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FOOD AND DRUG ADMINISTRATION

TRANSMISSIBLE SPONGIFORM ENCEPHALOPATHIES

ADVISORY COMMITTEE MEETING

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P R O C E E D I N G S

(8:32 a.m.)

DR. BOLTON: If you'd take your seats, I'd like to get started.

DR. FREAS: Good morning. I have a few administrative announcements that I would like to make. Yesterday morning we read into the public record the conflict of interest statement, and that conflict of interest statement that we read into the record pertains to today as well. Basically it said that all standing committee members have general matters, waivers in order to participate in this meeting this morning. This morning we will have several people from several organizations coming to present their organization's views. These people were not screened for conflict of interest, but all committee members were.

So, Dr. Bolton, I turn the meeting over to you.

DR. BOLTON: Thank you, Bill.

Welcome back to the committee members and to the public to our second day of this meeting. Today's session really is informational. We don't have any issues to vote on, so it makes it a little bit easier for us.

We're going to hear an update on the implementation of the revised guidance on blood donor deferrals for risk of CJD and variant CJD that we have discussed many times and I guess was published in January. Is that right?

DR. SCOTT: That's correct.

DR. BOLTON: Yes. Our first speaker will be Dr. Dorothy Scott from OBRR. Dorothy.

UPDATE ON IMPLEMENTATION OF REVISED GUIDANCE ON BLOOD DONOR DEFERRALS FOR RISK OF CJD AND vCJD: INTRODUCTION

DR. SCOTT: Good morning. As just mentioned, this part of the session is an update on implementation of our new

geographic donor deferrals for risk of vCJD, and today we're going to hear from blood organizations, including the Department of Defense, as well as HHS, about the impact so far of the geographic donor deferrals.

I'm going to briefly give you a little back of background about what went on before, although I think this committee probably remembers all of the work that you did which has come to this. Briefly, this is a chronology of how we came to the point where we are at today.

This committee recommended vCJD geographic donor deferrals in June of 2001, and we incorporated your recommendations into a draft guidance, which we published near the end of August. We issued a final guidance after the comment period in January of 2002.

The implementation of the FDA-recommended deferrals is in two phases called Phase 1 and Phase 2. The first phase

has been implemented at the end of May, so what you're going to hear today is about the blood supply based upon this implementation date, the different implementation dates for the American Red Cross and the Department of Defense, who implemented their own donor deferrals last year in October. The Phase 2 of the FDA donor deferrals will be implemented by the end of this October. I'm going to show you a comparison of these, so that it will make more sense in the context of the presentations that are coming up.

I just want to remind you of some of the issues that the committee and the FDA had to take into account while deciding on what donor deferrals to recommend because obviously these geographic donor deferrals had a good chance of affecting the blood and plasma supply. So, these are among the considerations. One of them is precedent. The largest prior donor deferral we had deferred approximately 5 percent of donors.

The estimated effects of the deferrals that were actually incorporated into the guidance were that about 90 percent of the risk of BSE exposure would be removed. So, this is based on estimated donor-days exposure to BSE in European countries.

But we also had to remember that some locations in the U.S. would be more affected by the new donor deferrals than others, so this 5 percent is an estimate from the REDS study that Dr. Williams talked about yesterday. However, we anticipated and we were told that the New York Blood Center stood to lose up to 35 percent of their supply. Around 25 percent of that was because of their Euro blood program. Dr. Jones will be talking about that in a few minutes. It was also estimated that coastal cities would have higher donor losses because of the greater prevalence of travel.

There were some efforts to attend with the supply impact of the new donor deferrals. But, first, written into the guidance was phased-in deferrals for blood and blood components other than source plasma. That's why we have two recommended dates of implementation for the different deferrals.

We also accepted from the Pan-European geographic donor deferral source plasma, and I can talk about that if you want to, but we have been over that and we had presentations at the last meeting talking about the effect of fractionation and the removal of TSE agents in plasma derivatives.

We also recommended pilot programs for deferrals that were more stringent than the ones that we recommended. This committee additionally proposed a national recruitment campaign and also that there be a system to monitor the adequacy of the

blood supply, and you'll be hearing about that from Steve Nightingale today.

Just a very brief review. These are the deferrals that we recommended in our final guidance. This is Phase 1, just implemented. The deferrals are for residence or travel to the U.K. for three months and more between 1980 and 1996; for France, five years more between 1980 and the present; for people who have lived on U.S. military bases for six months or more between 1980 and 1990 north of the Alps, 1980 and 1996 south of the Alps. This was because of the British Beef to Europe Program, in other words, these bases had up to 35 percent British beef during these particular years.

I do want to mention something that's come up since implementation of the guidance, and that is: We've had a lot of questions about donors who were in the Navy and who may have been living on ships that

were docked in these European countries here. We have learned from the Department of Defense that they did not eat British beef to Europe and therefore those donors are not deferred. It's only the donors that resided or were associated with the military bases that were on land, and the deferral for recipients of transfusion in the United Kingdom.

This is the second phase of donor deferrals. This is deferral of blood donors who've lived in Europe for five years or more between 1980 and the present. Donors of source plasma for plasma derivatives remain eligible if they lived in Europe for this period of time.

Finally, I just want to show you what the donor deferrals are now that we have in the U.S. We have the FDA-recommended deferrals, the American Red Cross deferrals, and the Department of Defense deferrals. I've already outlined

ours just now, and you see our dates of implementation here. The American Red Cross implemented a somewhat different set of deferrals in October of 2001, and I will just point out the two most salient differences, and I think that Dr. Page will also be showing you a similar table.

Chiefly, we have the deferral, for five years or more, between 1980 and the present for people who resided in Europe. The American Red Cross donor deferral is for six months or more residence in Europe from 1980 on. The Department of Defense has the same deferral as we do.

In addition, the American Red Cross deferral for the U.K. is for 1980 to the present, whereas ours is from 1980 to 1996, as well as the DoD, and this is based on our assurance that in the U.K. contaminated beef has been kept out of the human food chain since 1996, and this committee heard a presentation -- several

presentations, I think, about that -- recently in January. However, I understand from Dr. Page that the American Red Cross is likely to also change its deferral, based on these assurances as well, to be 1980 to 1996.

Now, I'd like to introduce our speakers who are going to give us blood supply updates. The first will be Dr. Nightingale from Health and Human Services, who will show us the results of his blood supply and demand monitoring.

Dr. Robert Jones from the New York Blood Center will speak next, followed by Dr. Peter Page from the American Red Cross. Then we'll hear from Dr. Celso Bianco of America's Blood Centers, then from Major Alfred from the Department of Defense, and, finally, from Kay Gregory of the American Association of Blood Banks.

So, thank you for your attention, and unless there are any questions, we'll

move on to our first speaker.

UPDATE ON IMPLEMENTATION OF REVISED GUIDANCE ON BLOOD DONOR DEFERRALS FOR RISK OF CJD AND vCJD: EFFECTS ON BLOOD SUPPLY

DR. NIGHTINGALE: I must explain my first slide. The reason why you are seeing the slide that you see is because when I found that I was going to be speaking right before Dr. Jones from the New York Blood Center, I felt it was necessary to acknowledge that we really do appreciate the government, the difficulties that people who come to Washington from New York occasionally have, and if you're in the back row, the gentleman in the foreground is Mr. Posada of the New York Yankees, and the gentleman with his back to you is Mr. Matthews. He scored the winning run last night.

As I was watching Mr. Matthews score the winning run, I realized that

perhaps the Department had not gotten as far as it could in implementing the national campaign that you recommended at your last meeting, and I realized they only had a few hours to come up with a suggestion for that campaign. So, here it is, with the caveat that it's only a few hours old and that suggestion is that you call it, "Give me an O." There are no Orioles fans in here? Not one? All right, there's one.

Let's go to business. Next slide. I have presented the outline of our program to you on several occasions, and so rather than present it in detail I'll present it very quickly. We monitor the supply end of the blood industry by receiving daily reports from three community-wide blood services -- those in Seattle, Pittsburgh, and Tampa/St. Pete. What we get from them is daily reports of their inventory by ABO and RH, their daily transfusion, their daily outdates and their daily exports.

In this particular graph, the red is the daily inventories and the blue is the daily transfused and exports, and the black line in the middle is the ratio of the two. Actually to the perfectionist, the black line is the median inventory in days of inventory for these three blood sites. So, what you see here -- what you would see perhaps even better if I get this light on -- is that this is -- this -- we started last August 15th. These were the inventories right before September 11th.

This is the September 11th bounce, and this is the September 11th work-off. This little dip here is right around Christmastime, and when Christmas utilization went down a little bit, the days of inventory went up a bit. A little peak in January, and what you can see is they built up their inventories a little bit over the spring, in anticipation of putting the deferrals in, and, as you can see, starting

around May the 15th, the inventories have indeed fallen a bit.

You can see that the ratio of inventory to transfused here has also fallen a little bit in the last six weeks. So, we are seeing -- what I think that you will see in other sites as well -- is that there is a drop in the inventories but at least in the sites that we're monitoring from the supply side were still in the same range.

Down here is actually where the business end of this graph is. You see the peaks on Saturdays and Sundays when you don't have so many surgeries and you have the same amount of blood in the bank. We're still over a five-day supply but we are heading there on the producer side.

Slide. Can I have the next slide? Okay, we've got the next slide.

This is the comparable data for the 26 hospitals that we are monitoring again. You can see there's a somewhat

smaller bump at September 11th because not all of our hospitals collected their own blood and most of the -- or, parts of it and most of this bump was from the portion of our hospitals that collected a significant portion of their own blood. You can see that there was a slight rise up until the spring, and, really, right around the 15th of May you start to see the drop-off that you saw with the suppliers as well.

Again, when you look at the ratio here, the business end is at the bottom here where the dots cluster. We're still over 5 days. We're about 6.97 days. I didn't run it last night. It was 7 the last time I ran it a couple days ago for our average for the last couple of weeks. But, clearly, we see things tightening up.

For the next slide, next pair of slides, I'm going to show you comparable data for O negative. This is for the three community-wide centers: Seattle,

Pittsburgh, and Tampa. You can see, again, there was the jump -- the September 11th jump. You can see it bounced up and down a bit, and, again, you can see there is a trend going down.

Where you look here, the key thing on the side here, this is a five-day supply of O-negative, and they're down below that. I think this is the point at which I wanted to introduce what I think is the utility of this, just so that we have a track record right now and whereas you see we are at the low end of where we've been over the last year, but we're still within range at this point.

To go hospitals, you'll see the same thing once again. Here you have -- things are getting tight. Things are definitely getting tight here for O-negative, but, again, this is five days' supply, this is ten days' supply, and the hospital had been running very substantial,

and it's coming down but we're still with what I think is the same range.

There's only four more of these slides, and this is the -- except for Dr. Bailar, I think most of you will look and hope that I change this pretty soon. This is a box plot. The reason I'm showing you a box plot is to try to show you that we really do look at the individual sites on a particular day to see what is the distribution of their inventory, and this is inventory in days of inventory.

This is the median of the days of inventory of the sites, and the bars are the 2575, and the spike go the 2595, and probably most importantly -- it's a good thing Dr. Bailar is in the front row so at least he can see this -- the boxes below the 95th percentile are our lowest numbers. Those are the folks who are below the 95th percentile.

What I have this up here to show

you is that while -- you can see some of the excess up here in post-September. The distribution of the inventories across our 26 sites has remained pretty constant. I think again what we're seeing is called a "leakage" for want of a better word. I believe we definitely see a trend from the sites that we monitor -- at least we see a trend but we haven't seen a crash yet.

The next slide, please? I have this on here briefly to remind you, again, that we have a track record here, and this -- over a year this track record -- this is outdates from the hospitals to remind you that when we went from seven days to ten days to fly at the hospital level shortly after September 11th, we went from virtually zero, maybe one or two units outdated today, to a larger number -- still a small number. But this is a rough estimate of what we see as the hospital baseline as closer to the top than to the

bottom of their optimal utilization.

The next slide? This is the seventh of eight slides and is, to me, the most meaningful to explain to you what it is -- so that what we're trying to do with this monitoring program. What you have here -- and I apologize for those of you in the back -- it says "Frequency of blood shortage reports by week." Bottom line is they're going up.

These are reports that we get from the sites that say either an order was delayed, an order was not completely filled, or we had to go to a non-customary site to get blood to fill our orders. Before September 11th, we didn't see much. That little blip was the September 11th, led by, I believe, 42 days after September 11th when there was a surfeit of blood in the system. There were no such reports.

What we saw was a buildup around Christmastime. A little bump in here which

is not entirely explained but just might be a little internal part of the program. We had a meeting in February where some people said, you know, we think you're not getting the whole story, so we had a transient rise of about three or four sites reporting shortage.

It went away, but there is no mistaking this trend. As in the last four weeks, the reports of these shortages, which we're calling "near misses," are definitely on the up. We anticipate that these will be precursors of more serious events where elective surgery has to be canceled if in fact we get to that point.

The last of my slides is that we do track this on a daily basis. This is the median inventory in our hospitals, and there's only a single dot there, and that single dot there is not that elective surgery had to be delayed or canceled or nonelective surgery had to be delayed

because of a blood shortage, but that was one case where it had to be delayed because AB negative plasma was unavailable.

In a nutshell, then, what we have seen so far is: No. 1, inventories are clearly slipping; probably No. 1A, inventories, as far as we see them, are still within the range but definitely at the lower end of the range that we've seen over the past year, the first year of this monitoring program; no. 2, the daily reports of what we call near misses -- incompletely filled orders and so on -- are definitely on the rise; but No. 3, we have not yet in our sample gotten a report of elective surgery being delayed or cancelled or nonelective surgery being delayed because blood was unavailable.

That will be it.

DR. BOLTON: Thank you, Dr. Nightingale. Are there questions from the committee?

DR. BELAY: Steve, what's the most recent inventory data that we have? Is it through May or June?

DR. NIGHTINGALE: The most recent inventory data that you have is of 8 o'clock last night. I put this together after I came back from the ball game last night. Literally.

DR. BELAY: Do you expect to see a drop in the summer, for example, because of, you know, summer vacations and everything else?

DR. NIGHTINGALE: I expect to see a drop in the summer, but I think it's important to remember that this is new methodology. What we're picking up here is daily inventory reports and I've given you the raw data rather than moving averages. And it's not just because I have a statistician in front of me, but because I think we really need a full year's of worth of experience with this system and

experience comparing this system to the other systems, other efforts by other individuals in place to get, first of all, the worth of this system and, secondly, to see how we can make this system better.

There is a very specific problem here that we're trying to address, which is when you're watching a moving line on a daily basis, when do you know that you have a trend? We are very fortunate that Jay Kadane of Carnegie-Mellon is working with us on that. That's not a simple question.

So, I think right now what I think the best that we can do for our colleagues is to say this is our raw data and to make it available as quickly as we can so that we can learn from this. Hopefully we can help the people who manage the blood supply manage it better by this.

DR. BOLTON: Other questions? I have one, Steve. In your centers, what percentage of elective surgeries use

autologous blood donations?

DR. NIGHTINGALE: We're not there yet. The only things that we do this year are we collect inventory data and we collect shortage information. This program might very well develop into that but it would take more money than we have for it right now.

DR. BOLTON: So you don't have an idea -- for example, when you say that elective surgeries are being delayed because there's not blood, you don't know how much that could be alleviated by autologous blood donation.

DR. NIGHTINGALE: We made a deliberate decision not to include autologous blood in these calculations, and also we don't include partial units -- the pediatric units -- in this calculation for consistency. I think the issue of autologous blood utilization is something that my colleagues who are transfusionists

rather than nephrologists or bureaucrats are better equipped with it than I am.

DR. BOLTON: Thank you. Our next speaker will be Dr. Robert Jones from the New York Blood Center, and he will give us the update on the effects --

DR. JONES: We have a global communications problem. It goes beyond my presentation. If you could just give us a minute.

DR. BOLTON: Technological glitch. Anything anybody wants to say?

I guess I'll take this opportunity to say something I meant to say before we began the presentation this morning. That is that in our deliberations yesterday we were talking about trying to anticipate the effects that any decisions, recommendations that we made would have on tissue donations. And today we're getting an update on the effects that our deliberations over the last year, year and a half have had -- the

guidance changes that we are having now on the blood supply.

So, in some respects it might have been a good idea to have this update first, as a sort of precautionary informative session. But in other ways, maybe that's a good thing that we didn't.

DR. JONES: We are getting close.

Here we are. Steve's presentation was interesting and important, and it brings to us the perspective of the hospital. Now I'll try to bring you some perspective -- I think others that follow me will bring you the perspective of those that are closer to the source of this precious life-saving resource, the Donor Center perspective.

I'll start off by giving you some good news, some feel good information, followed by some information that doesn't feel so good. Not quite one month has passed since implementation of the first phase of FDA's vCJD blood donor guidance

recommended by this committee. Although it was very difficult to get much real quantitative information on the state of the supply, much anecdotal information is accumulating, suggesting that a hazardous state of the nation's blood supply is both likely and imminent.

At present, red blood cell supply at New York Blood Center available for our hospitals is more than adequate. Since the announcement of the guidance, we have been preparing for potential supply shortfalls by major reengineering of our blood donor recruitment and collection campaigns.

Significant augmentations were made in our collections goals over and above our already aggressive and successful campaigns. Resources have been invested in news staff and recruitment and recruitment campaign strategies and materials. Resources have been invested in new staff and recruitment campaign as necessary.

We have also carefully and deliberately secured supply agreements with a diverse array of U.S. Blood providers that range from 6,000 units per year up to 60,000 units per year from small independent blood centers to networks of independence, such as ABC and BCA, up to the largest single U.S. blood provider, the American Red Cross. We salute the commitment of these blood-carrying organizations to help the New York area through this difficult implementation period.

We deliberately structured our agreements to supply a substantial cushion because of the uncertainty that we faced and continue to face around how national donor willingness will play out. Euro blood supply continued to be shipped until May 31st. Actually, we do continue to receive the debt supply but that was a very small proportion of the overall supply. So,

essentially Euro blood is almost over.

Finally, we have had significant gains in collections and processing efficiency so that our discards and rejects rates are reduced. With all this our red blood cell inventory has sustained at more than a sufficient level for months. However, even with limited information since June 1st, a frightening trend is beginning to develop. Since the end of May our overall red blood cell inventory, while still adequate, has dropped by 27 percent. So, we're riding up here and now we're starting to come down, more or less reflecting some of the things Steve was talking about.

Availability of type O-negative blood will soon be at a rationing level. Actually, at the time I wrote this that was soon to be; now it is.

Our whole blood collections have dropped precipitously to 13 percent below

last month, May 2002; 19 percent below what would be expected for our whole blood collection campaign; and 12.5 percent below June of 2001 one year ago. The number of donors presenting it during the first 17 days after implementing the guidance is 13 percent lower than last year at the same time. This is most marked in our collections in New York City and in New Jersey.

It is equally disturbing that many of our new U.S. suppliers are reporting substantial collections difficulties as well and are now not able to meet their commitments to New York. This includes both independent ABC Centers and American Red Cross supplies.

Individual centers are reporting unexpected impact of vCJD referrals, particularly those related to military service. During this timeframe, ABC reports a significant increase in centers reporting

less than one-day supply to where it is now in excess of 33 percent. I'm sure Celso will give you an update on that.

This indicates severe supply problems emerging in other parts of the U.S. and if this phenomenon is sustained, the supply in the New York/New Jersey area will eventually be as low as, if not lower than, those parts of the U.S. We believe that the causes of this impending supply crisis are multifactorial and only partially resolvable in the short term. First, the loss of Euro blood is clearly important to the New York area supply and, as such, impacts the national supply.

Actually, I might switch to the second slide quickly.

This is our collections curb, just to show you quickly. This is the September 11th. This is the trough that I refer to, and this is our June number. So, you see, we're climbing back out of that

trough, and this is what we project for June, only two or three days to be completed.

Second, after Euro blood loss, the timing suggests the vCJD guidance is playing a major role in reduced donor willingness to donate, as well as actual exclusion from the donor pool. Whereas ARC shortages are clearly not due to recent vCJD deferrals, non-American Red Cross centers are clearly being impacted, particularly those that are dependent on military and military retiree donors. Many centers report that it is not only the number of donors that are being lost; as importantly, the types of donors as those who meet the criteria are often regular and frequent donors or apheresis donors of platelets.

Third, there remains a donor apathy that continues to suppress blood donations nationwide since the surge of donations following 911. This is

exemplified in the trough of our monthly collections curve that is yet to return to our expected collections baseline. I just referred to that. After the peak, there was this trough. We were climbing out of it, and now we see the June number.

Whereas the magnitude of the suppression is difficult to quantitate and varies widely from center to center, our center has yet to fully recover from this reduction in donations, and most centers report similar pictures.

We estimate that when the units lost because of collection and processing errors and expiration is factored in, so far the total loss of whole blood units for transfusion from the 9-11 experience was about 5 percent of our annual collections. Our experience more recently with focus groups on 9-11 donors also tells us that the U.S. donating public is still angered over the massive outdating of red cells that

occurred and was reported after the 9-11 donations.

These groups tell us that they don't understand that blood is perishable and that throwing away their donations is unacceptable. Furthermore, they report that they are unlikely to respond to appeals for blood donations given the experience after 9-11.

Finally, there's the historic drop-off in blood donations in the summer months. Particularly disturbing is the sense that this drop-off began occurring in April and May, months that usually have high donation rates. This deterioration has accelerated in June and just two days ago ABC, AABB, and ARC released a national appeal for blood donations. An appeal this early in the summer is a dangerous sign that the conditions may get worse unless there is a massive outpouring of donors.

These forces taken together

portend a very serious problem with the blood supply that threatens to disrupt hospital care nationwide. Again, I emphasize that the supply in the New York area is sufficient at the moment. Based on assumptions of several weeks ago our supply is forecast to be adequate through the summer months.

However, our assumptions did not include a massive shortfall in collections throughout the country that would impact our new suppliers and reduce their ability to supply New York. Nor did they include the magnitude of reductions in donations we currently see in the New York/New Jersey area. The overlay of vCJD deferrrals on the current donor apathy and summer donation contraction is a formula for disaster.

Every day the nation's blood care systems must create the red blood cell supply that will last for only 42 days. We are not banks. We are pipelines. The

nation's blood supply is neither static nor stable. It is dynamic and emminescent (phonetic). As such, assumptions we made about supply even two months ago may not be valid. There is no reserve supply to meet demand if collections continue to deteriorate.

In light of the current national problems in blood donations, we urge this committee, again, to reconsider its precautionary position on vCJD referrals. While this policy was pursued in the good name of blood safety, we fear that patient safety is now in jeopardy.

Thank you.

DR. BOLTON: Thank you, Dr. Jones. Questions from the committee?

DR. WOLFE: Back about 10, 12, 15 years ago, I think at the peak then there was a big campaign, particularly at the hospital level but elsewhere to do more autologous blood. I'd just like to ask

you -- Dr. Nightingale deferred the question about that, that came from Dr. Bolton -- what has your organization done recently, as in since the time that this program was going -- it was planned to be implemented to -- even though it's a little bit out of your purview. But as part of a campaign to try and improve the balance of the blood supply, what has your organization done to promote more autologous blood donations?

DR. JONES: Well, it's not out of our purview at all. We actually supply that service to virtually all the hospitals in the area.

DR. WOLFE: In terms of your public affairs, what have you done recently as part of your other efforts to try and keep the blood supply in balance?

DR. JONES: Well, our first efforts are to try to get more donations from the public. We've always encouraged autologous donations. When we get questions

about it we talk to our hospitals. The logistics around that are much more difficult than the standard way of operating with getting blood supply in through the public donors.

DR. WOLFE: So you haven't done anything new in the wake of this pending disaster that you're describing?

DR. JONES: We have done lots new to increase the --

DR. WOLFE: New things on autologous specifically.

DR. JONES: Oh, no.

DR. WOLFE: You've not done anything new.

DR. JONES: No, other than to be available and encourage blood bank directors. We work very closely with them, and they're always ready to accelerate that if necessary.

DR. WOLFE: It seems to me that -- I mean, I think your point about people

being turned off because of having to dump blood that was collected in the wake of September 11, and also there is still some residual concern about getting infections -- some rational, some not rational -- I mean, giving blood is not some way you get an infection. But I think that it would seem like an ideal time to capitalize on those concerns and mount a much bigger and newer campaign on autologous blood.

I mean, the -- when this was done back when, it resulted in a very important increase and then it sort of faded out. There hasn't been as much publicity. I just would suggest that -- and I will to everyone who makes presentations today -- that they ought to figure out what they can do that they haven't done.

You've said you've done anything new in the wake of this to try and encourage autologous blood. Obviously it's not the only strategy, but it's one that cuts

through a lot of the problems that you've described.

DR. JONES: Yes. Now, we have, in fact, in the last few months, when we meet with our blood bank directors, which is once a month, put autologous donations on a higher plane of availability and their awareness. So, we're talking about it where the blood bank directors. We can't --

DR. WOLFE: But that's internally. That's, again, not public relations and trying to get the public to do this, right?

DR. JONES: It's really the doctors' decision. That's really the people we have been working with.

DR. BOLTON: Dr. Linden?

DR. LINDEN: Well, just, along that line I'd just like to disagree that I don't think that would be a particularly beneficial approach. At this point, over half of autologous blood is not used. It's not needed.

Most of the patients who are the best candidates for autologous are already donating. If you had a broad-based appeal to the public, all you're going to get is patients who don't really need it and who aren't going to use it, and it's just going to use up resources that could be directed toward promoting community donations. I mean, I'm not saying something couldn't be done, perhaps with the physicians, but I don't think that's something that would really particularly productive.

DR. WOLFE: I thought there had been a fairly measurable fall-off, you know, to autologous blood after the campaigns of 10 or 15 years ago. I mean, maybe a lot of people are doing this. But I think there are still a lot of unawareness on the part of the public.

DR. BOLTON: Let me jump in. I mean, I brought this up because I had back surgery six or seven years ago and I was

basically told, "You will donate autologous blood," and that's it. It was just part of the procedure. It seemed to me quite reasonable. In fact, I was upset that I had to sign the waiver that said I realize that if they don't use my blood on me, they'll throw it away. Since I'm a normal regular blood donor, it seemed kind of a shame to do that. But I understand the paperwork behind getting my autologous donation mixed up with the general supply. That sort of makes sense.

But it seems to me that, for elective surgery, good communication with the surgeon to -- not from the public up but from the surgeon down -- to implement this kind of practice could save a tremendous amount of blood. It certainly would reduce the number of elective surgeries that have to be delayed because there isn't blood available. That was my only point.

Steve, did you have a comment?

DR. NIGHTINGALE: Yes. It might actually be easier for a nephrologist and bureaucrat to make this comment than, say, a blood bank director, given these particular circumstances. But as someone who actually has been very actively involved in the blood business for the last five-year period, here is my response to Dr. Wolfe.

Autologous blood donation, when it was first proposed and implemented, seemed like the ultimate no-brainer, something that couldn't lose. In fact, the experience with it has been much less successful than was anticipated, and I believe the best summary of that is in the review of transfusion medicine.

Was Mark the first author -- it's a two-parter in The New England Journal of Medicine -- Mike Collings over there can give you the reference -- that the expectations have not been realized because, first of all, the population that you're

drawing from is not necessarily the population that has the same likelihood of using blood as the population as a whole. So you've got that imbalance there and that is why a little bit over half -- Dr. Linden may have the exact number of the blood that is not used.

The second is that the amount of blood that you can get in the 42 days from a stable population may not match the dose that the individual needs. You may have the blood in the bank and you say, "What the hay; let's give them a unit." But that practice is not popular anymore.

Blood is like a lot of medicine. Usually you don't need it, but when you need it, you need a lot of it. I think in a nutshell that may explain why autologous donation has not been more enthusiastically proposed either in the blood world as a whole or in this meeting this morning.

DR. WOLFE: But in a time of

crisis, at least as has been described, do you not think, particularly because there hasn't been a campaign recently, that that could not be one of the important components of trying to get the balance back?

DR. NIGHTINGALE: I think, real quick -- and here I am speaking back as the bureaucrat nephrologist -- what we need is long-term solutions to the summer slump. As Bob said, there's a lot of things going on here, but one of the things that's going on here is the summer slump.

The summer slump, yet early -- how much of this was a 531? I don't know. Nobody else knows. But this is a summer slump here. It's ABC, ARC as far as I can tell, at least from my limited perspective, equally, and we've got to get out of the pattern of summer slumps and winter slumps, and that's going to take a lot of head scratching. That's a solution to our problem.

DR. BOLTON: Dr. Linden?

DR. LINDEN: Just to follow up briefly on this, I agree completely with what Dr. Nightingale said and would just like to add that in fact studies have shown that most of the patients -- or many of them -- who do need blood following surgery who donated autologous blood is because basically they were anemic when they went into surgery because they don't -- if you compare them with patients who didn't do autologous donations, and other patients with the same blood loss don't need the transfusions; so basically they're just getting the blood back because they lost it in the first place. So, promoting more of that in the same types of patients, you know, I don't think would be particularly productive, in my opinion.

DR. BOLTON: Ermias?

DR. BELAY: I was trying to understand the Euro blood loss. Most of the

---- policy would not kick in until probably October.

DR. JONES: That's true. The big Euro blood loss -- and we knew this several months ago -- our biggest program was the Swiss program. They elected, for many reasons, many political, not to ask the French question; so that took them out. And the Germans followed along with the Swiss; they work fairly close together, those programs. So that leaves the Dutch who were willing to incorporate the question about France into their donor forms.

DR. BELAY: You predicted an impending supply crisis, which you said is multi-factorial?

DR. JONES: I'm sorry?

DR. BELAY: You say the impending crisis is probably multi-factorial?

DR. JONES: Yes, I listed the factors.

DR. BELAY: Can you give us an

idea what proportion of that would be attributable to the foreign policy that we recommended?

DR. JONES: Well, for us the timing suggests there's a strong impact on our own collections of the deferrals. We anticipated that because of the cosmopolitan nature of our donor base. I think the coastal areas were forecast to have much bigger impacts of vCJD deferral than for travel than any other parts of the country. So, we predicted that.

We did surveys last year, which predicted something like 7 percent loss total when all the phases were in. Now we're seeing we don't know what's relative to CJD but we've seen in the first three weeks 13 percent drop-off in donations or people showing up for the drives.

MS. KNOWLES: Can I ask a question? Can you give us that in numbers? How many numbers does that translate to, in

terms of donors?

DR. JONES: Over the period of the -- well, let me put it this way. We anticipated 40,000 donations for the month of June. We're going to come in at 33.

DR. BOLTON: Yes? Please introduce yourself.

MS. ELSAADANY: I am Susie ElSaadany. I am Chief of the Statistics ---- Section at Blood ---- Health, Canada -- Ottawa. I'd just -- I'd like to elaborate on the autologous issue. I just recently finished a study on autologous utilization at one of the biggest hospitals in Ottawa. I'd like to say that autologous blood donation is quite expensive. And also we collect autologous blood for just-in-case scenarios. Therefore, we end up losing between 60 to 64 percent of the autologous blood collected, because it turns out the patient doesn't need it. So, I think it's quite expensive, unless you have a good

utilization program, then it is quite a waste, in my opinion.

DR. BOLTON: Thank you. Steve, and then John.

DR. DeARMOND: It seems like there's -- very simple-minded. This is way out of my realm. But two major factors seem to be involved here at least: First, was the deferrals that the FDA recommended -- no question. But clearly from the charts, New Yorkers will respond when needed.

DR. JONES: You may have to bring a couple of buildings down. That's the problem.

DR. DeARMOND: But the results after that, of the rejection of giving blood, is also -- that seems unreasonable. So there seems to be a second problem, which is: A poor education of the -- so, has there been increased attempts to educate the individual of the population in this area -- on TV, at baseball games, at other places --

DR. JONES: Yes, yes, there have been attempts. In New York, the New York area, the message level is so intense that to drive any message through that chaos of messages is very difficult. You know, crises get through fairly quickly, but routine -- certainly PSAs don't do the trick. Paid advertising is prohibitively expensive in our area to do that. So, what we've elected to do is educate donor chairpeople. The best education and the best way to recruit blood donors is face to face. We've learned that over a period of time.

Massive appeals. Our experience with advertising has not been real productive, and perhaps it's because of the nature of our market that it's very difficult to get messages through. Other markets where there aren't quite so many messages may be easier. But it's clear that the American public -- and I'm not just

talking about New York -- the American public has no clue as to the way blood is perishable -- No. 1, that you have to get the supply in every day because it expires in 42 days.

They were agas that this blood was thrown away. It wasn't just the American Red Cross. We had to discard lots because we didn't have transfusion recipients for all that blood.

DR. DeARMOND: So, don't they believe it when you say that?

DR. JONES: I just think it's something that doesn't register. You know, blood donation is not something that's at the top of my mind. I wake up every morning thinking about this, as does Peter and many people in this room, but we're a very small minority of the population.

DR. DeARMOND: But that message must be like taking drugs. If you say "No," you should say, "Blood supply is

perishable."

DR. JONES: I think if we had -- listen, I think if we had a national campaign sponsored by the federal government to drive this message home, it would work. We've been calling for that for well over a year, and it's not happened.

DR. DeARMOND: Well, that is the question. How do you pay for it? I think that you're right, that's really the way it's got to happen.

DR. JONES: The blood care system does not have the reserve dollars to do this. We're struggling day to day just to get the blood supply.

DR. DeARMOND: How could that be done? How could we get the government to do that?

DR. JONES: Well, you made a recommendation through the FDA to the Department of Health and Human Services, and I'm -- as a matter of fact, we sat with the

Secretary himself and urged this, and it doesn't seem to be happening. There are other priorities. We all understand that. Unfortunately, it may take a crisis or a disaster to bring that about.

DR. BOLTON: Dr. Bailar?

DR. BAILAR: It's really just been covered. I'm concerned that I haven't heard messages of any urgency. I stay in very close touch with the news media, read three newspapers regularly every day, a fourth one on Sunday, I'm in and out of a lot of hospitals. Somehow this message just isn't coming through and something has to be done about it.

It may take a very long-term approach to this. You have people out in schools telling kids these messages. Give them something to take home to their parents.

DR. JONES: Yes, we do. As a matter of fact, we have intensive programs

related to the Department of Education, actually now through the New York Academy of Medicine, that takes on the task of health education in high schools in New York City, and this is part of their curriculum. So, there are numerous ways that we're working to get the education out there. But, again, it's a small message -- big to us but a small message in the fabric of numerous, and sometimes others think more important, messages.

DR. BAILAR: I would guess from what I hear here and other places that the problem is not that the public is reluctant to donate but that they don't understand the need.

DR. JONES: I think there's two things. The 9-11 situation definitely put a new dynamic into the system as to the public's willingness or interest to donate blood. Now, there was a significant amount of backlash that all the blood care

organizations felt around that. As much as you tried to educate them, this was something that was inevitable because of -- and that you can do what you can to freeze blood, that that strategy is expensive and not as effective.

Still, the public operates on a very day-to-day kind of, you know, what-have-you-done-for-me-in-the-last-ten-minutes mode of thinking, and so I think we're dealing with that psychology. It'll slowly, you know, ebb away as we have more appeals.

I think one of the things we learned from 9-11 is the destructive impact of allowing that kind of surge of donations to happen. We simply must not let that happen again because of the destructive impact. We lost a lot of ground.

DR. BOLTON: Dr. Linden?

DR. LINDEN: Yes. In terms of government actions, I can just let you know

that Commissioner Novello has made funds available for a project that we're pursuing shortly through the Department of Motor Vehicles in New York, and everybody who renews a driver's license or car registration is going to be getting an insert that talks about the need for blood and gives the 800 numbers for both the Red Cross and the New York Blood Center.

We're going to start with a million of those and then go from there and see how that works. I'm not overly optimistic but it's an interesting sort of experiment, and if it were to work, that would be something that could be considered in other states as well. Now, of course, I'm from New York. There's a lot of people in New York City that don't drive, but we'd at least reach some of the them.

DR. BOLTON: Those that drive don't drive well.

DR. JONES: I might add there's

another dynamic sort of creeping into the system as we've talked to donors and focus groups, and that is the perception that's out there, especially with a lot of recent publicity about artificial blood and blood replacements, that this doesn't have to happen anymore, that they don't have to come to blood donation centers or go to blood drives because we've got the answer. It's artificial blood.

Now, we all know in this room that that will help. That's No. 1. No. 2, it's not here yet, and No. 3, we don't really know what the therapeutic utility of those -- or downside -- of those products is going to be as yet. For the public to have that perception is most unfortunate.

DR. BOLTON: Other questions? Well, I actually just want to make one comment. For those that didn't understand what Dr. Jones was saying when he said that the Swiss and the Germans didn't want to ask

the French question, that's because the French -- the deferral for residence in France for greater than five years is part of the Phase 1 deferral, and that had to be implemented in the Euro blood portion, even though Euro blood is Phase 2. So, if they weren't willing to ask the question, then you couldn't use that blood essentially. So, that's what the French question was.

DR. JONES: That's right. Sorry if I didn't make that clear.

DR. BOLTON: Thank you, Dr. Jones.

DR. JONES: Thanks.

DR. BOLTON: Our next speaker is Dr. Peter Page from the American Red Cross. Dr. Page?

DR. PAGE: Thank you very much. I appreciate the opportunity to provide some information that the Red Cross has collected in this matter of concern.

Next slide, please. Dr. Scott has reviewed already the chronology of deferral

criteria that the FDA guidance has done and also deferred to the Red Crosses. Just by way of background, there was an initial vCJD deferral back in March of 2000, which we implemented; and then early in 2001 Red Cross gave great thought to the appropriate thing to do and picked some geographic donor deferral criteria based upon the concern and the uncertainty of the epidemic and the risk, saying at the time that these criteria could be changed as new data might become available in the future.

Next slide. That decision in the spring of 2001 was implemented in October of 2001. It takes some time to write our procedures, our training material and to train our 7,000 collections staff scattered to 36 regions throughout the country in order to do it. Then subsequent to that in early January the FDA issued the guidance that would take place in two phases -- June and November of this year. So, the Red

Cross implemented it earlier and not at the time that other blood centers implemented their changes.

Next slide. This is a little bit more detailed than Dr. Scott's slide just to show that there have been changes in deferral and that the FDA, the Red Cross, and the Department of Defense have had differences already, and the last two lines just point out that Canadian Blood Services in Héma-Québec, have different criteria as well, including some that are even more strict in Quebec than ours.

Next slide, please. I'll focus on the two major differences as I think Dr. Scott did -- presence in the U.K. for three months. The American Red Cross started off with 1980 to the present, and that remains today our stance. The FDA cut it off in '96. The other major difference is for the rest of Europe, which is -- for everybody it's still from '80 to the present

that we require only six months' presence whereas the FDA and most of the rest of the U.S. is five years.

There are some minor differences I want to focus on here as to military bases and small neighboring countries, which for simplicity of operations and minimization of errors we chose to do a little bit of lumping.

Next slide, please. So, first the U.K. deferral. I've already mentioned our criteria and the FDA criteria. Based upon input from several consultants with experience with vCJD and BOC in Europe and elsewhere, and also upon the reassurance of this committee a meeting or two ago about the effectiveness of measures in the U.K., in 1996, Red Cross has decided to not discriminate against perfective donors for time spent in the U.K. since '96. We will be consistent with the FDA guidance in that regard, and our implementation time, for

that is targeted for November of this year once again because we have to reprint our forms, develop training material, and train all our staff.

Next slide. However, for the rest of Europe deferral criteria, where we have only six months' presence required for deferral rather than five years, the consultants advised us that due to the lack of food chain controls in the number of many other European countries, the fact that there is not active surveillance in many of the countries and the concern about the potential for suppressing of some reports, they now have information about what we don't know and the level of concern remains.

So, the question we asked ourselves was would there be any risk to the Red Cross in changing these criteria to be less strict and all other risk is theoretical and minuscule. The feeling was if asked the question, there might be an

increase. So, for the time being, we are not changing our deferral criteria for six months in the rest of Europe.

Next slide. Now I want to review our experience in donor deferrals, blood actually collected versus our plan or our goal, and then also I have data on our blood distribution, levels to hospitals, and our inventory levels. I will update it based upon some questions with some overheads at the end.

Next slide. We implemented our most strict deferral criteria on October 15th, 2001. This is a chart of daily deferral percents for all American Red Cross blood centers, all 36 of them, and it is deferrals specific to variant CJD. You can see that from the deferral implemented a while ago, it is less than a 10th of a percent. That was due to more than six months in the U.K. or receipt of bovine insulin, and on October 15th, it went up to

about 1 percent per day when we went to only three months in the U.K. and six months for the rest of Europe. So, it averaged about 1 percent after we implemented it.

The next slide is the same except by week, which goes from prior to October 15th up into the end of March of this year, and you can see that there is culling. In other words, donors get the message that they will be deferred and don't come and show up in the first place, or when they arrive at the blood mobile there may be a sign that educates them about the deferral criteria and they don't even sign up or register so they aren't counted.

So, the deferral data I'm showing you do not count the people who know not to come in the first place or the people who show up but don't sign in. So, the deferrals are an underestimate of the loss of productive donors to us. The amount of that we are not able to quantitate.

Next slide. There has been mention already about differences in various parts of the country, and coastal cities may have a higher deferral rate in our 36 regions. I do have the data -- I can show you for all if you want, but we had a range implemented immediately after October 15th, one that went from .2 percent to a high in one region of 1.45 percent. That has now come down to .25 to 1.15 percent in March of this year with partial culling.

As to the actual number of donors registered but deferred and lost per month, they are in the right-hand column. Beforehand they were 360; immediately after October 15th, there were 5600 per month. Red Cross collects about a half million every month, as you'll see shortly, and that has dropped down to about 3700 per month.

Next slide. This is the first two of four similar graphs.

This goes back to January of the

year 2000, and the top one is the deferral rate, all presenting allogeneic donors; autologous not included. It is by month.

Dr. Scott referred to, previously, an almost 5 percent increase in deferral that occurred in August 2000 when Red Cross went from doing the hemoglobin sampling for adequacy of blood and the donor from the ear stick sample to the finger stick sample, and that change resulted in losing almost 5 percent of donors.

If you look where October 15th in 2001 would be, you see an up for one month, but in the scheme of things you don't see a major change upward in deferral remembering. Again, this doesn't count the people who didn't come and didn't register.

The bottom slide here shows in blue our budgeted collection goal for every month. Primarily, it differs from month to month, dependent upon the length of the month and the number of weekends and

holidays, that ongoing patient needs every weekday remain about the same year round.

In red is our actual collections. You can see that we did pretty well. The big bump, or the peak in the red, is September and October of 2001 after September 11th, and the drop thereafter in December and January -- below goal.

While January is often a difficult month as is December because of the holidays, we believe that there was a lot of negativism in the American public about the outdating of blood donations and blood donations not used after September 11th, and there was a fair amount of media publicity of that, and that's what we attributed to January. Since then, up through April we've done pretty well, and I will show more data on that.

The next slide shows distribution. This is the number of red cell units we distributed by month to all the hospitals

served in our 36 regions, and you can see that that varies a bit. If you look at September of 01, it's down, probably because the number of hospitals were collecting their own blood. And with the excess blood collected after September 11th, blood was readily available from a number of sources, and less was requested of Red Cross during that period.

Since then, however, I think you can see that our distributions, which reflect transfusions, had gone up every month for awhile -- may be leveling off again, but part of the reason for the shortage, we believe, is an increase in transfusion usage by patient. So, we have other data that is consistent with that.

Now, if you look at the average daily inventory of red cells in our Red Cross blood centers, which does not include the blood in the hospitals, you can see that in the year 2000 we had as low as 50,000 on

an average for the month during the summer, which is low, at a time when we were on appeal and doing a number of other things.

The subsequent summer of '01, prior to September 11th, we spent a lot of money on paid advertising, which did help a little, but it was very expensive, and that summer was not as bad as previous summers had been. You see the increase in inventory. That went up to 300,000 after September 11, and you see that as that outdated and donations didn't pick up again afterward that the inventory has gone down.

Up through May it remains at a higher rate than May in previous years. However, I will show you an overhead that shows you that it's tanked since then.

Next slide. This is the last in the PowerPoint presentation. I think this data suggests that when anticipated and planned for, new donor deferral criteria can be accommodated by intense, expensive, and

vigorous donor recruitment efforts, which I think we have all engaged in. After the increase in deferrals ----, there is culling and the deferral rate drops. We also have noticed that with implementation of new tests. The people who are ineligible are deferred and don't come back. So, the rate of those who come is lower.

But the point to emphasize is that we need more regular volunteer blood donations, and we still need them to prevent seasonal shortages which we're facing now. I will just try to show two overheads which give more recent data in that regard, if I can figure out how to do this.

The first overhead will be our inventory levels by week, which is updated, and then the other one will be our projected inventory. In Red Cross we have blood mobiles scheduled out up to six months, and we renew or refine those schedules and project units that all the schools,

colleges, companies, and factories that we collect at so we can project how much we expect in the upcoming period.

This, however, is our inventory that goes back about a year, and it shows that after 9-11, the inventory shot up and then it drifted downwards. Not shown in my PowerPoint presentation is that the inventory has now more recently -- and this goes up to June 24 of this year -- it has dropped down. It's down to levels of the summer of '01 before.

So, as I think Dr. Jones said, you have enough blood today. But the concern is in the upcoming periods, particularly with the July 4th weekend.

So, utilizing our current inventory, our projected hospital usage, and our scheduled and projected blood collections, we show that the inventory next week with the holiday on a Thursday -- which is a difficult time for us -- will decrease

and continue downward. The black line is what our inventory was this time last year, which was more stable due to the increased efforts that we had made then.

We, too, have made efforts already but I think the entire country and all the blood collectors together are right now trying to initiate a national media appeal for more blood donations to prevent that shortage, which could be quite severe.

Thank you. That concludes my remarks.

DR. BOLTON: Questions from the committee? Steve?

DR. DeARMOND: When we were looking at this issue a year ago, the projection from the American Red Cross was -- I think it was under 10 percent loss of blood supply -- I can't remember -- it was 8 to 10 percent or something like that -- and that the FDA recommendations were the order of 5 percent, which seemed to

be a reasonable compromise. But now from your projections, are you going past that 10 percent loss of blood supply? Has in reality the deferrals created an even greater loss?

DR. PAGE: I don't think that the projected loss now and next week is so much due to deferrals as to people not coming in the first place due to donor apathy, being on vacation, or not coming to the blood mobile. Projection of a deferral loss or a testing loss in advance of implementation has always been difficult.

There have been postcard surveys, there have been general surveys, and my personal sense is that they have generally overestimated what the actual accountable deferral or test loss was. In part, I think that's because word gets out and people who think they're going to be deferred don't come at all.

The problem is people who think

they may be deferred and don't come might really be eligible. So, I think the loss of who doesn't come is the greatest effect, and our problem now is people not coming to donate, that we need eligible people to appreciate the need.

DR. BOLTON: I'm sorry you took down the overhead because I have a question about that. On your second overhead -- that's okay, we'll do it from memory -- on your second overhead you're projecting into the future a significant drop in collections. Yet, if you look at your previous year's collection rate throughout the summer, it was pretty constant and even slightly increasing. So, what's the basis for which you have the projection for decreased rate of collection?

DR. PAGE: This slide that you refer to is not collections; it's inventory. So while it includes the effect of decrease in collections, it also includes defective

increase in transfusions, which are referred to or mentioned.

DR. BOLTON: But the question still pertains. Your previous year's experience would indicate that the trend goes in the other way.

DR. PAGE: In the previous year we spent a great effort in donor recruitment with national mailings in tens of millions and with tens of millions of dollars in paid advertising, which had a minimal hub full effect. We are continuing to do a number of measures but not spending that much money now. I think as Dr. Jones alluded to, the word "world" may be a different place now and there may be some post-9-11 apathy and concern about every drop of blood or every drop of red cells not being used.

DR. BOLTON: So, your analysis of your advertising experience last year was that it was really not cost effective.

DR. PAGE: It was minimally

effective but not cost effective in the scheme of things. Having government company university leaders espousing importance of donating and providing the opportunity for their staff or their students is more important and something that is challenging but we continue to pursue.

DR. BOLTON: Other questions?

THE WITNESS: Allen Williams, CBER Office of Blood. Peter, thanks for compiling and presenting this data. I think they're very useful in trying to understand the dynamics of something like this.

One question: In your handout you had some of the regional data, and if you look at the range for approximately the last quarter of '01, the difference between the low and the high in the range is about seven-fold. Now, we anticipated a higher rate of deferral in the coastal areas because of travel.

We understood there would be a

fair amount of military-related deferral, but we didn't know quite what the dislocations might be related to the military deferrals, and we're getting anecdotes suggesting that the Carolinas and Georgia in some areas are being hit hard. Could you comment within the Red Cross system your observations?

DR. PAGE: Yeah, I have that data but I didn't project it. I have it on an overhead, but Alan is correct, it is very different amongst regions. The highest deferral rates for us were in the Norfolk, Virginia area and in Alabama, where we have high military collections.

We don't have that great a percentage of collections in others. Each deep set of three bars is one region, and on the left in purple is the northeast. The north central is in yellow. South central is next in white or light gray, and the orange is out in the west. So, I think

you'll see a difference amongst regions.

The smaller bar in the beginning is March of '01 before our October implementation. The next one is March of '02, a year later, comparing month to month a year apart, unaffected by recent deferral changes, and the back one is the highest immediately after October 15th.

To my surprise, our greater Washington, D.C., metropolitan area region, which is headquartered in Baltimore but includes Washington, D.C. and some of Virginia, was not amongst the highest. I've learned that that was one of several regions that did more than others in pre-educating donors at the site, that they would be deferred if they had traveled in Europe for these periods in time. So, they weren't registered or weren't even counted. So, a major factor in interregional differences is, I think, the operation or management practice differences in those donor

recruiters about pre-educating people.

DR. BOLTON: Other questions? I have one. I'm curious. This is perhaps a glass-half-full versus glass-half-empty question, but there seems to be a lot of focus on deferrals, and it can be quite obvious and dramatic the increase in deferrals when you look at the before and after the implementation of the guidelines. But, in fact, the collections don't seem to be affected that much, and as I discussed previously, the inventory experience at least has not been dramatically affected. Are you using -- do you use the deferral as an early warning, or is this -- I mean, obviously you're sensitized to that, but a one-percent increase in deferral rate due to vCJD criteria can be easily overcome by a few percent increase in traffic in, is that not right?

DR. PAGE: With advanced planning, and I would quibble with your use of the

word "easily." Donor equipment is not easy.

DR. BOLTON: Yeah, I withdraw the word "easily."

DR. PAGE: Yeah. With notice. I think part of -- the summer is traditionally a difficult period. We collect up to 20 percent of our donations from high school and college students, and we collect when we drive our truck there and offload and collect in the auditorium a large number of people at once. We can't go there in the summer because they're not there.

So, that's 20 percent that we have to try harder to get from somewhere else amongst busy people who are on vacation as well. Deferrals are what we can count but blood collections are what really matter, and those are not meeting goal now, and our projections are that they will be not meeting goal in the upcoming months either.

DR. JONES: I'd like the opportunity just to reiterate the point that

the on-site deferrals are just the bare tip of the iceberg of what the impact of deferrals is, and with the people who aren't showing up in the perceived notion that one would be deferred I think keeps more people away than we can measure, No. 1, but a much larger number than just what we see on-site. That's our experience. That's Peter's experience. I'm sure Celso will be the same. Collections have been dropping of dramatically since June 1st.

DR. PAGE: Yeah, collections from those who implemented deferrals are dropping June 1 perhaps due to new deferrals but also because of the traditional summer problem. Red Cross had no change in deferral criteria June 1, but our collections are lower now than in May.

DR. BOLTON: I think that it's going to take some time to discern which of the many factors are responsible for those drops, and I just want to be careful that

the committee and the public don't take away the impression that these are solely due to variant CJD deferral criteria.

DR. PAGE: However, there could be concern that if there is more BSE or variant CJD in other countries in the future if similar practices are engaged that accumulative ads could only hurt.

MS. KENNEDY: I have a question. Good morning, Moia Kennedy with ----.

DR. BOLTON: Did you identify yourself?

MS. KENNEDY: Yes, I did, Moia Kennedy. I have a question. This may sound a little ignorant, maybe my brain is still asleep. But when you're talking European deferrals, are you referring totally to Americans visiting Europe or have European countries traditionally donated -- the people, the European citizens, traditionally donated to the United States?

DR. PAGE: The deferral criteria

don't relate to citizenship or place of birth -- accumulative number of months spent in the U.K. or in other countries of Europe.

MS. KENNEDY: Okay, but I guess my question was: In the past, have Europeans donated and that has been imported into the United States?

DR. PAGE: My understanding is that in Europe the number of volunteer whole blood donations per hundred thousand population is much higher than it is in the United States and that within the United States it's higher in rural areas than it is in urban.

MS. KENNEDY: But has European blood companies --

DR. BOLTON: I think we're going to move on. This is not a question that's directly relevant to the committee in deliberations at this time.

MS. KENNEDY: Thank you.

DR. BOLTON: Would you like to

make a statement? Introduce yourself, please.

DR. WARWICK: I'm Ruth Warwick, National Blood Service --

DR. BOLTON: Turn the microphone up, please. Please stand closer to the microphone.

DR. WARWICK: Ruth Warwick, National Blood Service, U.K. I wonder if I can just comment on the discussion that I've heard, which is that what the U.S. is experiencing now may be the beginning of what will be something that will be much more of a crisis in due course. If I may give a little bit of the experience in the U.K., where we are anticipating that we may defer donors who have previously been transfused, and obviously the impact of that in the U.K. will be much greater than it would be in the U.S. Secondly, we are anticipating the impact that a test for variant CJD may have on the donor

population.

With the first aspect, the donor deferral for transfusion in the U.K., we anticipate that may be between 10 and 15 percent. We haven't got surveys to show that, but that's what we are anticipating, and with the introduction of a test we anticipate the donor deferral may be as high as about 50 percent because donors may not wish to be tested or to know the results of tests in the current climate.

I give that as a background because there had to be, obviously, a much more stringent approach to having adequate supplies for blood transfusion for those recipients that really need it. We haven't just looked at increasing the donor supply, but we've looked at the other end of the chain, which is improving usage, and that was what I wanted to comment on, but I had to give the breakdown to understand where I was coming from.

One of the things that we are having to considerably do is to educate users to make sure that blood is used appropriately, because there is considerable variation in practice, and there's a huge literature in the United States showing that there is poor appropriateness of transition therapies of all sorts, particularly ---- huge variations. Changes in practice promoted by the FDA to the users might make a very dramatic effect on the converging between the donor availability and the usage of that ---- aspect.

We are also having to encourage the use of autologous but not in redeposit but in increasing the use of self-salvage in those operations where that's feasible. That's particularly in cardiac surgery, orthopedic procedures, and many others that you will be able to think of.

All of these can be improved further by very stringent audit to ensure

that best practice is implemented. I think that even in the United States perhaps a very more long-term view and strategic view is what needs to be taken on board, not just donor acquisition.

The other aspect, of course, is that if we know there are risks associated with therapy by transfusion of all sorts, then they become the liability issues to be considered because inappropriate transfusion having a transmitted infection of any sort of course cannot be defended.

Thank you.

DR. BOLTON: Thank you very much. I think that's an important warning, if you will, to the blood collectors and the users of blood, that we don't in fact know what the future holds. Our primary aim in recommending the deferrals is to prevent an epidemic of variant CJD in this country. It's not necessarily to prevent a single case but to prevent epidemic spread. But we

don't know what the experience will be in the U.K., and we are sort of preemptively trying to reduce our risk to the minimum acceptable while maintaining an acceptable level of blood.

Obviously, if the situation worsens we will need to look very carefully at being more efficient in the use or blood as well as in the collection of blood. So, I think those words were very important to hear.

Yes, Dr. Linden.

DR. LINDEN: I just wouldn't want to leave the impression that that's not already being done. I know in New York we just sent out some guidelines about blood conservation. The utilization review committees are very active. This is already being done to try to maximize blood usage to be appropriate and not be excessive, so that's already being done.

DR. BOLTON: Excellent.

DR. LINDEN: But I agree it's an important issue.

DR. BOLTON: Dr. Bailar and then we'll move on.

DR. BAILAR: What's the delay here? If this committee recommends a change in policy on day X, how long would it take for that to show up and increase donations? Are we talking about three months, six months, a year?

DR. BOLTON: Steve, would you like to comment?

DR. NIGHTINGALE: Eighteen minimum, absolute minimum -- 36 if it's accepted.

DR. BOLTON: Thirty-six. You mean in terms of getting something into regulation. Or are you talking about an impact on the blood supply?

DR. NIGHTINGALE: Door to door.

DR. PAGE: Hopefully --

DR. BOLTON: Steve, was it up 18

to 36 months we're talking about?

DR. NIGHTINGALE: Yes.

DR. BOLTON: I'm not sure -- maybe that's not addressing Dr. Bailar's question.

DR. NIGHTINGALE: I'm sorry, since time is an issue I tried to give you my best guess without all the embellishments. As I believe this committee knows, I can go on at some length but I don't think they want me to do so right now.

DR. BOLTON: Jay, maybe you have a different point of view.

The microphone, please.

MR. EPSTEIN: It's a simple and direct question, but it's not a simple answer because everything depends on what exactly is done. You know, on September 11th, the agency issued urgent guidance within 12 hours. On the other hand, it can take upward of six years to do regulations. So, the question is what's the situation? What's the remedy? If we're

talking about new federal dollars then, you know, we have to get a budget proposed that contains the item. We have to get an appropriation. Perhaps that means a new program infrastructure. If you're simply talking about public service announcements, well, then the question is who are you trying to commit?

If you're looking for certain public officials, you have to get the issue up onto their radar screen, you know, then you need a process. So, I think -- you know, we could answer the question if we were talking about a specific measure, but to say what would a decision here or a statement here do directly, that's unclear. I mean, will the media cover today's proceeding; will it be a big splash, a little splash; exactly what is the message that gets communicated?

I mean, there are just too many variables to answer the question. We could

answer it we were talking about concrete steps.

DR. BAILAR: What I'm hearing in general is that there's absolutely nothing this committee can do about this year's summer slump, probably not next year's either.

DR. BOLTON: No, I couldn't -- maybe that's a little too pessimistic but we'll see.

At this point, we're going to move on though. Thank you, Dr. Page. Our next speaker is Dr. Celso Bianco from America's Blood Centers.

DR. BIANCO: Thank you. It's important that I explain that America's Blood Centers is a national network of locally controlled not-for-profit community blood centers that provide nearly half of the U.S. blood supply from volunteer donors. Collectively we operate in 45 states and serve more than half of the nation's 6,000

hospitals.

America's Blood Centers' total blood collections exceeded 7 million donations in 2001. FDA has asked us to comment on the impact of implementation of the extended donor deferrals for vCJD on May 31st, and we conducted a survey of our 74 U.S. member centers in the past two weeks.

Obviously, the period since implementation is short for a precise assessment. However, we obtained enough information to indicate that the impact will not be trivial. We excluded Héma-Québec, our Canadian member, from the survey, because these members' implementation dates and criteria vary from those recommended by FDA. All 74 ABC members in the U.S. implemented the extended vCJD deferrals of May 31st with no exceptions.

Could I have the next slide. Thirty-one of or 42 percent of the centers,

implemented only Phase 1 of the deferrals. However, 43 -- that is the two that you see -- that implemented in April -- plus the 41 here -- implemented both Phase 1 and Phase 2. There is the Pan-European deferrals at the same time.

The major reason for this approach was to avoid two rounds of modification of standard operating procedures, retraining staff, reprinting donor information sheets and registration forms. In general, this approach was adopted by centers that believed that the additional impact of the Pan-European deferrals would be relatively small.

The next slide, please. This next figure shows the aggregate number of units collected by ABC member centers. They are under Phase 1, and that's essentially a hundred percent or about 7.2 million units a year are under Phase 1 but, as you see, about 4.2 million of the 7.2 million are

also using the criteria for Phase 2.

The average percent of donors deferred for travel related to vCJD increased -- the next slide please -- oh, it's here -- from about .1 percent, that was the average in 2001, to 1.4 percent in June 2002. The range of deferrals in 2002 vary from .3 to 4.6 percent.

I should emphasize that these deferrals occurred at pre-donation medical history. Unfortunately, we are unable to capture the data that would allow us to measure the number of potential donors who learned about the deferrals through the media or information provided by the blood centers and did not show up to donate.

However, we have many anecdotal reports from our members, leading us to believe that this is not an insignificant number of donors and may be equal to or larger than the numbers of donors that are deferred at the donor sites. Our largest