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COVID-19 for a Medical Student: Reflections from Early Stages of the Pandemic through Clinical Care Rotations

By Austin Allen

I distinctly remember learning about COVID during February of my first year of medical school in 2020. At that time, the soon-to-be pandemic was creating news in China as a severe upper respiratory illness causing an alarmingly high number of deaths. This felt like a million miles away, and even as the disease began to gain more traction abroad, it felt like the US would not face such similar impacts. It is ironic to think that everyone in my medical school social and ethics class—myself included—laughed when discussing the first mandatory quarantines in China, joking that such restrictions could never happen in the United States. Several weeks later, we also laughed about everyone wearing masks, as we fully believed that these would not help in reducing transmission of COVID-19 based onpublished guidance at that time. Not too many weeks later, as the pandemic began to cripple the United States, we realized we were all gravely mistaken about the severity of this disease, as well as ideal practices for preventing disease transmission. This essay reflects on my experience with COVID in the months that have passed, with a particular focus on my personal and professional growth through clinical experiences caring for COVID patients.

Soon after the COVID-19 pandemic forced medical education into an exclusively online format, I participated in a COVID-19 elective that consisted of weekly seminars presenting the latest scientific knowledge about the disease
This class helped instill basic knowledge about the disease, but in hindsight I recognize how little we knew at the time. However, it was a valuable experience because I was able to witness how thoughts about diagnosis, management, and prevention of COVID changed and evolved as the scientific process unfolded. Following the conclusion of this formal course, I continued to try to stay up to date with the latest literature on COVID given that family and friends frequently asked questions about it, and it is not something I would have learned from the standard medical school curriculum.

When we reached December 2020, I shared in the optimism of much of the medical community that highly effective vaccines would soon be available and help bring an end to the pandemic. Unfortunately, though, despite an extremely careful Christmas in 2020, my dad picked up COVID-19, and everyone in the family became ill with the disease before we were able to be vaccinated. Fortunately, we all recovered without requiring intervention, but I suffered from lack of smell for several months and still remember the fever, night sweats, and headache that I experienced while ill with COVID-19 and studying for USMLE Step 1.

After starting my clinical rotations in March 2021, I was fortunate to have recovered from the disease and to have received two doses of the Pfizer vaccine. Thus, I felt protected from developing COVID-19 again at that time and was enthusiastic about any opportunity to help care for COVID patients given the huge impact the disease has had on my medical training. As spring turned into summer, it seemed that the country was finally pulling out of the COVID-19 pandemic. However, the Delta variant quickly changed that and placed the health care system in a very precarious situation. As a student in clinical rotations at this time, I observed what happens when the health care system is stretched thin. Non-emergent surgeries were canceled. All available spaces in the hospital were quickly repurposed to allow maximum capacity for care of COVID patients. During the highest periods of the surge, almost all dedicated medical and surgical ICU beds were utilized as rooms for critically ill COVID patients. This forced patients typically cared for in the MICU and SICU settings to be treated in a makeshift unit set up in the usual postoperative recovery unit. It was

in the MICU and SICU settings to be treated in a makeshift unit set up in the usual postoperative recovery unit. It was about this time that a COVID clinical care elective was created, which provided an opportunity to join the front-line team fighting against this horrible disease. Although it created a significantly higher work volume for me while I tried to balance both the COVID elective and standard clinical rotations, I am very glad I pursued this opportunity and am extremely thankful for the lessons I learned as a result of the experience.

Throughout my time in the COVID elective course, I helped in a variety of settings, including the COVID ICU, standard COVID floor, and outpatient COVID programs, including a COVID at Home program and a COVID monoclonal antibody outpatient infusion program. My experience in the inpatient floor and ICU was the most impactful as I learned clinical treatment algorithms for COVID-19. In brief, the mainstay of treatment at that time involved supportive ventilation; immunosuppressive therapy, such as steroids and cytokine inhibitors; and prophylactic measures.[1] I participated in the invasive interventions that can serve as a final effort to help patients battle against COVID, such as intubation, central line insertion, and arterial line placement. I cared for previously healthy children who developed croup or presented with MIS- C that required ICU-level care, striking terror into families and caregivers. I witnessed how lungs deteriorate to the point where even mechanical ventilation is not enough to sustain life. I felt the pop of ribs as I performed CPR. I experienced multiple patient deaths in a single day. I then witnessed the despair that families experience after their loved one passes away.

One of my main takeaways from inpatient COVID care was that even though we can provide supportive care to try to prevent hypoxia, there are currently very few options to actively *treat* the disease pathophysiology itself. Thus, when a patient began to spiral into a critically ill situation in the ICU, it was a helpless feeling to see how little could be done to prevent their death. I believe this feeling of helplessness played a key role in driving the burnout that many providers developed and drove patients to seek whatever treatment was offered or popular online, even if lacked little evidence for clinical benefit. However, I continue to struggle with the numerous times I observed patients who were unwilling to take an evidence-based preventative vaccine, yet were willing to try highly experimental drugs once sick. I wish there was a way for everyone to witness the horrible destruction and regret that severely ill COVID patients experienced so that preventative measures would be taken more seriously. While I recognize that this would not be possible, reflecting on this predicament with COVID has provided insight into one of the biggest struggles in medicine: preventative care (healthy diet, sleep, exercise, and appropriate chronic disease management) is not prioritized. It is easy to blame individual patients for these factors; however, our overall economic and health care systems do not provide financial incentives that would allow appropriate preventative care to be a priority for all.

As much as the inpatient setting helped me gain a greater respect for the awful complications of COVID, my involvement in the outpatient setting helped shape my perspective on the varying stages of disease with COVID-19. I saw how desperate patients were to obtain a monoclonal antibody treatment after becoming infected, and the benefit this therapy1 could have on clinical symptom improvement during the Delta wave. Through the COVID at Home program, I called to check on patients recently diagnosed with COVID. Via a series of survey questions, I helped to gather data on the severity of the disease and to connect patients with a higher level of care if needed. This process directly benefitted patients as it helped to ensure they had everything needed for optimal care and helped the hospital system to evaluate clinical needs and adjust care service lines to ensure optimal resource utilization.

One particularly unique aspect of my outpatient involvement was that it provided me with an opportunity to gain experience with the important skill of assessing whether a patient is "sick or not sick." Making this judgment is an important developmental step for any physician, and I am very thankful to have gained experience with this so early

1 **Venkatesan, P. (2021). European guideline on managing adults in hospital with COVID-19. *The Lancet Respiratory Medicine, 9*(5), e50.**

in my career. For example, one of the patients I followed had a significant psychiatric history and was very anxious about his COVID diagnosis. Although he was extremely worried, and his clinical symptoms were worsening, I was able to help coordinate a trial of outpatient home oxygen therapy and helped him to achieve a satisfactory outcome with his disease and manage it comfortably at home, rather than needing to come to the already stretched-thin hospital.

Even with all the positive learning benefits that I have described, I have also been forced to reflect on difficult life experiences associated with a pandemic. Seeing so much death and struggling and the toll that it takes on other health care workers is not easy. It is particularly concerning to see the burnout that many residents and critical care physicians face. There was a specific instance during the Delta surge where a critical care physician went on a social media rant, posting a very explicit and vulgar statement about people who chose not to get vaccinated. This scenario forced me to reflect on my view of clinical medicine and the limits that providers face. I realized that it is extremely important for me to be aware of burnout and to prevent development of an apathetic attitude. I also developed an even greater appreciation and respect for the profession through this experience because I witnessed what resiliency looks like. Even when they were tired, frustrated, burnt out, and wanted to be anywhere besides the critical care unit in the hospital, the health care staff that I worked with put forth their best effort and worked to try to save all patients impacted by COVID. Briefly taking part in and working in the trenches alongside these providers helped strengthen my desire to be a compassionate health care provider who always puts the needs of patients ahead of my own desires.

Reflecting on these clinical experiences, I realize how much I have grown through my involvement in learning about and treating COVID-19. I have gone from someone who was a passive, casual observer consuming the media's latest clickbait to someone who was up to date with the latest scientific literature on treatment and prevention. I also developed the ability to objectively assess patients impacted by COVID-19 and to utilize my knowledge of the disease to judge the best possible treatment for a patient. This knowledge has translated into improved conversations with family, friends, and patients regarding COVID-19. I feel that I am now prepared to have a productive conversation about vaccination, the severity of the disease, and other ramifications of political decisions regarding masking and other mandates with everyone I encounter. This growth in multiple areas has served me well in other clinical domains and will be of great benefit to me as I continue with the medical training process.

about • author

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Austin Allen is a fourth-year MD/MBA student at UNC School of Medicine and Kenan-Flagler Business School. He previously attained a Bachelor of Science in Biochemistry from the Honors College at East Carolina University, where he was a member of the NCAA Division I Pirate Tennis Team. Austin is pursuing a career in neurosurgery and will be applying to residency in the 2023-24 match cycle. His academic interests center on improving the value and efficiency of healthcare as a means of increasing access to care.

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