Stepping Up and Helping Out

Whether they’re producing 3-D-printed face shields, mixing do-it-yourself hand sanitizer, providing free babysitting services or organizing collection drives for safety gear, members of the higher ed community are supporting front-line workers fighting the coronavirus.

By Elizabeth Redden // April 7, 2020

How can we help?

That simple question has spurred a flurry of activity among students, faculty, staff and university administrators who have looked for ways to assist health-care workers in the response to the COVID-19 pandemic. Whether it’s repurposing university-owned equipment to decontaminate N95 masks, mixing hand sanitizer in chemistry labs for use by hospitals, collecting supplies of personal protective equipment -- of which there is a critical national shortage -- or babysitting health-care workers’ children, professionals in higher education and the students they serve have found all kinds of ways to help.

"We go into this field wanting to help others in one way or another," said Brianna Engelson, a fourth-year medical student at the University of Minnesota. Engelson and other medical students founded MN COVIDSitters (https://www.mncovidsitters.org/), a group that matches students with health-care professionals in the Twin Cities metropolitan area needing childcare, pet-sitting or general errand running. Engelson said more than 300 student volunteers are helping more than 200 health-care providers and their families. They’re still seeking more volunteers to help more than 100 other families who have signed up for assistance.

“It’s tough to be on the sidelines watching your mentors and the people who have been such a critical part of your education giving so much while you’re sitting back at home feeling a little helpless,” said Engelson, who will be starting a residency program in psychiatry at the university in June. “I know I certainly did. Being so close to graduation, I’m so close to being there with them, yet here I am at home doing nothing. That’s part of it -- wanting to be involved, but also really wanting to support our mentors.”
Students and higher education professionals have found all manner of ways to get involved.

Peter Tonge, the chair of the chemistry department at the State University of New York at Stony Brook, helped coordinate an effort to mix hand sanitizer after he received a message from the dean of Stony Brook's College of Arts and Sciences, a chemist, about a shortage at the university hospital. Tonge said the chemistry department used the World Health Organization's formulation for hand sanitizer, which is made up of hydrogen peroxide, glycerol and either ethanol or Isopropyl alcohol -- all raw materials that faculty members had in their labs.

"I created a Google spreadsheet and sent it to faculty. In a couple of hours, they filled in a spreadsheet with the location and amount of each of these reagents," Tonge said. "We got a cart, myself and two other people went through building collecting all the reagents, took it down to our general chemistry lab, and a postdoctoral associate and a research scientist mixed up the reagents." By 5 p.m. the same day he'd received the email, he said they'd made 17 gallons.

"That basically exhausted all of our supplies in the building, so we placed an order for another 80 gallons of ethanol, and today we made another 80 gallons of hand sanitizer," Tonge said Friday.

In a similar effort, the Veterinary Diagnostic Lab at Oregon State University manufactured a fluid needed to transport COVID-19 test swabs in a sterile environment with the materials the lab had on hand. The fluid, known as viral transport medium, protects the virus's genetic material until the swab can be tested. Justin Sanders, an assistant professor at Oregon State's Carlson College of Veterinary Medicine, said the lab's scientist initially made three liters of the solution, enough for 1,000 tests, after learning of a shortage from an infectious disease doctor at the Corvallis, Ore.-based Samaritan Health Services. Sanders said the veterinary college has fielded requests for the solution from other hospitals after their efforts were publicized.
Universities, including Oregon State, have also been collecting supplies of personal protective equipment — including masks, gloves and gowns — from university labs to donate to hospitals. Oregon State collected 10 pallets of PPE, including an estimated 200,000 pairs of gloves and approximately 8,000 face masks, to donate to county emergency management centers.

“We focused on laboratories, kitchen areas, custodial — anybody that had personal protective equipment,” said Mike Bamberger, the emergency preparedness manager at Oregon State University. “We collected it up and put in a pile. Then on the main campuses we had people go around and collect it and palletize it and take it over to the local county for distribution.”

San Jacinto College, a community college in Texas, also organized a PPE donation drive, collecting supplies from its various health-science programs.

“We work with all of our sister agencies, Harris County Emergency Management, Harris County Public Health — we reached out to them and asked what we could do to help, and they gave us their high-need items,” said Ali Shah, the college’s emergency manager. Shah said the college has also collected specimen bags needed by local hospitals and transferred two ventilators owned by its respiratory therapy program to a local hospital. San Jacinto has also partnered with other Houston-area colleges to use 3-D printers to manufacture a component of protective face shields for health-care workers.


Some universities, such as Duke (https://medschool.duke.edu/about-us/news-and-communications/med-school-blog/duke-starts-novel-decontamination-n95-masks-help-relieve-shortages) and the University of Nebraska Medical Center (https://www.unmc.edu/news.cfm?match=25284), are using different technologies to decontaminate N95 masks, which are in scarce supply.

Michigan State University has repurposed a spiral oven in its Food Processing and Innovation Center — which is typically used by food companies to test new recipes — to decontaminate masks using heat. Michigan State has partnered with a local hospital provider, Sparrow Health System, on the effort.

“We think this can have a significant impact for our health-care providers in the Lansing region,” said Jeffrey W. Dwyer, the director of MSU Extension and senior associate dean of outreach and engagement for the College of
A group of scientific professionals, engineers and clinicians has organized a volunteer consortium, N95DECON (https://www.n95decon.org/), to review and publish scientific information on mask decontamination strategies.

“We came together and did what scientists do best -- read available literature, synthesize information, evaluate data and debate vigorously. Our goal is to better equip hospitals and health-care personnel in these challenging times with concise, organized, data-backed information on this important issue,” said Hana El-Samad, an organizer of the consortium and the Kuo Family Endowed Professor and vice chair of the department of biochemistry and biophysics at the University of California, San Francisco.

El-Samad emphasized that decontamination is a substitute for what would be the best solution – an increased supply of PPE. But she said the need for decontamination among health-care providers is great.

“It is true that many institutions and medical centers are taking a courageous lead in setting up methods and protocols for decontamination,” El-Samad said. “But there are over 6,000 hospitals in the U.S. alone, plus many other settings with professional users of N95 masks in the U.S. and abroad. Only a handful have adopted any decontamination strategies to date, but a growing number are realizing it might be a decision they need to make in the near future.”

Read more by Elizabeth Redden

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