BBGuy Essentials 096CE:
Navigating Blood Shortages with Claudia Cohn
Released March 30, 2022

Claudia: Hi, I'm Dr. Claudia Cohn. I'm Chief Medical Officer of the AABB and Director of the Blood Bank at the University of Minnesota, and this is the Blood Bank Guy Essentials Podcast.

Joe: Hi, everybody! Welcome back to Blood Bank Guy Essentials, the podcast designed to help *everyone* learn the essentials of Transfusion Medicine. This is episode 096CE, and my name is Joe Chaffin. Today, we are going to get into some detail about the nastiest blood product shortage I've personally ever experienced with my guest, Dr. Claudia Cohn, Chief Medical Officer of the AABB (that's the "Association for the Advancement of Blood and Biotherapies," in case you haven't been paying attention!).

But first, this IS a continuing education episode. The free continuing education credit is provided by TransfusionNews.com, and Transfusion News is brought to you by Bio-Rad, who has no editorial input into the podcast. This podcast offers a continuing education activity where you can earn two different types of credit: One *AMA PRA Category 1 Credit™*, or one contact hour of ASCLS P.A.C.E.® program credit. This activity also may be used to fulfill Lifelong Learning Continuing Certification requirements for the American Board of Pathology. To receive credit for this activity, to review the accreditation information and related disclosures, you just need to visit www.wileyhealthlearning.com/transfusionnews. Don't forget: The continuing education credit is no longer available two years after the date the episode was released; in other words, credit for this episode will expire on March 29, 2024.

I have been a blood bank physician for a long time, and I can tell you that blood shortages are not new, especially places where I have practiced for big chunks of my career, such as California, Washington DC. However, I can say without hesitation that during the COVID-19 pandemic, from 2020 until when I'm recording this in March 2022, the shortage we've seen across the United States and in many parts of the world has gone beyond anything I have *ever* seen. Many US blood centers have seen days where they literally have ZERO units of red cells of some blood types on their shelves at the end of the day! That's beyond terrifying! While things seem to have eased up a little bit in recent months, I wanted to take the chance to talk to Claudia Cohn, who not only is Director of the Blood Bank at the University of Minnesota, but she is also is the CMO of the AABB, to get Claudia's perspective on why things have been so bad, and what practical steps we can take to make things better.

I placed Dr. Cohn's full bio on the show page for this episode at BBGuy.org/096, so please go there to read more about her. She is an incredibly accomplished Transfusion Medicine Physician, and she finds time to not only fulfill her leadership roles at AABB and University of Minnesota, but she is also the current Editor-in-Chief of my go-to blood banking textbook, the AABB Technical Manual.

One last thing: This episode is a joint educational presentation from the AABB and Blood Bank Guy, in cooperation with TransfusionNews.com. Please be aware, though, that what you are going to hear are Dr. Cohn's opinions and my opinions, and our words are ours, not that of any of the above organizations.

So let's learn something together as I discuss, "Navigating Blood Shortages" with Dr. Claudia Cohn.

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Joe: Claudia, welcome back to Blood Bank Guy Essentials.

Claudia: Thanks for having me. This is really exciting.

Joe: I'm just super-thrilled that you were available on such short notice. Everybody, I normally schedule these things a decent amount of time in advance, but this one came to me as a brainstorm and I emailed Claudia and she was like, "Let's go. Let's do it." It's fantastic. Thanks for your availability, my friend.

Claudia: You are welcome. This is an important topic. This is worth making time for.

Joe: You know what? You're absolutely right. This is such an important topic. And there's so much for us to talk about. Everybody, you've already heard me talk about the fact that we're going to be talking about blood shortages today and how we can deal with them. But I think before we get to that, Claudia, we're recording this in late February 2022, right? And so I think unless people have been living under a rock for the last six, eight, 10 months or whatever, most people are aware that we're in a pretty significant situation with our blood supply and have been for a while. But for those that are listening to this later on, a year from now or whatever, can you just kind of outline for us where are we right now and in the recent past with our blood supply here in the United States?

Claudia: We're at a bad place. I think we're starting to recover a wee bit, but we are at historic low. Pre-pandemic, I think blood centers were comfortable having seven days inventory on their shelf. That meant that if every donor stopped, they would have a seven-day supply that would buffer them. And when they got to five, it became a little worrisome, when they got to three, there were emergency lights going off and there were all sorts of cries for donors to come in. They needed blood desperately.

Well, since the pandemic, I think a three-day supply has become the new normal and a one day supply is when the alarms go off. And that in and of itself for the United States is scary that we have become... That is what is normal, that we've become comfortable perhaps with that very low level. And it's alarming all in all that we just don't have the wiggle room anymore, the buffer, to deal if there is a sudden drop in the number of donations coming in from the level we're at now.

Joe: I think that what you're saying is something that has been fairly unknown to the public. I'm fascinated by the fact that blood shortages when they happen, historically have been mentioned in the media from time to time. And we're going to get into that a little bit later on when we talk about how donors feel when they hear about blood shortages. But have you seen more national attention to this than you have perhaps with previous blood shortages?

Claudia: Yes. I think we're a victim of "crying wolf." I don't actually think we were crying wolf. When we were down to three days supply, we were worried, of course, we're worried. We want to supply blood for patients who need it. And so we would ask the public to come out and donate blood. Now that it's become even more serious. And we continue to ask for help, everyone says, "oh, yeah, they're asking for blood again. Oh, yeah, well, they're down to nothing. Oh, yeah." And I think we'll get to more of this later, Joe, for various reasons, a lot of times when a blood donor calls to make an appointment, the blood center will say, "oh, well, we'll see you in two weeks." And the blood donor, I've heard, thinks to themselves, "well, why do I need what... If there's such a blood shortage, why are they scheduling me for two weeks from now?" And so that also feeds into the perception that blood centers are crying wolf.

So I think that there are a lot of reasons why there's a problem and I'm sure we're going to get into some of those reasons, but I think the public has heard at the beginning of the pandemic way back in the dark days of February of 21, March of 21, that's when we first started saying there's a terrible blood shortage and we can't have mobile drives anymore. And we can only collect at fixed sites. And so we started saying, "there's a shortage, there's a shortage." Well, then the surgeon general said, "we have to cancel elective surgeries," and the shortage corrected itself because the supply went down, the demand went down.

Now we're in a shortage again, because hospitals are trying to function at a normal level again. But for various reasons we'll get into, blood donors aren't coming out as much. And the interesting thing is for a while, as AABB CMO, I was being interviewed along with many of my colleagues by the media saying, "what's up with the blood supply? How can we help?" When we started entering this chronic phase of getting really bad again, the media wasn't that interested in hearing from us.

And again, it's this cry wolf. They said, "so what's NEW? Why have things changed?" And we couldn't say much. Things had changed somewhat in terms of workforce. And again, things will get into, but there wasn't much new. There has been a response though when the Red Cross finally issued their emergency call for blood. I'm not saying the exact right words, but the Red Cross made a nationwide statement that there was a serious blood shortage. And I think that that created a response in the media and it created a response with donors and a rising tide will lift all boats. I think it helped everyone.

Joe: I think the word they used is "crisis," if I remember right Claudia?

Claudia: I think you're right. Yes.

Joe: I think that was what it is. And then shortly, either before or after that the New York Blood Center used the word "emergency" and that's upping the game in terms of, crisis and emergency are bigger words and obviously are meant to convey a bigger need than just, “hey, shortage.” Maybe that's the angle that got the media's attention a little more.

Claudia: I think you're right. Probably. I don't know how much the lay public distinguishes "crisis," "emergency," and "Hey, we need blood!"

Joe: Right.

Claudia: But yeah, the media-

Joe: For us it's all the same, right? It's all terrible. I completely agree. Well, so this is not meant to be a correction, but it's funny how time flies in the time warp. You said that we first started seeing this in "March, April of 21." I think it was 20, wasn't it? Have I lost my mind? Wasn't it 2020?

Claudia: No, you're absolutely right. Thank you for correcting me. It is a time warp. I was hired as CMO December 2019, December 1st.

Joe: Oh, man, perfect timing.

Claudia: And one of the first phone calls I received was from Lou Katz saying, "Hey, there's this virus over China, do you need to worry?" So yeah, things have been kind of a blur since then.

Joe: Wow. Okay. Well, so with that aside, I guess one of the things that I want our learners to hear from us is, from your perspective, and I'm happy to share mine as well, but from your perspective, and you mentioned this, we've cried wolf, if you want to put it that way, for a long time, and people have heard the blood supply is short, the blood supply is short. And I think, especially for me geographically, I've worked on the East Coast, in the middle of the country, well, kind of the Midwest and then on the West Coast. I think historically we've seen that more on the coasts than we have in the middle of the country, but people are not unused to hearing, “hey, the blood supply is short,” but what's different about this one. Is there a difference in terms of the depth or the severity of it? And I think you've already alluded to that, but from your perspective or even the length of the shortage, what's different this time?

Claudia: There's a lot that's different. And I think if we want to look at root causes, I think COVID is behind everything. But if we want to get a little more in depth, to me there are three major forces that are driving this now chronic shortage. And the first one is workforce challenges. COVID has created shortages in the workforce. We're seeing it in nursing. We're seeing it in blood bank technologists. We're seeing it in phlebotomists. We're seeing it in every industry. The shelves of Ikea are bare. And so if there aren't people there in the centers to collect the blood, that's a problem. So I'll think of it as a three-legged stool, that's one of the legs of this stool.

The second and third are related to donors. Donors are tired in general. So, they've been dealing with the pandemic. Everyone is responding more slowly to things. They don't want to get out as much. And there aren't mobile drives at which they can just go to a truck and donate blood from their businesses, from their schools, because the businesses still have people not coming in, the schools no longer want to have drives at their locations because they're social distancing and trying to keep outsiders out of the schools. So that's a second reason.

The third is the donor base. We know that the best donors are the baby boom generation and they are getting older. They are at higher risk for COVID than younger people in general. And they're not going to come out in force as much anymore. And the younger generation simply aren't stepping up. And I know that there are a lot of people doing studies of this and trying to figure out ways to motivate younger donors, but we're

not seeing it working yet. We do see people turning out when there is an acute call, but we're not seeing younger donors making it a habit of coming out and donating. And that's what we need. We can't just have emergency people line up, we need people to regularly come in every couple of months to donate. I think those three things are all really important factors that have created this unfortunate perfect storm, creating a chronic shortage.

Joe: Let's talk a little bit more about those three if we can, Claudia. And let's talk about the workforce issues. When you say that there aren't as many people there to collect blood, are you thinking along the lines and I don't know what data you might have on this or just your impression, is this a scenario where workers in blood centers are getting COVID, or is this a part of the whole great resignation thing where people are just like, "I'm tired of what I'm doing and COVID has shown me that I'm really tired of what I'm doing. I'm going to do go do something else," or maybe a combination. I don't know. What's your perspective on that?

Claudia: I don't have data to give a real answer. I only know that there are workforce shortages. I would imagine it's a combination. I can speak to the blood bank at University of Minnesota where we are having shortages on occasion and it usually is COVID-driven. It isn't that we don't have the people to hire, it's that people have an exposure and have to quarantine or are sick, but I can't really speak to this in general.

Joe: Understand. And the other thing I wanted to dive into a little bit more is the... Well, it's a little bit the donor exhaustion part that you mentioned, but more, I think, the young donors. And I truly believe and I say this coming from the perspective of someone who spent a decent amount of time as a blood center CMO, I think we have not yet figured it out, frankly. I think there's an approach and I can't speak for all donor centers, obviously. I wouldn't claim to do that, but there's an approach that I'm not sure we've put our finger on quite yet to reach the younger generation. I don't want to paint that generation with a pejorative brush.

I certainly don't mean that, but there has to be something that attracts them to doing this. With the baby boomers and the greatest generation, it was pretty much we could say, "hey, you know what? People need you," and people come in. There's something that we haven't figured out yet. And I don't know if AABB has put any thought to this, Claudia, I'm just asking you to switch to your role as AABB CMO, has AABB discussed or is considering any thoughts about, hey, how do we reach this next generation? What can we do differently?

Claudia: We do at AABB discuss this, certainly because it is our mission to have safe vein-to-vein blood. And part of that is maintaining the supply. So certainly AABB is aware and thinks about it. We're just as stumped. I don't want to single out any one organization, but I know that there's a group called the "University Blood Initiative," which is, as far as I can tell, college students, I don't mean to misrepresent them, but its younger people trying to understand and get younger people out there to donate. I don't know how well they're doing. I don't know how successful they are, but I'm impressed that they're trying.

I think that there are a number of factors that probably many people would agree upon. I don't know that there's data to back up what I'm saying, but platelets, younger people

might not want to sit in the chair for two to three hour donation. I'm not sure that they're any busier than we are, wait, older people are. I count myself in that group.

Joe: I'll take that Claudia!

Claudia: But I think they might be open to a shorter whole blood sort of donation where it's a half an hour or so, maybe an hour of your time fully from door-to-door. I think reaching them is going to be important using all the apps, all the technology, all the social media, is an important way to get through to them.

I also think that young people need to have a connection to the idea that this is charitable work. This is giving back to your community. If there can be a link in their mind that... Because for instance, I have someone, a senior in high school and she has to do 200 hours of community service as part of her schooling. And I don't think that is so unusual these days. I think that's becoming more and more common. Blood donation is not on the list of ways that she can give back, whether it be knocking on doors and trying to elicit donors or going and donating herself.

I think that we need to introduce this idea that donating blood is as important as any other community service activity. Whether people go to their church to give back to the community or walk around their neighborhood, picking up garbage or volunteering at a shelter, donating blood is equivalent. And I hope that we can establish this idea with the younger generation so that it takes root and it becomes part of their lives.

Joe: Well, I completely agree. And we've got to jump off of this topic because we've got other stuff to cover, but I so hope that just this little discussion that we've had stimulates some further initiatives in that way, there are obviously a whole boatload of people, way, way, way, way, way smarter than me working at blood centers and the major blood collectors across the United States and around the world that are trying to figure out this problem. So I don't think you and I are going to solve it in a few minutes on a podcast.

Claudia: Probably not.

Joe: But it is an issue. It really is a very, very large issue. And as the older generations age out, as you said, and unfortunately pass away and there's a future out there that if it keeps going the way it is now, we're in trouble, in my opinion.

I want to get back to what's going on now, and I want to ask specifically from your perspective, is this just a red cell problem or are we seeing problems with other products as well?

Claudia: Thanks for asking. Obviously this is a red cell problem right now, or mostly or primarily a red cell problem. You and I both trained on the coasts and did a lot of work on the coast. I trained in New York. I trained in California and it was a regular part of my job as a resident in pathology to triage platelets on a regular basis, I would receive a call saying, "we have this many units on the shelf. We have this many patients who need, who gets it?" I think we have regularly had a problem with platelets, but I think it's local. I think that there's some blood centers that get plenty of platelets and there's no awareness or little interest beyond the fact that they have what they need for their customers. But I think that there are other areas of the country where platelet shortages are a regular part of life.

And it's a significant problem. I will take this opportunity, if you don't mind, to plug an initiative that AABB started back in June or July. We began doing a "Group O Red Cell and Platelet survey," monthly survey that we send out to collectors and hospitals, hospital members of AABB and we're just starting to get enough data to have something interesting. We have data from 75% of blood collectors and data from about 100 hospitals regularly contribute, that isn't really enough, but frankly, there's nothing else out there. It's a beginning. And we are seeing that there is a group of hospitals that consistently say that are short of platelets, that they have to take extra measures such as splitting units or that they have to delay procedures because they don't have enough platelets on hand or because a shipment was late, was delayed. I think platelets are a problem. I think we're not seeing the great call out right now because red blood cells are taking precedent. But yes, I think platelets are a problem.

I think we've had a cryo shortage for a while. That has been since roughly the beginning of the pandemic that there have been quite a few centers that can't get enough cryo. And frankly, I don't fully understand all of the reasons behind that, whether it's that a lot of plasma went to make CCP or what, but yes, there's been a cryo shortage. Plasma, I think we've been okay with plasma. I've not heard about shortages of plasma. And we know that the United States is the great provider of plasma to the fractionators in Europe. So I think we're okay on that front.

Joe: Sure. You just said something that's really interesting to me, Claudia, and I'm not sure that this is widely appreciated about the differences... Well, it goes to the differences in how data is collected in the United States versus in other countries, Canada, for example, or the UK where it feels like the national organizations, if you will, have their finger on the pulse of how many units are being collected, how many units are being used. So what's different about the US? You're mentioning this survey, why is that something you have to ask people to do in the United States, I guess?

Claudia: Thank you for asking, Joe. People who know me know that this is a pet topic of mine. Nearly every other country in the world has a national blood supply. And I want to say right off the bat that as AABB CMO, I am not advocating for any change at the moment, but that said, having a national blood supply, they're able to keep data pretty easily, I think, on how much is collected and how much is allocated to each hospital and also how much is transfused. I think that's really, really helpful to them to understand different trends in the blood supply and different regional problems with the blood supply.

In the United States, we're a fragmented system. We have capitalism which leads to competition which of course, that creates greater efficiency in some cases, but I personally am of the belief that blood is not a commodity, it is more a utility. It is power and gas and water, you need it. Everyone has a right to it and you don't miss it until it's got on.

And so I think we need to treat blood that way. So currently the only data that is regularly collected about blood transfusion is by the CDC and they do the national blood collection utilization survey. I believe it's every two years and it takes them maybe another year to analyze the data and publish. So the data we have available for blood trends is usually about three years behind. And we know that in the most recent NBCUS

survey, National Blood Collection Utilization, that they found that there was roughly a 16% increase in platelet usage and I think it was 15.8% to be exact, but there was only two... Actually I think there was a 2% decrease in the number of platelets collected. That doesn't sound like a good trend and-

Joe: Something's not matching up.

Claudia: Yeah. We want supply to meet demand. So if that continues, then that's dangerous. Of course, we're not going to know if it continues until the next NBCUS survey comes out, and there's again a delay. So I believe that blood centers are acutely aware of this problem. I think the initial thinking was, "well, we're in competition with each other, so we can't share this knowledge," but I think blood centers are moving beyond this idea and understanding that we need to have information.

Joe: I think you're right.

Claudia: The AABB is the host organization for the Inter-organizational Disaster Task Force which is a group that becomes mobilized whenever there is some tragedy, some problem that can create a strain on the blood supply. They need to know exactly where the blood is and where they can move some units. If there's a hurricane in Florida, where can they get excess units to move it to Florida? So that information about where blood is collected, we absolutely have a need for that. I believe we also have an absolute need for how much blood is transfused? To whom? Why not? Is it wasted? All sorts of information we can gain and become more efficient and possibly even begin to predict. I don't know if we will be able to predict things from the data, but it would be wonderful if we could.

Joe: I couldn't agree more that we have a big data gap. And I think that that speaks to what I was going to mention to you is that I think to a lot of people, blood shortages are confusing in part because I think everyone believes anyway that with the era of patient blood management, if you will, that blood usage has dropped significantly. And I think that's probably a pretty well established fact; exactly how much, you're right, we don't have the exact data to know, but I think it's pretty well known that at least red cells and probably platelets as well, that the usage, if you compare it to 10, 15 years ago is probably significantly less. And so the obvious corollary to that is, well, if usage has dropped so much, why the heck are we still having trouble supplying everybody? We don't have the data, right?

Claudia: We don't have the data. And I think you're absolutely right. I agree with your assessment that we don't have the exact numbers, but I've heard 10% to 15% drop in red cells thrown around. I don't think there's been quite an equivalent drop in platelets. Patient blood management has really paid attention to red cells more, but I think that there is a drop as surgeries become more efficient, as stem cell transplants become more efficient...not "efficient," but "improved" so that patients they move out of their thrombocytopenia more quickly. But it used to be that blood centers were able to keep up with this increased demand. So is it that a desire for increased efficiency in terms of blood drives has reduced the ability to bring in that extra number of donors?

I was told that the first 90% of donors coming through the door, it's usually one expense to get that 90%, but that extra 10%, that costs a lot more money for a blood center to

get them through the door. And even though we dropped by 15%, that truth, that underlying law of spending that extra money for that extra 10% still holds true. So maybe blood centers, they're strangled for money. They're producing red cells or they're selling red cells at a price below what it costs them to produce them from what I understand. So if your bottom line is so tight, you might not have that extra money to get out there and get those donors. This is supposition.

Joe: Sure. We're speculating. Yeah. Agreed. Well, before we leave the supply side of this equation, I want to just clear up a couple things that, again, we're talking to a people with a wide variety or a wide range, I should say, of expertise in blood banking. So we need to dispose of a couple questions that in your role as AABB CMO, I think we can get through pretty quickly. And the first question is I have heard donors say certainly, and I've had some hospital type folks say to me, as in my previous role as a blood center CMO, "well, you could solve this if you just start paying the donors." Why can't we just start handing out checks, you come in, bada-bing, "here you go, here's $50." Why can't we do that here in the United States?

Claudia: We are allowed to do that. So the FDA requirement is that if you pay the donor, you have to label the unit accordingly.

Joe: That's the problem.

Claudia: And I've gathered that some clinicians are going to be uncomfortable transfusing that to their patients. I think we're in an age where donors used to be paid more frequently and then HIV came along and one in 100 units were tainted. And so the idea of controlling the blood supply much more and not offering an inducement such as payment became less popular. I believe the last center to pay their donors was a hospital based unit, it was at the Mayo. They were paying donors, I think, well into the 90s or so, they might have been later. So paying donors became less popular. It still is legal by the FDA standards. And we have an interesting little pilot experiment going on just to the south of me.

There's a blood center that has decided to collect platelets and pay their donors for those platelets. And the argument is, if we treat those platelets with pathogen reduction technology, the risk of transfusion-transmitted diseases is nil and so we can go ahead and do this safely. So I think again, as AABB CMO, I'm agnostic, I am interested in having enough blood, enough platelets for all patients. So I'm not advocating for this, but I'm simply saying, this is an interesting experiment. Is this going to work and if so, will other blood centers adopt this? I can't say, I don't have a crystal ball, but it's interesting.

Joe: Got it. Okay. Well, what about the next question that people ask which is, "well, your blood shortage would be taken care of if you only would allow people with X to donate," whatever "X" might be, whether that's someone who spent time in the United Kingdom during the 80s and 90s or whether it's someone who's a male who has had sexual contact with another male recently, that's one that often gets asked of me. So from the regulatory perspective, from the AABBs perspective, what are your thoughts on things like that? Why can't... Well, first, why can't we just say, "oh, FDA, we don't care what you think. We're just going to take whoever we want to donate blood."

Claudia: Well, first off, I'd like to say that the FDA does an amazing job keeping our blood safe. It is their double mission to keep things safe and plentiful. They cannot have regulations that make it so onerous that the supply is threatened. One can argue that that might be occurring to some, but I don't have the numbers. AABB backs most of the deferrals that the FDA has made until there are data that argue otherwise. And the individual risk-based assessment, I think is an important idea, especially for the MSM, Men having Sex with Men donors, there is no reason why a monogamous male having sex with a male is any greater risk than a heterosexual couple. And the corollary to that is if you have a male having sex with male who is promiscuous, then that increases the risk just as it would be for a heterosexual.

So I think if the questionnaire can look at “individual risk assessment” rather than simply put a blanket statement that men having sex with men is too risky, then I welcome that. And I think that the AABB has asked the FDA to look more carefully at that. And of course the FDA has backed down over time. It used to be a lifetime deferral. It went to a year-long deferral, then it went to a three-month deferral. So there's some progress, but we are way behind the rest of the world or many countries in the world in terms of individual risk assessment policies.

Joe: That is very true. The individual risk assessment as you are describing, has been implemented in other countries already. And among other things, it's definitely something to consider as we move forward. A couple more things just before we leave the supply side because we've got to get to the practical steps from the hospital side, one of the things that I have seen and was brought up to me in an as ASP conference I did a couple days ago is an increase in hospitals asking for directed donations as an attempt to try and ensure that they have blood on the shelves for a particular patient, I guess, specifically. So if you could, could you just real quickly summarize, first for those that are learning, what is a directed donation and how should we maybe feel about an increase in request to do directed donations?

Claudia: I'm glad you asked me that question, Joe. Directed donations are when say "Jane" is going to have a surgery. Jane's mother or father or sister or friends donate blood specifically for Jane. So that's a directed donation and you can have a policy in your hospital that if that unit is not used for Jane, it can be turned into the general population so long as all testing requirements have been met, but some hospitals have preferred to just keep it separate. And that unit is wasted.

Most hospitals really don't want directed donations. There are a couple of reasons for that. One is simply logistics. You have to keep them segregated and you have to keep track of them. And in a really busy hospital that can be difficult for the blood bank staff and I imagine for the blood center staff. Other reasons, if you are a family member who has risky behavior of some sort and you're being pressured into donating, that increases the risk that you are donating a unit that should not be donated and you might not call in to the blood center afterwards and say, "don't use it," because you might not know that that's available or you're just not thinking of it or you're scared.

So it creates donations that are at increased risk, it creates a logistical nightmare. And at least until this shortage, we could always say with confidence that we had blood for patients. So I'm distressed that the shortage has reached this level. And I don't know

whether those units were actually necessary for that patient. What I always say when I have family members at the hospital ask me if they can make a directed donation, I say, "go in and donate, simply donate, contribute to the blood supply in general and that will help Jane."

Joe: Oh, completely agree. Completely agree. The silly illustration I always use when I'm teaching residents about why directed donations might not be as safe is I just say, "imagine I'm uncle John and little Timmy needs a transfusion and I'm like, 'yes, I will donate for little Timmy.' And I go in and I'm looking, on the computer nowadays, not paper, I'm looking on the computer I'm going, 'wait, prostitutes, they ask about prostitutes? Oh, my gosh!'" [LAUGHS] Not applicable to me. Thank you, but just as an illustration, right? Okay. There we go.

Anyway, let's get onto and talk about the hospital side, Claudia. I think that's super-important in our remaining time together to make sure that we help people that are working in hospitals understand some practical steps that they can take. So as I've said to you before, you're in a really unique position, you're not only are the CMO of an international organization in the AABB, but you're also running a hospital transfusion service. So you have your feet, I guess, straddling both sides of the equation. And that's a really important thing, I think, to inform, I'm sure, how you fulfill your duties with AABB. From your perspective, you can put on your hospital transfusion service director hat now, what have you done? What kind of steps have you taken in your hospital at Minnesota to alleviate, if you can, some of the stresses and pressures of this blood shortage?

Claudia: Thanks for asking. At the very beginning of the pandemic, now I'll say it correctly, in March 2020 or so, we developed a three-tiered plan to deal with the idea of chronic shortages. We had a plan in place for acute shortages and we used some of that plan, but we decided if the blood supply reached a three-day supply, we'd start implementing X. And if it reached a one-day supply, we'd start implementing Y. We'd work closely with our blood center to determine when we were in zones of difficulty. The very first step we took was very simple. The blood bank technologists would quickly check the medical record and see if the order was appropriate. And so if the patient's hemoglobin was 12, they would call the clinician and say, "is this order really necessary?" And they had a strict instructions in a script available so that if the patient were bleeding, that could quickly be learned and the blood would be sent out the door immediately.

And in some cases, if it seemed as though the order were inappropriate, it was supposed to come roll over to me. So I would be paged. I would call the clinician, we'd have a discussion and decide whether it was necessary. We found that this was really helpful. It didn't save us from many orders, but what it did do was it spread the word through the hospital that we were in a shortage, because although I had shouted that from the rooftops and sent out emails and put up warnings in epic, it still wasn't filtering down very well. So that was one step.

The next step in the plan, when things got more stringent, was to start splitting units. We, of course, had that technology available to us, not all hospitals do, but we would split a red cell or we would split platelets if necessary so that we can extend the supply. And we would tell the clinician, "your patient may not get as much of a bump as you

expect. If they need more, we'll give them more." We met with surgeons who did high blood use surgeries, and we had them come to us ahead of time, say before a liver transplant or before a major spine operation. And they would say, "do you have enough?" And if it was an emergency surgery, we'd find it, but if it was something like a liver, often that is an emergency, but if we were not going to have enough blood on the shelf, that was going to mean that that patient might not be able to complete that operation, and that liver would be wasted for that patient and for another patient who could have gotten the liver.

And so those teams were wonderful. They came to us immediately, I'd call my blood center and say, "do you have what they think they need for this operation?" And usually they said, "yes." So that was very, very helpful. And again, that spread the word more and made everyone very aware of the blood bank community or the transfusion service and what we were doing.

One of the last things that we never had to implement, but we considered, was an ethical triage committee where if we got really, really low, this committee would very rapidly assemble and say, "who gets the blood?" That would have to be a running thing all day long because we couldn't do first come first serve, that wouldn't be ethically for it either. Luckily we never had to implement that. Logistically, it would've been very difficult to implement anyway, but we considered it. We considered stopping massive transfusion protocols at the fifth cooler if necessary. Yeah. Luckily we haven't reached that level yet.

There were other ideas, I discuss this with many people, with volunteer committees at the AABB and there were some centers that said that they would lighten their policy for waste. For instance, if you had a HemaTrak sticker on your unit and it said that it had gone out of temperature by a little bit, they would say, "just feel the unit, if it's still cold, put it back into inventory." And this is weighing risks and benefits. Is the risk of not having a unit on the shelf greater than the risk of bacterial contamination that comes from being out of temperature for a few minutes or even an hour? And so that is up to each medical director to make those decisions.

Joe: And document those decisions, I think is an important part of that.

Claudia: Yes. That is very important.

Joe: You make that a routine protocol without documenting it each time, I think our friends from the FDA might struggle with that a bit.

Claudia: I think you're right.

Joe: As well as your inspectors from the AABB might struggle with that a bit.

Claudia: Yeah. They don't like that either.

Joe: Yeah. It's true. So you said a couple of things in there that I think are really important and the first is communication, and you're making this visible to the clinicians, the transfusing physicians in your hospital, I think is something that is massively important. My personal perspective on this, as I mentioned, Claudia, I've worked in a whole bunch of different environments. I've worked as a hospital transfusion service medical director

for a lot of years. And I think our tendency, I'm going to speak for myself here, my tendency was whenever I could, if we were a little bit short, I would try to just manage it without the clinicians panicking because if they kept hearing "we're short, we're short, we're short," they're going to lose confidence in what we're doing in the blood bank. And again, maybe that's my own personal neurosis, but that was always my particular preference, but in my opinion, this is not a time to keep things secret and to try and "manage it yourself."

In my opinion, you've got to get buy-in from not only the transfusing physicians in your hospital, but there also needs to be visibility again, from my perspective, all the way up to the executive level in the hospital so that everybody is aware that we may have some tough decisions to make. And I'm sure when you were talking about that last level that you were going to, that's something that your hospital would need to know very clearly that "if get here, this is what we're going to have to do," is that right? Did you have those discussions as well?

Claudia: Yes. I called the C-suite and gave them the full plan and made sure that they signed off on it because it's a place no one wants to go to. And you bring up an interesting thought and I'd like to make a quick plug for an AABB initiative. We've recently launched a coalition called the "Alliance for a Strong Blood Supply." And this is a coalition of American Hospital Association and various societies that use blood, for instance, American Society for Anesthesiology, many, many different societies are involved with this. And we're going to have a series of conversations with this Alliance. One of them is going to be about how do you communicate in your hospital? What is the best way to get this done, try and learn from other hospitals and try and improve things? Because I think that this is a universal problem that some hospitals do it better than others, but just getting the word out is so difficult. And so I imagine that this will help.

Joe: That's awesome. And everyone, I will put links on the show page for this episode which will be at BBGuy.org/096. I'm going to get some links from Claudia for things that she's described where there are resources from the AABB that you can take a look at. So a little free plug there, Claudia. We can do that. That's all right.

Claudia: Okay. Thank you, Joe.

Joe: No problem. The other thing that you mentioned when you were describing what you were doing that I think is really important and I want to make sure we don't miss talking about it. And that's how deeply you involved your hospital laboratory scientists in these discussions and your technologists. That is, I love hearing that because I truly believe that that is a vastly underutilized resource. And those of you that are listening to this that are lab science students or laboratory scientists or SBBs, what Dr. Cohn just said, I think is so important to understand that you CAN have those conversations with clinicians.

A lot of times, I think laboratory folks get the idea that "well, we don't want to talk to the docs because they're going to scream at us." And that's obviously a potential issue. And we would have to deal with those situations when they come up. Don't take me wrong, it's never okay for someone to scream at a laboratory scientist that's talking to them, but you getting your staff involved in having those discussions initially, I think is amazing. And I think that lab scientists need to understand, as I said, you know enough to have

those conversations. In many cases, you may know more about transfusion than some of the transfusing docs, but so let me ask you, did you get any pushback from your laboratory personnel on having those conversations with docs?

Claudia: The leaders? No. The leaders within my blood bank, our supervisors, our managers, we did not get pushback, but we got an awareness of this fear, this concern. We tried to help, and I don't mean to use the royal we here, I'm talking about the group of transfusion docs at the University of Minnesota, a script was developed to try help with this so that there was a direct way of dealing with it and discussing this idea that, yeah, you are the experts, you know way more than you might think and they know way LESS in some cases than you might think.

Joe: Yes. Exactly. [LAUGHS]

Claudia: In medical school, most medical schools, you get an hour of training in blood and that is the most common procedure done in the hospital, so go figure. But yeah, I think that there is some reticence on the part of some blood bank technologists, some lab scientists to get out there and talk to clinicians, but I think that you need to get over that because you will contribute so much to the hospital, more than you know, by informing the clinicians of things that they might not understand that are really, really important for patient safety or for the blood supply in general. So thank you Joe, for highlighting that.

Joe: Oh, no problem. I love laboratory scientists. I love our staff that keeps the engine going with transfusion in the hospitals and in the blood centers. It's an amazing group of people, but let me emphasize once again, for those that are laboratory workers and you're thinking, "somebody's going to yell at me," I want to be really clear on this, this is my opinion, you can agree or disagree, Claudia. It is never okay for a physician or a nurse to yell at and scream at and berate someone working in the laboratory. That is never okay. That is a time to escalate when that happens.

Claudia: I view it as my job, Joe, that if anyone yells at anyone in the blood bank that I get involved and say, "whoa, this is not professional behavior. This is not the way you treat another person who is part of the team." Every one of us is part of the medical team. There's no top and bottom to that team. It's simply everyone who contributes and I'll give a shout out, the blood bank technologists at the University of Minnesota are amazing. They work so hard and are so dedicated and they overcome any reticence that they might have because they're so dedicated to the safety of the patient.

Joe: Absolutely. And I think that could apply to most every hospital I've worked, well, certainly every hospital I've worked and I'm sure the vast majority of the hospitals where people are listening to this right now. Claudia, before we go, there's one thing that I want to make sure that we hit and that's, in the face of all this, one of the things, and we've alluded to this once or twice during this talk already, and that's hospitals taking steps toward or further steps toward full implementation of patient blood management initiatives. And I think that one of the obvious ways to get around a shortage is to try and use less blood. And while you and I both know that patient blood management is more than just, "don't transfuse as much," it's a whole big picture thing. I wonder if you could just give your perspective on how hospitals should be looking at patient blood management initiatives and where they can go for help if they're not sure of how to dive more deeply into the PBM pool.

Claudia: Thanks for asking this also, Joe. I think this is a really important point. I think PBM has revolutionized transfusion medicine, and where it is well applied, hospitals have benefited, patients have benefited. And although I want this to be the last thing mentioned, the bottom line has benefited as well for the hospitals. I think it has been unevenly applied. I think that there are some hospitals where it is part of the culture now and hospitals are doing well because of that, but there are many hospitals where it hasn't reached the hospital at all whatsoever. And I don't know the reasons for that, but do know that the AABB provides tools to help with that.

We have patient blood management accreditation, where you get to put a logo on your hospital saying that you have met the requirements of the AABB PBM program. We have educational tools, including webinars and bulletins, fact sheets that can help. We have consultants that will come in and put together a PBM program for your hospital whether it be an AABB consultant (and there are other consultants available). I think it is important because PBM isn't just about, as you said, reducing amount of blood, it is the right unit at the right time for the right patient. That's what PBM is about. And sometimes it means more units for a patient because patients might need that blood.

So I can't say enough about PBM and PBM has largely focused on red cells, but I think focusing on the yellow stuff is equally important. I think patient blood management for platelets, especially, plasma, maybe a little less, but platelets is critical and should be a focus for hospitals. So, yeah, please go to the AABB website, Joe will have the links and we're happy, that's part of the AABB's role, is to provide educational materials for the community to help with safer blood transfusions for everyone.

Joe: Claudia, this has been great having this discussion. I think we've covered a lot of ground. Maybe not as much detail as we would've liked to. We could talk for probably four hours about this and all the ramifications, but before we go, is there anything from your perspective or from AABB's perspective that you'd like to add in terms of how can deal with this moving forward?

Claudia: Oh, Joe, I'm so glad you asked. There was something that I didn't mention when we were talking about workforce challenges. AABB is acutely aware of these workforce challenges. And so we took a step back and asked, "how can we not apply a bandaid, but create a program that will foster interest in blood bank careers?" And so we've created a multi-faced program that will try and address workforce challenges that's on the horizon. The program would include grants to address immediate shortages. There's going to be an educational campaign to develop workforce pipeline, and then support for career ladders so that high school students thinking about different careers, some think nursing, some think going on for law or medicine, I want them to think, "a blood bank technologist career or a laboratory scientist career is a GREAT career." And there are so many different tiers within that rear at which you can either stop because you're comfortable or keep climbing. AABB is trying to tap that idea and bring it to high schools, bring it to places where people will be receptive to the idea. And hopefully that will help with workforce challenges in the future.

Joe: Claudia, again, thank you so much for hanging out with me for the last hour. I've so much appreciated your time. Thanks for doing this.

Claudia: Joe, this was a lot of fun and hopefully it was helpful for your audience. So thank you again.

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Joe: Hi, everybody. I put links to some AABB resources on the show page for this episode at BBGuy.org/096 for you to check out when you have a chance. You can also make comments there on this episode, and I'll make sure Dr. Cohn sees your comments.

Remember, if you are a physician or a laboratorian, be sure to go to wileyhealthlearning.com/transfusionnews to get your hour of free continuing education credit (or click the link on the show page at BBGuy.org/096). As always, thanks for the continuing education sponsorship to Transfusion News, to Bio-Rad who brings you Transfusion News, as well as, of course, to Wiley Health Learning. My huge thanks to Dr. Daniela Hermelin, who is Associate Editor of Blood Bank Guy, who contributed in enormous ways in terms developing the continuing education materials. Thanks so much, Daniela.

I hope you will take a few minutes to go to Apple Podcasts and give this podcast a rating and review, and subscribe to it. A listener just like you named "rowyoirboat" (sic) did so on March 8, 2022, and was kind enough to write, "Ever since I've had emergency transfusions I have been fascinated by all things transfusions and blood. I am so grateful to blood donors and scientists like yourselves who make transfusions possible and healthy. Can't wait for your next podcast so I can learn some more." Thanks so much for writing. This podcast is primarily for learners, so I'm grateful that you did so! For the rest of you, if you take a minute to write a review, you might get to hear it on a future edition of Blood Bank Guy Essentials.

Hey, you know what? this is really cool: I am counting down to my landmark, extra special ONE HUNDREDTH EPISODE of Blood Bank Guy Essentials! I am planning something unique and fun for that episode, but before we get there, I've also got some great episodes coming, including a look at the often-discussed, uncommonly used procedure called "Acute Normovolemic Hemodilution," as well as a look at the landmark, over 30 year research project called "REDS" that has changed what we do in Transfusion Medicine in major, major ways.

But until that time, my friends, I hope that you smile, and have fun, tell the ones that you love just how much you do, and above all, never, EVER stop learning. Thanks so much for listening. I'll catch you next time on the Blood Bank Guy Essentials Podcast.