How Ochsner Health uses remote monitoring to treat COVID patients

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Featured topic and speakers

In today's COVID-19 Update, Richard Milani, MD, chief clinical transformation officer at Ochsner Health, and Sandra Kemmerly, MD, system medical director of hospital quality at Ochsner Health, discuss how the health system frees up ICU beds by implementing a remote monitoring program to treat COVID-19 patients.

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Speakers

- Richard Milani, MD, chief clinical transformation officer, Ochsner Health
- Sandra Kemmerly, MD, system medical director of hospital quality, Ochsner Health

Transcript

Unger: Hello. This is the American Medical Association's COVID-19 Update. Today, we’re discussing how one health system was able to free up ICU beds by implementing a remote monitoring program to treat COVID-19 patients. I'm joined today by Dr. Richard Milani, chief clinical transformation officer at Ochsner Health in New Orleans, and Dr. Sandra Kemmerly, system medical director of hospital quality, also at Ochsner in New Orleans. I'm Todd Unger, AMA's chief experience officer in Chicago. Well Dr. Milani, let's, I guess, transport our minds back a year ago and think about the beginning of this. What prompted the need for this type of program to monitor patients with COVID remotely?

Dr. Milani: Well, it really was multiple reasons why we had the need. First of all, obviously there was an awful large number in New Orleans. We just had Mardi Gras and so that was a super-spreader
event. So we were one of the earliest cities to be hit hard with COVID. And the big concern at that time was hospital beds, and in particular ICU beds. So we wanted to be able to think about ways that we could bring in only the patients that really truly needed to be in the hospital, and try to keep a close eye on those that were concerned about on the outpatient side.

Unger: I'm curious. I mean I know that you have been exploring remote monitoring for a while now. I mean it's obviously not something you just kind of flip a switch on. So how did the idea go, that we're going to start to change the way we normally do things for this pandemic situation?

Dr. Milani: Well, the good news for us is that we have a lot of experience in remote monitoring. So we've been monitoring for six years now, patients' blood pressure, patients' glucose and so forth, directly from home. We have a COPD program that's monitoring oxygen and other things in patients that are outpatients. So we really had, I think, all the infrastructure ready to go. So clearly the goal was, how can we outfit individuals and monitor their oxygen levels, or heart rates and their symptoms on an outpatient basis so that we can keep a close eye on those that were sort of more in that borderline to high-risk range.

The biggest challenge for us at the time wasn't so much to roll out the program; was to be able to find available oximetry. At the time, there was a big run worldwide on oximeters, and so really what was a gating factor for us was accumulating enough oximeters that we can dispense them for patients that we wanted to enroll into this program.

Unger: Yeah, that's just one of the many unknowns. It's like when something like this hits, all those normal assumptions kind of go by the wayside because you're facing shortages like this. Dr. Kemmerly, at the beginning you're dealing with a lot of unknowns, and as you learn more about the disease, how did that help shape the program overall?

Dr. Kemmerly: Yes, so we all learned on the job. We had been studying the disease, the experience in both China and Europe, and so we knew at least intellectually how these patients presented. But until they actually got here, and got here quickly and in large numbers, we were just completely surprised I think by how sick people could be when they were having a conversation with you. So for instance, they're incredibly hypoxic and they're talking, and all of a sudden they go into respiratory arrest. So we had to learn pretty quickly that the typical management of respiratory failure was way different than everything we had seen.
So to Dr. Milani’s point, we knew that these patients deteriorated rapidly. The whole state was in a lockdown and so we needed ways to care for the patients in the settings where they needed to be. So if they didn’t need to be in the hospital, we didn’t have the ability just to keep people in the hospital because they were COVID positive. But then again, knowing what we knew about the disease and people becoming hypoxic really quickly, this tool and this program allowed us to care for patients and be connected to our patients in the home environment. And if they had dips in their oxygenation, then we could triage them to the hospital and be cared for with supplemental oxygen and support.

Unger: What was kind of your ruleset about who is triaged to the hospital, and then who is appropriate for remote monitoring, and how did you set that program up?

Dr. Kemmerly: We set up who was appropriate for hospital admissions, so people with COVID that were hypoxic and may have been at risk for severe disease and respiratory failure. We had a list of criteria. And for persons that otherwise were stable and were not hypoxic, their oxygen was greater than 92 or 93 and they were doing well, we would triage them to the surveillance program, the remote monitoring program. That evolved over time, and as we had new therapies become available, specifically like the monoclonal antibodies, we were able to enroll patients at the time we administered the outpatient monoclonal into the program so we could keep an eye on them after we had had that intervention. Also, it allowed us to monitor patients that we had discharged from the hospital to the home setting or to the post-acute setting to make sure that they were doing okay outside of our hospital walls.

Unger: Well, let’s go into a little bit more detail about the actual program. Dr. Milani, can you take us through how does this work?

Dr. Milani: Yeah. We actually had two programs. The first we started actually in March. That was just a symptom tracker, and so these were people, anybody could sign up. I just want someone to kind of keep an eye on me, and it was basically a twice-daily text that would just say, “Any changes? Are you feeling worse? Is there worsening shortness of breath?” Things like that and then we’d have a nurse call out if there was. We built upon that. Then we added oximetry, which gave us the opportunity to really monitor the most important single vital signs, so to speak, on the outpatient basis, heart rate, but most importantly, oxygen levels.
We combined those two together, so we had to accumulate enough oximeters so that we could distribute them through drive-through pharmacies throughout our system. This required a doctor’s order. So unlike the symptom tracker that anybody could jump in, if a physician felt you were at risk, you were somebody that we wanted an extra set of eyes, or ears, or monitoring on, then the physician could easily put an order in and the process would start. We had a dedicated nurse team that was basically in the virtual bunker, so to speak, that should there be an alert, whether it be an oxygen level that dropped, or a symptom that worsened, it would create a sort of hierarchy of who that we should reach out to now, and then they could ... person.

Unger: How did that like ... Let's say that that doctor's order came through, where does the patient then get their pulse oximeter and how is it communicating with that central staff?

Dr. Milani: Right. Basically, they would get their pulse oximeter through a drive-through. They would be contacted directly through MyChart, which is the mobile app that could be done on a laptop or on their phone. It would say, "Okay. You're now being enrolled in the program." Obviously it wouldn't be a surprise because the doctor would have already told them that. It would direct them where they should go to pick up their oximeter. Then from there, twice daily we’d expect to see readings from them, both in terms of symptoms as well as readings.

That data would come directly into our EMR that would populate basically a dashboard for the nurses in this so-called virtual bunker. Then based on the responses, it would highlight who they should contact and reach out to in the proper order. Based on those conversations, we could say, "You’re doing great. Nothing to worry about." Or, "In fact, I’m concerned about you. Let’s get you to the emergency room for a more in-depth evaluation," and possibly even in some cases, an admission.

Then as Dr. Kemmerly pointed out, within that group we could identify those even at the highest risk that her infectious disease team could then bring in for monoclonal antibody or any other type of therapies that we’d want as an outpatient. So it really did create a very nice way of triaging patients into risk categories. And as Dr. Kemmerly pointed out, it also allowed us to decompress the hospitals. Very often, we might keep the patient an extra day just to kind of keep an eye on their oxygen level. Now we can free up that bed so that we can still keep an eye on their oxygen level, but on an outpatient basis.

Unger: Dr. Kemmerly, you mentioned monoclonal antibodies. There was a lot of excitement at the beginning of that, and I think then people realized, "Wow. This is quite an operation, and it takes a lot of time. We need the space to do this." How did you work that into this program?

Dr. Kemmerly: Well, we felt it was very important to be able to offer monoclonal antibodies to decrease the hospitalizations and ultimately hopefully decrease deaths. So we set up regional locations throughout our system, throughout the state, and were able to, and still do, administer the monoclonal antibodies to those who meet the criteria as outlined by the EUA. So we had to retrofit
some existing spaces because these were not inpatient beds, and so we had to have an outpatient setting to administer them. It took a little bit of logistical support, but we got it set up pretty quickly, and we've successfully treated about 3,800 patients with monoclonal antibodies throughout the health system.

**Unger:** Wow. Dr. Milani, how many total patients went through this program?

**Dr. Milani:** Well, the symptom checker which was sort of the early part of the program, it was more than 10,000. Close to 4,000 have gone through this higher-risk surveillance program and it’s still active today. We still have patients in the program. Obviously a much smaller amount, thankfully, that the rate of COVID infections have dropped.

**Unger:** Obviously, a lot of benefits to patients and making sure that they're getting the treatment they need and where they are. How about in terms of benefits for the hospital staff, Dr. Kemmerly?

**Dr. Kemmerly:** Well, I'd say the hospital staff benefited for, to Dr. Milani’s point, getting people out of the hospital when it was appropriate, and the physicians having a sense that the patients would be safe in the post-acute world. So I think that everyone has had a sense that this has been a tremendous asset to the care of patients. There's certain entry points where you can enroll them from the emergency room. That if the physician felt that they needed an extra bit of surveillance and didn't need admission, or once they’ve been discharged, or in what I mentioned before, once we've administered the monoclonal antibodies. So multiple ways to get our patients cared for, and it's been a tremendous help to the care team and really everybody that cares for these patients.

**Unger:** Absolutely. Well, last question for both of you. We're all in this kind of re-evaluation phase, because there was so much innovation and so much change in adapting to new worlds, virtual worlds and remote monitoring. When you think about the future, which I hope we will have a post-pandemic future in the not too distant future, but what do you adapt to the future? What stays? What goes? How do you see this changing things permanently for you? Dr. Milani, why don’t you start off?

**Dr. Milani:** Well, I think that one of the reasons we were able to pivot so fast is because we had been collecting biologic information, whether it be a blood sugar, or a blood pressure, or a temperature, things like that remotely prior to this. And I think it's one thing to say, "I'm having video visit with somebody," as you and I are in this conversation. But it's quite another thing to have an interaction, a communication, while we're also collecting true biologic information, otherwise require you to be present. So I think the future will certainly include more, and more and more, the ability to be able to collect real meaningful biologic information about a person in addition to just to be able to communicate and see them on an ongoing basis. And this will certainly alter not only our care delivery, but even our ability to diagnose and to manage populations more effectively.
Unger: Dr. Kemmerly, any surprises, lessons learned, that you would want to share with other physicians out there?

Dr. Kemmerly: Well, certainly COVID was full of surprises, and my sharing would be that physicians, I think our physicians in particularly were able to adapt really quickly to different ways to care for patients outside of the office, outside of the hospital. So I think going forward that will be a part of our lives, and patients have come now to accept it as well, and in some respects expect it. So I think we'll see more and more of this longitudinal following in the digital remote world than we ever did before COVID.

Unger: Absolutely. I think the other lesson learned is that the preparation that you had, you didn't know it was going to prepare you for a pandemic. But it did, so great to see that work pay off. That wraps up our COVID-19 Update for today. I want to thank Dr. Milani and Dr. Kemmerly for being here and sharing the details of their program. We'll be back with another COVID-19 Update soon. In the meantime, for more resources on COVID-19, visit ama-assn.org/COVID-19. Thanks for joining us. Please take care.

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