EMERGING TRENDS IN HEALTHCARE TECHNOLOGY

KEYNOTE SPEAKER:
DR. ALEX JAHANGIR, *METRO NASHVILLE CORONAVIRUS TASK FORCE CHAIR*

[edited for reading]

FEBRUARY 19, 2021

Casey Goggin: Next up we have Dr. Alex Jahangir. He is an orthopedic trauma surgeon and professor of orthopedic surgery at Vanderbilt University Medical Center. He serves as the Associate Chief of Staff at Vanderbilt, the Director of the Division of Orthopedic Trauma, and Executive Medical Director of Vanderbilt Center for Trauma, Burn and Emergency Surgery. In addition to being a surgeon, he also serves as the current chair of the Metropolitan Board of Health of Nashville and was appointed head of Nashville's Coronavirus Task Force in March by Mayor Cooper. In this capacity, he led Nashville's response to the COVID-19 pandemic, including implementation of policies that mitigated the spread of the virus, increased access to testing, established public health infrastructure, and served as a principal source of COVID-19-related information to the public. Dr. Jahangir was raised in Nashville, graduated from Martin Luther King Magnet High School, received his Bachelor of Science from George Washington University, Doctor of Medicine from the University of Tennessee, and Master of Management and Healthcare from Vanderbilt University Owen Graduate School of Management. So, we welcome you!

Dr. Alex Jahangir: Thank you. I never thought I'd actually learn so much at a CLE course and I appreciate the previous speaker . It hits at home as a trauma surgeon, the things that were discussed, so thank you. When I had an opportunity to prepare for this discussion, rather than do a formal PowerPoint, I think I wanted to really speak to where Nashville is currently, where we came from regarding COVID, and specifically open up to a lot of questions but focus on the topic of technology and how it's impacted our response.

Let me start by just talking about where we are as a city. This morning we announced that we have about 2,100 active cases in Nashville and that sounds like a lot, but just a few months ago or, gosh, about six weeks ago we were up to about 8,000 people in Nashville who actually had COVID, which, if you think about a city of 700,000, I mean that means over 10% of the city was infected. And what is great is I think we are finally off of our third wave. The first case of COVID came to Nashville on March 7th, and nobody in this city had ever, or really around the world, had thought about what do we need to do to fight COVID or any pandemic. So on March 8th, we announced the first case and really, really quickly we started [inaudible] city leaders, health systems, really started thinking how do we figure out what we need to do? How do we get to the most vulnerable populations? How do we set up testing centers? How do we, one day, prepare for vaccinations? And what we kept coming back to was using technology to be able to best do that.

Furthermore, this sounds somewhat simple, but the other question was what data do we need? How does one collect that data, what is impactful in the data we collect? And I'm happy during the Q&A to maybe get into some of that, but again we started on March 7th, went through a small wave, and another wave, and we're coming off the winter wave, which, again, as I mentioned earlier about 12-15% of city had infected and now we're heading down to a really manageable number compared to where we were. But now we're starting to roll out vaccinations and in the city of Nashville we have now vaccinated about 71,000 individuals out of the 700,000, and just this morning we're vaccinating more. And so it's a question of where do we need to focus our energies? Again, technology can come into it, maybe some discussion driving maybe passports and so forth moving forward, but I want to just lay that quick lay-down of where we were, but I would love to maybe have more dialogue with Q&A over the next 20 minutes or so to really dive into the question of technology. So thanks for giving me this floor.

Paige Goodwin: Okay thank you so much for that. We have questions. During the pandemic, there has been a rapid increase in the types of data being generated and used to inform and evaluate public health policy, so how has Nashville used digital data to guide and evaluate its COVID-19 response?

Dr. Alex Jahangir: There's so many–let me just step back. As mentioned in the intro, which was very kind, I'm an orthopedic surgeon, right? So one question a lot of people ask is, "What the heck did an orthopedic surgeon do getting involved in COVID response?" and so forth. So I want to say I've had to rely on a lot of epidemiologists and [inaudible] who really have taught me the data that's out there. One data point that was very interesting early on was cell phone data and this is something that, as a city, we didn't necessarily use per se in making policy but it did inform decisions. And what cell phone data, that one of our academic colleagues demonstrated to me, was we could see early on where the hotspots were in Nashville, and I believe a lot of the people on this call are from the Nashville area. Really our initial hot spots in the spring and in the early summer was in Southeast, so a lot of our Spanish-speaking residents and people who were typically younger, had jobs that wouldn't allow them to stay at home. And we were able to see quickly is this cell phone data showed that there's a lot of motion in Southeast and less motion in, for example, in Belle Meade and Oak Hill and other parts of town. But you could see where those people were going. They were going to the Walmart, they were going to a grocery store of some sort there, and what that started telling us is first of all, there's a lot of traffic down there. But then as we started

looking at where do we put testing sites and mobile testing sites specifically, we knew we needed to focus on that area because we need to give people access.

Furthermore, the other thing that was really interesting to me is simple things, such as when I mentioned to you earlier about the number of active cases we have and how many per 100,000 how many cases there are, and right now by the way we just dropped behind below 30 for the first time since September, which puts us in the bottom third of the state as far as disease activity–that was data that was not really generated early on. So being able to get that data pretty regularly has been really helpful. And as that data shows where clusters are, as that data shows where motion is, so the cell phone that I mentioned earlier, it allowed us to really fine tune what we did. As I mentioned, we put the testing site at a location, we started seeing a lot of activity around people going out of county and coming back into county and recognizing certain trends there that allowed us to maybe do certain policy things, not only to put in safer-at-homes but also as things got better being able to turn the dial so that we re-energize our economy and our businesses and maybe, frankly, avoid some of the people who were leaving town anyway to do whatever services that need to be done to come back

As we've moved forward, especially in this winter peak, one of the other things that became very difficult was our contact tracing. Initially we were doing contact tracing, meaning we had at one point up to 200 people calling anyone that tested positive, figuring out who they were in contact with, and then following up on a daily basis ideally with those individuals. See how they're feeling, make sure they're not getting sick, make sure they are staying at home and not spreading the disease. Again, early on it was a phone call thing. We first had our own public health people but then later we used a call center. But it took a while to really develop a texting SMS-type system that allowed us to send people messages, ensure they replied back, and it kept track of data points like what's your temperature today, how are you feeling, do you need help? Sounds simple enough but again early in this pandemic those technologies weren't as easy available in our community, and you have to also then consider HIPAA compliance and compliance with people that actually want to do it. So those are the types of things that we've developed in our response thus far.

Paige Goodwin: And then we had another question in the chat. It says is Metro Health Department using the state's immunization tracking system? Is Vanderbilt?

Dr. Alex Jahangir: So there's something called TennIIS[1], I believe that's where they referring to, in which anyone that's been vaccinated has had a form put in that. So whether it's metropolitan health – in fact, this morning we had (the wet winter weather has done a heck of a number) we had eighty vaccines that were about to expire in another part of town and this morning I drove those vaccines and we provided them to eighty individuals in North Nashville. And those individuals' information we put into our system. If Vanderbilt's doing a drive or HCA's doing a drive, those will be putting in the system. So short answer is yes, Metro is using that information because having accountability where the vaccines are and then knowing who they're put into is really important. And the state really has the jurisdiction over that and it allows the state and us as Metro to really make decisions about, alright is the phasing criteria being met? Are we at a point where we can move forward in our phasing? Is there an area of town that we're not emphasizing and need to really focus our limited supply of vaccines to? So we are using TennIIS and I suspect that's what the question was asking about.

Paige Goodwin: Yeah, they did mention that I just missed it in the question, sorry. And then we have a question that says, "I'm curious about that home COVID testing kits that were recently developed. Do you see a use for those in the coming months in Nashville and how does that play into data tracking since those tests would be presumably not logged?

Dr. Alex Jahangir: Yeah, that's a concern of mine a lot as well. So, I think the home tests though that are being developed, you still have to send them in if I'm not mistaken. There's some of the rapid antigen tests, which, those even have to be reported. But you have to send in the results to a company, if I'm not mistaken. At a certain point COVID as we know it will be different, right? COVID will never go away, I suspect. It will become endemic, so by that I mean we'll have enough people vaccinated, we'll have enough treatments out there that there won't be people getting really sick or dying at the rates are currently dying, and it rather will be like the flu. The flu is endemic, right? You'll see the flu, it'll spike up, a few people get sick, but most people won't get as sick. So as time moves on, we probably won't have a you know exact case count. Rather, we'll do a sample of the community and get a sense of the prevalence of the disease in the community based off said sample, and I suspect that'll happened with COVID. Now that may happen in six months or a year. To answer the question, the home COVID test though, I do

[1] TENNESSEE IMMUNIZATION INFORMATION SYSTEM, https://www.tennesseeiis.gov/tnsiis/ (last visited Jan. 8, 2022).

believe still need to be reported to a central entity, whoever is the one who provides them, and hopefully will have better tracking of that. But sure, it is a concern of course.

Paige Goodwin: And then we have one about privacy. The question is, "Were there relaxing of any privacy standards during any point in the pandemic due to the public health and safety concerns, and how did you work around the need to disclose?"

Dr. Alex Jahangir: That's a great question that I, as the doctor, sometimes get anxious talking to 200 attorneys about. But in all sincerity, the Trump administration did provide some HIPAA, I guess I don't know if "relaxation" is the right word, but some clarity around things that can be provided, specifically around data sharing when it came to law enforcement and EMS and first responders.[2] Early on in this pandemic, certain jurisdictions, Metro Nashville being one of them, felt that for the safety of our first responders and we needed to, in what initially wasn't a thoughtful manner, in full disclosure but I think has become a very thoughtful manner with stakeholders involved making it better–how do they know that if somebody is actively infected and they're picked up, whether it's to go to jail or to come to the hospital, and they had tested positive that the provider, the policeman or EMS provider, would be aware of their status of positivity. That was done under, I think we had a lot of Metro attorneys look at the HIPAA rules and the Trump administration relaxed some of the HIPAA rules that allowed for that.

But short of that, there hasn't been much relaxation of rules. And frankly, I think, even if the rules are relaxed, for me and I know most of my colleagues in Metro Public Health and in the state, we want to always try to protect people's privacy as long as it doesn't jeopardize public health to a great extent, right? And so there is always that constant tension of, at what point do we need to disclose if this person is positive or perhaps put a quarantine order on them? I mean, few cases we've actually had to be very strict about a person's movement. It has always been a tension that has been in existence throughout this pandemic, but we've not intentionally done anything that we didn't need to.

Paige Goodwin: Thank you. The next one says, "Should people abide by the criteria/phases for getting the vaccine, or is it better for

---

[2] *See* DEPT. OF HEALTH & HUMAN SERVS., COVID-19 & HIPAA BULLETIN: LIMITED WAIVER OF HIPAA SANCTIONS AND PENALTIES DURING A NATIONWIDE PUBLIC HEALTH EMERGENCY (March 2020).

people to just get vaccinated and maybe go to a neighboring county?"

Dr. Alex Jahangir: There's two ways to answer that. In all sincerity though, I think everyone who can get a vaccine through the proper channels should get a vaccine. I want to be clear – I don't care if you're 30 or you're 60, if you have the opportunity to get a vaccine, get a vaccine, period. Now the phasing criteria though that the state set up based on recommendations of national organizations and some guys from federal government does prioritize vaccines to those around most risk, and I commend the state for doing this. They do it both by profession, so high-risk profession such as healthcare workers, and age. People over sixty-five have a much higher mortality rate than those under sixty-five, so the State of Tennessee's disease vaccine distribution has it as such.

Now, if you're able to sign up for a vaccine in the surrounding county, the reason you're probably able to sign up for that vaccine is because the uptake of people wanting to have vaccine is not what we thought it would be. We average about 30% of people who are eligible for the vaccine just choose not to take it. A surrounding county may not have that 30%. This vaccine, once it's thawed out, will expire. A great example, as I mentioned, this week there are 700, between what we did today and Wednesday, 700 vaccines in Nashville and surrounding area that were about to expire and they expire because you thaw it out and then you refrigerate it and it's good for five days. Well in that scenario, we prioritized giving this vaccine to as many people in-phase, but also vulnerable population, so going to the rescue mission where we gave 400 vaccines on Wednesday. A lot of people in that rescue mission may not have been in-phase by the aging criteria or by the employment criteria but those are individuals that have other medical conditions that make them really high risk of having really bad outcomes.

So the basic criteria is really important to follow. As an entity responsible for the vaccine process, we do follow it. But if an opportunity is presented for whatever reason, and often a reason is the vaccine is set to expire and just not the uptake needed, then I think anyone who has access to the vaccine should get it, just don't game the system. Just go through the process and if you're eligible and whoever is the entity overseeing that vaccine says you're eligible, get the vaccine. I said about six times now, didn't I?

Paige Goodwin: Kind of going off of that, you mentioned in a previous interview how it's harder to reach minority communities with information and that you were using creative avenues such as

social media to try and reach them. What have been some of the biggest challenges reaching these vulnerable populations?

Dr. Alex Jahangir: So I think the biggest challenge around reaching vulnerable populations is trust and trust in the in the government entity. And then also trying as an entity to not have the arrogance of knowing how best to do it, right? So, early on we figured we'd put our assessment sites, which we did based on criteria and vulnerable areas, North Nashville, downtown, and southeast Nashville. And we have these sites but people for different reasons wouldn't access them, right? Our immigrant population in southeast Nashville, there's a lot of hesitancy to come to a site that requires certain information: phone number, date of birth, name. Because they're worried about immigration things.

Now, I'm a first generation American. I moved here to Nashville when I was six years old, so I could relate to that in some of the concerns there. The best way to mitigate those concerns was to, and now with vaccination, similar thing, is we actually started going into the communities and finding people who are trusted people in that community. Community organizers, health clinics, Siloam Health has been a great partner to us for that population. And allowing them to drive the message but giving the resources to do so, whether that is giving vouchers to help give people food and housing security when they need to quarantine or giving vaccines to places like Siloam Health, to now encourage people who meet the phasing criteria to get vaccines. That's the best way we found to do it.

Social media wise, and we also have worked with a PR firm, but also the PR firm with the people on the ground there to message appropriately in the right languages. There are about 130 different languages, I think, spoken in Metro Public Schools, which tells you how broad language is here in Nashville. I did this week a Spanish press conference. I don't speak Spanish [inaudible] but it's been so important because these are reporters who I, previous to this role, never knew existed and now they have really broad distribution of reach. North Nashville and our minority and African American community–same concerns. May be a little bit different, they're not as concerned about you know ICE or other entities having information but really a distrust in the health system and the government providing that health system for a lot of very valid reasons. So finding people in the community who are trusted and then convincing them that what we're doing makes sense. And then messaging again, similar to that community, whether it's through geofencing, so around our assessment center for a while we had

geofencing when people would come in. And when you go into a certain thing, you'd get on your Facebook page information about COVID, or sign up here, here's what here's what the testing process is going to be like, here's an app that you can sign up for, when we rolled into our SMS texting contact tracing, sign up for this text, sign up for this app and you will get your message of your test results as well as somebody to recheck in on you that way. That's how we've used social media, especially for our vulnerable populations.

Paige Goodwin: Sorry about that, my screen got away from me. I think we have time for about one more question. What do you think is the biggest lesson learned from the pandemic that will help in the future?

Dr. Alex Jahangir: You know, I do a lot of these interviews and that's the first time anybody has asked me that question, that's a really good question. That's one that I think a lot of us are still trying to process. And I think it's several, right? I think there's several lessons is. One is in a in a moment of crisis, and I tell this to my residence in surgery, loading the boat is critical. One single individual does not have all the answers, and what I'm really proud of about Nashville's response is early on, literally day two, we brought in all the health system leaders, nonprofit leaders, that seemed germane to that issue, state and local officials, places like the Mission, the nursing homes, to talk about our response as a city We did that on Wednesday. Our first press conference announcing it was on a Sunday.

And moving forward, recognizing throughout the whole thing, transparency and letting the science drive has been really important for us. There's been times when I think we as a response have been caught, admittedly something wasn't done right. I mentioned the data sharing early on, and recognizing that being transparent about how one fixes it but also being transparent how one got there is a lesson that that I think is really critical of moving forward on any crisis. And then I hope recognizing the issues of health disparities that has been a big problem this country for 400-500 years – these health disparities are not something that just happened, right? I mean, you know, infant mortality is three times higher in African Americans than white. A kid that was born in the same hospital as my kid at the same time who lives three miles from my house they have a twenty-year less life expectancy. These are not things that just happened because of COVID. COVID has highlighted that, and I hope that these are these are things that we will address.

And then on a technology front, I think as a society we really need to really get comfortable with, what is our level of comfort with tracking? One thing we haven't really talked about is there's these great apps you put on your phone and you could quickly have known, if enough people in community have it, you can very quickly get told if you were exposed to someone who is infected with COVID. How comfortable are we as a society to have somebody, whether it's the government or Microsoft or Google or Apple, knows this about you? And are we willing to give up that little bit, or a lot of privacy for the betterment of society? I know those issues [are] also not due to this, but I hope maybe this pandemic will allow us to really explore this further and talk about it, and maybe have a more comfort level if this ever happens in our lifetime again.

Paige Goodwin: Yeah, knock on wood that it doesn't. And I wanted to fit in one more question. How did the city deal with neighboring counties that haven't taken the same initiatives to slow the spread of virus? I know there's only so much you can do, but were steps taken or anything?

Dr. Alex Jahangir: It is really interesting, again, I'm not somebody who was ever in government, never planned on being in government and I'm still a volunteer just for the record, I'm still a full-time surgeon. I think what I've seen is most of the regional mayors and the local governments obviously want to do what's best for their community. And early on especially, obviously we as a city are 700,000 or MSA is I think 1.7, 1.9 million, so Nashville has to do well for the surrounding counties do well, and the surrounding counties have to do well for Nashville to do well. Mayor Cooper, I know, had spent a lot of time dialoguing back and forth with these county mayors early. Now when it came to things such as mask mandates, we were the first in the region to put one in. We were in the first in the region to put a safer-at-home order in. A lot of county mayors, because of dialogue and with the support of the governor, I know the governor did allow county mayors to make certain decisions around mask mandates and so forth, they partnered pretty well with us. But then it became, some of it became politicized, and then some of it is just the needs of a community of 30,000 is different than the needs of a community of 700,000.

So yes, there's been some differences in policy but early on if you really go back and look at how we responded as a region, the original response was actually relatively uniform early on, it has splintered little bit. But that came from intentional work between Mayor Cooper and the county mayors. The state government has been a great partner to us as a city, and I know they've been good

partners to other regional counties. There's been a lot of cooperation and I know some people hate seeing that because people like to always see there's this turmoil, but for the most part, most of the region has responded well and we've stepped forward together.

Paige Goodwin: Alright. Well, we are almost out of time, so thank you so much for making time to talk to us, because I can imagine how busy you must be, so we appreciate that.

Dr. Alex Jahangir: I'm very grateful for this opportunity. This was fun.