Scott Ohanesian: Life science logistics in a life-changing world

Introduction:
As the COVID-19 crisis continues its dramatic impact on lives globally, in the life science space, patients who are being treated for non-COVID-19 illnesses still need to receive their treatments – even during a pandemic. Clinical trials must move forward. And medical supply chains have to be kept intact.

What's more, while the virus rages, many companies around the world have quickly switched their focus to the development of a COVID-19 vaccine. The usually fast-paced world of life science logistics is now moving even faster.

- So what goes into supporting logistics for clinical trials when confronted by so many pandemic-created obstacles?
- What solutions and services can help companies adhere to trial protocols, keep patients safe and ensure that their therapies are received on time?
- And what are the best logistics practices for overcoming an array of challenges – including government regulations, severely reduced airline schedules and dire economic situations.

Scott Ohanesian, Senior VP of QuickSTAT's Commercial Operations in North America, works with pharmaceutical and biotech companies on designing comprehensive clinical trial logistics plans. In his years of work, Scott has created customized supply chain solutions – from pre-clinical to clinical to commercialization – that meet client objectives, maintain product integrity and ensure patient safety.

Chris Riback: Scott, thanks for joining me. I appreciate your time.

Scott Ohanesian: Thank you very much for having me Chris.

Chris Riback: So let's start out by giving me just a bit of the background on QuickSTAT. What are its areas of focus and what are the partnerships that you've had with life sciences companies in terms of bringing new drugs and medical protocols to market?

Scott Ohanesian: QuickSTAT has been around for 39 years and over that time things have obviously, within the life science space, very much evolved. And so QuickSTAT works very closely with biopharmaceutical companies and within the life science industry to help with pre-clinical shipments. So that would be shipments of R&D samples or shipments that are being worked on prior to something going into their clinical trial. And then we'll also help with clinical trial supply chain as well. So moving drugs out to depots or out to clinical sites and also moving

patient samples back to central labs for testing. And we even now do a lot within the commercial supply chain especially with the kind of, I wouldn't necessarily say evolution of medicine, but the push out of personalized medicines. Now we're seeing success from the personalized medicine space. That's very much an area where commercial supply chains are supported by QuickSTAT and very much helping out with autologous and allogeneic therapies.

Chris Riback: COVID-19 has dramatically changed things I assume with the companies that you work with in addition for you and your company as well. Tell me about what you've been seeing from your clients over the last months: The impact that the pandemic has had on what they've been focusing on and ultimately what you and the QuickSTAT team have been doing.

Scott Ohanesian: COVID-19 as you know, it's affected not just our industry, but many industries worldwide. And within the life science space because COVID-19 exists doesn't mean all the patients that are being treated with other diseases go away and they still need to receive their treatment. And so the challenge that we've seen in places like Spain and Italy and other countries throughout the world where they're having challenges in certain regions with the amount of patients that need to seek help at certain hospital sites. And due to that, there's been a huge strain on in the healthcare infrastructure.

Scott Ohanesian: And so for a lot of the companies, they're trying to figure out, well, can I get my therapies to the sites, or can my patients actually get to the sites to receive treatment? It's extremely important to find out ways to get those therapies to the patients. It can affect the outcomes that they're going to receive from the treatment they can get. And then for our partners, the sponsors, it's very much about the patients, very much a patient-centric focused. But they also want to ensure that they're getting their clinical data as well to know if the drugs they're trying to bring to market are going to be safe, if they're going to be effective. And that's extremely important because that has an impact even beyond the patient populations being treated within the clinical trial. But actually for all the patients that are suffering from whatever disease state that the trial's designed to treat.

Chris Riback: And how has it affected your work, your day to day? Obviously we're talking today, you're at your home working from there.

Scott Ohanesian: Well, for me personally, I'm one of the lucky people, right? I can work from home and can really make that transition somewhat easily. I have a toddler that you might hear running around screaming in the background from time to time. So just like everybody else and a lot of people that have pets and children at home, when I'm on conference calls with many of my clients, I hear a lot of this transition and continue to do our job. The real heroes and the real people on the front lines are in the hospitals doing great work. And then also the people at our offices because there's many essential workers that still need to show up to QuickSTAT offices.

Scott Ohanesian: I think as an organization we've done a fantastic job of leveraging our robust IT systems to have many people working from home. But the nature of our industry means a lot of what we're doing is dealing with very much temperature-sensitive drug product, therapies that

need to be maintained at certain temperatures. So for example, if you look at a lot of chemically based therapies, a lot of those are shipped at a controlled room temperature, which is 15 degrees to 25 degrees Celsius. Whereas a lot of biologics are shipped at refrigerated temperatures at two to eight degrees Celsius.

Scott Ohanesian: So a lot our staff is still having to go in to those facilities to clean the packaging appropriately to protect themselves and to protect patients or hospital sites that are receiving the therapies. But then having to condition that packaging and ensuring that it's going to be able to be used again because a lot of what we're doing is utilizing reusable assets or reusable shippers to be able to move these therapies around the world at the appropriate temperatures.

Chris Riback: There already are challenges inherent in the process you're describing some of them. I mean the temperature requirement is just one of them in managing shipments for clinical trials, and so much complexity and bringing a new drug to market. Talk to me about the global supply chain and what's been needed to address those challenges that you already have under normal circumstances but are now having to address under the current circumstances?

Scott Ohanesian: I think using examples can be very helpful. Some of the therapies that we're supporting for example like a personalized medicine and in one case an autologous therapy. And simply all autologous really means is instead of using like a small molecule therapy, we use a chemical compound and that will be what the active pharmaceutical ingredient is in the therapy. With an autologous personalized medicine, you're actually taking cells or some sort of starter material from the patient that's actually sick.

Scott Ohanesian: You're going to process that material. It could be apheresis, it could be a tissue sample or a tumor sample. And you're going to process that starter material into the actual therapy that you're going to make and then you're actually going to send that therapy that you've made from that individual starter material back to that individual for treatment. So it's a circular supply chain that is very much vein-to-vein. And many of the therapies that are on the market now that have been approved by the FDA or various regulatory bodies around the world, many of those autologous therapies you're treating patients with that are extremely sick. Some of them are treating cancer patients that this is the last best defense they have against the cancer that they have. And so they don't have the luxury of time, so they can't delay sending things.

Scott Ohanesian: And from a manufacturing standpoint, there's very strict temperatures that need to be adhered to, very strict timelines of when that apheresis will be viable to be able to be processed and go to therapy. And all of those supply chains that are already a challenge even on the best of times now become even more of a challenge when you have 80 to 90% of international flights grounded. When you have many domestic flights that aren't working and you have the normal supply chains that you're trying to leverage, not necessarily working at the same capacity that they have been prior to COVID-19. And so one of the nice things about working within the space that we do, we've always had to plan for the worst and hope for the

best. So the nice thing is we'll already have spent quite a bit of time doing primary routing, secondary routing and tertiary routing.

Scott Ohanesian: Now more than ever, we're having to really leverage those alternative routings. So many shipments that might've gone via flight now might be having multiple drivers doing a direct drive or we might be leveraging something like a charter flight rather than take the risks that the commercial flight might get canceled, which we've seen a lot of lately. So there's a lot happening within our space to ensure that those therapies and those starter materials continue to move. And that's across the spectrum. It's not just with personalized medicine, it has to also happen with patient samples and with just normal therapies that are treating patients.

Scott Ohanesian: So another example would be direct-to- patient. And I mentioned before earlier that there's a challenge for a lot of patients to get to sites. And so what we're sometimes trying to do now where the protocol allows and where the sponsor or the CRO that's helping support the trial has been able to seek local permission, we're helping get therapies from the sites to the patient's home. And so that's something that we're seeing really surge because in instances in geographies and in circumstances from a health standpoint where patients can't get to sites, that is a fantastic option for them to continue to get their treatment and not expose them to risk.

Chris Riback: Talk to me about the multiple transportation options and you're moving to your secondary, your third level, and it sounds like even perhaps beyond in terms of backup plans and your backups to the backups you're even having to engage in. What might that look like? You mentioned charter flights, but are there other examples? I mean, and particularly when we're talking about having to move items potentially cross border when border crossings might not be open or there might be certain restrictions, how are you literally moving packages?

Scott Ohanesian: So one of our clients, again this was a number of weeks back when things started becoming difficult to move and more lockdowns across the European Union And for example, you saw Poland shut down its borders. Now that wasn't necessarily a shutdown to goods, but if you have flights that aren't coming in or you don't have reliability on flights, that's not an avenue that you can put a critical therapy in and you wouldn't want to do that. There's just too much risk. You need to mitigate that risk. So for example, with shipments, we had some placement of packaging we had to do into Poland to be able to actually then move the therapies from the sites to the patients' homes. We actually leveraged two drivers driving and obviously they have to switch off driving and there's certain limitations you have from a standpoint of how long a driver can drive. You have to follow all the regulations.

Scott Ohanesian: But we had those drivers basically driving in tandem to get to the border of Poland. And then what they actually had to do was then transfer that packaging to drivers in Poland because they weren't allowed to enter the country. And then those drivers in Poland now have to bring that packaging to the sites where the hospital staff could pack out the therapies and then the drivers could bring it to the patient's homes. And there's a lot more that goes into that obviously because of patient privacy. And we can talk about that a little bit later. But that's

one example and I think something that you'll see that's been the probably biggest challenge to the team and something I'm really proud of with our staff and I really think they've answered the call to ensure that shipments continue to move it might sound simple to say, okay, well these flights no longer were taking off or here's a secondary option.

Scott Ohanesian: But what happens when you actually have a flight and you have material booked and last minute they cancel? And that's where we've seen our team be proactive in planning, okay, when this occurs, how do we leverage the next best solution? And so what I've seen is some very creative usage of trains throughout Europe. So we're actually using trains to move material. I've been seeing direct drives and like I mentioned before, I've seen charter flights and those are really happening in instances where you either have a great deal of product that's going to have a big impact across many patients or you have a therapy that will have a huge impact on even one individual's life. And you can't allow that shipment to fail. And that's where we're seeing those alternatives being used.

Chris Riback: It sounds like pretty much everything except for bicycles. And my guess is you would use a bicycle if you had to.

Scott Ohanesian: We would do. We always tell our clients we're as flexible as can be. We ensure we're following good distribution practices. But our end goal is to always get the therapy to the patient on time and within the proper specifications. So I think we'd explore every opportunity to get it there, whether it's bicycle, spaceship, whatever one is available.

Chris Riback: Spaceship, now that would be good. That would be setting new standards no doubt. And just to be clear, can you offer direct-to-patient services throughout the world?

Scott Ohanesian: Yes. QuickSTAT has been offering direct-to-patient services across the world and it does depend on the regulatory approval that the sponsor or the local CRO has gotten in country. What we've seen with COVID-19 which has actually been really nice to see, it's collective learning and collective intelligence. So a lot of the regulatory bodies that might have rejected the use of direct-from-patient or direct-to-patient within their country in the past now realize that it's needed and that it's required in some of these cases and there's no other alternatives to get therapies to patients. Some countries where it actually wasn't necessarily approved from a regulatory standpoint, they've loosened regulations to allow it to happen. QuickSTAT is doing this across dozens of countries and we have the ability to provide this service wherever it's approved by the local regulatory body.

Chris Riback: And in this conversation, you've talked about therapies, you've talked about the clinical trials. Are the logistics, are the requirements different when we're starting to talk about the direct-to-patient shipments or are you leveraging all of the same challenges and requirements and capabilities in all of these different areas?

Scott Ohanesian: That's a really great question. I think the best way to explain it is that you can leverage other areas of your normal supply chain from a standpoint of your network. But from a

standpoint of actually delivering to a patient home, it's a very different supply chain because you're now ... if you're collecting or delivering to a patient's home, there's HIPAA laws, there's patient privacy laws. So there's all these other ramifications for having to blind certain pieces of data or ensuring certain pieces of data are redacted. And so you have the challenge of needing to update various stakeholders of what's happening within the supply chain, but doing so without sharing any potential information that should be kept private or confidential. So there's a lot that we leverage our IT systems for to do that. And the IT system QuickOnline that we utilize and QuickTrac does a fantastic job of ensuring that patient information is kept private.

Scott Ohanesian: But from a standpoint of delivering to a patient's home, what COVID-19 has also done is we're seeing this big surge in the use of the volume of shipments that need to now go to these patients' homes. But we've also had to change the way that we're delivering to the patient's homes or collecting from a patient's home. Because again, you're possibly dealing with an immunocompromised person at the house or somebody that's a caregiver or a parent that will be then giving this therapy to their child or their relative or whoever it might be. We need to make sure that that process is as contactless as possible, while at the same time abiding by the regulations. So generally when we're delivering a shipment, we need to get physical sign off that the shipment has been delivered to the right person. But, of course, to get that physical sign off, there's the opportunity for the driver and the person that's receiving the therapy to be somewhat at risk.

Scott Ohanesian: And so, of course, there's personal protective equipment and other things. But what we've had to do is implement and train and roll out new protocols from a safety perspective across their entire network. And we've had to do that in record timing. So it's just a new challenge we've had to face and our team's really done a great job to meet that challenge.

Chris Riback: Is there a short list of best practices for direct-to-patient logistics that you would take off?

Scott Ohanesian: What I've always told people is that when it comes to direct-to-patient, advanced notice and planning is key to ensuring the most smooth supply chain set up possible. Obviously under these circumstances that's often not the case. What I would say is communication, and what I mean by that is for the sponsor side or from the CRO side or whoever's setting up the direct-to-patient trial or direct from patient trial with the QuickSTAT team is really communicate what it is you want.

Scott Ohanesian: One of the nice things about QuickSTAT as an organization is we can be flexible. Obviously the foundation of everything we do is based upon quality and our quality management system, which is consistent across the globe. However, what we can do is customize. So for example, I have some direct-to-patient trials where the patient can't be dosed until the temperature data is provided back to that sponsor. And so we need to make sure that that data gets back to them as quickly as possible so the patient doesn't have to wait to take their dosage. We have other situations where there's home health nurses that are involved with

the delivery and there's going to be a returning sample. Note: remove info in brackets; add hyphens

Scott Ohanesian: And so again, I think from a best practice standpoint is to really understand what it is you're hoping to achieve with your direct-to- patient trial, what specific needs you have for that trial to make sure that the proper stakeholders are getting communication when they need it. And I think one other piece of advice I'd offer is understand and really think about which stakeholders need that information. Because what I've seen across many supply chain is sometimes when you have too many chefs in the kitchen or people that might not need to be involved with certain parts of the supply chain, that sometimes having those added stakeholders involved that aren't necessarily critical to that part of the supply chain can cause more confusion than clarity. And that's something I would definitely focus on.

Chris Riback: And in this work you're assisting the pharma biotech world with delivering human samples and plasma to aid them in research or deliver investigational medicines to patients. Can you talk specifically about how you're assisting the pharma biotech world in that space? And are there lessons or insights or even some of these best practices that you've mentioned where you're, in a sense, almost able to guide them in terms of how to make sure that these processes and these direct-to-patient capabilities run smoothly?

Scott Ohanesian: Sure. I mean, I think it goes beyond direct-to-patient. Like you said, there's obviously patient samples and therapies. We'll have people at their homes. And I think it goes beyond that. If you look at things like personalized medicine where whether it be autologous, going back to vein with one individual, whether it's allogeneic where it's going to be coming from a possible healthy donor out to many individuals. I think a lot of the best practices that you see generally throughout our industry, so chain of identity, chain of security, a lot of advanced planning on what routes can be used, a lot of those things to me just become magnified now under COVID-19, the impact of COVID-19 because if you've been doing those things all along, then you're already going to have a very strong basis for your supply chain that you can leverage.

Scott Ohanesian: And it makes it very easy to ensure that the right stakeholders are getting the communication they need with their supply chain when they need it. And also makes it very easy for us as a service provider to understand, well, when X, Y, or Z happens, sponsor A, B or C is allowing us to use these other alternatives. And so you're not having to ask permission. You've already proactively received that go ahead to be able to put us in the best position to ensure that shipment continues to move. So what I would say there Chris is it's a lot of the best practices, which is really just discussion and planning of how the supply chain should work really just becomes magnified under the impact of COVID-19. And if you have a strong supply chain already in place, it won't be seamless, but it will mitigate a lot of the risk here I suppose too during this time.

Chris Riback: Are there any examples, case studies that you can share obviously without revealing any client's identities of specific projects that presented challenges that maybe have been pretty exclusive to the times that we're living in?

Scott Ohanesian: I think just to start off from a 30,000 foot point of view, obviously as an industry, we're all in this together right now to try to find a way to treat COVID-19 to try to find a vaccine and to try to learn about this virus so that we can overcome it. And so what we've seen is a huge influx of projects that are actually designed around COVID-19. We're actually shipping antibodies from patients that have now become healthy after having had COVID-19 to see if that can be used for therapies. We're actually sending out compassionate use therapies and that's instances where there's a therapy that's actually been created to treat other diseases that they think might have an effect on COVID-19. So we're having to obviously send those therapies into hospitals where patients are being treated. We're having to do a lot with shipping reagents, which are used for testing when it comes to tests for COVID-19 or other sort of biomarkers in somebody's system.

Scott Ohanesian: It's been exciting for us as an organization to be able to feel like we're doing a small contribution to hopefully finding an answer or a cure. In regards to specific examples for clients, there's many to choose from. One large pharma client, they ended up switching dozens of trials across five continents in dozens of countries over to direct-to-patient. They were having challenges or they were concerned about the patients populations within their trials. Being able to have the access or taking the risk to have to go to a site. Again some of these countries, the subway systems aren't working or you don't want to be on them and public transport is not working.

Scott Ohanesian: So they needed to find a way across their trials and across the continents and geographies that they're covering with their trials to be able to get therapies to patients' homes. We were able to step in and do that. And in some of those situations you had patients that were actually traveling from Indonesia for example into Singapore. But they're not able to do that in order to get treated. So we're able to work with them and the local regulatory bodies in their countries to ensure that those therapies could get to those patients so they can get treated. And I think that's a great example of seeing an organization realize, hey, we need to adapt.

Scott Ohanesian: Another specific example was we had patients across Italy, France, Spain, Poland, The Netherlands, Belgium and Germany for a trial who were running out of study medication. And they weren't able to get to sites there as well. And all the therapy has to be moved at 15 to 25 Celsius, otherwise they couldn't sign off on the patient taking the dose. And so what had happened was they had contacted us and they literally had days where the patients were going to run out of therapy. And there was hundreds of patients across all those different countries. And so what we're able to do is work with them and actually have hundreds of packaging reusable shippers conditioned along with the temperature monitors that they needed. We were able to get the sites accessed through our online systems so they could complete the online booking to ensure patient privacy was followed. And we also set up individual methods of

contacting us for some of the countries where regulations are a little bit different around patient privacy.

Scott Ohanesian: And long story short, over the course of about 10 days, all of those patients were able to receive their treatment. And that CRO and that sponsor was extremely excited because they were in a really in a state of panic when they first came to us. And we as a team felt proud because we were able to ensure the patients were able to get the therapies they needed. There's been many other cases similar to that and that might be just moving a patient samples back to the central labs that need them in places like Argentina and Brazil where there's severe lockdowns put into place, but there's still patients that are going to some of the sites. And it'd be a real shame if they took all the trouble to get to a site to have their blood drawn and they're not able to get the results back. So we want to make sure we don't let them down.

Chris Riback: Yes, I imagine that there is a certain amount of pride. The other thing I'm really finding myself wondering in listening to this is how's your blood pressure Scott? I mean with all of those lives and patients and transportation and materials on the line, you keep your blood pressure okay? Note: remove info in brackets

Scott Ohanesian: I think all of us have to just,have to just organization-wide, we have to really stay level and stay even keeled because things through our industry of logistics, it's really a 24/7 industry and there's always going to be something that's going to rise up. So I think for me, my blood pressure stays pretty even. And I think the team also gives me a lot of confidence. I know that we got really strong team members. I know we really do a great job of internal communication.

Scott Ohanesian: We have great daily calls and daily updates so I can see what's going on throughout our network. And we really try to be a voice of confidence for our clients because we need them to have trust in us and we need them to know that we're going to be here and we're going to be calm, cool and collected. And when things don't necessarily go the way we want with the flight getting canceled or something else, that we'll look for the next best solution and have already been prepared for that so that we can ensure that their shipment doesn't get stopped.

Chris Riback: Describe for me how you consult with clients in terms of actually helping design for them as a supply chain.

Scott Ohanesian: I think a large part of what we do is really consultative. You're acting as a consultant, you're being an advocate for your client and for their client sometimes depending on the nature of the relationship. We really need to understand the why as well behind what they do. And being a consultant, that's really important because if we assume we know why they're trying to do something, but we don't really know that why, I don't think we're going to develop the best supply chain. So we absolutely act as consultants. We want to understand the what, the how, the why, the when, all of those things. And so what we really try to do is understand,

well, what is it you're trying to build? What are we trying to design for you? I'll give you an example.

Scott Ohanesian: For one of our clients now we really are taking on a consulting role. We're helping them design their entire autologous therapy supply chain. And what's interesting about this is we're designing it for their clinical trials. However, their intent since it's autologous and that means again, it's vein-to-vein. By definition, you can't scale it up in the same way that you would scale up a normal small molecule drug supply chain when it commercializes. And even though this therapy might not be used to treat millions of patients where some of those small molecule therapies might, you still have to go from maybe dozens of sites and hundreds of patients to hundreds of sites and tens of thousands of patients. And so from a consultative standpoint, we're going to need to understand, well, where are we going to be manufacturing this? Where do you want to have the sites involved?

Scott Ohanesian: Because how much temperature, what temperature do you need to have across the shipment of the starter material or the therapy? And how much time do you have to get it from the site or from the patient into the manufacturing center? And all those things are interconnected because let's say for example, it's a Japanese owned company and they absolutely want to have Japan involved in the trial and sites in Japan, but the cost of a technology transfer to manufacture that therapy in Asia or in Japan would be prohibitive or it's just not there for whatever reason and they want to manufacture in the US or manufacture somewhere in Western Europe. Where that therapy or where that manufacturing facility is, is going to have an impact on which sites you can actually support based upon the time it will take to get the therapy back to the site after it's constituted depending on the science or on the starter material coming in.

Scott Ohanesian: All of that really needs to be well thought out and that's again where we really need to come in early stage and say, let's plan this out, let's look at the flight options. And then it's also not just what can be done, it's cost because it's great if we can develop this amazing supply chain that can get the material there. But if the cost is going to be exorbitant, it might work well for their clinical trial but it's not going to be scalable when they go to a commercial state. So they need to understand what that is because if they decide they might do a tech transfer and establish other manufacturing facilities across regions, that might not be a challenge that they need to deal with now. But if that's not the intent or if that's not the long-term plan, we need to understand that because it completely does an alteration and a shift in how you set up that supply chain.

Chris Riback: And when you're working with a client, when you're designing a supply chain, does that include temperature control and discussions around the packaging required for that too?

Scott Ohanesian: Temperature control will definitely be part of that discussion. I think there's a lot of variables that will come in to play. So I think what you see Chris, is you're going to see temperature control. You're going to see time that you need to move the material. You're going

to need to see what are the regulations around import and export on that material. You're going to need to understand chain of identity. You're going to need to understand chain of security. How do you ensure that that therapy or that product wasn't tampered within transit? You're going to need to understand communication and which stakeholders need information when. All of that really becomes tied together.

Scott Ohanesian: From a temperature standpoint within the personalized medicine space or even just the regular biologic therapy space, temperature has really become a huge part of it. There is now, you have good distribution practices that our people are wildly following. We're seeing more strict regulations around what temperatures need to be provided. So in the past, if something was ambient, it might be able to go whatever the outside air temperature was. Now with controlled room temperature being news, we really have to ship that material at 15 to 25 Celsius. For a lot of biologics or fresh apheresis, it's going to be shipped at two degrees to eight degrees Celsius. And then what we're seeing a lot within the personalized medicine space is along the cell based therapies are actually having to be shipped cryo frozen. And that brings a whole new set of challenges because cryo frozen, what that means is you're shipping at -196 Celsius, -150 to -196 depending on the definition of the quality team we're working with.

Scott Ohanesian: And that means you're going to have to use a liquid nitrogen dry shipper. You're going to need to ensure that the partners you work with, the airlines, the drivers, they understand how those shippers need to be utilized. The impact of the orientation of the door of the liquidation shipper actually impacts the whole time of the unit. So that's something that needs to be coming to consideration. All those things really have to be looked at and monitored throughout transit to ensure that the product maintains its stability it needs while it's being transported.

Chris Riback: Scott in listening to you and listening to you walk through the logistics and the packages and I really felt this when you were talking about therapies and clinical trials. There are patients at every end point, maybe even beginning point of these logistics that you were discussing. Those patients seem to be top of mind for you. Do you almost visualize them as you're talking about these logistics? Because that's the sense that I'm getting in listening to you.

Scott Ohanesian: Yes. I think we as an organization have to be patient-centric. I think that's a buzzword that the industry has thrown out a lot. But I think it's true. You have to be patient-centered because ultimately that's your client. You could say your client's the pharmaceutical company, but their client is ultimately the patient. It's the person that's going to receive the therapy and that's where the impact is. And I think one of the things that we've done as an organization is really trying to focus on that. We have something internally. It's an educational kind of continuing education for all the QuickSTAT employees and it's called the QuickSTAT Academy.

Scott Ohanesian: And a big part of that is understanding what the impact of these shipments have on the patients. So what does that patient sample, if it's lost or if it's not even tested, what's the impact on the patient? What's the impact of a therapy being delivered to a patient so

they can receive treatment? And that's absolutely the core of what we do. And I think that's a big motivator. When you talk about ... when we hear about a lot of the great leaders saying there needs to be a mission, there needs to be something that's clear to the entire team of what they're working for, that's our mission. It's the patients. And I think that's what makes a lot of people go that extra yard. It's not just moving a box or a package. There's somebody at the end of that it's going to have an impact on. And that's really important for all of us to remember.

Chris Riback: And what about the people internally? I find myself thinking about delivering these goods and these types of materials around the world, and you have to have that level quality people at every touch point.

Scott Ohanesian: Yes. I mean it's going to come the most client-facing person there is, which is a driver straight up to our executive management team. Everybody needs to have that same sort of drive to deliver and that needs to be across the entire organization. That knowledge and understanding and that calmness under pressure needs to be there because every shipment we manage, there is pressure felt behind that. We want to make sure that it's right. So that's really ensuring that our network management team is really working with the driver networks we're using and working with our local partners within every country. That's ensuring that the CS team understands the clients that they're working with and really builds that rapport with the client so they know what they want and they can anticipate.

Scott Ohanesian: That's the operations team understanding okay when certain roadblocks or obstacles come up, having gone through it before and having dealt with it for many years, that expertise and that experience is invaluable, especially in a situation like today where a lot of the things we're facing are things a couple months ago we probably never could have imagined we'd have to face. So, I think across the entire organization it's having that ability to be stoic, the ability to see the big picture of what we're trying to do. And also having that experience for having done this time and time again to fall back on and really make sure that our clients have that level of trust and have that level of communication so they understand what it is we're doing ensure that their supply chains don't stop.

Chris Riback: Scott to kind of start to close out this conversation, two items. First one, conditioning facilities. Can you just tell me a little bit more, how does this help clients? How does it work?

Scott Ohanesian: Conditioning packaging is really something we've had to take on over the last number of years, just due to the demand of clients and the demand that the science and the therapies have been created are required to ensure that they're shipped in the correct temperature. QuickSTAT has expanded our conditioning capacity around the world. So pretty much wherever we need to condition, we can, and that's based upon the demands of our clients. And really what that means is there's a few things. One is it allows us to use some of our most robust packaging possible to ensure that the samples or therapies or material we're shipping is going to be maintained at the correct temperature and not deviate from that temperature.

Scott Ohanesian: And another nice thing about it too is a lot of the packaging we're using now is reusable, which is nice from an environmental standpoint. It really helps reduce carbon footprint. So there's a number of good things that come out of it, not only the environmental side and not only the robust nature of the packaging that we can use across those conditioned facilities, but it actually comes into reduced cost, which I know a lot of our procurement contacts across the industry seem to like as well.

Chris Riback: I'm sure they do. What would be some final thoughts you'd like to leave with the listeners? Are there the top three to five things related to the work you've been involved with, especially during this exceptional period of time that's particularly important for the QuickConversations audience to keep in mind?

Scott Ohanesian: Sure. I think COVID-19 has shown us that having a strong supply chain plan and working closely with your partners is critical not only on a time of a pandemic, but always. And I think what I hope people take from this is that we start taking the collective intelligence that we learn from the pandemic. What I mean by that is understanding that maybe the supply chain models we had in place before have to be looked at to see how can we make them more efficient? How can we build risk mitigation into those supply chains? How can we build additional capacity into those supply chains so that if a situation like this ever was to occur again, we could leverage it? But also to think differently to say, well, maybe even not during a pandemic, this new supply chain model might be advantageous towards us.

Scott Ohanesian: So I think having that openness to not just leverage this in a time of crisis, but to leverage these new supply chain modalities outside of that is one. I just want let all of our clients and partners and people that we work with know that we're here for you, that we're very much motivated to continue to ensure your supply chain is running and we care about you and we care about the patients that you're serving. And other than that, I think during this challenging time, we're seeing a lot of people come together and just keep seeing the phrase, “stronger together.” And I think this COVID-19 has had a huge impact on the way all of us throughout society interact with each other. And I'd just like to say one of the nicest things I've seen from it is it really does show a great side to people when you see people work together and overcome these challenges and here at QuickSTAT we're very much committed to doing that for everyone.

Chris Riback: And speaking of that all in for the cause, your parent company Kuehne + Nagel, are they a part of the transportation solutions?

Scott Ohanesian: Absolutely. I think what Kuehne + Nagel can do is really they have some great synergies to what QuickSTAT can do. Obviously, they're a much bigger parent organization and they're dealing with sea freight and air freight and overland and they have phenomenal solutions for their clients. And they've been around for 125 years. So,they've seen many different challenges throughout their existence. I think there are a lot of complementary

services that they're able to offer. And obviously, with QuickSTAT there's a lot that we can offer within the clinical space, the preclinical space and the personalized medicine space.

Chris Riback: Scott, thank you. And I know you would want to pass it on as well to all of the individuals globally on the front lines and the back offices who are helping make sure that those materials that need to get to and from patients anywhere in the world that those materials and packages get there.

Scott Ohanesian: Chris. Thank you very much.