

A UC Berkeley program has helped thousands of disadvantaged students enter STEM careers. But its funding is running low.

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Three years ago, Dr. Anthony Muiru became the first Black man to join UCSF's nephrology department, where he treats patients with kidney disease. He credits his success in medicine to UC Berkeley's Biology Scholars Program, which is experiencing financial uncertainty.

Sarahbeth Maney / Special to The Chronicle

Dr. Anthony Muiru remembers being one of the only Black pre-med students inside UC Berkeley's crowded lecture halls in 2002.

He found the experience isolating. A Kenyan immigrant who attended public schools in the East Bay, Muiru said he didn't feel as though his high school education prepared him for the academic rigors at UC Berkeley.

"Coming from an under-resourced high school, you're very vulnerable," Muiru said. "As soon as that imposter syndrome kicks in, you're going to fall off of the wagon."

A friend referred Muiru to UC Berkeley’s Biology Scholars Program. Created in 1992, BSP offers peer mentoring, academic advice, internships and other resources to mostly low-income students of color who have chosen to pursue careers in STEM (science, technology, engineering and mathematics). The program has cultivated more than 3,000 students, many of whom were the first in their families to attend college.

Muiru, 36, a nephrologist at UCSF who treats patients with kidney disease, credits BSP for his success in medicine — and for giving him a sense of belonging when he was the only Black person in the room.

“I stop and think about what would have happened to me (without BSP),” Muiru said. “I honestly don’t think I would’ve pulled it off.”



Dr. Anthony Muiru, the first Black nephrologist at UCSF Medical Center at Mission Bay in San Francisco, says his time as an undergrad in UC Berkeley’s Biology Scholars Program was life changing.
Sarahbeth Maney / Special to The Chronicle

As BSP approaches its 30th anniversary, the program’s future isn’t guaranteed.

BSP founder and director John Matsui says the program has about \$1.2 million left — enough for another 18 months. He worries the university’s roughly \$200 million deficit will prevent it from financially supporting BSP in the coming years.

The uncertainty has mobilized BSP alumni, who see the program as a critical pipeline, one that is actively diversifying the medical profession at a time when the coronavirus pandemic has exposed glaring health disparities in the United States.

“A lot of minority physicians have been leaned on heavily to reach out to minority populations,” said Dr. Maria Garcia, an assistant professor of medicine at UCSF and co-director of the Multiethnic Health Equity Research Center, as well as a BSP alumna. “Having that health care workforce that can relate to some of the issues and concerns of the population at large is crucial.”

Indigenous, Black and Pacific Islander people across the U.S. have experienced the highest death tolls from COVID-19, according to the APM Research Lab. Latinos bear the brunt in California, accounting for 46% of deaths despite representing just 39% of the population, according to state data.

The disparities also play out in the Bay Area. In San Francisco, Latinos and Pacific Islanders are among the most impacted by the virus. Pacific Islanders have a case rate of 1,477 per 10,000 residents, while Latinos have a case rate of 1,077 per 10,000, according to county data. By comparison, white residents have a case rate of 213 per 10,000.

“We need scientists of color,” Matsui said. “We need people from low-income backgrounds.”



Dr. Anthony Muiru, a nephrologist at UCSF, credits his time as an undergraduate in UC Berkeley's Biology Scholars Program for giving him a sense of belonging when he was the only Black person in the room.
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Matsui said he and Berkeley colleagues Corey Goodman and Caroline Kane created the program three decades ago. It's a personal mission for Matsui, who said he grew up in a low-income household in west Berkeley, where he was the first to go to college and "wasn't given a second look" by professors.

"This has nothing to do with their motivation or ability, or their willingness to put in the long hours," Matsui said. "But they come from backgrounds where their chemistry course was taught by somebody who was unqualified to teach chemistry. They had many other obligations pulling on them and to this day still do. The playing field is not level. ... And so this program has provided an environment and interventions. ... We help them succeed."

According to a May 2019 report by UC Berkeley's Office of the President, 85% of BSP graduates are accepted to medical school. About 60% of BSP participants were from underrepresented groups, 70% were women and 80% were low-income or first-generation college students, the report stated.

Many BSP alumni work in underserved communities, aiming to address the health disparities that plagued their own families.

Michael Botchan, UC Berkeley's dean of biological sciences, said the university strongly supports the program and has pledged more than \$400,000 annually through 2022. Matsui said that BSP's annual operating budget is around \$800,000, and that UC Berkeley historically covered 75% of that.

The university is struggling with a multimillion-dollar deficit caused by the coronavirus pandemic. In December, UC Berkeley Chancellor Carol Christ said the university managed to eliminate \$140 million of its \$340 million deficit, but that it would need to implement further changes to close the gap.

About 400 students are currently enrolled in BSP. The program covers the \$2,000 enrollment fee required per student and pays four staff members to mentor students.

For students, the program can be life-changing.

Muiru immigrated to Oakland with his family at age 14. The concept of primary care in the U.S. astounded the teen, who was struck by how much access Americans had to medical treatment. Something as simple as being able to call 911 surprised him. Back in Kenya, in a remote village about two hours from Nairobi, people only saw a physician if it was a matter of life or death, he said. It didn't take long for Muiru to decide to pursue medicine.

When he started his pre-med track as an undergraduate student, Muiru said he was enrolled in a series of difficult classes that he might've dropped if his BSP mentor didn't help him customize his course load. Muiru says the program helped him stay the course, even after he graduated and didn't find the same support at Harvard Medical School.

"It made me feel not so lonely," he said. "Going from a lecture hall where you're the only Black person to a BSP room where you see a bunch of other people who are from underrepresented backgrounds, who are your friends, it just made the community at Berkeley go from an ocean to a very small pond."

Though his initial plan was to return to Kenya after medical school, Muiru saw a need in his own community.

In 2018, Muiru became the first Black man to join UCSF Health's nephrology department, though other Black UCSF nephrologists were based at San Francisco General Hospital and the San Francisco Veterans Administration Medical Center.

The lack of representation in his department shocked and saddened him, he said, given the prevalence of kidney disease among Black Americans. Black people suffer from the disease at a rate three times higher than white people, according to the National Kidney Foundation. It's a disparity he aims to address at UCSF.

“We serve a very unique role that is life-saving,” Muiro said. “We’re able to get to patients who look like us in ways that other people cannot. I think if we are serious about making sure that what happened with COVID is not going to happen again, we really do have to diversify the medical field.”