LISK FENG

Trial by COVID-19

How the pandemic has impacted clinical training.

BY RITA COLORITO

Vera Schulte had two weeks left in her third year of medical school when the University of Washington School of Medicine locked down due to COVID-19. Because UWSOM has a condensed pre-clinical curriculum, Schulte finished almost on time. Friends in other medical schools, she says, weren't so lucky.

"They were delayed in finishing their third year, which makes applying for residency quite a bit more difficult. If you haven't rotated in pediatrics, family medicine, or general surgery, etc., it's hard to realize that's the kind of doctor you want to be," says Schulte, whose chosen specialty is obstetrics and gynecology.

Much of clinical training is trial by fire. Being in the room where health care happens is critical to medical education and residency. Under normal circumstances, that means long hours interacting directly with faculty and patients in a team-based approach.

Starting from scratch

COVID-19 burned medical-education-as-usual to the ground—at least in the short term. As the pandemic surged, medical schools and residency programs grappled with staying safe. Personal protective equipment was running low. Preceptors manning the pandemic front lines couldn't oversee usual rotations. Statewide clinical training and rotations

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ceased mid-March, going virtual over risking the unknowns. Most wouldn't resume in-person training until July.

Nationwide, the American College of Surgeons shut down clinics and operating rooms to fellows and residents. "[It was] very frightening because this had never been done in the history of the ACS," says Byron Joyner, MD, MPA, UWSOM's vice dean of graduate medical education, who sent residents and fellows home to ensure their safety.

"We didn't know how our trainees should be involved in a pandemic and we didn't have enough PPE at the time," says Dr. Joyner. He spent the first weeks of lockdown fielding calls from anxious students and calling the Accreditation Council for Graduate Medical Education and the American Board of Medical Specialties for guidance.

"Residents and fellows were afraid that they might not be able to take their boards after graduation without having done enough rotations," says Dr. Joyner. "The most subtle and nerve-wracking concern was just the uncertainty and the ambiguity. What was next? When would this be over?"

The response to the shutdown from students was a mixed bag, says Suzanne Allen, MD, MPH, UWSOM's vice dean for academic, rural, and regional affairs. Some didn't feel safe on their clerkships, while others expressed frustration at missing a once-in-a-lifetime opportunity to care for patients during a pandemic.

The solution to both: a virtual course in pandemics the first half of spring quarter, followed by virtual rotations the second half. These proved very popular, says Dr. Allen.

Being honest about what they knew and didn't know helped Washington State University's Spokane-based Elson S. Floyd College of Medicine quell anxiety, forge forward safely, and build institutional resilience, says Judith Bowen, MD, PhD, its associate dean for curriculum.

"In this way, we are able to help students understand our obligation to keeping them, their family members, and our faculty (and staff) safe, and to avoid having any of us inadvertently contribute to ongoing viral transmission," says Dr. Bowen.

Embracing opportunity, virtually

WSU College of Medicine's longitudinal integrated clerkship design allowed students pulled from clerkship to continue learning through a virtual, case-based curriculum, says Dr. Bowen. The longitudinal design meant that all students had completed some direct patient care experience in all of the clerkship disciplines before moving to the virtual curriculum. As the clinical environment settled and more PPE

Quoted

Vera Schulte

Byron Joyner, MD, MPA

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became available, in-person training resumed in June. "Although we planned for future disruptions, third- and fourth-year students have been fully engaged as part of the clinical workforce since then," says Dr. Bowen.

Despite initial drastic measures, medical schools not only adapted, but also strengthened the way they teach thanks to the pandemic, says Anita Showalter, DO, associate dean for clinical education at Pacific Northwest University of Health Sciences in Yakima.

Used only sporadically pre-COVID-19, medical schools and residencies fully embraced Zoom and other online platforms for town halls, webinars, team meetings, and to provide eyes-on patient care. Within a week of the shutdown, all PNWU core rotations were online. To replicate the in-clinic experience, PNWU used standardized patient simulations via teleconferencing (one example: working through videos of a vaginal birth).

"The goal was to make them work through analyzing patients and clinical decision-making as they would have if they had been in the clinic with their preceptors," says Dr. Showalter. As students have returned to rotations, PNWU has maintained the online curriculum to accommodate students and preceptors testing positive for COVID-19 or needing to quarantine.

Even though rotations have resumed, they still look different. To reduce the risk of transmission and to be sensitive to patients, rotations have limited team size. "It didn't seem right to let medical students participate when the patient's own family couldn't come in," says Dr. Showalter.

Wherever medical schools can go virtual, they have. At UWSOM, that includes clerkship orientations and lectures. "We don't want large groups of people congregating in the same place," says Dr. Allen. The benefit to that, she says, is all clerkship students, regardless of where they are across UWSOM's six regional campuses and 200 clinical sites, can now attend all lectures.

Amid the chaos, the goal remains to give students enough experiential learning to graduate, says Dr. Showalter. That's where newfound teleconferencing skills have come in. "We had one situation where the doctor contracted COVID. The student went into the clinic and via teleconferencing, connected the patient with the doctor. [The student] could be the hands for the doctor who was not able to be on site," she says.

The pandemic has also affected residents who aren't patient-facing, says Elizabeth (Libby) Parker, MD, a third-year UW resident in anatomic pathology last spring. As elective procedures were cancelled or delayed, Dr. Parker saw a shift in the kinds of specimens she received.

"We're very closely linked to what our clinical and surgical colleagues are able to perform, procedure-wise. What they're able to do really impacts our clinical work," she says. As elective procedures have increased, Dr. Parker is now seeing the full spectrum of cases.

Silver linings

While students are required to complete yearly infection control reviews, the hyper-awareness surrounding COVID-19 has had a measurable impact. "It's already led to a decrease in other kinds of hospital infection rates," says Dr. Allen; it's something she sees continuing.

"Students who are in medical school right now, who are 'growing up' during a pandemic, are going to be so much better at infection control, because that's what they've known from the start," she says.

Resident research and scholarly activity also increased because of the pandemic, says Dr. Parker, who co-published medical education literature on her experience teaching remotely. "There's been a bolus of research on COVID-19. It's been exciting to have so many minds working on the same problem from so many different specialties," she says.

Dr. Parker has also welcomed the didactic creativity offered by online platforms. She still uses Path Presenter, a virtual platform where pathologists worldwide can share digital slides. "We're able to use it to teach and still be interactive and simulate our day-to-day work," she explains.

COVID-19 also highlighted inequities in health care—and the need for clinical training to address those concerns head on. Graduating doctors with more robust telemedicine experience is one downstream effect of the increase in virtual clinical training and a real benefit for rural patients, says J. Miguel Lee, MD, residency program director for Providence St. Peter Family Medicine's Chehalis Rural Training Program (CRTP). "It was actually one of the silver linings, if you will, of this catastrophe," he says.

A small residency program and clinic, CRTP gathered its faculty and nine residents to develop a plan for patients who couldn't get to the clinic or were too wary of coming. "We went from no virtual care to 100% virtual care in a matter of two days," says Dr. Lee.

In the neighboring communities, telemedicine has been embraced, he says. "We had 95-year-olds with their grandkids holding their phone up for virtual care and it's really worked quite well."

Even though residents have seen patients virtually, it hasn't taken away from their experience serving rural communities. "It's just an added tool in our toolbox," Dr. Lee says, "and, you know, potentially, it will increase access to people who can't drive for two hours for an appointment but can turn on the computer at home."

From health care to human care

Amid the winter surge, many of the same trainee concerns around safety, education, and patient care remain, says Dr. Joyner from UWSOM. "They're worried about getting sick and getting others sick," he says. "They're worried about not having enough education to graduate, not enough competence and

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The availability of vaccinations for themselves and their families also worries residents, says Dr. Joyner, adding that most of UWSOM's 1,400 trainees have already received their first dose.

One year after the first COVID-19 cases, Dr. Showalter says her biggest concern is students' mental health and well-being. "Medical school tends to be a very alone time, with students working very hard but isolated from other social supports," she says. "With all the COVID restrictions, that was doubly bad. So, we're really watching our students to make sure they're staying in a good place mentally," she says.

Dr. Lee echoes her concerns. "Wearing masks all the time and not being able to gather, I think that is taking away one of our tools for wellness—the activities we normally did together," he says. "Despite the fact we can't do those things, I think we still feel very, very united with our group."

"In some ways we are missing out on human connection," Dr. Parker says. "But I think that hopefully time will show we're still able to do a lot of good and we're still able to have enthusiastic engagement."

To keep students engaged and feeling connected during isolation, medical schools encouraged service and research projects. "When vaccine supplies began to arrive, our clinical partners reached out to invite student volunteers to assist with administration," says WSU's Dr. Bowen.

UWSOM created many opportunities for COVID-19-related service learning. Many, like Schulte, volunteered for the Seattle Coronavirus Assessment Network to assist with screening and testing. In her spare time, Schulte also babysat for health care workers. Academically, she participated in a research project on COVID-19's impact on pregnant women in Washington state.

"Although being pulled from clinical duties was difficult, I was tremendously grateful for the plentiful opportunities during this time to continue supporting the community and continue my medical education, even if it was outside of the hospital," Schulte says.

Residents and faculty have shown incredible resilience throughout the pandemic, says Dr. Joyner. Many trainees have repeatedly asked to be redeployed to the COVID-19-dedicated ICUs. "They have contributed enormously to our effort to keep our community safe and to care for our sickest patients," he says.

Last fall, Schulte's six-days-a-week clinical training schedule returned to pre-COVID-19 levels. During her gynecologic oncology sub-internship, she started pre-rounds by 5:45 a.m. and signed out at 6 p.m. After a quick dinner, she reviewed medical student projects and worked on her own research, finally getting to bed by 11 p.m. The more things change, the more they stay the same.

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