

### **CareVio and Coronavirus: The Front Line for Delaware Medical Students**

I stood in front of the bathroom mirror, glaring at a sentinel gray hair growing from my beard. Me, old? My first grays aren't supposed to come until intern year! Regardless, here I am, and I can't help but wonder who I will be when I am full of grays. I often dream of being a fully trained doctor - educating students, collaborating with patients, and caring for my family. At this point in my training, it all seems so far away. By the time I enter that level of my career, medicine will be vastly different. I'll gather the residents and students around the video screen; the patient, at home, will pop the bluetooth diaphragm on to their chest. We'll listen to each valve, discussing the physiology playing out before us. I will fondly recall the days of using a tangible stethoscope - an exceedingly simple, yet beautiful instrument that symbolizes the intimate moment of listening to another human's heartbeat. The thought of the stethoscope ending up in a glass display case hurts the young medical student in me. As I continued to look in the mirror, trying to hang on to that youth - is it a blonde hair? - I was comforted by the thought of my experiences with telemedicine over the last 10 weeks. The trial of which was brought on by the coronavirus pandemic.

I was half way through my obstetric and gynecology rotation at Christiana Hospital when coronavirus caused sweeping changes to our daily lives. I was about to enter a two week stretch of labor and delivery when students were removed from the clinical setting. A quintessential landmark of medical school, delivering a baby, is an experience I have yet to obtain. I, like everyone else, found myself trapped at home trying to navigate the unfamiliar world we live in now. I sought an opportunity - some way to contribute to the fight.

In March of 2020, that chance arrived - virtually, that is. Myself and other medical students were recruited to CareVio, Christiana's virtual practice, now tasked to monitor patients with coronavirus. The staff was pieced together, many ousted from the operating room - all of us naive to the virtual world. With the pressure to meet the needs of the Delaware community, we built the plane as we were flying it. Eventually, the medical students found their niche. CareVio utilizes a texting application known as Twistle - like "whistle" or do you say it "Twizzle" maybe "Twist-le?" You can ask around, it's still up for debate. The application gives us the capacity to survey and text hundreds of patients at a time to monitor their symptoms. We, the medical students, utilize it to act as a virtual information desk and triage service for the community. We speak with over 200 patients a day, answering questions, providing recommendations for symptomatic relief, coordinating testing, upgrading patients for virtual doctor visits, and even calling ambulances. Our service provides the next level of continuity of care. Daily monitoring, daily interactions, available 13 hours a day, 7 days a week while the patient sits in the comfort of their own home! The public response has been surreal.

*"Thank you. This whole process has been very soothing. Delaware has got it together! Be safe! We appreciate you!"-Patient monitored via Twistle*

*"Thank you for this great service! Everyone I encountered during this was caring, empathetic, and professional. I have nothing but the highest praise and gratitude for the wonderful care I received during my illness!!"-Patient monitored via Twistle*

Thomas Marconi, Jr. (SKMC)

*“Yahoo! I am negative. I just love you to pieces. Thank you so much Thomas. Now you get a new patient that needs you. Please stay safe. You guys have been my guardian angels and I pray you all stay safe, and that this ends sooner than expected.”- Patient monitored via Twistle*

The last was from an elderly patient who had been cooped up in her home. At the time, testing was severely delayed, and she was left to ruminate if her cough and fever were going to take a turn for the worse. I had been communicating with her for over a week. We talked everyday until finally her result came in - negative! Over the next few days, her condition improved. She and I did not share the traditional patient-doctor relationship - I'm not that naive - but I do believe the connection we made was genuine. During this experience, I've had continuity with entire families, helped people get psychiatric care, walked someone through the grief of losing multiple family members to the virus, and it all had to be done with a keyboard. It's not the type of care people are used to, but the results speak for themselves.

I've realized I will spend more hours in the virtual practice than I will in any other third year rotation. Students have started to master Twistle and are now encouraged to shadow virtual visits. I've received education on “websites manner” - how clever is that? - and the tricks of conducting a virtual physical exam, including forceful breathing exercises for auscultation and using a patient's belly button to help them navigate abdominal palpation. Other techniques, like a lymph node exam, can be led by physician demonstration. The advancement of telemedicine will not just happen because everyone is comfortable using Zoom now, but because a young generation of doctors has been forced to adapt, and we've seen a glimpse of what it can be. There is no going back. Even now, it is sufficient to act as an outpatient triage, exceptionally designed to meet our current needs. As technology and patient comfort improves this avenue of care will start to rival its in-person predecessor.

As of mid-May we're still working. Twistle, which started as a crude and buggy platform, has now been refined. We grew from four to eleven trained and independently functioning medical students. All of us are balancing this volunteer work with virtual classrooms and preparing for our boards. Over 2,200 people have enrolled into Twistle and many of them have shared their appreciation for the service we provide. Everyone at CareVio who was expelled from their usual work environment has started to become a little family. This family, a time capsule, is what I will remember most from the pandemic. Not the surgical masks, not the gloves, nor the 6 foot squares duct taped to tiles in the grocery store line. When medical students in the future ask me to recall the events that played out during the coronavirus pandemic, I'll tell them about the dedication of Chelsea, a fellow student, who volunteered 70 hours a week to get this service off the ground. I'll tell them about Zahide “Z”, a wonderful teacher and friend who solved every single PowerChart problem I had. I'll tell them about the dozens of masks Tina's 93-year-old mom made for everyone (mine is peach colored with white roses). Mary Jo's chocolate covered pretzels and Megan's hand written cards. That despite the social distancing, I'll remember how we all came together.

Eventually, this pandemic will come to pass, and we will return to a sense of normalcy. A new era of medicine will be ushered in, one that is marked with telemedicine and video visits integrated throughout. We will emerge smarter, sleeker, and more sophisticated. Just today, I received the official word. In 4 weeks, I'll be headed back to the clinical setting. With it came the

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instruction to be clean and shaven so I can don an N95 mask. That's how I ended up in front of the mirror. My short white coat has been washed and pressed and I've cleaned the dust off my stethoscope - it's not a relic just yet. I've seen the foundations of how we will move forward and it comforts me. The traditions of medicine will be safe in the virtual world.

