. The goal is less than 5%



Source: COVID19.ca.gov

During the last two weeks, the number of cases nationally has grown from just over three million to more than four million, which is a 34% increase. The number of deaths has grown from 132,056 to 143,868, or 9%. These figures are based on information from the Centers for Disease Control and Prevention (CDC). The number of new cases daily is exceeding 70,000.

I was pleased that President Trump acknowledged the benefit of wearing masks this week. I hope that face coverings will be widely accepted across the U.S. and in California, as they are an essential tool to reduce the reproduction number (R-effective value) of the virus. If the R-effective is greater than 1, COVID-19 will spread **exponentially**. If the R-effective is less than 1, COVID-19 will spread more slowly and cases will decline.

You can see a statewide map of R-effective values [by county here](#). On pages 4-5 of this update, you will see a map of hot spots nationally to compare with regions where face coverings are more commonly worn.

POOLING OFFERS HOPE OF MORE AND FASTER TESTING

As testing has become more common, national testing labs such as LabCorp and Quest have faced bottlenecks in returning test results. When results take longer than 24 hours, it significantly limits the ability of self-isolation and contact tracing to be effective. A new technique, pooling, has received Emergency Use Authorization from the Food and Drug Administration (**FDA**).

Pooling combines samples from multiple individuals for polymerase chain reaction (**PCR**) screening. If the pooled sample tests negative, all of the individuals in that pool are negative. If a sample detects traces of SARS-CoV-2, the original individual samples are re-screened to determine the person or persons who are infected. Although this slightly reduces the sensitivity of the test, it still outperforms the sensitivity threshold permitted by the FDA for point-of-care rapid testing. The benefit of pooling is that it significantly increases the number of samples that can be tested in a day, while minimizing the amount of reagents needed. Spot shortages of valuable reagents have been a barrier to reaching the daily testing volume the country needs.

As part of the Governor Newsom's testing goal, UC San Diego Health has submitted two petitions to the FDA, one that would allow combining five samples and another that would allow 10 samples to be combined. "The technology behind pooled testing has improved considerably," said Steven Gonias, MD, chairman of the UC San Diego School of Medicine Department of Pathology, and systemwide director of our testing response to the pandemic.

We are awaiting the FDA's decision.

COUNTY-BY-COUNTY POSITIVITY TRENDS MIXED

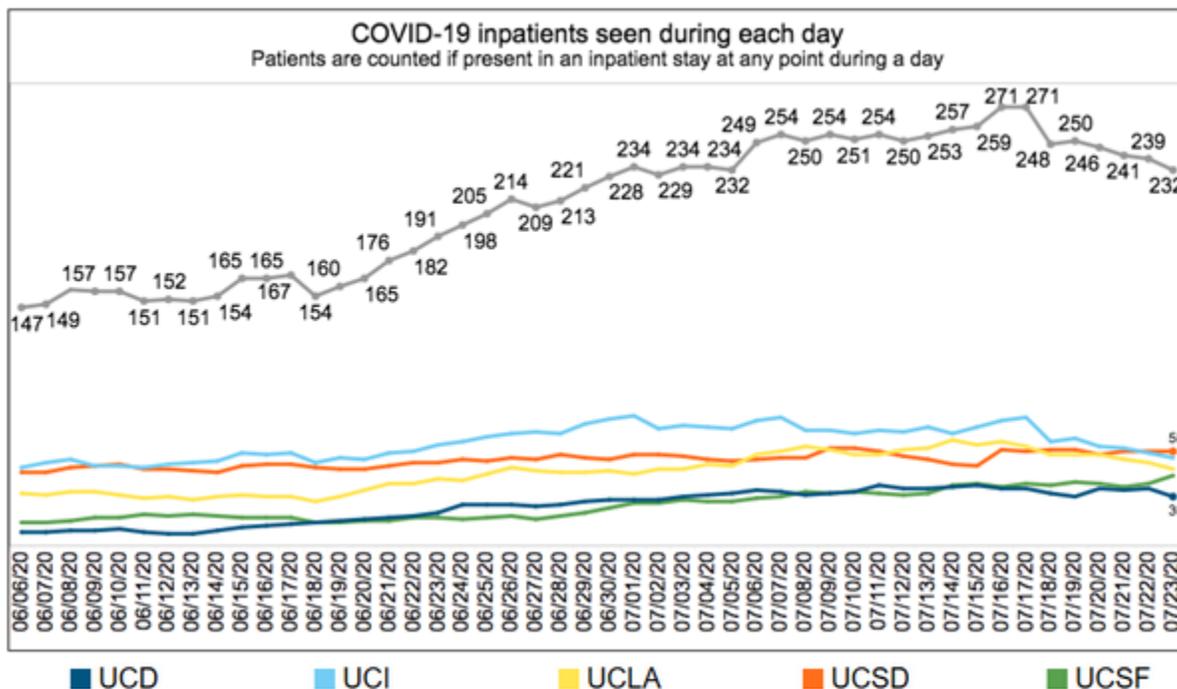
Positivity rates, based on a rolling 14-day average, have increased in seven counties in which we have educational or health campuses and declined in four. As of this week, rates vary from a low of 2.4% in San Francisco to a high of 16.6% in Merced. Governor Newsom has established 8% as the maximum threshold for resumption of certain services.

County	Location	July 9 Positivity %	July 22 Positivity %	Change
Alameda	UC Berkeley	4.0%	4.1%	
Los Angeles	UCLA/UCLA Health	7.0%	6.2%	
Merced	UC Merced	13.3%	16.6%	
Orange	UCI/UCI Health	11.8%	10.1%	
Riverside	UC Riverside/UC Riverside Health	12.2%	12.4%	
Sacramento	UC Davis Health	6.2%	7.5%	
San Diego	UCSD/UC San Diego Health	11.0%	8.5%	
San Francisco	UCSF/UCSF Health	1.9%	2.4%	
Santa Barbara	UCSB	9.1%	10.8%	
Santa Cruz	UC Santa Cruz	2.9%	5%	
Yolo	UC Davis	5.3%	6.5%	

Source: [Covid19.CA.Gov County Variance](https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Immunization/COVID-19/Pages/Covid19.CA.Gov%20County%20Variance.aspx)

Percentages over a rolling 14-day period. Governor Newsom has set 8% as maximum threshold for resumption of some services.

The positivity rate, however, is only one measure of a location's overall situation. The census of patients with COVID-19 has trended upward at UC hospitals, as well as other hospitals across the state.



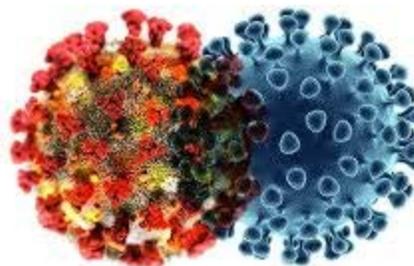
Source: UCH Data Warehouse

In this environment, a number of school districts have announced plans for remote instruction for the fall season. UC campuses have continued to evolve their plans in response to changing circumstances. UC Berkeley and UC Merced, with start dates in August, will begin their semesters on a virtual basis for the vast majority of their students.

FLU SHOTS ARE ESSENTIAL THIS YEAR

More than at any recent point in history, flu shots are essential. [Seasonal flu](#) often emerges in October and November and peaks in January through March.

In the 2018-2019 flu season, the CDC estimates 35.5 million people became ill, resulting in 16.5 million people going to a health care provider, 490,600 hospitalizations, and 34,200 deaths. This type of outbreak - in combination with active SARS-CoV-2 circulation - has the potential to overwhelm health care systems and lead to higher overall mortality.



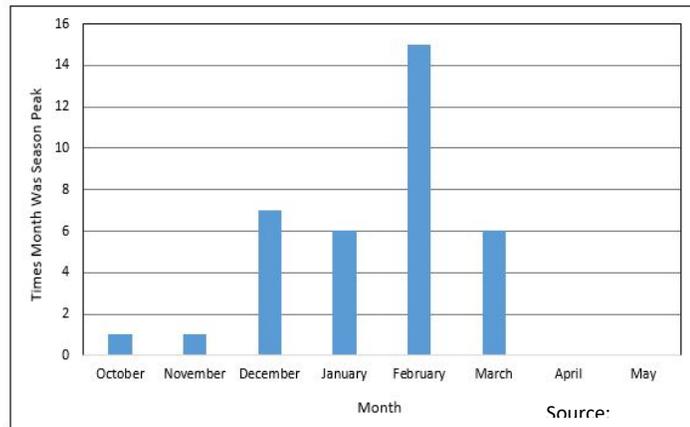
There are three key reasons for everyone to get a flu shot by the end of October:

- To reduce the overall burden of illness on primary care physicians and emergency rooms to reduce co-mingling with patients who may be symptomatic with COVID-19;

- To reduce the use of hospital inpatient capacity so those resources can be focused on patients with other illnesses, especially COVID-19; and,
- To minimize the likelihood that someone contracts both the flu and COVID-19 at the same time. Individuals suffering from two viral infections may be more ill.

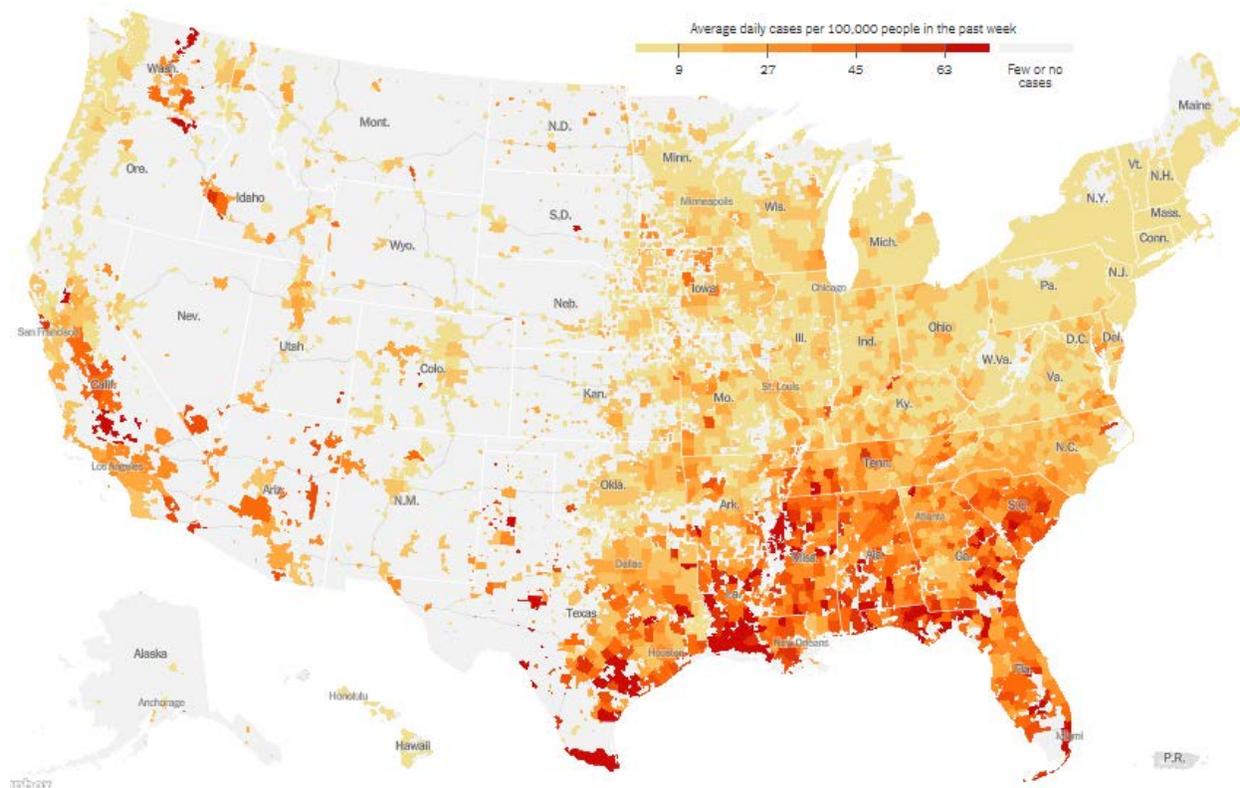
For these reasons I am advocating influenza vaccines for everyone six months of age and older, ideally by Halloween.

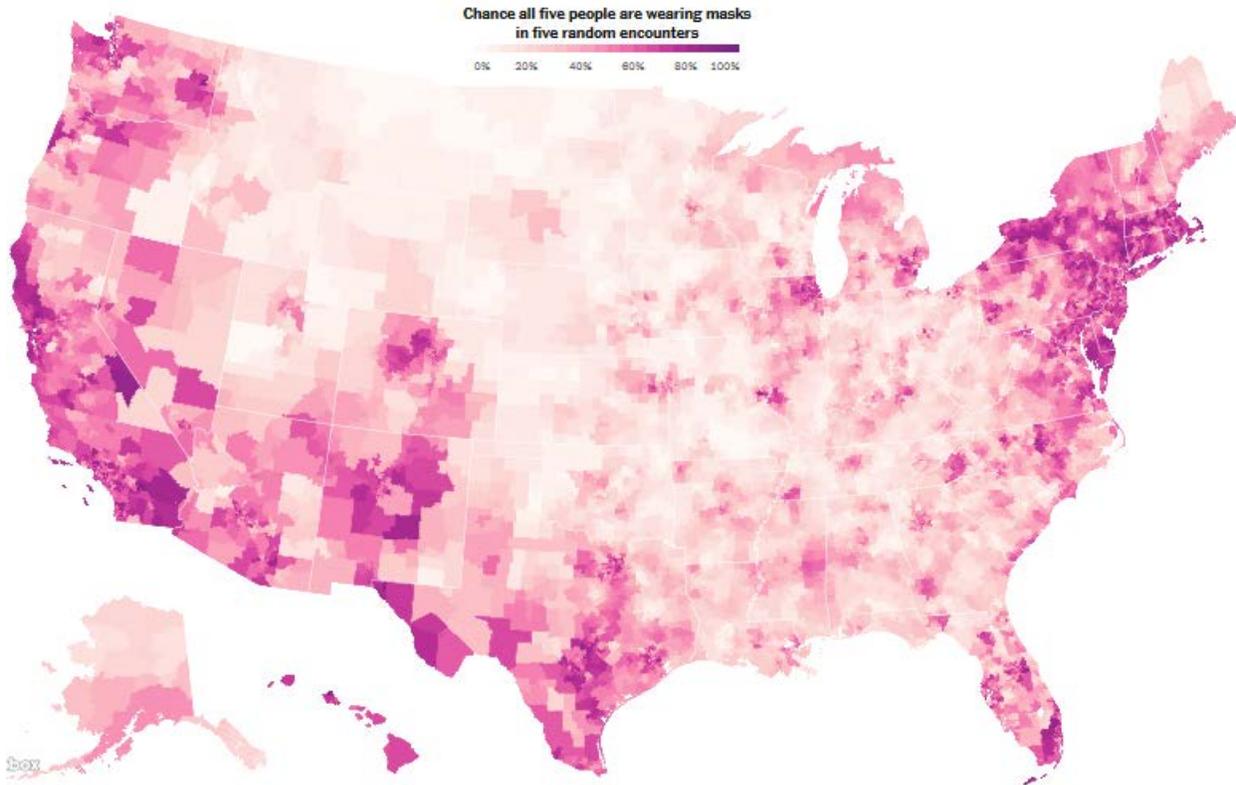
Peak Month of Flu Activity 1982-1983 through 2017-2018



A VISUALIZATION OF 'HOT SPOTS' AND PREVALENCE OF FACE COVERINGS

Mayors and governors have taken the lead in recommending or requiring face coverings in public. Compare these [two maps produced by The New York Times](#), one showing 'hot spots' of outbreak and the other showing the prevalence of face coverings. As you can see, many hot spots are in regions that have lagged in the use of coverings.





PLANNING FOR A POST-COVID-19 FUTURE

Even as we grapple with the current COVID-19 surge and prepare for possible increases in the fall and winter, we recognize that more therapeutics and one or more vaccines will eventually decrease the number of active cases. Although SARS-CoV-2 will likely continue to circulate in our communities for years, its impact will slowly diminish. What can we do now to recover from the pandemic and how do we adapt for a post-COVID-19 environment?

On July 17, we convened the leadership of our health professional schools, academic health centers and division office to discuss the Recovery and Remaking of UC Health in the COVID-19 Era.

We began with a keynote from [Vivian S. Lee](#), M.D., Ph.D., M.B.A, president of Health Platforms at Verily Life Sciences, an Alphabet company. I had the pleasure of working with Dr. Lee when she was CEO of University of Utah Health. Her book, *The Long Fix: Solving America's Health Care Crisis with Strategies that Work for Everyone* was published in June 2020.



She shared her broad examination of the health industry in the U.S., from insurance to pharmaceuticals to health care delivery. She offered optimism and insights for creating economically sustainable health care in the U.S. and stressed the COVID-19 pandemic has accelerated our need for action.

Atul Butte, M.D., Ph.D., chief data scientist, addressed how we can leverage our data to improve care, outcomes and equity. Under his leadership, the Health Data Warehouse and Center for Data-driven Insights and Innovation (**CDI2**) teams were able leverage clinical data from across our system to provide daily dashboards of key metrics that allow us to better manage the pandemic. The team also established **CORDS**, a dataset of 460 million points from all of our patients with SARS-CoV-2 and COVID-19. The data is available to UC researchers across the system. This expertise, broadly applied to other conditions, can significantly accelerate scientific progress.

Our experience working with systemwide data during the pandemic will allow us to better serve patients in the future and to manage other diseases as a system. For example, predictive risk models on diabetes and hypertension can lead to earlier interventions and 'UC-wide treatment pathways' optimized for outcome improvement. Our ability to harmonize disparate data to create clarity is also expected to enhance the recruitment of the next generation of researchers.

We also heard from Johnese Spisso, president, UCLA Health and CEO UCLA Hospital System and Dougie Graham, the chief transformation officer for UC Health, about opportunities with pharmacy operations. Collectively, UCH incurs more than \$1.1 billion annually in pharmacy related costs.

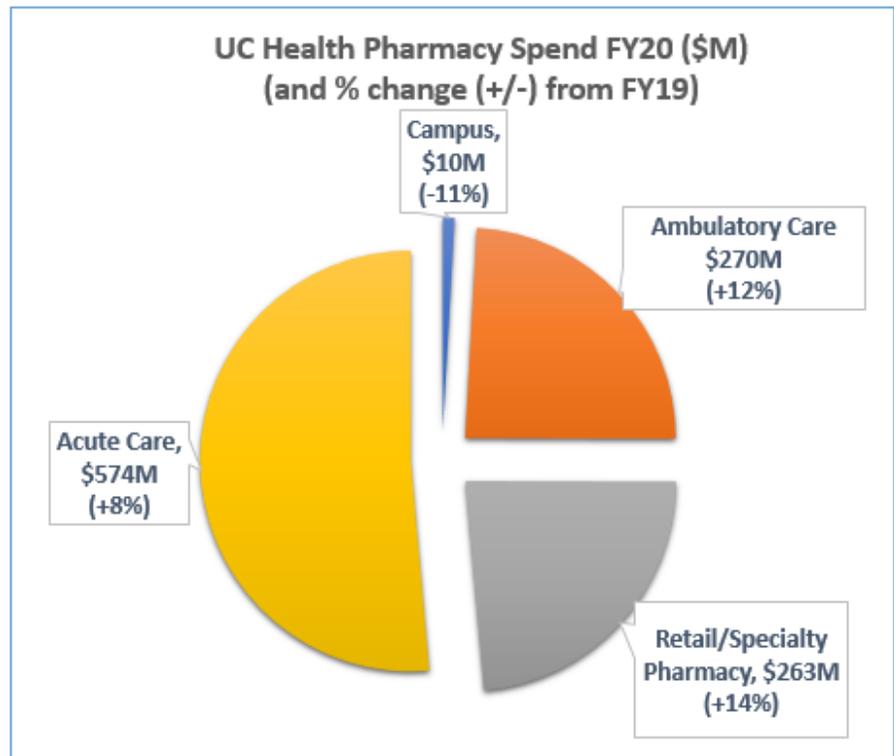
We are now evaluating the development of our own Pharmacy Benefits Manager (**PBM**).

Establishing our own PBM can reduce drug costs and administrative fees, which, in turn, would reduce costs to our employees and members of the UC Self-funded Health Plans.

Importantly, operating our own PBM can improve quality for patients, including those who receive services from our UC specialty pharmacies.

Lowering costs and improving outcomes means we will be able to deliver greater health care value to our patients and to the system.

Over the coming weeks, we will further outline this potential strategy and the next steps necessary to operationalize it.

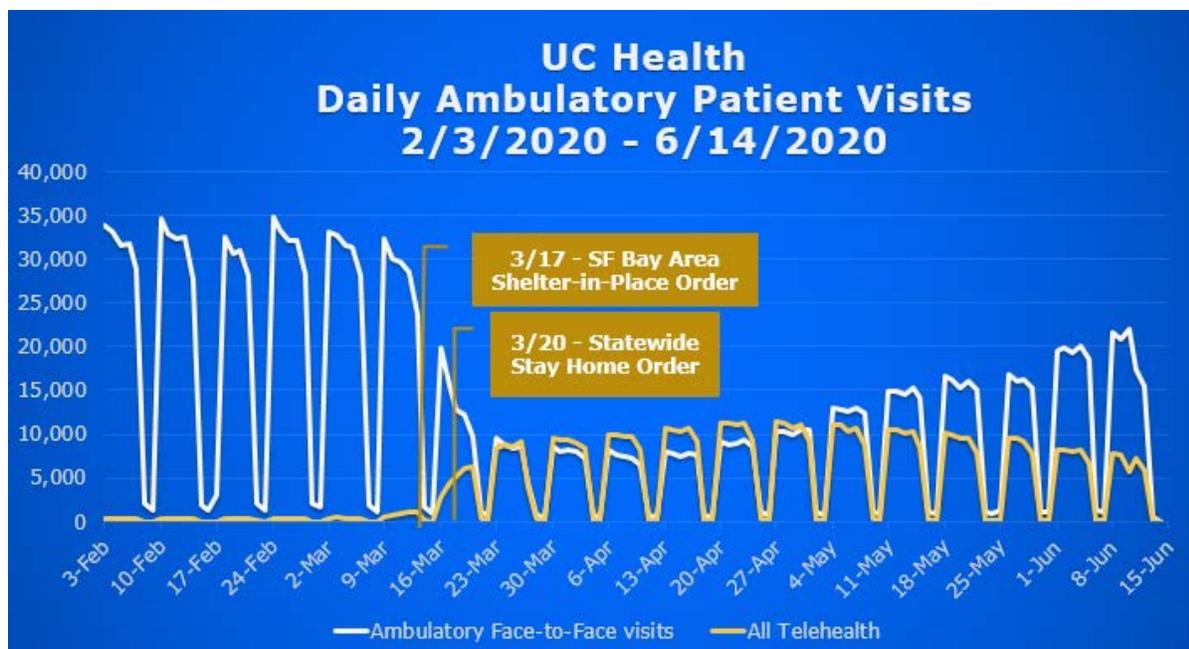


The pandemic forced the UC system to rapidly expand our capacity in telehealth, or as I prefer to call it, virtual care. Expansion of virtual care services is also key to our recovery from the COVID-19 pandemic and the future of University of California Health.

Thomas S. Nesbitt, M.D., emeritus interim vice chancellor of UC Davis Health, and Lawrence Friedman, M.D., associate dean, Clinical Affairs, of UC San Diego Health addressed how we can leverage the telehealth infrastructure developed during the pandemic to create new clinical applications.

Likely uses range from outpatient specialty consultation for services such as dermatology, tele-ICU support such as what UC San Diego Health provides to El Centro Regional Medical Center, ambulatory care visits, which grew significantly when in-person, non-emergency services were deferred, and mental health services support for our student health centers.

We are envisioning a future of UC Care Anywhere.



We also heard about opportunities to increase the value of our care and how to improve access and equity from Kelsey C. Martin, M.D., dean of the David Geffen School of Medicine, Catherine A. Sarkisian, M.D., director, UCLA Value-Based Care Research Consortium, Samuel A. Skootsky, M.D., chief medical officer for the UCLA Faculty Practice Group and Medical Group Population Health Advisor for UC Health.

Value-based care techniques involve decreasing low value pre-op testing and using behavioral economics, EHR “nudges” and machine learning-enabled care coordination to prioritize interventions that reduce avoidable emergency department usage and unnecessary hospitalizations from chronic conditions. This is another opportunity for telehealth and focused, proactive efforts to address racial and ethnic disparities.

The discussions during the retreat were robust and made clear that we can be the architects of the delivery system of the future. While some ideas are long term, others have potential in the near term. We will bring several of these forward in upcoming meetings of the Regents.

SOME OF THE HEROES OF THE PANDEMIC



See captions on next page.

Captions for Some of the Heroes of the Pandemic

Top L: David & his daughter, Alyssa, are doing well after a [father-daughter living donor liver transplant](#).
 Top R: A '[relief station](#)' at UCLA Mattel Children' helps staff relax, eat snacks, and enjoy music.
 Top R: "I draw strength from my fellow health care workers," said [Dr. Arvin Wali on the TODAY show](#).
 Middle L: UC San Diego Health's [Mobile ECMO deploys to Indio](#) for a patient with COVID19.
 Middle R: At UCLA Health, Lakin Saucedo celebrates [the birth of baby Ryan](#) with wife Lindsey Foster.
 Bottom L: Kareem Abdul-Jabbar and fellow Lakers to remind you to wear your mask. ([Video](#))
 Bottom M: [UC Riverside SOM scientists](#) find inhibiting two proteases keep the virus from host cells.
 Bottom R: José Mayorga, medical director of the UCI Family Health Center, [spoke with La Opinion](#) about the alarming rise in cases in Santa Ana.

LIST OF ACTIVE CLINICAL TRIALS FOR COVID-19

Clinical Trials at All Five Medical Centers	Pending, Active, and Closed Clinical Trials at One or More Medical Centers Treating COVID-19
<p>ACT I: Remdesivir (NCT04280705)</p> <p>ACT II: Remdesivir & Baricitinib (NCT04401579)</p> <p>Some recently launched trials are not yet listed on ClinicalTrials.gov at the time of this publication.</p>	<p>Sarilumab – Davis and UCLA (NCT04315298) DAS181– UCLA and UCSD (NCT03808922) Tocilizumab – UCLA and UCSD (NCT04320615) Azythromycin – UCSF (NCT04332107) Mesenchymal stem cells – UCSF (NCT03818854) HCQ (prevention) – Davis, UCLA, and UCSF (NCT04332991) HCQ (treatment) – UCLA (NCT04328961) Colchicine – UCSF (NCT04322682) Colchicine – UCLA (NCT04355143) Aviptadil – Irvine (NCT0431697) PUL-042 – Irvine (NCT04313023) PUL-042 – Irvine (NCT04312997) Azithromycin/HCQ- UCSF (NCT04358081) Leronlimab – UCLA (NCT04347239) Leronlimab – UCLA (NCT04343651) Canakinumab – UCSF (NCT04362813) Selinexor – Davis and UCLA (NCT04349098) Gimsilumab – UCLA (NCT04351243) Mavrilimumab – UCLA (NCT04399980) Hyperbaric Oxygen – UCSD (NCT04327505) Oral Vaccine - UCSD (NCT04334980) Ramparil – UCSD (NCT04366050) TAK-981– UCSD (NCT03648372) Convalescent Plasma - UCSF (NCT04421404) and (NCT04355767) Convalescent Plasma - UCSD, UCLA, UCI (NCT04323800) Convalescent Plasma - UCLA, UCI (NCT04373460) EA Convalescent Plasma – UCLA, UCSF, Davis, Irvine (NCT04338360) Antiseptic Mouthwash – UCSF (NCT04409873) S1P agonist siponimod – UCLA (NCT# Pending) LY3819253 – UCSD (NCT04411628) mRNA-1273 Vaccine- UCLA, UCSD (NCT04348370)</p>

THE IMPACT ON THE ACADEMIC ENTERPRISE

The UC Washington Center (UCDC) is shifting its academic program to an entirely remote program for the 2020-21 academic year. UCDC is already offering a remote program for the fall and is actively working with local employers to expand remote internship opportunities. Staff will provide as much of the UCDC experience virtually as possible, including alumni mentorships, professional development workshops, and speaker forums.

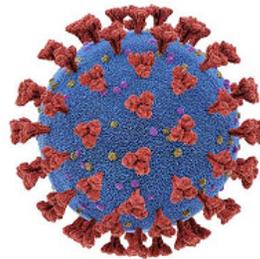
American University has approached UCDC about housing some of its students at UCDC. Those students would have access to their university's health care resources, which UC could not provide to our own students. UCDC anticipates that revenues from this arrangement will help defray UCDC losses so that it can continue to operate now and in the future.

IN CLOSING

The pandemic continues to surge across the nation and in our state. I am gratified with the progress we have made across the health enterprise and the entire UC system.

Given the stress of the surge, it was a pleasure to pause for one day with our health leadership to celebrate what I call COVID-19 wins and to take the time to envision a brighter future.

*The world asks of us
only the strength we have and we give it.
Then it asks more and we give it.*



The Weighing by Jane Hirshfield—1994
Poet in Residence UCSF 2017

We have an opportunity to recover from the pandemic and to become more resilient. We also have the opportunity to re-make our health system and to develop initiatives that support a post-pandemic world. We will do both of these by using our traditional strengths and the new strengths and innovations we developed while fighting the pandemic.

There is much work that remains to be done and we will need a healthy workforce to accomplish our goals. Our administrators, clinicians, educators, and scientists at this point in the trajectory of the pandemic are national leaders in all things related to COVID-19. Their expertise is the result of extraordinary work that has been accomplished by our teams, and this work has taken a toll. Our people and their expertise is the greatest asset of our system. I am conscious of the need to maintain their capacity and to find opportunities for respite across the system as we prepare for what is likely to be a difficult fall and winter season.

I will be entering a second wave of listening as I begin my final quarter of what has proven to be a very eventful first year here. I will be listening to our new president, campus leaders, the Regents, and our faculty, staff and students. I want to identify resources to sustain our Health workforce that has given so much so that we can realize a healthier future for all.

Fiat Lux.

With gratitude

Carrie L. Byington, MD
Executive Vice President
UC Health