

## -Observations During a Week of Frontline Work with Family Medicine Residents During the Corona Virus Epidemic-

-Early April-

Day 1.

6:45am: I enter the only door now open in the hospital for all employees where I am issued an N95 mask.

7am: Elie, Lance, Katy, and Tina are my residents for the next few days. They are experienced with managing covid19, this being their tenth day on inpatient medicine. They are well versed in this tough virus and the havoc it creates for the patient's immune system and lungs. Their spirits are remarkably high given all they have seen. I, their supervising attending, am the new member of the team; they will teach me an enormous amount in the coming days about this new virus that is now dominating every aspect of our life.

The residents and I will see 16 patients today, ten are covid19 infected. All these patients are on oxygen, some needing an average amount for pneumonia, others requiring an enormous amount. The six other patients have an assortment of illnesses (leukemia, alcohol withdrawal, atrial fibrillation and recent stroke, asthma, diarrhea and sacral wound, and anoxic encephalopathy after cardiac arrest). One week ago, these types of illnesses were the bread and butter of our inpatient medicine service. Now our service is two-thirds full of covid19 patients and the number expected to rise each day.

There is a heightened seriousness among the members of our rounding team. There is minimal small talk and little to no joking around; even the dark humor that is frequent in medicine is absent.

Some floors are more equipped with their PPEs and we have a new gown for each provider; on other floors we use a used gown that is hanging outside the door. We don and doff these used gowns carefully—a misstep can result in contaminating ourselves and then possibly spreading covid19 to a virus-free patient. There is a set protocol of donning and doffing the PPE, a ritual that we become fluid with as the day proceeds. It is tiring being in the PPE for

hours, but it is more nerve-wracking thinking about becoming infected. Hopefully this anxiety will lessen as the week proceeds. Covid19 does not have the death rate of Ebola (50% vs 2-3%), but it is still anxiety producing. I am not at the age that puts me into a higher risk of death, but I am close.

We are constantly sanitizing our hands, upwards of a hundred times a day. My resident and I sanitize in a set way at the same time, watching each other to make sure we do it correctly. I am reminded of the mirror game we played as kids, mimicking the other's movements exactly.

Patients, regardless of whether they are stable, or critical and near death, cannot have any visitors. Two chaplains are available, one for personal visits and one reachable on tele-health. My residents are well versed in offering words of comfort to dying patients.

Mr. and Mrs. Perez, 91 and 86 years old, respectively, are hospitalized on our service. It is not uncommon to have multiple family members in the hospital at the same time, due to the close living quarters of our Lawrence patients. Both Perezes are infected with covid19. They are presently staying in separate rooms. The husband will die in a day or two, but his wife is improving. The residents are working on having them share a room during his final days.

Day 2.

We start today reviewing our residency director's email, which states that residents do not have to have attending medical doctors follow their physical exams. As a supervising doctor, I can now be offsite, even at home. Thankfully, our residents are very well trained, so I do not have worries that our patient care will suffer.

Soon after reviewing this email, we hear code blue (cardiac arrest) call for room R494, where our covid19 infected patient Mr. Rodrigues is staying. This call took us by surprise since Mr. Rodrigues was slowly improving. When we arrive at the room, there are about 20 nurses and doctors, fully outfitted with their PPE, running a cardiac resuscitation on the patient sharing the room with Mr. Rodrigues. Although we were relieved to see it was not our patient in distress, the other gentleman (also with covid19 pneumonia)

subsequently died. When we return later in the day, not surprisingly, Mr. Rodrigues is traumatized. Having witnessed a last ditch effort by the medical team to keep his roommate alive from the same disease that he also is suffering is, understandably, unsettling. The residents take extra time with him this morning to help him start to process this event.

Participating in the daily infectious disease Zoom meeting, where we review all of the covid19-infected patients in the hospital and their care plans, I am struck by how we have no evidence-based medicine or best-practices at this point to treat this disease. Everything we are presently trying—from using medications usually used for lupus and rheumatoid arthritis, to HIV regimens, to strong immune-modulators (that can unmask a latent TB or Hepatitis B or C infection to a worsening degree), to high dose Vitamin C as a last ditch effort—have not shown to be helpful; this is disquieting.

Mr. and Mrs. Perez are now in the same hospital room. In what may be their usual banter, Mrs. Perez says to her husband, “Hurry up and eat your meal so we can go home!” He most likely will live out his remaining days here in the hospital, with his wife at his bedside.

This morning, before we started rounds, Lance, one of my senior residents, asked if he could read a scripture verse from Romans. Even though I separating the practice of medicine from faith, I felt it was appropriate for the moment.

“Not only so, but we also glory in our sufferings, because we know that suffering produces perseverance; perseverance, character; and character, hope.” (Romans 5:3-5)

Day 3.

Elie, my other senior resident on the service, gave a passionate and spontaneous chat to us this morning about how his management of patients has dramatically changed during this crisis. Prior to covid19, Elie had been taught to use evidence-based medicine to guide his decision process. He would regu-

larly manage many chronic illnesses such as diabetes, hypertension, strokes, and heart attacks simultaneously and efficiently.

Elie, now a seasoned covid19 provider, has learned that like a good trauma surgeon he is triaging almost every decision now deciding what is “life or limb” in the patient’s care. The other chronic disease management tools and social services will have to wait.

Social support systems outside the hospital are also struggling. 68-year-old Ms. Deleon, who has been here for nine days and beaten covid19 (and is not infectious), was informed by the family she was renting a room from that she cannot come back to their apartment. The family, in fear that she is still infectious, has changed the locks on the door. Once with stable housing, she will now have to go to a homeless shelter, or at best a temporary hotel.

I used to urge all of my medical residents to do a global health rotation that our residency offers. My tag line: “It will be a great way to learn how to practice medicine in a resource limited area. And you will learn to make vital decisions based on what you have in front of you.” Our residents no longer need to travel internationally to have this experience, for they are now living it here.

Mr. Perez is still alive, with his wife at this side, one more day of happiness in their lives together. We will take this as a win for the day.

Day 4.

Today I have a new team of residents, Zoe, Beverly, and Patrick. My departed team of Elie, Lance, Katie and Tina having just finished their two-week rotation would normally get two days off, but these are not normal times. Elie, my senior, will get 24 hours off and be back with us tomorrow. Lance has moved onto two weeks of labor and delivery.

My competent new senior, Zoe, and two sharp interns, Beverly and Patrick, are new to rounding on covid19-infected patients. I spend the morning round-

ing with Patrick, even though I can now be off-site and supervise by phone or video. Making sure he knows how to properly don and doff the PPE is the most important information, thus the reason I am here in person and not remote.

These residents are wise and will pick up on the details of how to follow this disease. I say follow, for that is what we are mostly doing; covid19 is leading us into new territory. At present, there are no magical drugs or remedies, and a vaccine is still many months or a year away. The bedside manner of my residents is professional, caring, and supportive. They are now working in extraordinary times, nothing in their medical school or residency training would have prepared them for the depth and duration of acuity that they are now seeing, and they are rising to the occasion.

I have experience with international relief work after earthquakes and hurricanes. I know the physical and mental stamina that it takes to work in these conditions. These relief tours were usually limited, wisely, to a seven-day stretch before a day off to rest and recoup. My residents are also on 7 days straight, with one day off, but then right back at it for another week. We do check in with them often, and our residency has a good support system for them; they participate in Balint Group, and are excellent at supporting each other through Zoom chats.

Our rounding team has learned the hallmarks of this disease; how it presents around day five after contacting it with flu like symptoms, and in some cases with back pain, nausea without vomiting, abdominal pain, diarrhea, fatigue, and loss of smell. My residents are ordering the right labs to determine the etiology for any number of admitting complaints, but they have quickly learned that this virus can present itself in so many different ways.

Mr. Perez is still alive, but slowly moving towards his transition. His wife is in a bed next to him, awake, alert, eating well, and praying with her Rosary. We have asked the hospital to let these two stay as they have no family members in the Lawrence area. Their family in the Dominican Republic wants Mr. Perez's body sent back to them once he passes, but this will not be allowed. No country will accept covid19-infected bodies.

There is good news. Ms. Deleon will have a hotel room for a week, which will keep her out of a homeless shelter and give her time to see if the family she was renting from will allow her to return.

Day 5.

Today is my first day to work with Beverly, our ever energetic and positive intern. Beverly's response to my acknowledging that she is going the extra mile and risking becoming infected with covid19 is, "I feel privileged to have a chance to work with these patients at this time." This is the attitude that I have seen in so many of the frontline workers in the hospital these past days.

Elie, our senior resident, is back for two more weeks on inpatient medicine, after only being off for 24 hours. He wanted to work in the ICU, with the intubated patients, but was asked to continue with the covid19-infected patients, not critically ill. He was disappointed, which speaks to his core value of wanting to provide care to our most critical patients.

Mr. Perez is defying all our best educated estimations as to when he will pass. The residents convinced the hospital to allow his wife to stay with him till he passes. Pain medications are keeping him comfortable, and Mrs. Perez is able to call her family in the Dominican Republic on her flip phone, which is at least some solace.

Day 6.

From our residents working in the ICU it is reported that all twenty ICU beds have patients that are ventilated now, and all but one is covid19-infected. As we enter the surge, there is a disquiet amongst all of us, now wondering what we will do when we have used up our ventilators and there is one more patient that needs one.

Patrick, like so many of our sharp and caring interns, exemplifies the quintessential family doctor; one who cares and treats every member of the family. As well, he is acutely aware of the psycho-social stressors that impact our pa-

tients' lives, especially now during this epidemic. Today, Patrick has taken his iPad into Mr. and Mrs. Perez's room to help them connect with their children and grandchildren in the Dominican Republic. Patrick's compassionate gesture of allowing Mr. Perez's extended family to see him over a Zoom video link before he dies is immensely important.

The hospital's no-visitors policy for covid19 patients, even at the end of their life, has caused immense emotional pain in family members who cannot say their final goodbyes to their loved ones. One has to wonder what the long-term mental health effects will be on the friends and family of the deceased who have not had the chance to grieve properly. It only highlights the importance of the video calls that our residents are making for our patients to their extended family members who anxiously wait outside our hospital walls—and even state and country borders—wanting to connect with their dying family members.

There is good news. Ms. Garcia, a sixty-six-year-old Dominican woman, was admitted at the beginning of the week, having stayed at home for the first eleven days of her illness trying to tough it out. I met her with Elie in the emergency room six days ago, she was sweaty, needing Tylenol to manage her fever, and oxygen to help ease her respiratory distress. With no underlying medical issues, she said at admission to us, "I am a healthy person; if I get corona virus and die, I am going to be really pissed off!" Elie and I tried our best to stifle a laugh at her comment at the time. She did test positive for covid19. She turned the corner three days ago and we have weened her off oxygen each day since. Today, after seventeen days of this illness, she is vibrant and has a big smile on her face. She will be going home, having beaten covid19, to be with her daughter.

## Day 7

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This is the seventh and final day of my inpatient medicine service. There is an overriding sense of futility in not being able to offer much more than supportive care to our patients. Nature will take its course until a vaccine is developed and widely distributed, or a “home run” drug can be found. However, in times like these, I am reminded not to look at the big picture, but take a closer look at the individual patients we are offering care, comfort, and hope. Maybe it was not much more than an encouraging word, kind gesture, or conveying a smile—somehow—behind our masks; it highlights the importance of what we health providers can do in trying times when we do not have much more to bring to the bedside and the patients’ treatment than just ourselves.

Mr. Perez is still alive, still with his wife of sixty years at his side. It is now four days past the time we thought he would die. He is not eating, and his breathing is more labored; we are giving him pain medications, and we are not sure if he is aware of his surroundings. But he is still alive. Maybe this speaks to the power of having his life-long companion at his side, something that so many other patients dying of covid19 infection do not have. The power of love is a mighty medicine.

Later this evening, I signed over the inpatient service to one of my competent colleagues. I mentioned to her that she, like me, was in good hands with our family medicine residents working the frontline of this epidemic.

Epilogue: Mr. Perez died peacefully three days later, his wife was at his side. Mrs. Perez was discharged from the hospital the following day and walked through a line of cheering hospital staff members as she exited the hospital. She is getting support from our clinic and the community until she can travel back to the Dominican Republic to be with her family.

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