

August 14, 2020 Update
COVID-19 AND 'CORONAVIRUS' UPDATES

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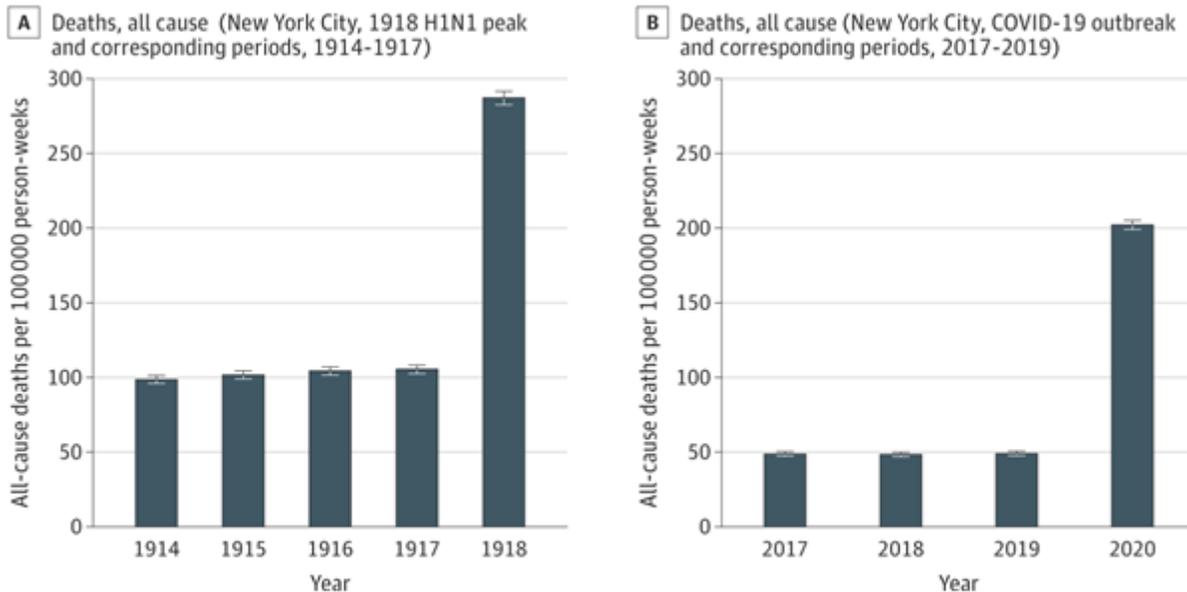
THE IMPACT ON OUR HEALTH SYSTEM

This is the 22nd update for Regents regarding the SARS-CoV-2 virus pandemic and its impact on the University's health and academic enterprise. I'd like to begin by welcoming Dr. Michael V. Drake as President of the University of California.

Across the health system, we look forward to working with President Drake to safeguard and strengthen our campuses during the pandemic and to re-make an even more effective and inclusive health system.

COVID-19 BY THE NUMBERS

Since the last update on July 24, California and the nation have reached new milestones in the pandemic. The United States has documented more than 5 million cases with more than 166,000 deaths. The U.S. has approximately 4% of the world's population, yet the largest number of reported cases and deaths. Analysis by investigators in New York demonstrate that the death toll of COVID-19 is following a pattern similar to that of the 1918 influenza pandemic.



Comparison of Estimated Excess Deaths in New York City During the COVID-19 and 1918 Influenza Pandemics
Source: [JAMA Network Open. 2020;3\(8\):e2017527. doi:10.1001/jamanetworkopen.2020.17527](https://doi.org/10.1001/jamanetworkopen.2020.17527)

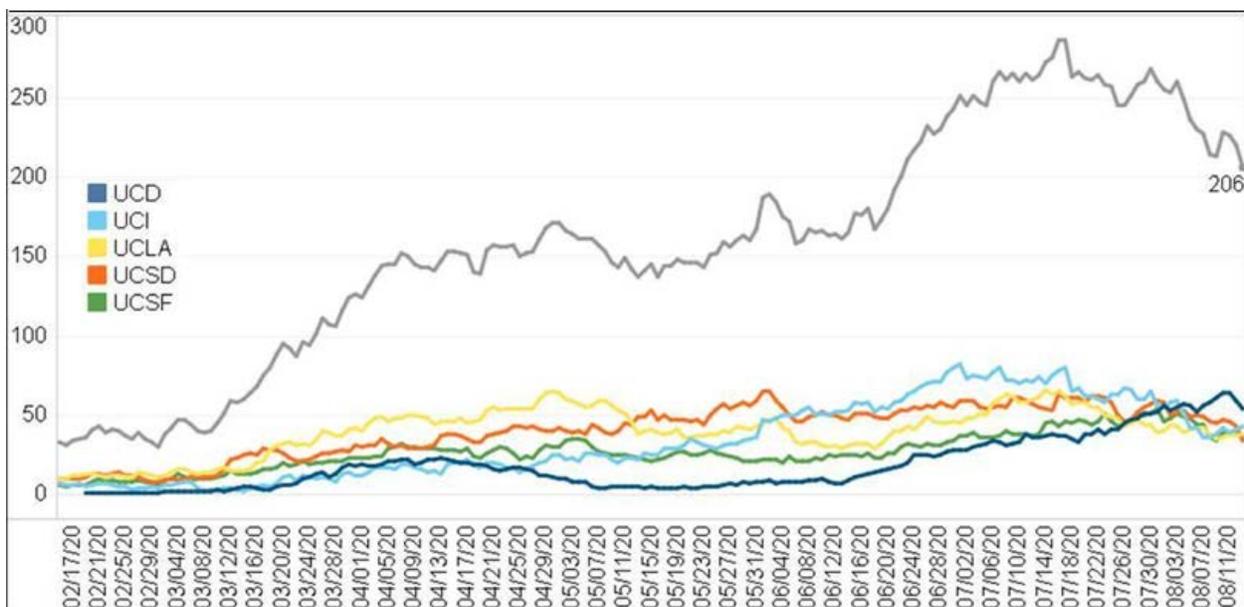
In our state, the total number of cases is nearing 600,000 resulting in 10,808 deaths, according to information from the California Department of Public Health (CDPH). In late July, problems were discovered in the system that counties use to report test results to the state. The error prevented approximately 300,000 test results from being logged when they were submitted. The error has been cleared, but it may take several more days to ensure county-level positivity rates on a rolling basis are correctly calculated.

Benchmarks	UC Davis Health	UCI Health	UC San Diego Health	UCLA Health	UCSF Health	UCH Overall
CDPH <8% WHO <5%	4.75%	6.59%	1.58%	2.49%	3.75%	3.83%

Source: 8-14 UCH Daily Dashboard

At University of California Health (UCH), we've completed more than 200,000 tests for our patients and report our positivity rates by health center location (above).

These rates will differ from the county and statewide figures that CDPH will release in the coming days. In general the positivity rates at UC health centers have been lower than county and statewide rates and are decreasing. The exception is at UC Davis, where we are observing both increasing positivity rates and inpatient admissions. I am cautiously optimistic that CDPH's adjusted numbers will also reflect a downward trend in positivity.



Source: 8-14 UCH Daily Dashboard

Our COVID-19 inpatient census (above) has eased over the past few days and now stands at 206. However, this census is approximately 40% higher than our COVID-19 census in April and May, when our hospitals were emptied to conserve resources for the pandemic. We are now caring for a greater number of COVID patients while also delivering essential care to patients with other serious conditions. The overall census is approaching pre-pandemic levels.

UC REMAINS AN ENGINE OF INNOVATION

Despite the continued spread of the virus and increasing number of fatalities, there is cause for some optimism. Researchers across UC are developing new diagnostic tests, therapeutics, and UC health centers are serving as sites for clinical trials, including vaccine trials.

I'd like to highlight a handful of examples where UC researchers are making an impact:

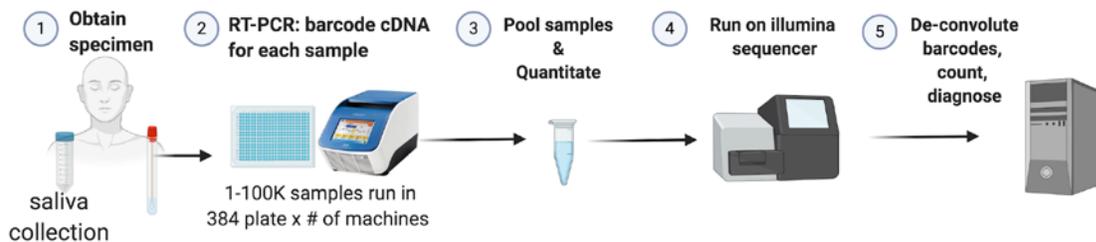
FDA Approves Pooling Samples at UCSD

In the last update, I noted that the Center for Advanced Laboratory Medicine (CALM) at UC San Diego was seeking approval from the FDA to use a 5:1 pooled testing approach. That authorization has been received. UC San Diego is the first university lab to become officially FDA approved to pool samples at that ratio, which will significantly increase the number of tests we can run on the sample-to-result Roche platform. The approval allows for nasopharyngeal swab samples (the long swab approach) as well as the less invasive nasal samples, which can be collected by the patient. This is an essential step toward enabling self-acquisition of sample material, which reduces the need for staffing and conserves personal protective equipment (PPE).



SwabSeq from UCLA

SwabSeq is a technology that allows mass testing for SARS-CoV-2 through next generation sequencing. This innovation from the laboratory of Dr. Eleazar Eskin, chair of the Department of Computational Medicine at UCLA, has the potential to vastly expand the number of SARS-CoV-2 tests that can run each day. SwabSeq received Emergency Use Authorization (EUA) from the FDA on August 7th.



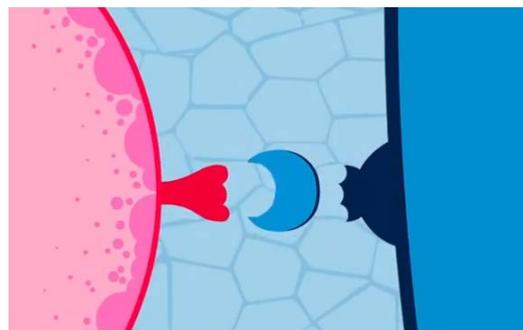
In contrast to standard clinical testing, where one person's sample is tested in a single tube, SwabSeq labels each person's sample with a unique piece of DNA that acts as a molecular barcode. Samples are then pooled together so that they can be jointly tested. DNA sequencing is then used to detect those samples with coronavirus in the pool of hundreds or thousands of individuals. Any positive results can be assigned to the sample it came from on the basis of the barcode. This innovative testing is highly automated and is lower cost than traditional PCR testing. The technology can also be used with a number of specimen types, including saliva, which can be self-collected. Again, this has the benefit of reducing the use of PPE for specimen collection.

SwabSeq technology will be used to support campus testing of 40,000 specimens per day at UCLA, and we are working to assist other campuses in adopting the technology.

AeroNabs from UCSF

The surface of the SARS-CoV-2 virus consists of spikes that dock with ACE2 receptors on a host cell. Once connected, the virus highjacks the reproductive capabilities of the host cell, causing it to manufacture more of the virus.

At UCSF, researchers are trying a new approach to [block that reproductive process at the molecular level](#) by using nanobodies, incredibly small fragments that are produced from antibodies.



UCSF graduate student Michael Schoof and Dr. Peter Walter, professor of biochemistry and biophysics at UCSF, found 21 nanobodies with potential to block SARS-CoV-2 replication. [This video about the project](#) also features Dr. Aashish Manglik, assistant professor of pharmaceutical chemistry at the UCSF School of Pharmacy.

If clinical trials validate the early, promising results, the nanobodies could be administered in aerosolized form such as a nasal spray. This technique would not immunize a person from infection, but may dramatically reduce the high viral load that causes severe illness. **The investigators refer to the AeroNabs as “molecular PPE”.**

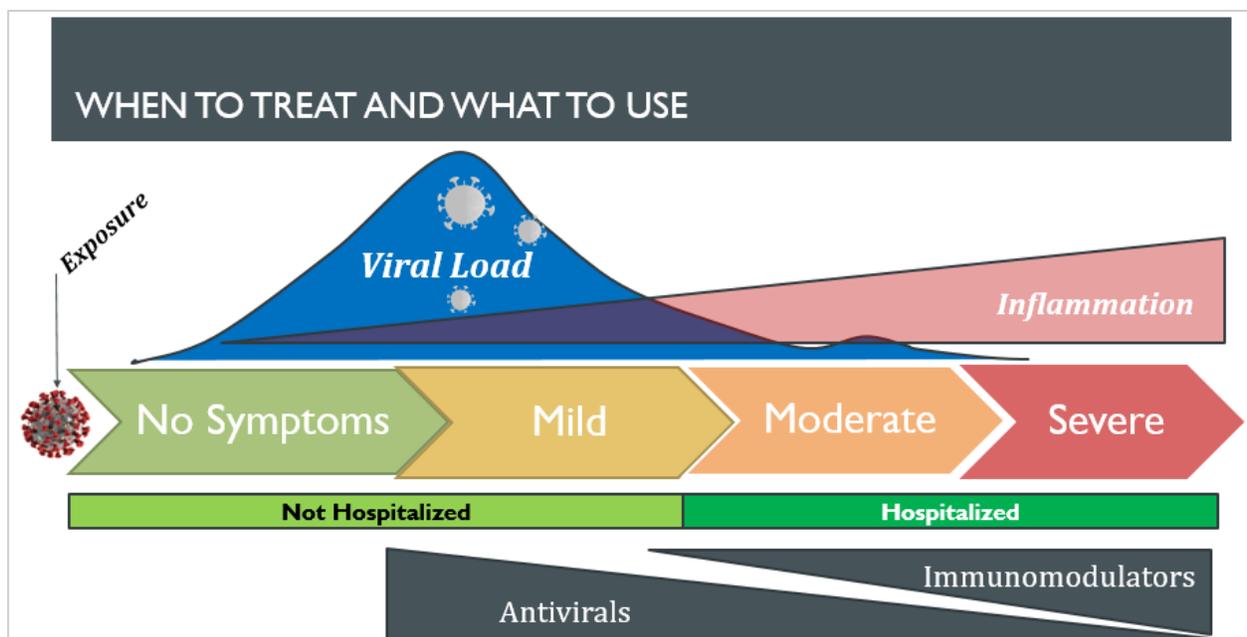
ACTG’s Adapt Out

In April, the National Institutes of Health (**NIH**) announced the formation of Accelerating COVID-19 Therapeutic Interventions and Vaccines (**ACTIV**), a public-private partnership to coordinate research and speed the development of COVID-19 treatments and vaccines.

A key component of [ACTIV](#) is the participation of the existing US AIDS Clinical Trials Group (**ACTG**). This effort is part of the federal government's 'Operation Warp Speed' program to develop multiple therapeutics and vaccine candidates on simultaneous tracks.

One of the unique aspects of the ACTIV trials is testing potential treatments in patients who do not require hospitalization, The program is referred to as ‘Adapt Out’ to recognize these are adaptive trials in the outpatient setting.

Most of the protocol chairs/vice-chairs for Adapt Out are faculty within the UC system, including Dr. Eric Daar, interim chair of the Department of Medicine at Harbor-UCLA Medical Center, Dr. Kara Chew, assistant clinical professor of medicine at UCLA Center for Clinical AIDS Research and Education, and Dr. David Smith, professor of medicine in the Division of Infectious Diseases and Global Public Health at UC San Diego. The principal investigator for ACTG, Dr. Judith Currier, is chair of the NIH-sponsored AIDS Clinical Trials Group as well as professor of Medicine and chief of the Division of Infectious Diseases and Co-Director of the Center for AIDS Research and Education Center (CARE) at UCLA.



The first agent to be tested will be a synthetic monoclonal antibody, which has the potential to help ease some of the reagent shortages that have caused delays in testing. Monoclonal antibodies are just one potential treatment, and the trial is designed to test many different kinds of new drugs as they become available.

The Adapt Out trial will operate across 50 sites in the United States and perhaps that many additional sites internationally. The trial is currently open at UCSD, UCSF, and UCLA. It will enroll thousands of participants over 2-3 years.

Innovation is a core value of University of California and of UCH.

Even as we grapple across the U.S. with the pandemic, talent across UC is working on multiple fronts to defeat COVID-19. We are pursuing multiple innovative approaches to block viral transmission, create efficient high-speed testing, and hold clinical trials that will yield further improvements in care and – ultimately – a vaccine.

This is a message I intend to emphasize at an upcoming panel discussion organized by the American Association of Medical Colleges (**AAMC**).

The non-partisan August 19th educational event - *COVID-19 & The Way Forward* - occurs in parallel to the Democratic National Convention. U.S. Representative Doris Matsui, whose district includes Sacramento and the UC Davis Health campus, and Dr. David Skorten, CEO of AAMC, will be interviewed by The Hill's Editor-at-Large Steve Clemons, followed by two panel discussions.



I will proudly represent the University of California health system, discussing what we see as the way forward. Other panelists include Paul B. Rothman, MD, dean of the medical faculty and CEO of Johns Hopkins Medicine, Joe Kerschner, MD, dean of the School of Medicine, provost, and executive vice president of Medical College of Wisconsin, Wayne J. Riley, MD, president of SUNY Downstate Health Sciences University, and Selwyn Vickers, MD, senior vice president of medicine and dean of the University of Alabama School of Medicine at the University of Alabama Birmingham.

To register to access the presentation, [please register here](#). A similar panel will be held during the Republican National Convention.

MORE CLINICAL TRIALS LAUNCHED

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)</p> <p>DAS181– UCLA and UCSD (NCT03808922)</p> <p>Tocilizumab – UCLA and UCSD (NCT04320615)</p> <p>Azithromycin – UCSF (NCT04332107)</p> <p>Mesenchymal stem cells – UCSF (NCT03818854)</p> <p>HCQ (prevention) – Davis, UCLA, and UCSF (NCT04332991)</p> <p>HCQ (treatment) – UCLA (NCT04328961)</p> <p>Colchicine – UCSF (NCT04322682)</p> <p>Colchicine – UCLA (NCT04355143)</p> <p>Aviptadil – Irvine (NCT0431697)</p> <p>PUL-042 – Irvine (NCT04313023)</p> <p>PUL-042 – Irvine (NCT04312997)</p> <p>Azithromycin/HCQ- UCSF (NCT04358081)</p> <p>Leronlimab – UCLA (NCT04347239)</p> <p>Leronlimab – UCLA (NCT04343651)</p> <p>Canakinumab – UCSF (NCT04362813)</p> <p>Selinexor – Davis and UCLA (NCT04349098)</p> <p>Gimsilumab – UCLA (NCT04351243)</p> <p>Mavrilimumab – UCLA (NCT04399980)</p> <p>Hyperbaric Oxygen – UCSD (NCT04327505)</p> <p>Oral Vaccine - UCSD (NCT04334980)</p> <p>Ramparil – UCSD (NCT04366050)</p> <p>TAK-981– UCSD (NCT03648372)</p> <p>Convalescent Plasma - UCSF (NCT04421404) and (NCT04355767)</p> <p>Convalescent Plasma - UCSD, UCLA, UCI (NCT04323800)</p> <p>Convalescent Plasma - UCLA, UCI (NCT04373460)</p> <p>EA Convalescent Plasma – UCLA, UCSF, Davis, Irvine (NCT04338360)</p> <p>Antiseptic Mouthwash – UCSF (NCT04409873)</p> <p>S1P Agonist Siponimod – UCLA (NCT# Pending)</p>

NEW

NEW

LY3819253 – UCSD ([NCT04411628](#))

LY3819253 – UCI ([NCT04427501](#))

mRNA-1273 Vaccine – UCLA, UCSD ([NCT04348370](#))

SARS CoV 2 RNA Vaccine – Davis ([NCT04368728](#))

ACTT-3: Interferon Beta-1A & Remdesivir - UCSD, UCLA, Irvine, UCSF ([NCT04492475](#))

GOVERNMENT-UNIVERSITY DIALOGUE ON COVID-19 TESTING

On July 24, I had the opportunity to participate in a virtual roundtable discussion organized by Dr. Francis Collins, director of National Institutes of Health (NIH), and Admiral Brett Giroir, assistant secretary for health at the U.S. Department of Health and Human Services (HHS) who oversees federal SARS-CoV-2 testing efforts.

They gathered leaders from institutions of higher education to share information and perspectives on opportunities and challenges for using university laboratory resources for testing of students and staff.

I was pleased to highlight UC's contributions to the fight against COVID-19 and cited SwabSeq as an example of one of the many ways we are supporting testing efforts across our campuses.

Other panelists included: Sandra Brown, Ph.D., vice chancellor for research at UC San Diego, Edward Feser, Ph.D., provost of Oregon State University, James E.K. Hildreth, M.D., president and CEO of Meharry Medical College, J. Larry Jameson, M.D., executive vice president of University of Pennsylvania for the Health System and dean of the Perelman School of Medicine, Sally Kornbluth, PhD, provost of Duke University, and Havidan Rodriguez, Ph.D., president of SUNY Albany. I look forward to a continuing discussion with our federal health officials on this important topic.



UC NOW REQUIRES FLU SHOTS BY NOVEMBER 1

I'm pleased that emeritus President Napolitano issued an Executive Order (EO) on July 30 requiring students, faculty and staff to be vaccinated against influenza this fall. In a previous update, I expressed concern about the impact on our communities if we were to experience a severe flu season in addition to continued surges of patients with COVID-19. In its early stages of infection, COVID-19 symptoms are similar to those of the seasonal influenza. The need to exclude COVID-19 in patients with influenza will further exacerbate shortages of PPE and testing supplies.

There is also the potential for individuals to be infected with both viruses simultaneously, which could lead to worse health outcomes. The risk to individuals and the burden to our health systems can be reduced if we are all vaccinated against influenza.

The CDC recommends influenza vaccine annually for all people six months of age and older. Research has demonstrated over multiple flu seasons that getting a flu shot lessened the risk of severe influenza, including reducing the risk of hospitalization and admission to the intensive care unit, and also lessened the severity of illness.

The university already has a clear policy on immunizations for students, and this action adds influenza to [existing vaccination requirements](#) for them, and extends the requirement to faculty and staff beyond those which presently exist for all UC health care workers.

A process will be put in place for faculty and staff to request medical exemptions. Requests for disability or religious accommodations will be handled through the interactive process consistent with existing location policies and procedures. The EO was signed after consultation with President-elect Drake. [See more information and the EO here.](#)



California.
LEGISLATIVE INFORMATION

Important Privacy Bills in Assembly May Produce Unintended Consequences

Californians value their privacy, yet contact tracing during a pandemic is a much-needed public health tool. We are engaging with the authors of two bills that seek to place limitations on contact tracing to ensure these pieces of legislation protect privacy without jeopardizing critical public health and infection prevention activities or important research.

AB-660 Personal information: contact tracing

This bill defines “contact tracing” as “identifying and monitoring individuals, through data collection and analysis, who may have had contact with an infectious person as a means of controlling the spread of a communicable disease.” It prohibits law enforcement from engaging in contact tracing, and provides that data “collected, received, or prepared for purposes of contact tracing shall not be used, maintained, or disclosed for any purpose other than facilitating contact tracing efforts” and must be deleted within 60 days. There is an exception for data in possession of a local or state health department. The law permits anyone to bring a civil action for a violation to obtain injunctive relief and, if they prevail, would require us to pay their attorneys’ fees.

AB 1782 Personal information; contact tracing

This bill – the Technology-Assisted Contact Tracing Public Accountability and Consent Terms (TACT-PACT) Act – seeks to regulate Big Data contact tracing apps, such as those being developed by Google. It requires opt-in consent for the collection, use, maintenance, or disclosure of data and permits an individual to revoke consent at any time; requires encryption and other security measures; mandates public data reporting; and also requires deletion of data within 60 days (subject to a limited research exception defined by reference to the Common Rule). Violation is subject to considerable fines and penalties.

The bills though seeking to protect privacy may have the unintended consequences of limiting the ability of researchers and occupational health experts to evaluate site-specific outbreaks and recommend interventions for employers to mitigate and contain outbreaks in accordance with public health guidance. We will continue to work with the authors to appropriately balance privacy rights with best public health practices and research.

SOME OF THE HEROES OF THE PANDEMIC



Top L & M: Prof. Anandasankar Ray and graduate student Joel Kowalewski of UC Riverside are [using machine learning to identify hundreds of new potential drugs](#) that may help treat COVID-19.

Top R: UCSF researchers and SF Department of Public Health expect to start [giving volunteers a vaccine](#) made by AstraZeneca and Oxford University next week as part of a clinical trial. (Photo: The Chronicle)

Middle L: UC Davis Health became one of only 120 sites chosen for [major global COVID-19 vaccine clinical trial](#) with Pfizer Inc. and BioNTech SE. They will enroll 200 participants.

Middle R: 8-year-old Xavier was all smiles after a visit from Robin, UCLA Health's friendly AI robot. The two shared laughs and sang while Xavier showed off his dance moves.

3rd Row L: [Going the extra mile](#). UC Riverside Professor Rich Cardullo, on treadmill, performed experiments on himself in order to teach his human physiology course remotely.

3rd Row R: Members of the [UC San Diego Image of Nursing Council](#) went beyond patient care and helped out the San Diego Food Bank. They packed 16,000 pounds of food into 480 boxes.

Raising the Profile of the University of California Health Enterprise

The University of California plays a foundational role in health care in our state and across the nation. Even so, many people do not realize the breadth and scope of our Health system which includes:

- Twenty health professional schools that prepare the health care workers of the future;
- Six academic health centers that deliver care to more than 1.8 million unique patients each year;
- Ten student health centers that care for nearly 300,000 students, plus faculty and staff;
- Four self-funded and flex-funded health plans offered systemwide to more than 200,000 active and retired employees, managed in collaboration with UCOP Human Resources;
- Management of the Health Data Warehouse that pools information from our Electronic Health Records to improve condition management and our coordinated response to the pandemic; and,
- A Global Health Institute that nurtures and promotes health research, education, and collaboration around the world.

To help communicate this depth and breadth, a new identity and logo will be introduced this fall.

The UC Health division within the UC Office of the President and systemwide collaborations will adopt University of California Health (**UCH**) as a more formal identifier. This adjustment will help reduce the potential for confusion with other academic systems that also use 'UC Health' for their brand.



IN CLOSING

When UC Davis Health identified the [first example of community based transmission](#) in late February, our knowledge of SARS-CoV-2 was limited. The lack of knowledge resulted in so much anxiety and suffering during the first adrenaline-filled months of the pandemic. It has been difficult, yet these past few months have produced new knowledge and opportunities for growth.

The intensive work was worth the effort. Our ability to care for patients with COVID-19 has improved, even as the pandemic rages on into another phase. We will be working with and against COVID-19 for the foreseeable future. Our people are courageous, generous, and skilled. Now we must find ways to foster resilience to sustain them through the long months to come and our first fall and winter with COVID-19.

I hope these updates are informative and helpful. Just as we adjust to the marathon of this battle, we will adjust the cadence of these updates. Future updates will be shared on the first Friday of each month.

I will continue to chronicle the work of UCH faculty and staff, health care providers, researchers, students, and trainees who are fighting COVID-19 on all fronts. The pace of innovation and collaboration across the system has been unlike anything I've experienced in my career.

UCH is a continuous learning organization with strong core values and a commitment to science. Our pursuit of knowledge leads to solutions that lift people up and brings light to these dark days. It is inspirational, and I am proud to be a part of it. We will persist, and we will prevail.

With gratitude

Carrie L. Byington, MD
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UC Health