

Pharmacy students play crucial role in COVID-19 mass vaccinations

Like many pharmacy students across the country, Adam Burkhard seized the chance to be involved in COVID-19 vaccination clinics, signing up quickly to be part of an eagerly anticipated, massive rollout.

“As a student, to have the opportunity to be part of something so big, potentially getting our society past this pandemic—that is a really exciting thing to be involved in,” said Burkhard, a fourth-year student at the University of Texas (UT) at Austin College of Pharmacy.

Since the first COVID-19 vaccines were authorized for emergency use in December, Burkhard has prepared more than 250 vaccine doses. He was in his institutional pharmacy rotation at Baylor, Scott, & White the day the first shipment of vaccines arrived, and he watched as local media filmed his preceptor putting vials into the freezer. He was part of a team that ensured the initial rollout went smoothly, having previously done time studies using saline for practice runs to see how long it would take to prepare the vaccine.

Burkhard then volunteered to help with vaccine clinics at UT, where he prepared batches of vaccine that would go in the arms of frontline healthcare workers.

“It’s funny because when you first start doing it, I was shaking so much, I thought I was going to mess up and lose a dose,” he recalled. “You get over that anxiety once you realize this is a huge part of history.”

Burkhard is among the thousands of student pharmacists across the country who have gained firsthand experience in direct countermeasures to the COVID-19 pandemic. As health systems, hospitals, public health departments, and other healthcare entities coordinate mass immunization events—contingent on vaccine supply—students are vital to advancing this lifesaving effort.

In an ASHP survey of the deans of schools and colleges of pharmacy, all 42 respondents indicated they have been asked to provide student pharmacists as volunteers for COVID-19 immunization efforts. Students are being tapped to assist local health systems (55% of deans reported), community pharmacies (14%), and health departments, including support for rural vaccination efforts (17%), long-term care facilities (5%), and campus vaccination efforts (29%).

The responding schools reported that at least half of their student pharmacists are certified immunizers, and 62% indicated that at least three-quarters of their pharmacy students also meet additional criteria established by the Department of Health and Human Services to administer COVID-19 vaccines.

“It’s basically all hands on deck,” said Philip Hritcko, dean of the University of Connecticut (UConn) School of Pharmacy. “Our students, since they are all certified immunizers, are in high demand, especially in the major hospitals.”

UConn student pharmacists become certified immunizers during their first year there. More than 350 UConn students are

certified immunizers; many have been directly involved in vaccine clinics during rotations in hospitals and community pharmacies. They can do everything from checking patients, to preparing and administering the vaccine, to monitoring patients during the mandatory postvaccination observation period.

Hritcko said students have also helped with contact tracing and the development of educational YouTube videos about the vaccines in English, Spanish, Mandarin, and Cantonese that help to dispel myths about the COVID-19 vaccine.

UConn pharmacy students also assist in a state initiative through which faculty members teach dentists, dental hygienists, emergency medical technicians, veterinarians, and other healthcare providers to administer COVID-19 vaccines. The initiative’s goal is to increase the number of qualified vaccinators.

“Four of my students are teaching professionals how to draw up a dose of the vaccine. They’re helping them draw up the syringes, and we are teaching them the injection technique, and I’m really proud that they came to the School of Pharmacy for that,” said Jill Fitzgerald, director of experiential learning and continuing professional development. “The students are really good at it. . . . They’re really trained well, and they’re teaching these other professionals.”

George MacKinnon, founding dean of the School of Pharmacy at the Medical College of Wisconsin, said work done under a 3-year-old endowment to expand vaccination access has been a blueprint for successful COVID-19 efforts. By late January, more than 5,700 vaccinations had been given by student pharmacists and pharmacists in COVID-19 vaccine clinics.

MacKinnon said about 40% of student pharmacists are



Philip Hritcko



George MacKinnon

participating in the clinics, and the experience has been invaluable, particularly because of whom the students were vaccinating.

“In most flu clinics, it’s our average community citizen, which is wonderful,” MacKinnon explained. “Now they are immunizing a nurse, a physician, another healthcare provider, and they have a different interaction. Now all of a sudden the tables are turned, and it’s the student pharmacist who is leading and asking questions.”

“I think it’s increasing their confidence, their communication skills, and their skill in immunizing—at the end of a shift if you’ve done 50 immunizations, you’ve gotten more and more comfortable doing it,” he added.

Emily Plauche, a fourth-year pharmacy student at the University of Georgia College of Pharmacy, received her first dose in December while on rotation at Candler Hospital in Savannah and 2 days later was helping to administer the vaccine.



Emily Plauche

“It’s been exciting; it was really cool that we got to be a part of it,” Plauche said.

Plauche said she reconstitutes the Pfizer-BioNTech vials and draws up doses for each vaccine to pass them on to nurses, and at her retail job she has helped with vaccine clinics as well. One of the highlights of working in the vaccine clinics is calling patients on wait lists when she can get “extra” doses out of the Pfizer-BioNTech and Moderna vaccines, she said.

Lindsey Welch, director of advanced pharmacy practice experiences at the University of Georgia (UGA) College of Pharmacy, said UGA students who are assisting in COVID-19 vaccine efforts have been well served by their participation in UGA’s mobile flu clinics as second- and third-year students. The work involves logistics, patient screening, preparing doses, and administering flu vaccines.

“We really didn’t realize how we were really preparing them for this type of national event that is so needed,” Welch said. “Being able to see the logistics behind those mobile clinics that we require them to do as part of our curriculum has helped them, in turn, be able to help a site determine standard operating procedures, because they already understand the individual tasks behind it.”

One of her students, Zayd Ahmad, said being part of the healthcare response to the pandemic as a student has strongly affected him.

“The human toll . . . I think that is going to stay with me for a long time,” said Ahmad, a fourth-year student. “I really do feel honored and humbled to have a chance to participate in something that makes this kind of difference.”

Ahmad said his previous experience with flu clinics has not “even been close to the scale of COVID-19 vaccine clinics.”

“Managing that amount of people is a challenge,” he said. “You have to be really sharp.”

Diana Tran, a student at the Georgia campus of the Philadelphia College of Osteopathic Medicine, recalled just finishing her neurocritical care rotation at Emory University Hospital and then volunteering early the next morning to help prepare COVID-19 vaccines.

“I knew they were short staffed and they really needed help, and I also wanted to do something to help impact my community—and I wanted to be part of this change,” said Tran said.

Student pharmacists have also helped to allay vaccine safety concerns. During his time volunteering at University of Florida (UF) Shands Hospital’s vaccine clinics Keegan McCauley, a third-year student at the UF College of Pharmacy, said he has counseled some patients who are anxious about being vaccinated.



Zayd Ahmad



Diana Tran



Keegan McCauley

“Conversely, there are folks who are extremely excited, and they’re asking if it’s ok if they take a selfie,” McCauley said.

McCauley said the experience has been rewarding, and student pharmacists who are vaccinators are participating in the “greatest public health effort of my generation.”

Similarly, Burkhard, of UT, said he has felt a sense of accomplishment and hope after each shift volunteering.

“I know that’s kind of cheesy to say, but it’s really cool to realize that what you’re doing is going to actually have a

positive contribution for all of society. You’re impacting not just that one person you’re vaccinating, but the entirety of society, which is something that I am very privileged to have had the opportunity to experience.”

For more information on COVID-19 vaccines, please visit the ASHP COVID-19 Resource Center.

—Nancy Gregory

DOI 10.1093/ajhp/zxab061