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| A | Okay. And it's going to help us with reporting. Also, the organization may want to listen to the recording at a later time. Do I have your permission to give them access to the recording? |
| B | Yes. |
| A | Very good. Thank you. In that case, we will plan to take the detailed notes about the content of your call today. So thank you very much. We're going to start our discussion. I'd like to take a moment to get to know you a little bit better and where you work. Could you please tell me a little about your institution? What type of hospital do you practice in? |
| B | Sure. So I'm in the Northeast. I work in a 600 bed facility hospital, part of a large system. I'm an intensiveist critical care boarded physician who 100% spends his time in the ICU. The ICU is comprised of it's a combined medical surgical ICU. So those are the type of patients that I deal with on a regular basis. |
| A | Very good. So is it Med surgery the only ICU's that are present, or do you have other intensive care units in your institution? |
| B | Yeah, we have plenty. We have the cardiothoracic ICU, we have the psyche, we have the neonatal ICU, we have a burn ICU, and then we have the neuro ICU. But that's part of the MedStar ICU that I take care of patients. |
| A | I see. And what are your primary responsibilities? Did you say it was the Med surge that you work in? Primarily, yeah. |
| B | I'm the director of Med, Serge, and that's where I work. |
| A | Oh, very good. And then what are your primary responsibilities? |
| B | There so pretty much rounding on all the patients on a daily basis with the residents and nurses, students. It's a collaborative team, pharmacist dietitian and managing those patients, performing intensive care procedures in those patients, like central lines, intubations, chest tubes, arterial lines, et cetera. But managing everything from head to toe with regards to the patient organ functions, nutrition, rehab, everything. |
| A | Okay, very good. I see you that you cover. What would you say are the top three diagnoses for patients requiring internal nutrition or interval nutrition? |
| B | I guess the top three would be respiratory failure secondary to pneumonia, sepsis would be another diagnosis. And GI bleed. |
| A | Okay. |
| B | Those tend to be the more common ones. |
| A | Now, can you talk a little bit more in detail about your responsibilities with respect to management of ICU patients that require nutritional support? |
| B | Yeah. So again, from our intensive rounds that we do from head to toe, one of the areas that we focus on is nutrition. So depending on the patient's emission, diagnosis, comorbidity nutrition needs, in collaboration with our ICU dietitian, we determine what's appropriate feeding for this particular patient. |
| A | Okay. |
| B | And that decision is based on a collaborative approach between both of us, anywhere from can the patient get entry feeds versus parental feeds and what type of nutrition they need and calorie requirements, et cetera, et cetera. Okay. |
| A | What would you say I'm trying to get a better idea of the percentage of ICU patients that require each type of nutritional support, such as the supplemental nutrition. Do they all get, I guess, nutritional evaluation? |
| B | They all do. So we actually have something I instituted. We have a closed model, ICU intensifies driven. And part of that model is that the dietitian she in my situation will see every patient within 24 hours, and the diet appropriate diet goal diet is optimized within 24 hours of the patient being eligible for feeds. I would say about 95% of the patients in the IC that I work in receive entropy. I would say less than 5% receive parental. |
| A | Okay. |
| B | And out of that, 95%, I would say about 100% receive some type of supplemental. |
| A | Okay. Utilize or does your nutritional support person utilize indirect calorimetry, or is it more of a direct devices utilized within your ICU? |
| B | She does. She does use the indirect calorimetry to determine the needs. |
| A | Okay. We'd like to now focus on our discussion at the current practices around nutritional support within the ICU Department. I guess starting with the nutritional assessment that you mentioned to prescription, delivery and monitoring. Can you walk me through the nutritional management? I know this is not a typical ICU patient, but if you could try to walk me through what a nutritional management looks like, who's involved, and are there challenges you face currently? |
| B | Yeah. So primarily it's involved by the decision maker. It's a collaborative approach, but for example, the ventilator is managed by respiratory. Obviously, the nutrition is managed by my certified nutritionist or dietitian. So based on her assessment and what the needs of the patient is in a collaborative discussion, we determine what the calorie requirements are in a 24 hours period, and we'll make a decision of, let's say we need to use Jeopardy or Necro or whatever nutrition the patient may need and of course, any type of extra supplements that may need to come with that. |
| A | Okay. Let's see. Currently you had mentioned nutrition will use indirect calorimetry. Do you know what device they're currently using? |
| B | Good question. I do not know. |
| A | Okay. Do you know, are there any hospital protocols or guidelines that are followed by the nutritional support person that comes in and does the initial evaluation and management? |
| B | Well, it's more from their Department, but I know they follow the Aspen guidelines based on that. |
| A | Okay. Are you using indirect color imagery on all patients or they're just certain profiles that they use that on some and not others? |
| B | Yeah, I would say the majority they do, but it depends, obviously, on the patient. A lot of IC patients come in for, let's say, DKA management, and they're going to be in and out within 24 hours, or we do a lot of post crannies where a patient has a mass in their brain. They do craniotomy. They're going to be out in 24 hours. Those kind of patients don't usually get that intensive and direct teller in theory, because they're not going to be with us for a prolonged period of time. It's more for those patients who are on the ventilator that have a ICU stay of at least 24 hours, probably in the neighborhood of at least four or five days. Those are the type of patients that they'll focus on, the patients who may have already been nutritionally depleted prior to entering the ICU, who may be in septic shock, severe sepsis, severe pneumonia. A lot of our Coban patients, for example, right now are extremely sick on the ventilator. Those are the kind of patients that are getting indirect color imagery. |
| A | I see. What percentage of patients would you say would be postop for 24 hours and kind of come through there versus the ones that are staying 24 hours? |
| B | I'll play the exact number. It's about a third of the patients. Yes. Third of the patients are going in and out within 24 hours. |
| A | Okay. And maybe while we're talking, I don't know if you have access. Is there a way you could find out the name of the IC device by chance that you're utilizing? |
| B | Yeah. It's funny you said that. I was actually texting her. |
| A | Okay. I guess maybe while we wait for that, I have a lot of questions. So I want to try to maximize our time, if that's okay with you. Let's see here. Thinking about the overall workflow that you and your facility manage for ICU patients, how would you describe your satisfaction with your current nutritional support team? |
| B | I'm pleased. The only thing that is always the elephant in the room is the staffing. They're not always available on the weekends, which obviously it's a seven day work week. It's always busy. So they're there like Monday to Friday. They have other assignments. Sometimes people get call out sick with Cobid so they can't see all the patients all the time. So that's a problem. |
| A | That is a problem, I would say. Yeah. I'm trying to think how would you remedy that situation? Do you think it would be better training or whether you need just more support staff in order to get you the information or better quality care for these patients nutritionally wise? |
| B | I think it's just advocating the need to the C suite. I think for them they see it as a cost as opposed to a benefit. But we do know that optimizing their nutrition. The literature has shown that patients can come off the ventilator faster, can leave the ICU faster and be discharged. So you can save on the back end. But the unfortunate part is there's obviously costs involved in. So they don't over staff more or less. They staff just as needed. And when the volume increases and with someone calling out sick, that can put a strain on the system. They also tend to, for particular reasons, why put the nutrition team in the ICU when we have patients that need to get discharged today on the floor, and they need that consult done. So that's more of a priority than the ICU because these patients are going to be in the ICU, but on the back end of it, if they get the appropriate nutrition assessment, that can actually save money. So I think it's the awareness of the value of just having the team, having the appropriate equipment, like indirect telemetry upfront costs, but there's a lot of savings and obviously best care for the patients. |
| A | I see. Okay. So I'd like to try to understand the purchasing process that your facility went through to bring the type of indirect calendar imagery in, I guess. Were you involved with that or are you familiar with these processes of bringing in devices? |
| B | Yeah, I'm the physician representative for the back committee. We have a value analysis committee. So each hospital within the system has a member, a physician, and a nonphysician. So let's say I want to bring a product on board. I will go to our internal VEC, get a trial, do the trial, and then if it's something that's of benefit, I'm also chair of the ICU collaborative for the system. So this is something I can bring to the other ICU's and say, listen, this is what's working really well for us. Is this something that we can standardize throughout the system? And if you get a Yay, I usually have the 80 20 rule, 80% support. Then you can bring it to the buy analysis committee for the system and try to get that approved. So this product was actually not brought to. I mean, I did vouch for it, but it really did come from the dietitian Department, not so much from us. |
| A | Okay. That's extremely good, helpful information. And so I want to make sure I understand who all is involved. I heard you mentioned there's the value analysis committee that you're a part of and how many people like are on that and then how many are on the ICU collaborative. |
| B | Yeah. So you're talking about a dozen hospitals in the system. So working backwards from the ICU collaborative, there's an ICU director, MD, and a nurse manager from each ICU. So if you think about that, that's about 24 people. If you have a twelve possible system. In addition, I have one person that represents dietary for the system. We have one person who represents the pharmacy for the system, ICU pharmacy, that is ICU dietitian. So they sit on this committee along with a few other people, but that's pretty much the brunt of it. Now, as far as the value analysis committee within the hospital, most of the C suite individual, the CFO in particular, I sit on it, and whoever has a product, they will come to this committee and present the need for it. Part of that need will be the benefits versus what they have now. And also, obviously, the cost always comes into part. |
| A | Okay. All right. And I've got a few questions about what you've just been talking about. How would you define if something is not a benefit, like if a particular product is not a benefit? |
| B | So, you know, again, I think it's obviously that could be somewhat subjective. But again, the benefit in the sense of can there be a decrease in life? Let's stay, for example, improve morbidity, mortality, other things that would be considered even if the overall length of stay has not changed. But let's stay in the ICU, for example. That would be a benefit. Anything that benefits the patient as far as experiences, like something like that, we can offer them, that gives them less pain. I think that's really the benefit. And then, of course, what the costs are. And of course, if it's something the Novo, that there is nothing in the arena, then that's pretty simple. But if you're trying to replace something from before, then you have to show the benefits, the additional benefits of a product for. I'll give you an example. We're looking at Disposable Broncos Coast. I know it's a different arena here, but we had one. There was another one that came to market, and the benefits of that one had better visualization, better suction. So there were benefits that the clinician would experience and be able to do the procedure faster in a more safe way. So that was a benefit. |
| A | I see. Is that what creates the Yay that you were saying from the committee? |
| B | Correct? Yeah. And again, it's a vote, so it's democracy. |
| A | Okay. |
| B | So I think the product that we have is the Delta track, too. |
| A | Okay. |
| B | Yeah. |
| A | All right. Let's see. I want to make sure I get all my questions asked. I'll be asking some questions about it. Thank you for finding that information out for me. When you do a trial of indirect calorimetry or another device, what is needed for the trial and how long do you trial that product? |
| B | Typically, it's dependent on the agreement that we have with the manufacturer, the company. They tend to I've seen as short as 30 days, and I've seen as long as up to a year. |
| A | Okay. |
| B | Yeah. So it's dependent on the agreement that is signed between the powers that be. It's not me who signs it's, obviously our corporate and the company. So whatever agreements and all that competes and all that stuff that they deal with. |
| A | You had mentioned some data that was needed when you trial a product. Is that predetermined, like what data you're looking for or what kind of data are you looking for out of a trial? I guess is what I'm trying to understand more. |
| B | Sure. So something like this, the data I would look for is one would be these are usually vented patients, usually on a ventilator. So can I get these patients off the ventilator faster? Because obviously, being on a ventilator is costly. It also puts the patient at risk for pneumonias complications. We're sedating them while they're in the ventilators. That also just compounds to the amount of deconditioning that they're going to have and the amount of rehab they're going to need on the back end, which then translates into getting them off the vendor faster. Been I've doing this for 15 years, so I could tell you I noted that very well. You're getting them off the ventilator faster, you're able to get them out of the ICU faster, you're able to get them to rehab faster. So that's one of the things you can look at. Obviously, recovery from the illness, that always helps more busy mortality is pretty simple, although hard to show that those kind of numbers are very difficult. So I don't really concentrate on that. I think I looked at overall, the length of stay starting for an event and sometimes needs for dialysis can also be looked at in some patients if this might be able to decrease that or minimize the need. So I think those are some of the things I would look at. |
| A | That's great. That's good information, and it sounds like practical information you're looking for. How frequently is this? You said it was a Delta track three. Is the device you're using? |
| B | Delta track two? |
| A | I think two. Excuse me, how frequently is it being used in your system today? I guess I'm trying to understand. Is it in all the ICU departments currently or is it selective patients? Does Nutrition determine it? |
| B | Nutrition determines it. I have to say it's pretty much concentrated at the hospital I work at, which is more of the mothership of the system. I think there's one other hospital that also is as robust as we are with calculating the appropriate caloric requirements, but again, it's driven and steered by nutrition. |
| A | Okay. Let's see. How satisfied are you with that current device and support? Do you receive support from the company for that device? |
| B | Well, Nutrition, they do. I don't so much. |
| A | Okay. |
| B | Yeah, they do. |
| A | Yeah. I appreciate you being candid about that. That's good to know what conditions from the patient staff or hospital point of view impact weather and how your current indirect calorie imagery systems use. So I guess you've mentioned Nutrition decides it. Do you have any other information on that, or if not, we can move forward? |
| B | Not really. That's pretty much it. |
| A | Okay. Let's see. Are you aware of any other currently available indirect calorietry systems for ICU use? |
| B | Not by name. I know when I go to these critical care conferences, I do like to browse and see what's available, but other than actually using it, no, I have not. And I'm not familiar with the names. |
| A | Okay. All right. For prescribing, how does the prescriber use the IC measurements to determine nutritional support prescription? Do you write prescriptions? I guess for these patients? |
| B | Yeah. I mean, my residents put the orders in it's based on the nutrition calculation, and she gives us the appropriate order and we enter that order. |
| A | Okay. What value has your facility seen with using this IC device currently and is it measured in any way? |
| B | Yeah. So to your question, no. To my knowledge, it's not measured in any way. I will say that the ICU that we run here is pretty robust in the sense that we do have one of the lowest mortality, lowest length of stay, really good outcomes, and that has been seen even with the pandemic. I know it's multi factorial, and that's why it's hard to really quantify of what benefit the Delta track may have. But I do feel that these patients are getting appropriate nutrition within a 24 hours period. And this helps with that calculation. |
| A | Okay. Is the Delta track that you're used on just ventilated patients or is it used on others that aren't onto the ventilator so primarily on ventilated patients. |
| B | But also they do use it on patients who are I would say the ones who are in this high flow that we use. To my knowledge, they also able to calculate the caloric requirements of those patients, too, because they tend to be like your COPD patients. And patients are really decompensated and not just from their mission, just from their course of disease of COPD that they've lost a lot of weight, they lack their appropriate nutrition, and then they need a lot of catch up. So these patients, we tend to get an appropriate killer requirement and provide them the appropriate nutrition from there. |
| A | Okay. I'd like to take a moment. Just are there any other pain points that you're aware of when it comes to nutrition support for ICU patients that we haven't discussed so far? |
| B | No. |
| A | Okay. All right. This has been very good feedback so far. Thank you. The next section, this interview, I'd like to show you an indirect calorimetry device which is available today in the market. Give me just a moment. I want to share my screen. Have you heard of this type of device before? If you see it on your screen, hopefully you do. |
| B | I see it on my screen. Yeah, I've seen it. |
| A | Okay. And what's your overall impression, I guess, of this device? |
| B | Well, I think for someone who's an expert in this area and understands all the nuances and all those numbers, and I guess it's helpful to the average person, they'll probably run away. |
| A | I see it could be pretty daunting to somebody that could be training. I understand. Okay. Do you have an opinion as to how this compares to your current device that you're utilizing? |
| B | It's not too different. It's similar. Again, I don't record or get the code that's done by my dietitians, but when I see them doing it, it does look very similar. It looks a little bit more sophisticated. It looks a little bit more up to date. I think what we have is a little bit older. A lot older, actually. |
| A | Okay. So who would be the person that would utilize this device? I guess. I guess it would be the nutrition person. I'm assuming that would measure resting energy expenditure versus predictive equations that would impact outcome. Would it be just the nutritional person that comes in and does the initial evaluation? |
| B | Correct. And she would then discuss it with us. She would discuss it with us, but yes, she would provide that information. And what's the requirements? I know a lot of times she's doing it along with the respiratory therapist because if they're vented, we need to have the respiratory therapist in the room too. |
| A | I see. How familiar do you think respiratory therapists are with this device? Do they know how to calculate caloric expenditure or is that something that just sticks the mainstay of nutrition in their team? |
| B | Mainstay of nutrition? Yeah. We have a lot of travelers to respiratory, so it's not possible to educate all of them on this Because a lot of them are just not even ours. |
| A | Oh, really? Okay. What percentage of nutrition gosh? So these are nurses just coming in working part time. That would cover, I guess, when you're low on staff for nutrition. |
| B | Yeah. |
| A | Oh, wow. Is that a big problem for you all or is it pretty much the travelers can come in and hold their own, so to speak. |
| B | It's a nationwide problem right now just because of pandemic. So we're all competing for. |
| A | Wow. Okay. All right. So how would a device like this be adopted into your facility? I'm assuming nutrition would come to you or someone else on that vac committee or could you give me how would that work? |
| B | Yeah, for example, my IC nutritionist would say, hey, Doc, there's a new technology that I like to replace our old technology. And I'll be like, okay, let's look at the research. Let's look at if there's a white paper, randomized controlled trials, whatever. There may be case reports, let's compile that, let's look at it. And then if it looks good, I'll be like, okay, so let's present this at the back committee. We'll both be there. I mean, I'm usually there anyway, but she'll present it. And then the questions would be what's the benefit versus what we have? And then, of course, what are the costs and stuff? |
| A | I guess to talk about budgeting, where does budgeting come from for getting a device like this? For both, I guess, devices and disposables, right? |
| B | Something like this? It depends because it's going to be primarily used in the ICU. I would probably expend it out of the ICU budget, but different hospitals do it differently. Sometimes it comes out of dietitian, their department's budget. But in our hospital, it would come out of our ICU budget. |
| A | Okay. And then timeline, let's say, start to finish from you hearing about you hearing excitement from nutrition about a new device, how long would it take from hearing the excitement to having it implemented. |
| B | Again? I think it depends on who are the individuals who are bringing it. |
| A | I see. |
| B | Yeah. So myself, I could probably get something like this. If it's something I'm passionate about, I think it's going to bring a lot of value. I could probably get this trial within a couple of weeks and then look into purchasing it a couple of months later. But I have friends in different institutions within the system, and it might take them a year to trial. It okay. |
| A | What barriers do you foresee with adopting a device like this? |
| B | It's always cost. Unfortunately, it is. But if you have the right team and I'm very fortunate, in my hospital, I have the right team that will they listen to the whole picture and they see the whole picture and they say, okay, I understand there's upfront costs, but what are the benefits? Where is the downstream benefits from this for the patients, for downstream savings? It's not all about money all the time, because if you can provide benefits to the patient, that in itself can make it more profitable in the long run. But again, like I said, I'm just fortunate to have people that listen to me and understand that when I bring something after doing my due diligence and considering if something's really expensive, I won't bring it to the committee because this is just going to this is not something we can have at this time or if it's expensive, but I see a huge benefit. I'll bring it and we'll see what our budgets are like. And if something we can make it happen. And it also depends on what the standard of care is and guidelines. So if it's part of the standard of care and guidelines, then it's almost like a no brainer. It's like something you have to have. So I think there's a lot of nuances and there's a lot of moving parts to this, so it depends if that makes sense. |
| A | Yeah, it does. And I appreciate you sharing that with me. You even mentioned guidelines. Can you talk a little bit more in detail about that? Like, what are the guidelines today? |
| B | Yeah, I mean, the guidelines do not specify that you need to do indirect colormetry device to have an icy device per se. They do require that the patients get optimal nutrition, whatever that means. And obviously based on the Hormona abilities and based on their weight, that has to be calculated. But to my knowledge, you must have an IC device in your ICU. So I think if it was a non negotiable, then that's easy. Obviously, having something like this gives you very accurate information, and with accurate information, you're obviously given the best care to your patient, which can lead to a lot of benefits downstream. |
| A | Okay. I called up another slide I'd like for you to look at. And is there anything in this list of barriers to adoption that jump out at you or that we haven't discussed that would be helpful for us to know about that would be a barrier. |
| B | You said you're going to put a different slide. |
| A | I apologize. What do you see on your barriers to adoption? Do you not see that? |
| B | No, I still see the same slide. |
| A | Okay. Let me see here. Let me stop sharing, and then I'm going to share screen again and let's see if this works. How about that? Do you see that now? |
| B | Yes, I do. |
| A | Okay. Very good. Sorry about that. So here's a list of barriers to adoption. There are two slides, and you wouldn't mind taking a moment to look through and see if there's something that we haven't discussed that maybe we should be aware of. |
| B | Okay, I read that. |
| A | So here's this slide, I guess for this slide, what would you say would be the top barriers on this slide? |
| B | So I think the first will be is not substantially better than what I'm doing today, I think. |
| A | What else would be what you're saying? I guess you need to be convinced that it would be substantially better, I guess. Okay. All right. Anything else on here? |
| B | I think with that, it would be difficult to convince staff on the benefits of using advanced measurement tool. If it's not substantially better, that would be part of it. |
| A | Okay. And this is the second slide of barriers to adoption. You could look through these and let me know what you think might be the top barriers in your practice. |
| B | All right. So there's two parts that I would agree with. So potential risks associated to high expenditure on a new device without the guarantee of better patient outcomes. And then the last one, I would need to be able to trial this device before deciding to buy. |
| A | Okay. And I know this is probably hard for you to how long would a trial need to be for a device such as this? Do you think would need to be trialed for a decision to be made? |
| B | About 60 to 90 days. I think that's ideal. |
| A | Okay. |
| B | That way you can ensure a performer of patience to make that decision. |
| A | Okay. Very good. Now with the remaining time that we have, I'd like to focus our discussion on the key factors or aspects that are important to you. When thinking of a new indirect calorimetry device, what would you look for in an indirect colormetry device? What would you look for and why are these factors important to you? |
| B | Yeah, I think one portability ease of use, something that doesn't take a rocket scientist to figure out because we have so many different individuals. And as we mentioned before, there might be travelers. So you want to make it something that's a little bit more very user friendly, more or less, and something that provides the information as quickly as possible. And then, of course, from the company, I think support. I think having that 24/7. I don't know if you need 24/7 because it's not usually done in the evening but at least daytime support either in person or with the technology we have now everything's FaceTime just to have that help so it can be alleviated in real time. That's pretty much it. |
| A | Okay. And what would you say to what extent are these factors being offered in the current market I guess for indirect calorimetry. |
| B | I honestly don't know because again like I said the dietitians work on it separately than I do. I haven't really interrogated them to find out what issues they may be having. |
| A | Okay. I've got a new slide here. Let's see here. I'm going to show you a list of factors that might be important to you in selecting a new device. If you wouldn't mind reviewing I'm going to kind of go through these slides quickly. Can you just let me know if we've missed any factors that are important or that we might have missed in our discussion that would be important to you. So this slide has device quality. The next one is device quality and the next one should be ease of use with some key questions. See the next one is manufacturer support as we talked a little bit about let's see. Here we go economic and we've talked some about that already. Is there anything else that you think is important for the manufacturer Commission this market research should know about or something that we haven't discussed that you'd like to add? |
| B | No, I think we've covered it all well. |
| A | Doctor thank you very much for your time today. You've been very helpful and I hope you have a great rest of your day. |
| B | Thank you so much. I enjoy the discussion. |
| A | Thank you sir. Bye. |