

EVCP Expresso ? July 2017

July 5, 2017

Dear Colleagues:

Whether you spent the July 4 holiday celebrating our country's independence, listening to the entire box set of the 50th anniversary of the *Sgt. Pepper's Lonely Hearts Club Band* album in honor of the Summer of Love, or settling in with a good book, I hope you enjoyed the day.

As a lead-up to the next big event coming this month, AIDS Walk San Francisco ^[1], I invite you to join me from noon to 1 p.m. this Friday, July 7 for "On the Forefront of Fighting HIV" ^[2], featuring San Francisco Supervisor Jeff Sheehy and UCSF HIV/AIDS experts Paul Volberding and Diane Havlir, to learn about their ongoing efforts to end AIDS.

Over the past thirty years, the annual AIDS Walk San Francisco has raised \$88 million for HIV programs and services in the Bay Area, and this year it takes place on July 16. UCSF has formed a coalition of teams in its quest to raise a record \$200K in the annual trek ^[3]. There are currently ten teams to choose from?I'll be walking with Team UCSF - 0089. If you'd like to support us, please visit my fundraising page ^[4].

And ever more onward, in this month's *Expresso* you'll read about:

- Every Step Forward: AIDS ?getting to zero?
- Advocating for Science: NIH shifts gears, working on a new plan
- Project Parnassus: If these walls could talk

Finally, what do you think? Drop me a line about these topics, or with an idea for a future topic, at ExecutiveViceChancellor@ucsf.edu ^[5]. Thanks for reading!

Sincerely,

Dan

Every Step Forward: AIDS ?getting to zero?

UCSF has been and continues to be a key player in the history of combating AIDS, from helping pioneer care for AIDS patients to searching diligently for a cure. With the 30th annual AIDS Walk ^[4] coming up in Golden Gate Park on July 16, I wanted to check in with some of our leading researchers to hear about the state of AIDS research and treatment.

Paul Volberding, Jay Levy, and Diane Havlir spoke of both the tremendous progress made and the major challenges still ahead. Paul, director of the AIDS Research Institute and

director of research for Global Health Sciences, was on the front lines at Zuckerberg San Francisco General Hospital and Trauma Center (to Paul it will always be "the General") in the very beginning in 1981. Jay was one of the first scientists to discover HIV, the virus that causes AIDS, a true scientific mystery when it first showed up. And Diane, chief of UCSF's HIV, Infectious Diseases and Global Medicine Division, spearheaded early studies of life-saving anti-retroviral therapy (ART) that led to its widespread use in the mid-1990s.

"This is an exciting time," Paul says. "For me, having been at the start of the epidemic, to be here talking about getting to zero, finding a cure, and stopping transmissions with treatment, is a pretty amazing opportunity." Paul recently saw video of those early days, with "guys totally wasted away and dying in their beds." (I vividly remember such scenes as an intern and neurology resident in the early '80s.) He continues, "Now, I go to clinic, and my patients aren't dying. They're on one pill a day. They're thinking about other things. It's just an amazing situation."

"To a person," he adds, "they'd still rather be cured." While the actual cure is still years away, another ambitious goal is in sight—the Getting to Zero [6] initiative, San Francisco's multi-sector consortium working to stop all transmissions of the virus through medicine, behavioral science, and public health measures. Diane states, "When we started in 2014 we had on average one new HIV infection per day. In 2015 there were around 280 new infections for the year. We will have the final 2016 results in late summer. This is good progress." She emphatically adds, "San Francisco has always been at the leading edge of the HIV response. Political will, research, the SF model of care and activism are all essential. And our greater community has always been at our side. That is why efforts like the AIDS Walk are so important."

Having been instrumental in the City's successful outcomes of the Getting to Zero campaign, Diane is trying to export San Francisco's accomplishments elsewhere around the world. She says, "We've gone from grim to optimistic. My goal is to end the AIDS epidemic. One way to do this is find everyone who's infected, offer them treatment, and to find people who are at risk, and offer them preventative treatment." She was in Africa last month, where UCSF's SEARCH (Sustainable East Africa Research in Community Health) study surpassed an ambitious UNAIDS goal to diagnose at least 90 percent of HIV-positive persons, treat 90 percent of those diagnosed with antiretroviral therapy (ART), and achieve suppressed viral replication in 90 percent of those treated by 2020. This goal was achieved last year, two years after the study's start [7].

Treatment and prevention efforts are running in parallel to scientific efforts to develop a cure and a vaccine. That's where Jay Levy comes into this story. He affirms that the drugs are wonderful, but he still sees them as a short-term solution. To affect the longer term he highlights several efforts:

- **Vaccine:** For twenty years, Jay has organized a biannual meeting with a group of sixty people from industry and academia in the Bay Area "to talk about the state of vaccine development and see if we can find new directions that can open up doors."
- **Cure:** New efforts involving genetic editing of blood stem cells are promising, but it's still not clear how to overcome the challenge of transplanting these HIV-resistant cells into infected individuals to achieve a cure.
- **New therapies:** A cutting edge approach that involves still-experimental types of immunotherapy in which patients' own T cells are genetically re-engineered to stimulate proteins to combat the virus.

Jay is particularly keen on studying people who have the virus but do not have any symptoms. He has become most intrigued with a particular protein that the body produces in tiny amounts—CD8+ cell anti-HIV factor, or CAF—that seems to be the secret weapon in those cases. “We have been trying for many years to identify CAF, but the solution has eluded us so far because it is produced in extremely low amounts,” he explains. “If we can isolate the protein, it could be a major leap forward in the discovery of a new, effective therapy.”

Most critical, Jay reminds us, is the need to avoid complacency, and to continue supporting and advocating for the basic science that takes us one step closer to the long-term solution of a vaccine and, some day, a cure.

[back to top](#)

Advocating for Science: NIH shifts gears, working on a new plan

Scientists across the nation are constantly concerned about what’s going to happen to funding from the National Institutes of Health (NIH), the lifeblood of research in this country. We all know the NIH is increasingly tightening its belt, and we are on alert for any possible changes in how grants are given. So it’s no surprise that our level of concern escalated this November and continued to climb this spring when the NIH appeared ready to adopt the Grant Support Index, a new and somewhat arbitrary mechanism that would significantly hinder some scientists’ access to grants. But we are greatly relieved to report that, thanks in part to vociferous advocacy from members of the UCSF community, the NIH has stepped back from its initial plan in favor of the “Next Generation Researchers Initiative ^[8].” Obviously, we’re not completely out of the woods, so we’re keeping close watch to see how this new NIH plan comes together.

Let me clarify.

The NIH seemed to be operating with the best of intentions. Many in the scientific community, both here and at the NIH, as well as science advocates in Congress, are concerned that early- and mid-career scientists are having trouble getting grants. David Erle, associate chair for biomedical research in the Department of Medicine, passed along an NIH report ^[9] with a couple of alarming charts: one (see page four) shows the number of grant applications soaring, while the number of awardees remains flat. The other (page six) shows that older investigators are increasingly grabbing a greater share of the funding pie, while early- and mid-career investigators receive less.

“NIH was attempting to respond to the fact that too much grant money was going to too few people,” says Keith Yamamoto, UCSF’s vice chancellor for Science Policy and Strategy. “Forty percent of the grant money goes to ten percent of the investigators.” (Read Keith’s message ^[10] to faculty about the whole saga; it includes a link to an earlier letter on the topic with more details about what was at stake.)

The NIH made the case that, after a limit, more grants per investigator did not produce

proportionally more discoveries. Their proposed solution: a "grant scoring index," or GSI, would have assigned points to investigators based on the number and types of grants they work on, and investigators exceeding a certain threshold would have reduced opportunities for additional funding.

The concept was to try to be fair and objective, but scientists immediately saw many flaws. Most notable was the assignment of high point levels to grants on which scientists collaborate on complex problems – the impact would be the NIH penalizing team science, which it should be encouraging instead. It also assigned points for training grants, another area that needs promotion, not penalties. And it caught all scientists holding multiple grants in the same net, tarring them as unproductive. While some might deserve such scrutiny, others, Keith says, "are really spectacular in their ongoing contributions to science."

Keith went to great lengths to persuade the NIH to reconsider the proposal, including phone calls to NIH Director Francis Collins, Deputy Director for Extramural Research Michael Lauer, and Jon Lorsch, director of the National Institute of General Medical Sciences, which funds much of NIH's basic research. He also kept colleagues here on campus apprised, and David Erle and Diane Havlir, associate chair for Clinical Research in the Department of Medicine, mobilized their NIH-funded colleagues to communicate with the NIH.

At last month's meeting of the Advisory Committee to the [NIH] Director, the NIH backed off the plan, and we all breathed a sigh of relief. But it announced a new plan with fewer specifics, and in the words of Jenny Grandis, associate vice chancellor of Clinical and Translational Research, "the devil is in the details." The new plan seeks to support an increased number of early and mid-career investigators as well as to stabilize the career trajectory of scientists, but it doesn't specify where the money will come from.

Even investigators over 60 (like me!) understand the need to fund younger scientists, so they can see a viable career. But if the total pot of money doesn't grow, how does it shift from the older scientists? Something is going to have to give.

There you have it.

"We will continue to track this and stay involved," Keith says. He adds that he's glad he's in his job, and that he saw how the activism inspired by the March for Science in April paid dividends when he needed people to speak up in May and June.

At the risk of sounding like a broken record, we will be called upon to speak up again, and again, and again. Please do.

[back to top](#)

Project Parnassus: If these walls could talk

Do the difficult things while they are easy and do the great things while they are small. A journey of a thousand miles must begin with a single step. ?? (Laozi)

I'm not sure how well we're scoring on doing the difficult things while they are easy?but it does feel like a thousand-mile journey when it comes to construction at Parnassus. We are,

however, trying to make the best of things, and many different teams of dedicated professionals have injected enthusiasm and optimism into making our campus site a more pleasant place.

Here's the big picture ? there are two things driving all the construction:

- Seismic upgrading ? we've been at this since 1994! (See Senate Bill 1953 ^[11].)
- Development of Mission Bay over the past fifteen years, which freed up space on Parnassus.

Patti Mitchell, associate director of Capital Programs, west zone, in UCSF's Real Estate, Planning, and Capital Programs office, says some of those new opportunities include the work you see today on the Clinical Sciences Building (CSB) (built in 1933), UC Hall (built in 1917!), Medical Sciences Building (which dates back to the 1950s), and Health Sciences East and West (mid-1960s). Some people say UCSF stands for ?Under Construction, Seldom Finished,?? Patti says.

The most obvious major construction at the moment, of course, is in CSB ^[12], although numerous smaller projects (such as refurbishing laboratory space) are essentially always taking place. We try to minimize the number of times a lab has to move?once to a temporary home, and once back into the new space. To see the master construction schedule, go to the Capital Programs website ^[13]. (I should note that Patti does not work for UC Health, so we didn't address any changes to the Moffitt-Long Hospitals, and that will be interesting to hear about at a later date.)

After an unfortunate delay, you should expect to see construction restart at CSB within the next two months!

Its neighbor, UC Hall, had been slated for demolition, but I'm glad we're saving it. It represents the origins of our campus. Constructed with marble, wood, and iron, each stair in UC Hall shows the toll of a century's worth of footsteps, and the architectural details both interior and exterior bring character to Parnassus. Read about what's in store at ^[14] Space@UCSF.edu ^[15].

I'm looking forward to two relatively small efforts?small compared to a major project like renovating a century-old building? in the works. They should help improve the quality of life during this lengthy waiting period.

First, Saunders Court has become somewhat of a wasteland. Created from the demolition of the old Medical School Building in 1967 ^[16], it became an outdoor gathering place ? the only with any grass. A couple of years ago, the same area was taken over only to return to a state of demolition and construction ? again planning for the future. This is expected to last for at least another two years, but we are going to improve the fencing around the courtyard, which has frankly become an eyesore. The green fence tarp was purposely slit to prevent the fence from blowing over in the wind, but the wind turned the slits into tattered slashes and contractors started calling it ?the pirate ship.?

University Relations is working in conjunction with Capital Programs and will be creating a graphic fabric wrap for the construction fence that will highlight the important work we do at UCSF. Kathleen Hennessy, art director and photography manager, will be gathering images

that feature the UCSF community, whether in the lab, classroom, local community, or around the world. "We want something thematic that speaks to our mission and values," Kathleen says. "We want people to feel good about being here and to see they are a part of something meaningful."

"The fence imagery effort is an opportunity to uncover a little of the mystery that happens inside our buildings," says Nada Hansen, executive director of brand communications. "To reflect UCSF's values outward offers a way of sharing with both our internal community and the local community what we're committed to at UCSF."

The second project also relates to spiffing things up a bit. Jon Giacomi, executive director of Facilities Services, told me about the outcome of the Campus Life Services (CLS) "Campus First Impression Areas" contest. The premise was that the many thousands of people who work and attend classes here have the best sense of where our campus sites need a little TLC. The contest was a big hit, attracting fifty-five entries and resulting in twelve projects chosen [17] to receive a makeover (at a maximum cost of \$10,000). Nine of the dozen are Parnassus-based, and one already has enhanced our Irving Street entrances—the dilapidated awning leading into the parking garage was replaced, and the entry to ACC has a new banner—both in bright UCSF blue. And there is more in store for Parnassus in the near future. CLS is just now starting to sort out more projects and funding, and Facilities Services is in the process of identifying other high-traffic common areas on Parnassus that would benefit from an upgrade, and will be engaging the community with ideas and solutions over the next few months.

I also should mention that we are making significant progress in planning for the longer-term future of Parnassus and Mount Zion (see "PZ2025/UCSF 2030: Bold ideas being tossed around about the future of UCSF [18]" and "The New and Awesome Parnassus: What's going on? [19]"). I'll provide yet another update on this sometime later this year.

Plainly said—we love Parnassus! It is a distinctive San Francisco landmark, primed and ready for the transformations—big and small—that it deserves.

back to top

Dan's Tip of the Month

book cover

Unless you are already well-versed in the "transhumanism"

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https://evcprovost.ucsf.edu/sites/evcprovost.ucsf.edu/files/machine_300.jpg

movement, ***To Be a Machine*** by Mark O'Connell may truly seem as distressing and frightening as it is captivating and (literally, I guess) mind-opening. Definitely not your light-

hearted summer read, but if you have an interest in ?whole brain emulation,? ?the Singularity,? or why Elon Musk and many others are investing so heavily in artificial intelligence, there?s a good chance this book will transform your understanding of *Homo sapiens*? age-old struggle with mortality. And, on a related note, for a 3-minute experience of what is just around the corner in the robotics world, check out Atlas, The Next Generation [20].

[back to top](#)

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Links

[1] <https://sf.aidswalk.net/Day-of-Event-Info>

[2]

https://calendar.ucsf.edu/event/san_francisco_supervisor_to_join_ucsf_aids_experts_at_lunchtime_event?utm_cam

[3] <https://www.ucsf.edu/news/2017/05/407206/ucsf-rallies-community-raise-200k-aids-walk-san-francisco>

[4] <https://sf.aidswalk.net/>

[5] <mailto:ExecutiveViceChancellor@ucsf.edu>

[6] <https://www.gettingtozerosf.org>

[7] <https://www.ucsf.edu/news/2017/06/407451/east-africa-universal-hiv-testing-and-treatment-surpasses-un-aids-goals>

[8] <https://grants.nih.gov/ngri.htm>

[9] <https://acd.od.nih.gov/documents/presentations/06082017Tabak.pdf>

[10] <http://chancellor.ucsf.edu/news/messages-to-campus/update-nih-gsi-and-new-initiative>

[11] https://www.oshpd.ca.gov/FDD/seismic_compliance/

[12] <https://space.ucsf.edu/clinical-sciences-building>

[13] <http://www.cpfm.ucsf.edu/cp/masterschedule.html>

[14] <https://space.ucsf.edu/uc-hall>

[15] <mailto:Space@UCSF.edu>

[16] http://history.library.ucsf.edu/1959_buildings.html

[17]

https://campusliveservices.ucsf.edu/cls/113/winners_announced_in_facilities_services_campus_first_impression_are

[18] <https://evcprovost.ucsf.edu/evcp-expresso/201605#pz2025>

[19] <https://evcprovost.ucsf.edu/evcp-expresso/201705#parnassus>

[20] <https://www.youtube.com/watch?v=rVIhMGQgDkY>