Ireland is a tighter fit. Next slide. Portugal, as you heard, we really don't know what we get from their country. It looks like a tighter fit, but we don't know about that. Next slide. And Switzerland is a wide variance, and the U.K. is going down, and wide. Next slide.

So what we did is that we said, fine, we can't look at BSE countries, and we have to look at variance CJD, and the amount of food, and that is the second one; and the third one is blood supply.

So we have a study with seven hospitals and it has been going on for almost nine months now. And the hospitals are major hospitals that have 2 of the 3 criteria.

They have a trauma center, and they have a transplant center, and they have an oncology center. And those are the three criteria, and four is cardiovascular. You need two out of those four to be considered to be -- for us to do the analysis about blood supply. The next slide.

And the last time when we did our policy and we came out with six months, and six months, and six months; U.K., six months, and France, we looked at the reduction of risk versus blood supply and loss of donors.

And the percent of the loss of donors, and when you have a monthly stay in certain countries, you see an increase in a hockey type stick. So for us we went to six months, because we were able to reduce the risk to about 72 percent, the global risk to 72 percent, with a reduction of about almost four percent of the donors, 3 to 4 percent.

And that was done in step wise; two years ago it was the U.K., and last year it was France. Next slide.

So we asked the blood system, CBS and Hemo Quebec, and Joanne Chiavetta will present this in more detail, to do their donor questionnaire again, and to look at where they traveled, and different countries, et cetera, and look at the cumulative risk reduction.

And she will go into all of this, but the thing to look at here is that if you go to U.K. and France, you reduce the cumulative risk all the way up to 88 and even higher, because Hemo Quebec went to one month.

When you add other countries to it, you don't get that much of a risk reduction, and you lose a lot of donors. Now, the next question is what does this translate to blood loss in a hospital. Next slide.

This is what I was talking about. This is about 450 units per day being issued in seven hospitals; with hospital beds of 150 to 350. In Canada, hospital bed size of a hundred comprises about 65 percent of all hospitals in Canada. The rest are higher, and about 20 percent are about 200 beds or higher.

About 20 to 30 percent have trauma centers and cardiac. So we target those centers. And we looked at daily issues, and the amount of blood that was at the blood center, and what was given to that hospital.

So here when I said that the percentage of loss of blood, is that a 10 percent loss or 90 percent loss of inventory and that does not translate into donor loss. What we are able to do with questionnaires and so on and looking at the data is what happens to that blood center if it was donor loss really.

This translated in our eyes to about 1 to 2 percent of donor loss, and this could happen because of holidays, people on vacation, and so on. So you get these swings.

And this study was done after -- also after four months of our introduction of the six months

deferral for France, or that had to stabilize. The moderate effect -- and what I mean by moderate effect is blood being delivered to the hospital bed late.

It does not affect that much patient outcome. Moderate effects is when you start to switch blood around in the hospital, and you divert the blood from the floors to the ICU, and divert them to the cardiac unit, et cetera, and divert them to cancer patients treatment.

And this is when we see about a 15 percent loss of donor -- well, not of donor, but of blood supply. This is red units. It was very hard to do with this platelets. So we took the easiest one and that was red units. And this is also excluding autologous.

That translated to about 2 to 3 percent donor loss at that end at the blood services. Riskier side effects is when -- and this has happened three times during that month-and-a-half study -- for about four hours that they had to cancel an important surgery. For example, a transplant -- kidneys, liver -- and most liver.

And they have to postpone transfusions and transplants for bone marrow. Also, this is where in the ICU, and the information that we got back from the

ICU and the trauma center, this is where they start to increase the dopamines, and start to increase fluids to compensate for blood lost.

So they are putting -- they are adding more pharmaseuticals in delivery and treatment that could be done easier with just blood transfusions. This never happened in Canada, because the blood services, both Hemo Quebec and CBS, really work well.

So within the 12 hours this doesn't happen, but since the supply is very critical right now at this level, this reflects about greater than 3.5 percent to 4 percent donor loss.

If you put a deferral, it is going to affect about a 5 percent donor loss. I know that they have to recruit that, but there is going to be a lag. There is going to be 12 hours or 15 hours, or 20 hours lag, for getting that blood in.

And this is what we saw here, is this risk for 10 hours, from 6 to 10 hours in the hospital, and in the trauma center, that a patient may die, and the possibility of that patient dying. Next slide.

So what we did in the past because of that information, we did the deferral for U.K. and France for six months, and we had the risk reduction, and the donor loss.

What we are saying to the regulatory people is since the EPI center is U.K., and France is the second highest risk there, that is where you should target to reduce your risk of exposure, and which is a theoretical risk; versus the true risk of blood lost.

And Joanne will talk about this, because they really helped us out, and they did all the work on this, on the blood services. Joanne.

DR. CHIAVETTA: Hello. I'll tell you just about two surveys done most recently. The first is -- oh, the next slide, please. We redid our travel survey, including more information about Western Europe. We did this in March.

And 13,000 donors participated, and this questionnaire was handed out in the clinic the way the other studies have been done. So basically 13,000. So, I won't go into all of the results, but basically we found that -- well, this is really the results from the survey itself.

So, 3.4 percent of our donors had traveled to Western Europe, and we did only include Western Europe, but I won't go into what countries we called Western Europe.

And then 2.4 were for six months, and one

year was 1.9. Now, we also looked at -- now, we had already deferred for the U.K. for six months or more. But in fact in my original survey we found that there were 2.5 percent of donors -- and this is more than a year or almost two years ago now, but 2.5 percent of all donors said that they had been to the U.K. in the survey.

But in reality we only defer about .2 percent of donors today. Now, this is remarkably similar to Alan Williams' study in the REDS survey. Canadian Blood Services and the study done in the U.S. results were very, very similar with regard to the proportion of donors who traveled.

And in fact the real deferral being about one-tenth of that which was reported in the survey. So today in Canada, we are losing about .2 percent of donors due to U.K. travel in all provinces except Quebec.

And so in this survey, we still had people who said that they did live in the U.K. for six months or more, and they probably should not have come back, but they did.

So if we shorten our policy to three months in the survey data, the survey data would be 1.9 percent additional. Of course, you have to take one-

tenth of that for the reality of whether donors who actually come in.

And if we shorten France to greater than three months, a survey result would be .7 percent. Next slide, please.

We then recalculated our residual -- I'm sorry, we did our risk calculations again, and we counted France as having 1/20th the exposure, and Western Europe as 1/50th exposure of the U.K. Next slide, please.

And this is our risk reduction. It is a little different from Dr. Giulivi's because we didn't include Hemo Quebec, and also we had some assumptions in the model, that basically if we had six months for everywhere, and for every place, it is 66 percent of the risk removed.

And the last one for three months and six months, 75 percent. It is very worrying that if we reduced the U.K. to one month that we could really substantially increase or reduce the risk substantially. Now, that also probably wouldn't be very good in terms of blood supplies. Next, please.

Okay. This is my last slide. I am going to skip topics and tell you that I mentioned that 2.5 percent of our donors in the original survey said that

they had been to the U.K. for six months or more.

In real life, only .2 percent of our donors said that they had been to the U.K. for six months or more upon deferral. What happened to the rest?

Well, this is the beginning of some analysis of a large scale -- well, for Canada it is a large scale study. We interviewed 2,500 donors, and this is preliminary results, and we wanted to find out if people self-deferred.

So these are donors that were drawn from the donor pool, or from the records of the donor pool, who had left after the U.K. deferral was announced. So you can there that there is close to 700 and something donors that had lapsed, and that is the 17, plus 697.

And 17 of those donors are 2.4 percent, and 2.4 said that they had lapsed because of the U.K. deferral, and not that they hadn't come in, but that they just decided that they shouldn't be there.

All of them -- I don't have it on this slide, but all of them had had U.K. travel that was appropriate. So they understood the criteria. More of these people who said that I didn't come back because of the CJD had heard of mad cow disease, CJD, of the U.K. deferral.

Very few of them remember getting a letter

from us telling them -- not that they were deferred, because we would not have known, but telling all donors that we were going to have this deferral.

So we do see self-deferral, and that is a danger with Western Europe in a big way, and there is more analysis on this data set, and we are going to continue this monitoring to see whether people don't show up that should be showing up, because that is a real, although unmeasured, loss of blood supply. Thank you.

CHAIRMAN BOLTON: Thank you. Are there any questions for Dr. Giulivi or --

DR. BAILAR: A question for either or both of the speakers. Your figures on donor loss seem to be based on pretty solid information. The figures on risk reduction are less so.

You are giving those to three significant figures. Without knowing your method of calculating at all, I wonder if you could really go beyond one figure. Can you comment on the accuracy of those?

DR. GIULIVI: Yes. My figures are global figures between Hemo Quebec and CBS. Remember that there are two blood systems in Canada, CBS and Hemo Quebec, the Province of Quebec and the rest of Canada.

What Joanne showed was CBS, and what we did

was take those two figures, and we did our own risk assessment, and came out with that global picture equalizing for all of Canada. That is where the health figures from Canada came from.

DR. BAILAR: I am not asking about an agreement between the figures, but whether these are even in the right order of magnitude. If you say a 92.1 percent reduction in risk, how many of those numbers can we believe?

DR. GIULIVI: They are quite -- one of my slides had the variance. Could you go back to one of the slides, and it showed from 87 percent to 90 percent. It showed the intervals, okay? So those are the 95 percentile intervals.

DR. BAILAR: But the 95 percent intervals are based solely on randomness?

DR. GIULIVI: Right.

DR. BAILAR: And they do not consider possible bias or other problems in the data?

DR. GIULIVI: That's true. It depends on how the surveillance was done, that's right. How the donor survey was done. That's true, but remember that this is our third time going and doing this.

What we predict the first year, there would have been a loss of -- two years ago when we

introduced U.K., we predicted a loss of 2.7 percent. There was a loss of 1.4 percent, but then when the CBS went back, a lot of people self-deferred.

So it added up between 2 and 3 points. So we have that past history that those figures are really good figures from what we have done in the past, because remember that Canada first did U.K. in 1999 for six months.

So we had certain figures, and we went back to those figures to see if we were right or wrong. We added France in 2000 and we had certain figures, and we went back through those figures, and they are predicting what we are saying.

DR. BAILAR: Donor loss is fine. It is the risk reduction that I am asking you about.

DR. GIULIVI: Oh, the risk reduction is based on the modeling, yes, because we assume that the U.K. is a hundred percent, and France is 1/20th of that, and the rest of Europe is .2. So that is where the risk reduction is a problem.

But because we are saying that the biggest risk is U.K., we are taking it as a public health analysis that we are pointing to the U.K. and France, and that is how we get our risk reduction.

DR. CHIAVETTA: Are you asking for the

algorithm?

DR. GIULIVI: Yes.

DR. BAILAR: This is not the place to go through the algorithm.

DR. CHIAVETTA: I know that, but I just said --

DR. BAILAR: I would like a summary estimate of how accurate that algorithm really is given all the problems with whether it is the right algorithm and the problems with the input data.

DR. GIULIVI: What I can do is send you what we have from my statisticians. I don't have everything. I am not a statistician, but there is accuracy to those numbers.

DR. BAILAR: I am willing to wait to see that.

DR. GIULIVI: Okay.

CHAIRMAN BOLTON: Maybe we could discuss this during the break and come back and present the summary of that. Would that be all right? Dr. Davey.

DR. DAVEY: Yes. Both CBS and Hemo Quebec have been very successful, I think, and aggressive in recruiting new donors since their inception, and certainly these U.K. bans have given us some good information on that.

Could you give us any further information on the success of your recruiting efforts, and the expense that has been entailed in doing so?

DR. CHIAVETTA: That is a very good point. There has been a lot of active recruiting. We have had marketing campaigns that have focused on younger donors and that sort of thing.

Now, in terms of the expense, I don't have those figures, but they can be provided for you, and I can try to get that today. But there has been active recruitment, especially with younger donors.

What I didn't show here is the people we lose are often long term, older donors, and there has been -- our marketing department has done a lot of work in that area.

I have to say to put this in perspective for your question, but donor loss and blood shortage is really not impacted significantly by CJD. We have other risks and other issues that are far more important.

I'm sorry, I shouldn't say more important; far more significant in terms of eating into the blood supply. The reality is that it is .2 percent of known donors, with an upper limit of 2.5 percent of unknown donors. But I will try to provide figures for you.

CHAIRMAN BOLTON: Dr. Ewenstein.

DR. EWENSTEIN: Yes. I just wanted to remind everybody that we are talking about the relative risk, which I think you were trying to say, and that if the U.K. is one or 100, then everything is a fraction. But what we don't know is the absolute risk.

DR. GIULIVI: Yes, and the other thing about funding -- and we could say this, is that the system in Canada is different, because it is funded by the national funding agency through the provinces.

What we are going to be doing here with our recommendations, and what we may move forward is three months and three months, and possibly other places. But we are really pointing three months and three months.

The recruitment campaign will be helped out by Health Canada also. Health Canada will help that out, and we will send out pamphlets, and that is the agreement that we have with the blood services.

DR. EWENSTEIN: But what I was going to ask though is that -- well, I guess I am still unclear about why there is a lot of difference between your projected donor loss and your actual donor loss. Is this solely from self-selection?

DR. GIULIVI: Yes.

DR. EWENSTEIN: And in which case isn't the donor loss the same? I mean, even though they self-deferred, as opposed to --

DR. GIULIVI: Yes.

DR. CHIAVETTA: That is an extremely good question. I would ask Dr. Williams to remark on that as well. Because we have the last donor study in process, I am hoping to get more information on that.

I will tell you another thing about trying to find out where people have gone. Well, I don't mean where they have gone, but traveled, and where are they, and how come they are not showing up to give us nice blood.

And that is that there was tremendous bias when we draw these samples. We draw a random sample of lapsed donors, but about -- I would say at least a third of the so-called lapsed donors cannot be located, and that is with all kinds of -- you know, going through the process of looking for them and trying to find them.

I think that the estimate -- I think that we are losing closer to one percent of the donors based on the survey that I have done, even though we are -- you saw that number with the very small number of

lapsed donors.

It said 2.4 percent of people that went away for the U.K. deferrals, but I think the number is probably much higher. It's just that when we do our sampling to try to bring people in and find them in order to ask them have they gone away for a particular reason, it is very hard to get a proper sample of the people that have gone away. I mean, just to find them at all.

It is a question on why there is such a difference between the in-clinic reported travel. I have two surveys or two studies that I have done that I didn't report here, and that actually sat down with the donors in the clinic and did a travel log to see whether their survey information -- you know, the check-off survey, matches their own travel log.

The correlation is remarkable and I believe people in the clinic are telling the truth. What happens when they are not in the clinic and they get contacted later, I really don't have a good answer for that.

CHAIRMAN BOLTON: Stan.

DR. PRUSINER: I'm still not clear about how you get this number of .2 percent. Let me just try to tell you what I think.

DR. CHIAVETTA: Okay. Well, the point --

DR. PRUSINER: Let me talk, please, because I have heard you four times now talk about this, and I do not understand it.

DR. CHIAVETTA: Sorry. Okay.

DR. PRUSINER: And I think that other people don't understand it.

DR. CHIAVETTA: Okay.

DR. PRUSINER: How is this .2 number determined? Are these the people that you reject when you go in the clinic, and when you go through and talk to them?

DR. CHIAVETTA: They are the people that get deferred at the clinic, yes.

DR. PRUSINER: Okay. Sot hat is what is going on here, because I really couldn't understand that.

DR. CHIAVETTA: Sorry.

DR. PRUSINER: It is still early in California, but I think that is really what was confusing to me. So these are the actual people that you reject?

DR. CHIAVETTA: Exactly.

DR. PRUSINER: So you predict that you have 10 times that number lost.

DR. CHIAVETTA: Exactly.

DR. PRUSINER: And a lot of these people don't show up at the clinic, and they seem to be self-deferred is what you are saying?

DR. CHIAVETTA: Exactly.

DR. PRUSINER: Okay. Thank you.

DR. CHIAVETTA: Sorry.

CHAIRMAN BOLTON: Dr. Klein.

DR. KLEIN: I am very concerned about the important data on the hospital risk assessment, but I am a little worried about the sample selection there, because you have taken the large hospitals, and I think in some ways that is appropriate, at least in the United States. And please let me finish.\

Blood is sometimes shuttled toward the live centers and frequently not available at some of the smaller centers. At least their inventories aren't appropriate. So could you tell us a little bit about the sample selection?

DR. GIULIVI: Okay. When we did this first study, we realized that the only way we were going to get enough data and information about donor or about affecting patient outcome was really centers that have a trauma center, and a center that has a cardiac center.

In Canada, the smaller hospitals, which is about 60 percent, have hospitals that are a 50, and as soon as there is a problem, they get shipped right away to a major center. That is the way that the system works.

So within the 12 hours, if you are in a small hospital and you have got a major problem, or if you need blood, you are shipped right away to these major hospitals.

DR. KLEIN: Then I wonder whether patients have been shipped because there wasn't blood?

DR. GIULIVI: Yes, that could have happened. Yes, that could have happened. Usually they are shifted because of therapies. You know, a plasmaphereses therapy, cardiac therapies, heart attacks, et cetera.

And because some -- and if the blood, and we are talking like hospitals way up north in certain communities where there is no blood bank, and any of those people that need blood are usually shipped to a community hospital about a hundred kilometers down country.

DR. KLEIN: I think this is just a critical point for us,and we have very little data on this point.

DR. GIULIVI: Yes. I can look at it, but I assume that you are right, that some people were transferred from smaller hospitals to larger hospitals because of blood shortages.

CHAIRMAN BOLTON: Yes, a question?

DR. WILLIAMS: Yes. Alan Williams, FDA. Unfortunately, I don't have hard data with respect to the donor deferral issue, but I can add a couple of thoughts, I think.

First of all, there is self-deferral. There was a lot of media attention to the original U.K. deferrals, and so that aspect has been discussed. Another aspect -- and I know that this was done universally in Canada, and at some centers in the United States, is that blood centers sent letters to the entire donor base explaining the deferral.

So naturally donors would be aware of this, and a large proportion would conclude that they were knowledgeable and simply not come in to donate. In addition, I think that a lot of centers probably take proactive steps to identify donors before they appear for donation through appointment calls and so forth during a pre-screening, because there are implications when such donors appear for a donation and are deferred.

Their prior donations have to be investigated for possible air and accident reporting, and there are some strong reasons for these donors not to appear at the blood centers.

And then finally I would mention that there is an aspect totally unquantitated that some donors simply failed to self-defer. Some of these questions are very complex for the lay public, and questions might not be understood.

They may not have attention paid to them, or there could be some other aspects of why donors don't self-defer. These are all potential explanations unfortunately and the data are not available.

DR. CHIAVETTA: I just wanted to remark on the slide that I showed that all of those donors in that survey had come in, and there have been donors who have actually come in and came in after the deferral.

So there are people coming back that should be deferred. You are absolutely right, Alan, about the last point; is that the way that the questions are asked in the clinic are very different than the way that they asked in the surveys.

So my guess is that the questions are not as valid or that the responses are not as valid as they

might be.

CHAIRMAN BOLTON: Thank you. Any more questions? Well, we are running late, and so what I would like to do -- we are about a half-an-hour late, and what I would like to do is take about a 10 minute break now, if that is all right with the committee, and meet back here at 10:55, and we will begin the open public hearing at that time.

DR. FREAS: No, we have one more speaker.

CHAIRMAN BOLTON: Oh, I'm sorry. We have Alan Williams' presentation.

DR. FREAS: I would like to ask all those people planning to make a presentation during the open public hearing to please check the list, which is out on the front table, and see where you are in the order of presenters.

We were asking that you give the audio-visual during the break to the audio-visual technician if you have any audio-visual information. Also, we are asking the first five or so presenters to take a seat over by the back wall so that you will be right next to the podium. Thank you very much.

(Whereupon, the hearing was recessed at 10:45 a.m., and resumed at 11:01 a.m.)

CHAIRMAN BOLTON: Would you take your seats,

please. We would like to get started again. We are going to have another presentation, and then we are going to move into the open public hearing, and if we are to have any time this afternoon, we will need to move soon, soon and quickly.

(Brief Pause.)

CHAIRMAN BOLTON: Our next presentation is by Dr. Alan Williams, who will be speaking on "Blood Donor Deferral Options Related to BSE Exposure; Risk Reduction and Estimated Blood Supply Impact in the United States." Dr. Williams.

DR. WILLIAMS: Thank you. I'm very pleased to be able to represent the FDA on this important issue. The evidence regarding the transfusion transmissibility of the variant CJD agent is so far not compelling in either direction.

Animals models have shown a limited capability for blood borne transmission, but the experiments are largely still in progress and the numbers are small.

At the other extreme, the large natural experiment of allogenic transfusion in the United Kingdom over the past 22 years has failed to demonstrate a single case of a parent transfusion transmitted variant CJD disease.

However, the elderly are those most frequently transfused, and rare transmitted infections with a long incubation period preceding clinical symptoms may never be recognized.

Despite this background of uncertainty, and the complex decisions that need to be made today, the goals that FDA seeks from today's public peer review process are relatively straightforward. Next slide.

First, our goal is to mount an effective response to the spread of variant CJD and BSE in Europe, and the potential threat to blood safety. While the threat remains both theoretical and potential, it must be treated as guilty until proven innocent.

Therefore, FDA intends to institute precautionary measures to protect the public health based upon a perspective of the threat being real. In doing this, the FDA is very aware of the fragile nature of the blood supply and seeks to form an optimal balance between the variant CJD risk reduction and blood supply preservation.

This will necessarily involve careful projections of the impact of any new policy and an implementation plan that is sensitive to the dynamics of donor recruitments and blood resource sharing.

Finally, the FDA very much seeks from this meeting a coherent national policy that can be explained to both blood donors and potential blood recipients. Next slide.

I would just like to start by describing a few characteristics about the U.S. blood supply. It has only been over the past several years that detailed information has emerged about collection and utilization.

This work started in the 1980s by the Center for Blood Research sponsored by the National Heart, Lung, and Blood Institute, and was picked up by the National Blood Data Resource Center over the past several years.

NBDRC conducts two forms of surveys. The first is a semi-annual comprehensive survey of blood collection centers, comprising AABB membership, as well as a monthly sample of hospitals that conduct transfusions.

Data from these two surveys has been invaluable in characterizing our current supply. Based on the most recent report from 1999, just about 13 million allogenic whole blood/red cell donations were available for transfusion.

This represents a relatively rapid 10

percent growth over the figures derived from 1997. There was a major emphasis on recruitment between 1997 and 1999, resulting in a 10 percent gain. Next slide.

When you look at the demand side of the equation, the picture is a little bit different. Monitoring currently is only done by NBDRC from the hospital side of the semi-annual comprehensive survey.

This latest report showed that 12,022,000 whole blood/red cell units were transfused. That is 92-1/2 percent of the total available red cell units. This is an overall figure and really does not account for the fact that different blood types are more in demand than other blood types.

The margin between the available red cells and the demand for red cells was as low as 5.4 percent in 1997, and improved somewhat to 7.5 percent in 1999. But still nowhere near the levels of 10 percent and above that were evident in earlier years, in the earlier '90s.

The study also documented that transfusion demand nationwide increases about 4 percent per year, and this is attributed primarily to aggressive chemotherapy, and increases in organ transplantation.

This monitoring system has been very effective. HHS is currently studying ways to conduct

monitoring of both supply and demand, and hopefully these systems will be established under contract very soon, particularly with the potential for new deferrals on the horizon. Next slide.

A few more facts about the donor base. Eighty percent of donors are repeat donors through most of the country, and the demographics of the population are changing over time, but the blood donor population as a whole is aging.

There tend to be fewer large collections because of the work site situation changing, and this used to be the source of a large number of blood collections.

The elasticity of supply is a very important issue here. The figure of 3 percent has been experienced twice. In 1986, anti-core testing was put into place nationwide to test somewhat non-specific, and up to three percent of donors were rejected at a single time upon implementation of that test.

Most recently, in the year 2000, the American Red Cross system changed for their hemoglobin sample from ear stick to finger stick and lost approximately 6 percent within the donors, and this can be extrapolated to about 3 percent nationwide.

And in addition during the same year,

although not at the same time, the U.K. deferral was implemented, which resulted in a loss of an additional estimated 2 percent of donors. So within a year's period, the system managed to deal with about a 5 percent donor loss.

The public does definitely respond to blood appeals when they are made, and some were made last year because of local and regional shortages. However, the long term impact of such appeals is uncertain. Next slide.

Blood sharing is also an important consideration. The transfer of blood between licensed collection facilities certainly does occur. It is not something for the most part that FDA controls or regulates.

There are several large systems which facilitate this. The AABB, the American Association of Blood Banks, runs the National Blood Exchange for the sharing of blood.

The American Red Cross has its hub system located in St. Louis. There are various contracts and strategic alliances throughout the country and put together on an individual basis, and I think it is fair to say that a lot of the sharing is really driven by the demand for type "O" blood, the universal blood

donation. Next slide.

Now, the impact of BSE deferrals we already discussed to a certain extent. The fact that the original projected loss for the U.K. deferral was 2.2 percent, and the actual loss was not measured, and we know that local and regional shortages were experienced in the year 2000.

And there were several national media campaigns. We don't know whether there is a cause and effect relationship between those two figures. That simply has not been studied.

We do know that the impacts of the U.K. deferral and any potential future deferrals will be disproportionate, and this is based on both the U.S. travel survey data, as well as some of the experiences from the U.K. deferral.

The average figures given for the country. We know that coastal cities tend to have a higher prevalence of travelers, and this figure can range plus or minus 50 percent, depending on whether you are talking about a coastal city, like San Francisco or New York, or a midwestern area, particularly a rural area.

The message is that while the coastal cities are hit harder by this, the not coastal cities are hit

proportionately less. And, of course, a major issue of discussion here is that the New York area imports about 25 percent of its blood supply, 145,000 units per year, from Europe.

And this blood, commonly known as Euro Blood, would be lost by any pan-European deferral. That is an important point. Next slide.

Now, moving along to a little bit of a discussion on the potential risks related to BSE during a CJD exposure. Next slide.

We all wish we had an absolute risk model to project number of likely cases, if any, and what effect interventions would have on reducing these cases.

What we would need to build such a model were at least some of the factors mentioned here, if not all of them. That would be the likelihood of exposure to the agent, and the length of the incubation period, both the mean and the range, the prevalence of an asymptomatic carrier state.

Whether or not the variant CJD agent is carried in the blood during the incubation period and the carrier state, and what the susceptibility is of a potential recipient population.

Now, there has not been a model brought

forward and that's because there simply are no solid data to support any of these points. Therefore, a predictive model, based on absolute risk, just isn't possible at this point in time. Next slide.

What has been done previously is to build a linear risk model for estimating donor exposure to the BSEs during the CJD agent by relating potential risks to the duration and likelihood of dietary exposure.

And in countries where the BSE has been experienced, this is linked to travel and/or duration of time spent in these countries, under the assumption that blood was consumed during that time.

This concept was previously endorsed by this committee when it recommended the six month U.K. deferral in 1999, and it does carry several assumptions -- one I will mention now, and several later -- and that is the deferral and risk estimates which arose from the U.S. blood donor travel survey conducted in 1999 in fact reflect a prevalence and cumulative duration of U.S. blood donor travel. Next slide.

Now, a second aspect to this model which has been incorporated since the last meeting is to weight this linear risk model for estimating possible exposure.

Now, the FDA has worked with several different versions of the model and most recently in collaboration with the Centers for Disease Control, we are putting forth the current model for estimating the risk burden to the donor population and the impact that various deferrals would have on this risk burden.

So this risk is weighted by geographic exposure based on observations of U.K. beef imports during CJD cases, and indigenous BSE in the country, recognizing that much of these data are incomplete for several of the countries that we were considering.

The United Kingdom is the epidemic focus for BSE and is considered the index country, with a value of one. France, similar to the European estimates, based on U.K. beef imports, and observed BSE and the number of variant CJD clinical cases reported, is assigned a value that is 5 percent of the U.K.

Now, the balance of Europe -- and this includes Euro-blood, and consider that Euro-blood donors have spent their entire life in Europe during the full course of the BSE epidemic for donors who are at least 22 years old.

Based on indigenous BSE and uncertain surveillance reporting, and food controls, the rest of Europe has been assigned a risk factor of 1.5 percent

relative to the U.K., and this is similar to the 2 percent factor used by the Canadian studies. Next slide.

Now, we have another population which was discussed at the last meeting, and these are active duty and dependents in the military who have been stationed on European bases since 1980.

We obtained some very good and extensive data from the Department of Defense with respect to the periods of time that military and dependents were stationed on European bases, as well as estimates of the U.S. and U.K. beef supplied to various bases.

Based on these estimates, 35 percent of beef appeared to be obtained from the U.K., and this varies as was mentioned earlier. Southern Europe was supplied from 1980 to 1996, and the later period largely because of some import restrictions in some of the Southern European counties.

Northern Europe was supplied at a 35 percent level from 1980 to 1990, when the Harkin Act actually forbid importation of U.K. beef to those U.S. bases.

Now, this distinction is important because if we can use this in the course of our donor deferral, it does spare the deferral of some donors. In figures presented at the last meeting, ex-miliary

and dependents represent approximately 3 percent of the U.S. blood supply.

And this may be geographically clustered at this point, and we don't know what these clusters might be. We know that individual blood centers that have large concentrations of military and ex-military, but that has not been extensively considered. Next slide.

And just a summary of the blood donor travel survey, and this has been mentioned at several prior meetings. It is a probability sample of accepted donors at 12 blood center sites conducted in the winter of 1999. That is January of 1999.

It was conducted by 12 blood center sites, and was analyzed through the REDS coordinating center. It also involved sites that were not part of the REDS program.

The survey sampling frame was 19,067 surveys. It comprised a single-page mailing, with a cover letter, and was designed so as to be anonymous. We didn't want to know who returned this information. So surveys without identifiers were returned by 50 percent of the group at the time of the analysis.

It is important to recognize that this survey is a little different than some of the others

that we did, and that we had a very long right hand tail to the returns for some reason.

And whether or not some of the donors were traveling and late in returning surveys, we don't know. But at the time of the major analysis, 50 percent returns were available.

The survey itself collected U.K. and European travel. The U.K. travel data were much more extensively incorporated because that was the issue at the time.

The European travel was captured in a somewhat more skeleton fashion, and we had to extrapolate some of the data for individual European countries. We also collected demographics.

Donor survey estimates are reproducible, but they are based on self-reports, and it was a short survey, and we had to make numerous extrapolations for some of the data that are going to be shown.

And corresponding to that, I am going to use single integers for most of the estimates, and recognize that the confidence intervals for these is going to be very hard to define, but I think plus or minus 10 percent is probably not unreasonable for some of the risk figures that are being presented. Next slide.

Now, two factors will fit into the risk model. The first is the person years of exposure. This is derived from the total estimated cumulative time spent by donors in a defined geographic area.

Donor loss and the estimated proportion of donors who spent time in a geographic area that was at or greater than whatever cut-off value was being defined.

And these figures quickly for three months travel or residence in the U.K. from '80 to '96 are 1.3 percent; and for estimates which bring that estimate from '96 up to the present, and factoring in the number of years, and the years since '96, that is elevated by about 30 percent, and it goes up to 1.7.

The DoD with the north-south-of-the-Alps split, all deferrals at six months would be 2.2 percent of the blood supply. If you accommodate the split, it would be 1.8 percent.

Residence or travel in Europe from 1980 up to the present, the estimate is 6.3 percent, again with that additive number, and factoring in the years since the survey measurement to the present.

And Europe five years to present, one percent; and France and Portugal, 10 years, at .4 percent; and Euro-blood, 145,000 units, or about 1.2

percent of the U.S. supply.

For example, some of the extrapolations made, the Europe 5 year estimate, the final interval on the survey was five plus years, and so we had to extrapolate within that interval, and since that is the last data point, that is difficult to do. Next slide.

Now, from the survey estimates which were presented at earlier meetings, we converted the survey population as a representation of the total U.S. allogeneic donor base, and also incorporated in the data from the DoD, and information regarding Euro-blood.

And built in the cumulative risk estimates, again derived from the survey, and from what we knew about these other specialized populations. Shown here are on this pie chart is what I would call a potential risk-burden for the blood donor population, calling this a total risk burden because it incorporates the risk present before the 1999 U.K. deferral.

The total risk contribution here according to the model that we used, the U.K. contributed 78 percent of the total risk, and the DoD base residents about 14 percent, weighted by the 35 percent factor;

and Euro-blood and Europe roughly equivalent at 4 percent.

And as you will see with the other model, Europe is slightly higher than Euro-blood and that was a rounding of the difference shown there. But this is the total risk at that time. Next slide.

Shown here is taking out the impact of the 6 month U.K. deferral. This is what we are calling current risk. This is the current donor base. The risk is divided into 32 percent U.K., using the same model.

The DoD base exposure jumps considerably to 43 percent, and Europe, at 14 percent within the pie chart, and Euro-blood at 11 percent. So keep in mind specific to Euro-blood that although this is a source of blood used by one region, the fact that these donors have spent the entire epidemic in Europe does in fact add to the weighting, even though the overall weighting for Europe is only a percent-and-a-half. Next slide.

Now, I would like to show the three deferral options that we are presenting for the committee for consideration. The first is the option proposed by the TSEAC advisory committee at the last meeting.

It is for greater than or equal to 10 years

time spent in France, Portugal, or the Republic of Ireland, 1980 to present.

There wasn't a specific recommendation for DoD exposure, and so what we did was apply what FDA's recommendation would be and added that to the TSC advisory committee option.

And it would be for a six months exposure on a DoD European base, 1980 to 1996, with stratification by North versus South. The estimated donor loss is 2.2 percent from this particular deferral, and it may be higher in areas with large military or ex-military populations, and that is something for which we don't have data at this time.

And an implementation of the deferral was not specified. Next slide.

Now, if you consider the current risk model presented earlier, what is shown here is the same pie chart, and with the same risk contributions, and the same colors.

This is green for Wimbledon and the U.K., and the others -- DoD is royal blue, and Euro-blood is shown as orange, and the European figure is shown as a dark red or purple there.

The blank parts of the pie are risk that have been removed by implementation of a certain

option. So you can see, for instance, that most of the DoD risk has been removed, with 5 percent of the total current risk still being represented by DoD.

U.K. is largely unaffected because there was no proposed change in the U.K. deferral, and only a slight proportion of the European risk removed under the model used.

The current risk removed is 44 percent, and the only time that I will use the total risk pie chart is for this figure up here, and the total risk reduced by this particular deferral is estimated to be 82 percent. Next slide.

I also want to emphasize that these estimates are based on nationwide implementation of these certain deferral policy. If there are different policies at work, for example, the Red Cross policy in place in the Red Cross system, and X number of other centers, these deferrals would be modified.

Advantages of the TSE committee's recommendation would be limited donor loss overall, and the Euro-blood and DoD blood supply would be only marginally affected.

The option is based on observed BSE exposures, and separate questions for DoD bases would allow the North-South separation. The policy was

previously recommended by the advisory committee, and limiting the U.K. deferral to 1980 to 1996 as currently in place recognizes that effective food chain controls have been in place in the U.K. Next slide.

Disadvantages related to this option. Current observations may be biased against deferral where surveillance has been inadequate, and I think we got a sense for some of the uncertainties present in the European situation this morning.

The potential Euro-blood risk is not removed. It creates a moving target for blood donor deferrals as the epidemic evolves. That is in the face of good comprehensive data.

However, there are concerns that supporting data in fact may be inadequate to make the model responsive to data changes that do occur. Following the TSEAC model will result in a non-uniform national policy if the Red Cross proceeds with its current plans.

Donor screening questions will be moderately more complex than they are at present, and that is a factor, and no protection would be afforded against human passage of variant CJD by transfusion; i.e., there is no policy recommendation for transfusion

exposure. Next slide.

Option Number 2 discusses the proposed American Red Cross strategy. Deferral would be for greater than or equal to three months in the United Kingdom, 1980 to present; greater or equal to six months in Europe, 1980 to present; and transfusion in the U.K., 1980 to present.

Estimated donor loss is a range of 7.8 to 9.1 percent. This includes the loss of Euro-blood, and this deferral would in fact capture the DoD population. That was not added to the donor loss figure because it was assumed that the survey captured these donors.

Planned implementation at the current time is throughout the Red Cross system, and at a single time, probably in September of 2001. And I think the committee needs to recognize that there is some pressure on non-Red Cross blood centers to adopt a policy that is put into place by a system as large as the American Red Cross due to legal and public relations, if not scientific, pressures. Next slide.

Shown here is the pie chart for the Red Cross recommendation. The current risk removed is 76 percent, and total risk removed is 92 percent. It is actually 92.45. So that really is a rounding issue

that could easily be 93 percent up there.

The risk left in the supply is a slight amount of DoD risk for military, and under six months; and there is a lot of European risk left, again for short term travelers; and 17 percent of U.K. residual risk left. The next slide.

Advantages. The donor screening is straightforward. The DoD potential risk is captured without separate questions. Clearly, this would be the easiest combination of questions for donor screening.

It forms an aggressive and if followed nationwide would be a uniform national policy. It is very proactive, and would cover if non-U.K., Europe, BSE, variant CJD, epidemic growth exceeds during observations.

It does provide some degree of protection against human and human passage of variant CJD by transfusion. Next slide.

Disadvantages. If one considers the model which we have incorporated, where the rest of Europe has a 1.5 percent risk occurring to the U.K., the policy is relatively insufficient under that model as supported by current observations.

Secondly, the estimated 8 to 9 percent donor

loss is unprecedented in the U.S. system. The ability of the rest of the U.S. to compensate for severe impact due to this donation, and the estimated 35 percent loss in the New York area is uncertain.

Let's say that it is untested, and the Red Cross plans to institute major recruitment efforts and feels quite confident that they can cover losses within the system.

The New York area figure is mentioned at 35 percent, and that's 25 percent coming from Eur-blood, and 10 percent coming from the travel exposure, with the 50 percent increment above because of higher travel in the New York area.

This policy for U.K. and Europe is extended to the present and does not recognize U.K. food chain controls. Next slide.

Finally, the proposed FDA strategy for consideration is deferral for greater than or equal to three months in the U.K., 1980 to 1996; and greater than or equal to 5 years in Europe, 1980 to the present; greater or equal to six months on a DoD European base, 1980 to 1996, with a north-south stratification.

Transfusion in the U.K.,1980 to the present is similar to the Red Cross proposal. The estimated

donor loss is 4.6 to 5.3 percent; and implementation would be planned to be sympathetic to the blood supply issue.

And the current thinking is that probably implementation would be recommended to occur six months after final guidance is issued sometime in the spring of 2002. Next slide.

The pie chart for the FDA strategy is quite similar to the one for the Red Cross proposal. The current risk removed is 72 percent, and total risk removed is 91 percent.

And again the major portion of risk that is left is related to U.K. However, trying to get at this risk is very difficult because you get into the shorter term travels and the donor loss numbers go up markedly.

Again, if the Red Cross policy is put into effect, and two policies are in place, the overall donor loss would be higher in the presence of the two policies. Next slide.

Additional considerations for the FDA guidance. As mentioned earlier, we would like to encourage those centers that want to exceed FDA recommendations with a donor deferral to keep in contact with FDA, and conduct additional deferrals on

a pilot basis so as to modulate any additional donor loss.

And with a defined starting and ending point, at least have the ability to create a fallback position should donor loss exceed expectations. Due to the large number of error in accident reports related to the travel deferrals, the FDA is considering and will reflect in other guidance the fact that oral interviews probably are advisable for first-time donors, those that have seen the questions for the first time.

As well as the first time when the implementation of new questions to the existing donor base. And finally the FDA has been engaged in discussions throughout HHS about sponsored organ tissue and blood donation campaigns which are being planned, as well as larger scale blood supply monitoring efforts. We support them and plan to actively participate. Next slide.

Advantages of the FDA proposal. The deferrals tied to the BSE expectations, in the ratio of 3 to 60 months -- i.e., the U.K. to Europe, reflects the worst case 5 percent European estimate.

That is, the model uses a 1.5 percent risk for the model, but the deferral proposal uses a 5

percent ratio for Europe based on France as a worst case, and allowing for the uncertainty in other European countries.

The impact on the New York area supply will be severe. Hopefully it should be modulated by lesser impact elsewhere in the United States. The pilot provision allows for flexibility for stricter policies.

Deferral criteria are less prone to frequent revisions, rather than trying to build models about specific European countries. There is some protection for human passage of variant CJD by transfusion.

It allows for stratification of the north-south European bases, and does recognize food chain protections currently in place in the U.K., and hopefully develop soon in Europe and which policy could be modified retrospectively to acknowledge this.

Disadvantages. This program will result in a non-uniform national policy if the Red Cross proceeds with its current plans. Donor screening questions admittedly will be complex, in a time when there are efforts being made to shorten and streamline the donor questionnaire.

Capture questions will help with this, but certainly the institution of these series of questions

will be tricky. The estimated 4 to 6 percent donor loss exceeds past experiences within the U.S. blood supply.

And the ability of the rest of the U.S. to compensate for severe impact in the New York area is unproven. Implementation will be designed to help modulate this, but there is no question that a 35 percent blood loss in a certain area is worthy of special consideration. Next slide.

In summary, and I apologize as I have to read to make sure that I have gotten everything in that I wanted to, the FDA has taken the position that it intends to maximize precautions to protect the blood supply from variant CJD based on concern over the emerging BSE epidemic in Europe.

At the same time the FDA recognizes the narrow margin between blood supply and demand on a national basis, and is acutely aware of the disproportional impact that European travel deferrals will have on coastal cities in general, and the New York regional area in particular.

We have presented three policy options for consideration, and have compared them as comprehensively as possible based upon available information.

The proper targeting of donor subgroups with the highest potential exposure to the BSE and variant CJD agent can reduce the total blood supply risk burden by more than 90 percent, with a loss of donors at approximately 5 percent.

Several factors previously mentioned favor a pattern of European deferral. Should such a policy be recommended, severe blood supply losses approximating 35 percent in the New York regional area will occur due to the exclusion of Euro-blood.

These losses will have to be offset by well-designed and well-funded donor recruitment initiatives in the New York area itself, as well as through the sharing of blood resources from the midwest and elsewhere in the country, where the impact of travel deferrals will be far less.

Provisions for an extended policy implementation period will help to provide stability. However, the FDA does not have control over all aspects of this equation.

And we seek the cooperation of the major blood collection organizations, as well as the American Association of Blood Banks, and America's blood centers to help ensure reliable blood supplies and accurate blood supply monitoring systems in the

future.

Finally, this issue is confusing even for those of us with a reasonable understanding of the BSE during a VCJD epidemic. This is unimaginably confusing for members of the general public.

It is FDA's hope that with discussion and reassessment of the available options that a coherent national policy will emerge, and when that can be rationally explained to both the nation's blood donors and to future blood recipients.

So we look forward to the discussions and join you in the sincere hope that no transfusion associated cases of variant CJD ever occur, and that history in fact shows that any precautionary actions to have been well-founded, but ultimately unnecessary. Next slide.

I can't specifically mention all the colleagues that have been involved in this series of studies and analyses, but these are the institutions that have been very cooperative in this work, and I would like to acknowledge and thank them. That's it. Thank you.

CHAIRMAN BOLTON: Thank you, Dr. Williams. Any questions for Dr. Williams?

DR. NELSON: Your analysis focused on the

civilian blood supply, but obviously it seems to me that there might be much greater impact on the military blood supply.

You focused on New York, but didn't mention actually the military, and I wondered if there are any estimates of the effect on the military blood supply, and how that might be compensated, and also what is the degree of interaction between the civilian blood supply and the military?

Is blood collected from the civilian population used in the military and vice-versa or what is the interaction?

DR. WILLIAMS: That is a good point. The reason that I didn't specifically include it is because DoD does plan an open hearing presentation. This has also been part of FDA considerations.

The military estimates that they have large numbers of collections in Europe, and that this will cost between 21 and 24 percent of their current owner base, and I understand they have already taken steps of -- and the six month referral is what I am referring to.

And I understand that they have already taken steps to boost recruitment efforts outside of Europe. This will be dealt with in more depth by

Colonel Fitzpatrick.

As far as interaction between military and civilian supply, certainly civilian collectors collect on military bases. Military supplies I understand to be largely self-sufficient.

So if the military needs to ensure its own blood supply, potentially there could be some tightening of the availability of civilian collections in the area bases.

CHAIRMAN BOLTON: Dr. Cliver first, and then Dr. McCullough, and then Dr. McCurdy.

DR. CLIVER: I will try and be brief because I am afraid my questions are largely rhetorical. But we are told that the risk in continental Europe is assessed at 1-1/2 percent than that of the U.K.

And I am wondering as we get down and down, I know that we are very risk-averse in the United States, but at what point does risk become negligible? Where are we going to go next with this number?

On the other hand, in January, we looked at a perceived 20 to 1 risk for France and Portugal, let's say, and Ireland versus the U.K. And now the FDA is proposing as a compromise that we reduce from 10 years to 5 years Europe-wide based on a 20-to-1 ratio for a 3 month deferral from the U.K.

And so who except the Red Cross ever said that we ever needed a three month deferral to the U.K.? And finally as we try and vote on these alternatives, I wish we had available to us some kind of a context of all the other bases for which deferrals are now in place so that we had some idea of all the other things that people in the United States who might give blood are told reasons not to give blood.

Because taking this out of context I think makes it very difficult to make a real rational assessment.

DR. WILLIAMS: Okay. Those are all good points and I hope that I can recall them all. The movement from the deferral for six months exposure in the U.K. to three months exposure in the U.K. basically comes from simply looking at the proportional contribution of risk coming from each of the areas.

The Red Cross was actually the first to propose this reduction, but looking at the ratio of risk between Europe and the U.K., the donor loss that is added as a result of shortening from six months to three months is 1.3 percent if you cut off at '96, and 1.7 percent at the present time.

It is much higher if you go down, for instance, to one percent, and the related reduction in risk is considerable as you can see from the slides. So while I would say it was specifically recommended, this was based on looking at the potential risk reduction contribution.

As far as other deferrals that take place, this difference between first-time donors and repeat donors, I think it is important to recognize that in trying to rebuild a donor base that there are two ways to do it.

One is to call back your existing donors and try to get them to donate more frequently. They donated before and they are less likely to have deferrals, and it is a reasonably efficient process.

The current donation rates are about 1.6 to 1.7 percent within the donor base, and if that can be raised to 2 percent or higher, that would make a big, big difference.

First-time donors are a different subset. Once you get them in for the first donation, a relatively low proportion actually return for subsequent donations.

I don't know the exact figure, but I would say maybe on the order of 10 to 20 percent return for

subsequent donations. In addition, the deferral rates for first time donors are clearly higher based on medical history, and based on hemoglobin levels.

And deferral rates could be up approaching 9 to 10 percent overall for first-time donors. Hemoglobin is the biggest deferral, and others are related to medical history, and travel is becoming a major deferral.

CHAIRMAN BOLTON: Yes. Dr.McCullough.

DR. MCCULLOUGH: Alan, thanks for the nice summary. The risk reduction for the FDA and the Red Cross strategies is quite similar, but yet the donor losses are substantially different.

Could you just concisely describe the group of donors that constitutes that difference, or the group that would be salvaged by the FDA proposal that would be deferred by the Red Cross proposal?

DR. WILLIAMS: Well, let me say just to begin that it is really very much tied to the model which is being used. If you use a different model, it changes the proportions.

If you accept the observation of the model which is being presented the difference really comes from the five year deferral for traveler or residence in Europe, versus a six month deferral for traveler or

residence in Europe.

Your most efficient deferrals as you saw from the U.K. related calculations come from the smaller group of individuals who have spent the longest time in the country. That is the most efficient.

And as you get down closer and closer to capturing the vacation population, the students who have spent time in Europe during the course of their college years, the numbers of donors that you lose in relation to the cumulative time spent there gets more and more inefficient as you go to a shorter time period.

This is amplified in this particular comparison because of the low relative risk assigned to Europe as a whole.

CHAIRMAN BOLTON: Dr. McCurdy, and then Dr. Ewenstein, and then Steve.

DR. MCCURDY: I was curious, Alan, about your suggestion that oral interviews be required for some of these questions, presumably in part because of their complexity.

I have some incidental and perhaps not quite scientific information that suggests that the amount of time spent with donors in the oral interview and

some other aspects of the pre-collection process is unbelievably small.

And I wonder whether it is possible to get any visual cues and other things if you are going through it that rapidly, and wondered further about whether this was a time to encourage further the development and use of computer assisted interviews.

CHAIRMAN BOLTON: I didn't specifically mention the -- what is known as audio-CASI. That is a computer assisted self-interview with an audio component.

This is starting to emerge in blood collection centers today, and certainly it appears that it would be a reasonable substitute for a face-to-face interview with a staff member.

Behavioral studies of AIDS-related risk factors have actually shown this to be a better way of getting sensitive information in risk populations. As far as time spent with the donor, I think the two factors that lead us to think in terms of complex questions that an oral administration would be better.

And, number one, if you look at the -- I guess it is the Verizon ads going back to the 1992 literacy survey in the States, some 20 million Americans, I believe, are functionally illiterate.

And that they are able to get by barely with daily lives, but would not understand the complexities of something like a donor questionnaire. An oral administration would help that.

We know from Air and Accident Reports, and other studies of the donor interview process that often the donors do not understand the questions, or do not pay attention to the questions. There is an error rate even related to the high risk questions which are used.

CHAIRMAN BOLTON: Dr. Ewenstein.

DR. EWENSTEIN: I understand that the interview process and the deferral process might get just impractically complex, but make the case for having the same policy for France and Germany, for example.

I mean, we heard I thought some very good -- we saw some very good data on just how carefully the herds were now being surveyed. We have the actual clinical reports from there. We have the patient reports from there, and to me it looks very different than France, the neighboring country.

So accepting the fact that there is a simplicity in lumping all of Europe together, from the point of view that your first advantage that the

deferral in your proposal would be based on current observational BSE data, could you clarify how the data really do speak to that?

DR. WILLIAMS: I think the way that the FDA is looking at this is that the deferral itself is targeted towards France as a worst-case scenario. Other European countries, most likely based on observational data, are at a lower level of potential risk.

However, until some of the uncertainties about data collection resolve, we feel that it is best to take the worst-case approach and defer for all European countries at the five percent level, and as we are considering for the U.K.

And as data become more solid, and as food chain controls come into place, and as testing of cattle shows little or no current infection, those can be back downed from an overall deferral perspective that we are currently recommending.

DR. EWENSTEIN: Well, then just to follow up. Would you foresee beginning to bring other countries back in? In other words, if you approach 90 percent surveillances of herds -- I am not sure of what all the criteria should be, but at some point do you allow -- and especially large countries like

Germany -- and I just pick on that because we saw so much good data from that country.

But would you see a policy that would begin to allow donors to reenter the pool once we have that level of certainty that you are talking about?

DR. WILLIAMS: Well, that is a topic for future discussion, but that is the basis of the thinking. That once the epidemic is well-characterized, and we can better define what the risks are, that it could be loosened on an individual, or even on a larger basis once we know more.

For instance, once a test becomes available, and certainly that information would help us to ease these deferrals. But at the present time, we feel that deferring on a worst-case basis in the face of uncertainty is probably the most precautionary.

CHAIRMAN BOLTON: And Dr. De Armond, and Dr. Belay, and Dr. Bailar.

DR. DE ARMOND: It seems to me that with regard to the last question that we have no data yet, and until we get the accurate test to look at blood and even the bioassays to test blood for infectivity of people who have traveled to Europe, and donors who haven't, we won't know the answers to these things.

But in the meantime, we are asked to make

decisions in this committee about risk management, and weighing the difference between the decreasing in the number of blood donors based on predictions, and the effect of those decreases.

And specifically we are being asked to decide whether the older recommendations, which reduced donor loss to 2.2 percent, versus the American Red Cross, which is up to 8 or 9 percent loss, and the FDA proposal, which is 4 to 5 percent loss, is the better way to go.

But I still don't know from past experience whether a 4 percent loss created in the past, a 4 to 5 percent loss created in the past by the hepatitis testing and the finger prick versus the ear lobe prick, whether that had a significant effect on deaths or morbidity among patients in the U.S.

And whether you have any concept of whether a 4 to 5 percent loss is significantly different in terms of patient care than a 7 to 8 percent loss, or a 9 percent loss. Is there any way that you can assess that, because that is what we are going to be asked to do.

DR. WILLIAMS: I will have to say up front that I simply don't know the answer to that question. I am not aware of any instances in recent history in

which a national shortage of blood has resulted in deaths or morbidity of patients.

There are data from the National Blood Data Resource Center about delayed surgeries, and largely elective surgeries. And during the year of 1999, I believe the figure was .6 percent of hospitals reported some degree of delayed elective surgeries.

I can't comment further on that. I simply don't know about deaths related to blood shortage from a national basis. I doubt that has happened, but I don't know that for sure.

DR. DE ARMOND: So what you are saying is that we are being asked to make a decision about more stringent controls on the theoretical risk of getting variant CJD, versus a theoretical non-risk of any problems with a loss of seven percent blood donations?

DR. WILLIAMS: I think there is one very important factor that comes into play here, and you see it when disasters occur in a country. A policeman gets shot, or the Oklahoma City Federal building gets bombed, the American public responds much more than the need that is there.

So I think that if a crisis should begin to develop even on a local or regional basis, I think the American public would be responsive to meet that

crisis.

What is unknown is the long term impact, and whether we would still be struggling into the future to maintain sufficient blood supply that is not reported in the media is an unknown.

But I think in terms of acute shortage, if the blood distribution systems are there, I am quite confident that the American public will respond.

CHAIRMAN BOLTON: Okay. We are going to take four more quick questions. Dr. Belay, Dr. Bailar, Dr. Prusiner, and Dr. Lurie, and then we are going to move on. Quick questions and quick responses.

DR. BELAY: You would say that despite the current U.K. deferred policy for six months in the United Kingdom that about 32 percent of the potential U.K. risk is still left in the system? Is that correct in one of your pie charts?

DR. WILLIAMS: I believe that is correct, yes.

DR. BELAY: All right. Now, what was the impact or how much of this risk that is currently left in the system would be eliminated by further tightening the first policy to the United Kingdom from six months to three months?

DR. WILLIAMS: I think you can see that on the figure comparing the TSE option versus either of the other two options. I think the difference is something between 32 percent and --

CHAIRMAN BOLTON: I think it goes down to 17 percent.

DR. WILLIAMS: Yes, 17 percent.

DR. BELAY: Now, what would be the margin benefit of taking the option one, which is the TSEAC previous recommendation, and taking in account that option, what would be the margin and benefit of changing the six months to the three months in that option, within that option?

DR. WILLIAMS: As far as total reduction and current reduction, I believe -- Dr. Bianco, are you going to address that when you speak? Well, this is actually under consideration during one of the open presentations.

It presents a reduction of current total risk that is moderate between the TSEAC recommendation and the FDA recommendation. I believe the total risk is something like 87 percent.

And the current risk reduction I do not remember, but it is between the two levels. It is a potential way to consider, because the U.K. six months

does allow a large portion of the pie to remain.

CHAIRMAN BOLTON: Dr. Bailar.

DR. BAILAR: The estimates of risk reduction seem to be based on having accurate information for deferrals. But we are hearing about errors in that information. Any guesses about the size of the impact of those errors?

DR. WILLIAMS: That is difficult to say. Studies that have been done, and largely from the NHLBI RED study, have used this technique of conducting anonymous surveys with accepted blood donors.

For risk related deferrals related to some of the major deferrals, like injecting drug use, males who have had sexual contact with other men, for instance, we know that there is published information -- this is published in JAMA -- that there is about a half-percent of individuals in those risk groups who do not admit to that risk at the time of donation.

But do admit to it at the time of the subsequent survey. So we know that there is some leakage of at-risk populations. Related to the travel survey, we don't have data. I suspect that it is larger because of the complexity of these questions.

DR. BAILAR: Is there any reason to think

that the quality of the information from people at risk is better or worse than the quality of information from others?

DR. WILLIAMS: I don't know the answer to that. It really depends on whether it is based on understanding of the question, or some other factor related to the desire to proceed with donation in the face of knowing that one has risk that would influence it. And so I can't compare the two.

CHAIRMAN BOLTON: Dr. Prusiner.

DR. PRUSINER: Thanks. First, I want to thank you for a wonderful presentation. It was very, very clear. I want to come to the point of the blood donor travel survey, which this committee as I recall initiated to get the information to come up with a recommendation.

And then you then said that there was really no follow-up to confirm that the numbers that that survey projected, which are the same -- I presume that you are using the same basis for all these projections, but that there was never a follow-up study done to determine whether the projections after instituting this six month, 1980 to 1996, deferral really had any accuracy.

Can you elaborate on why that is? Was this

a problem of the FDA, or a problem with the committee? There seems that there was some lapse in people's thinking about this, because there was never anything done to follow up on this.

DR. WILLIAMS: I guess what I will do is refer to my last point at the last TSE committee meeting. If we have systems in place to get some rapid data collection about our blood system, and about our donors, and about our donations, we can do things like this.

The travel survey itself was essentially commissioned by this committee. The way we put it together was using the REDS resource set that was available, plus other centers that had survey experience.

It was done in a short time frame with no funding, and we used a one-page questionnaire, and we were able to get what we could. We had to -- because to do it for under Federal funds, we would need OMB clearance, which would take a year to get approval.

There are difficulties in getting rapid data of this sort to meet policy needs. Specific to this issue, why weren't there systems put into place to measure the impact?

I guess, number one, there was not a major

driving force telling us that that should be done, and we assumed that we would be getting numbers for on-site deferrals, and would be able to assess what the impact was from that basis.

We know, for instance, that in the San Francisco area that the prediction was 3 percent deferral, and it was 2 percent nationwide. We know that the actual on-site deferral in San Francisco was one percent.

So the relative proportion remained, but we don't know about the other donors who either self-deferred, didn't defer, or were deferred by the blood center in telephone calls, et cetera.

DR. PRUSINER: Can I ask that somehow our Chair come back to this issue at some point, and allow someone like me or someone else to make a motion to recommend to the FDA that whatever we do that there be some follow-up, and that we have some data, because this is going to keep coming up until -- there are very accurate ways of measuring things.

And certainly there should have been follow-up it seems to me, and there should have been money appropriated by -- well, Clinton at the time, and now George Bush, or the Congress, or whoever, to carry this out.

Because this is sort of crazy that we don't have any idea -- we can't answer Steve DeArmond's question. We can't even answer the simple-minded issue of are all of these projections accurate, and what kind of accuracy do they have.

Are you telling us that in San Francisco the number is off by 60 percent?

DR. WILLIAMS: That is on-site deferral.

CHAIRMAN BOLTON: That is on-site, as opposed to those that may have self-deferred, which in the other case was 90 percent. So we have no idea what --

DR. PRUSINER: That's right. We are even more in the dark.

CHAIRMAN BOLTON: Exactly. Dr. Lurie (sic).

DR. KATZ: Anecdotes don't apparently make data, but we had 5 or 6 times as many phone inquiries prior to the implementation of the current deferrals. That resulted in us saying, yes, you are going to be deferred, as we did in the first 56 days of on-site deferrals, and that first 56 days is the inner-donation interval.

And 5 or 6 times as many phone calls that resulted in a phone deferral, and it is unrecorded. So that maybe we know about a third of our deferrals,

or our donor --

DR. PRUSINER: What was your last sentence? I'm sorry, I couldn't hear it.

DR. KATZ: I think that we probably know about less thana third of the donors that we actually lost to the current deferrals, just based on what happened before implementation.

Donors calling and saying that I hear that this is happening, and should I come in and donate, and us saying no.

DR. PRUSINER: This really doesn't help me though. I don't understand it any better based on what you just said.

DR. KATZ: Except that there is lots of people out there who self-defer.

DR. LURIE: My comments aren't quite a request for data, but rather a procedural question which I think anticipates a very difficult vote that is to come here.

Obviously there are two ways of approaching this problem, but one is to provide the committee with three different packets and ask us to in general vote on the packets; or, alternatively, come up with one of our own.

An alternative way is -- and for me I think

that this question in a way anticipates this, is to break down the packages into their component parts, and vote on those, and see what we build up.

Now, I understand that there are advantages and disadvantages to both of them, but I think that at least for some of these questions that it will be relatively easy to vote. Do we want the transfusion to be part of the packet or not.

Do we want to extend from '96 to 2000 for the British dwellers or not. Now, I think that some of those are very straightforward, and it will make easier for some people the problem of liking part of one package, and not liking part of another.

If we do that, then I think at least if we pick up those examples perhaps, then we get left with a series of relatively specific data related questions. What is the impact and efficiency of moving from six months to three months for Britain?

What is the impact and efficiency of moving from 10 years to 5 years, to six months, for Europe. I know that isn't what has been put before us, and I am sure that the FDA has considered my suggestion.

But what I would like to propose is that we knock off some of the easy ones and that perhaps Alan could provide us the answers to some of the more

difficult questions, and I think that might facilitate this.

CHAIRMAN BOLTON: What I would like to do about that is to -- is for everybody to hold that in mind, and when we come back to our discussions as a committee, let's revisit that, because I tend to agree that that might be a more efficient way and ultimately provide a better answer in terms of what the FDA is looking for than trying to go through the votes as we have them set up, but let's discuss that.

I think now what we should do is move on to the open public hearing, and take that now, and we will have to see if we are going to be able to continue on with our discussions, or if we should break for lunch after that.

I will try to get a sense of the committee after we have the open public hearing. Now, Dr. Freas will introduce this segment.

DR. FREAS: As part of the FDA advisory committee procedure, we hold open public hearings for those members of the public who are not on the agenda, and would like to make a brief statement concerning matters pending before the committee.

Mr. Chairman, at this time, I have received two letters for this morning's open public hearing.

One letter is from the Jeffrey Modell Foundation, and one letter from the Myasthenia Gravis Association.

The letters have been placed in our meeting dockets, and have been distributed to the committee members. Copies of these letters and all handouts relating to this morning's open public hearing will be made available to the public, and they will be placed on the FDA home page.

We have also received 18 requests to speak during this morning's open public hearing. I will call the speakers to the podium and identify the next speaker so that they can be prepared to make a presentation.

All presenters will be timed for a total of 4 minutes, and at the end of 3 minutes a yellow light will come on. At the end of 4 minutes, the light will turn red, and we ask that you conclude your presentation.

We are also asking all speakers to address any financial conflict of interest that they may have with any firm or product that they may wish to comment upon.

The speakers are allowed to use the microphone in front of the committee, or may come to

the podium. If you are planning on coming to the podium, we do ask that you sit in the chairs over here so that there is a shorter walk to get to the podium and it will speed things along.

I will read the first five speakers so that they can be prepared. The order of the first five speakers are Mr Chris Healey, Dr. Celso Bianco, Kay Gregory, and Dr. Antonia Novello, and Ms. Jacquelyn Frederick. Mr. Healey, you're on.

MR. HEALEY: Thank you and good morning. My name is Chris Healey, and I am speaking to you today on behalf of ABRA and the Plasma Protein Therapeutics Association.

Because this morning's session deals with donor deferral issues, I will be addressing you from the ABRA perspective. ABRA is the trade association and standard setting organization for the producers of plasma for fractionation.

Our members include collectors of plasma both in the United States and Europe. As an organization, we represent more than 400 plasma collection centers, the vast majority of which are located in the United States.

Assuring safe plasma is industry's primary goal. Safe therapies start with safe donors.

Industry's quality plasma program helps assure a safe donor population through such standards as the qualified donor, inventory hold, viral marker limits, and the use of ABRA's national donor deferral registry.

We are pleased to inform you that ABRA has been working diligently with representatives of the blood industry, including the American Red Cross, to develop standards for the quality plasma program for recovered plasma.

We are hopeful that a common set of standards will be adopted soon. Nonetheless, as a result of these and other industry efforts, plasma therapeutics are safer today than ever before.

Notwithstanding these safety gains, industry recognizes the need to remain vigilant about the potential health risks from emerging and newly identified pathogens.

As an industry, we stand ready to take whatever actions are warranted to prevent or minimize real risks to plasma safety. Whether the risks are theoretical or not understand, we believe that a careful balance must be struck between managing perceived risk and the actions that may reduce the availability of these life saving therapies.

ABRA stands behind the safety of European plasma and the therapies derived therefrom. However, we defer to the expertise of this panel. The magnitude of the task that you are presented with today cannot be overstated.

You are charged with making public health policy recommendations that may impact hundreds of thousands of lives in the United States, in Europe, in Asia, and in virtually all other parts of the world.

Today, your voice as a health policy making body will be heard around the world and the world is listening. ABRA's role today is not to advocate, but to inform.

We hope to provide you with information that will aid in your decision making. To that end, we have compiled data on the global plasma market and will report on the results of the donor travel survey conducted to assess the potential impact of the Red Cross donor ban.

It is clear that the Red Cross donor ban will result in plasma donor losses in the United States. ABRA conducted a donor travel survey of 30 collection centers during two consecutive days. More than 4,500 responses were received.

Depending on the location of the center,

donor losses ranged from zero to 13 percent, with the greatest impact at centers located near military bases.

The overall donor loss appeared to be approximately 3.5 percent. However, it is worth noting that one of ABRA's member companies conducted its own survey and found an overall donor loss of 5 percent. And so it is fair to say that this is the range for donor losses.

However, assuming even a 4 percent donor loss, the impact on finished products on plasma therapeutics is dramatic. A 4 percent donor loss, the impact on finished products, on plasma therapeutics, is dramatic.

A four percent donor loss from plasma donors is a loss of 60 million units, and for IVIG the picture is even more bleak. A four percent donor loss would result in denying IVIG recipients 1,700 IVIG recipients of their needed product on an annual basis.

So, a four percent donor loss means that 1,700 IVIG recipients will be denied product all year long. Now, Dr. Williams made some comments about the elasticity of the donor base, and the need to make up donor losses, and I think that's correct.

However, I think new donors shouldn't be

viewed as a replacement for existing donors. New donors should be used and viewed as an opportunity to increase the global plasma supply, and increase the global amount of products that are available for patients around the world.

With respect to the global plasma market, it is important to note that the current estimates reflect an already reducing worldwide supply of plasma.

According to the market research bureau, in 1998, the total volume of plasma collected around the world was 25,000 liters. The current estimates for 2000 are approximately 21,000 million liters.

And this includes a 2 million liter decline in plasma collection in the United States alone. So, for the year 2000, it is estimated that the United States will contribute roughly 11 million liters to the world supply, and that Europe will contribute roughly 5 million liters.

There is no doubt that the Red Cross donor ban will strain an already declining global plasma supply. Furthermore, a rejection of European plasma by the United States health officials will likely like a domino effect around the world, and in fact examples already exist.

Egypt recently initiated a legislative action to reject all plasma therapeutics manufactured with European plasma, but as since reconsidered. Similar actions have been reported in other countries in the Middle East.

And health officials in Japan are intently awaiting the recommendations of this committee. Thus, while the direct impact on the United States donors may be in the range of 3.5 to 5 percent, Europe's contribution to the global plasma supply and the supply of plasma therapeutics would likely be put at risk.

This would put extreme pressure on other sources of plasma to meet the global demand, including the United States. So, in conclusion, we urge the committee to consider both the domestic and global implications of the recommendations you make.

I hope that this information will facilitate your decision making, and I thank you for the opportunity to address you.

DR. FREAS: Thank you very much. Our next speaker will be Dr. Celso Bianco, senior vice president of America's Blood Centers.

DR. BIANCO: America's Blood Centers is a national network of locally controlled, not for

profit, community blood centers that collect half of the U.S. blood supply from volunteer donors.

Proactively, we operate in 45 States, and serve more than half of the nation's 6,000 hospitals. American's Blood Centers total blood collections exceeded 6.7 million in the year 2000.

America's Blood Centers thank the FDA for the opportunity to participate in this public decision making process. We welcome this opportunity. Last year, about 8 million volunteers donated 14 million pints of blood.

This volunteers spend an hour or two several times a year to donate the gift of life to other human beings. A similar number of donations is collected by the plasma industry. Products from these donations are given to 4 million patients every year.

Many of these patients would die if they did not receive those products. We congratulate CBER and CDC for the careful balance and thorough analysis of the issues.

However, we feel that the recommendations presented to the committee are optimistic regarding the ability of the blood supply to compensate for losses. Our 60 year experience tells us that recruitment cannot in a short period of 6 or 9 months

make up the loss of donors and donations predicted in Options 2 and 3.

Therefore, America's Blood Centers is proposing an alternative option, which for simplicity's sake we will call the ABC option. But first I would like to comment on some of the other options.

In January 2001, this committee reexamined the theoretical risks. You decided to extent the current deferral to include people who had spent a total of 10 years or more in France, Portugal, and Ireland.

The basis for this option was to provide a balance between protection and availability. America's Blood Centers supported that option. Option One would provide an 82 percent reduction of total risk from the current 68 percent.

The loss of donors would be limited to an additional 2.2 percent or 280,000 donors. Provided that the committee agrees that an extension of the current deferral plan is necessary, ABC endorses Option One, and believes that it could be implemented in 6 months as proposed by the FDA.

But ABC recognizes that there are pressures for an extension of the deferrals beyond Option One.

If the committee feels that further actions should be taken, we suggest an implementation policy that is consistent with new scientific knowledge, and the ability of blood centers to replace lost donations without jeopardizing the blood supply.

Option Two, the three month deferral for U.K. and six month deferral for all Europe; at the January meeting -- oh, that went fast -- the American Red Cross indicated that it would implement a much more extensive ban than that recommended by the FDA and the committee.

The Red Cross plans to permanently ban donations of people from the Europe and U.K. With a meeting with America's Blood Centers trustees last February, the Red Cross indicated that the approach was based on medical judgment and not new evidence.

We were told that different physicians see the same patient and come to different conclusions. In our opinion, medical judgment applies to a single patient at a physician's office.

A deferral that jeopardizes millions of recipients is not an issue of medical judgment. It is a public health issue. I am raising this matter because the Red Cross approach not only discounted, but also ignored, the decision making process.

The America's Blood Centers recommends options. Our option -- well, you have a copy of it, and you also have a copy of a survey that we made of the American public.

And we know that one in every five people, or 4 out of 5 people are more concerned about supply than about the Mad Cow Disease. Our option would be to increase the deferral that is contained in option one by reducing the period spent in the U.K. from 6 months to 3 months.

This would lead to a reduction in the number of donors from 280,000 and it would add 1.3 percent, and we would lose a total of 490,000 pints.

We would reach using the model presented by Dr. Williams a 87 percent reduction of the total risk, and that gets closer to the models that are presented in Options 2 and 3.

This protects the availability of the supply, and this could be implemented in six months, and in six months this committee will get together again and review all the options that are available, and we could then considering new knowledge decide if further deferrals are necessary.

We are in a program to increase blood donations in varying tests, and we will attempt to

replace donors, and we certainly are concerned about a number of issues that this committee -- I would love to see this committee respond to on what deferred donors should be told, and what should patients that receive products be told.

I received products in 1986 and 1995, a total of 46 units, and what should I be told. I was in New York and I received European blood. How should we triage the available units in case of shortages. Who gets blood first; the young, the old, or should market forces decide this?

And what effect would the identification of a case of Mad Cow Disease in the United States have in our deferral policies. In closing, we recognize the effort that you are putting, and we just ask that you consider the impact of these decisions, and give us time to be able to implement whatever decisions we are getting there.

But simply put, the risk of shortages is real, and you have a package in your hands with a number of reports in the last six weeks of blood shortages throughout the country.

And we are concerned about the availability of the blood supply. The risk is real and blood shortages threaten lives, and that's simple. Thank

you.

DR. FREAS: Thank you. Our next speaker is Kay Gregory, Director of Regulatory Affairs, American Association of Blood Banks.

MS. GREGORY: Thank you. The American Association of Blood Banks is a professional society for both individuals and for institutions who work in community blood collection centers, hospital based blood banks,a nd transfusion services.

Our members are responsible for virtually all of the blood collected, and more than 80 percent of the blood transfused in this country. For over 50 years, the AABB's highest priority has been to maintain and enhance the safety and availability of the nation's blood supply.

We appreciate this opportunity to comment. The AABB believes that before any new donor deferral policy is implemented that the most important consideration is the patient.

It is critical that a balance be met between all relevant risks and benefits to patients when determining to implement any new donor deferral policies.

Although there are no known cases of variant CJD being transmitted by blood transfusion, the

theoretical risk cannot be ruled out. At the same time, availability of blood is also a safety issue that must be balanced against the potential risk of disease transmission through blood.

The AABB strongly urges the FDA to ensure that any new deferral policy is implemented in an manner and in a time frame that minimizes interruptions in medical care to patients.

It is difficult to measure the effect of an expanded donor deferral. Best estimates suggest that it will eliminate between 6 and 11 percent of all current donors. However, some communities can be expected to experience even more severe donor cutbacks.

Given the ongoing inadequacy of the blood supply, one cannot predict that there will be sufficient excess blood in one part of the country to offset the shortage of blood in another region of the country.

Before expanding the variant CJD related deferral policies, we need to be confident that every blood center in every community can meet its patient's needs. Moreover, estimates of the percentages of donors who will be deferred significantly underestimates the actual number of units of blood,

Nevertheless, we believe that a conservative, reasonable, message to prevent any possible entry of new pathogens into the nation's blood supply are warranted. How and when is the question that we are deciding here today.

But I can tell you that no one in the country really wants to precipitate a crisis in the nation's blood supply, but underlying the present concern is this truism; the country is in a chronic shortage of blood.

And the recent shortages have been particularly acute, and emerging blood drives in many regions of the nation have shown that. I can tell you a case in point.

In the State of New York, on average, approximately 2,400 units of blood are transfused every day, and approximately 1,400 of those units are in surgical units.

The patient care in New York has already been comprised when last summer, and as early as January, the scheduled surgeries for transplant operations, heart surgeries, and cancer surgeries, have been canceled or postponed.

Right now, 8 percent of the hospitals in the New York Metropolitan Area have canceled surgeries

and blood components that will be lost.

Many of these donors are likely to be regular donors, who on average donate two times a year. The loss of the platelet phereses units may be even more drastic, because platelet phereses donors are quite dedicated, often donating at least once a month.

When the National Blood Data Resource Center attempted to collect data regarding the current U.K. deferral, it found a loss of approximately .29 percent of collections, which was much less than what had been predicted in advance.

You have already heard about the problems with collecting that data, but given the extensive media coverage of the newly proposed expanded deferral of donors who have traveled to Europe, we would again anticipate a large number of self-deferrals.

Expanded recruitment efforts may be able to make up some or perhaps even all of the shortfalls projected to accrue as a result of the tighter restrictions.

The Canadian experience over the last several years shows what can be accomplished by an intense coordinated, well funded, nationwide multimedia campaign to increase blood donations.

However, the Federal Government has never allocated similar resources to an analogous effort in this country, and the U.S. blood supply is not centrally organized.

Expanded donor deferrals should not be implemented absent a serious effort by the entire blood community, as well as the government, to increase the number of blood donors in the United States.

The AABB has urged the Department of HHS to financially support a national multimedia blood donation awareness campaign so that the transfusion needs of patients can continue to be met.

In addition, enhanced efforts to monitor both blood supply and utilization are critically needed. Consistent with the recent recommendations of the Advisory Committee on Blood Safety and Availability, the AABB believes that the HHS should support the collection, analysis, and distribution of these data by an independent entity.

Without strong data, we cannot understand and prepare for the impact of donor deferral policies and other factors on the fragile blood supply. The AABB is committed to play a major role in promoting scientific research to improve blood safety, including

new screening paths and technologies to prevent transmission of infectious diseases.

We urge the FDA and the Federal Government to remain vigilant about variant CJD and other infectious diseases, as well as the impact of deferral policies on blood availability. Thank you.

CHAIRMAN BOLTON: Thank you. Our next speaker will be Dr. Antonio Novello, the New York State Health Commissioner, and former Surgeon General. Dr. Novello.

DR. NOVELLO: Good afternoon, Chairman Bolton, and Members of the Committee. New York thanks you for having us here to tell us our problems, because the safety of the blood supply and the patient care of the State of New York is of the utmost quality, and the utmost importance.

What brings us here is the impact of the deferral of blood donors potentially exposed to the new variant of CJD. This is a serious threat that needs monitoring and needs our consideration.

But up to now, we know that there have been no cases that have been documented of the new variant linked to transfusions, and no scientific data has been demonstrated conclusively that transmissions via transfusion can occur.

because of the lack of blood. And in other parts of the State, I can tell you that they do not have the necessary 3-day reserve after supplying the hospitals.

And more than anything else, currently there is even less than a one day's supply of Type "O" negative and other types as well. If the new donor deferrals are to be implemented broadly and specifically, certain characteristics of New York State make the blood supply particularly vulnerable to experiencing acute shortages, and I would like to share them with you.

For one, New York includes the largest Metropolitan Area in the nation, and the rate of international travel and immigration exceeds the national norm.

In addition, our concentration of hospitals, particularly the tertiary rate hospitals and the specialty care hospitals is unique in the country.

And such hospitals which treat patients around the nation and the world require a lot of blood. To meet those needs, New York historically has relied on blood transfusions from elsewhere in the United States and from other countries, and further restrictions on donors who have traveled to Europe, or resided in Europe, would adversely impact our ability

to meet medical needs, especially of the average New Yorker.

Under certain proposals being considered, 145,000 units now imported annually from Europe will become unavailable. This translates into an immediate loss of 16 percent of New York State's availability of blood supply, and 25 percent of blood availability in the City of New York.

Further deferrals being considered would result in a loss of approximately 10 percent or more of New York's donors, which translates into 8 to 9,000 units.

With new donor restrictions, potentially 200 patients per day in the State of New York would not receive the blood they need. That really means 75,550 patients a year that will not be able to be served.

Those patients include trauma patients, and those patients include surgical patients. As much as we recognize then to protect the safety of the blood supply, a shortage of the one that we are talking about here today possesses a major risk to the public's health.

Therefore, considering New York State's blood supply needs, of all the proposals under consideration, we support most of the proposals put

forth by the FDA, although these proposals not only reduces the risks substantially, and moderates the loss of donors, we believe that more of a time frame is needed for us to be able to implement it.

So as we ponder on what is the best solution to the blood shortage, we strongly urge the FDA with caution in choosing an implementation time schedule that will consider the extent and the impact on donor issues in particular areas of the nation, and New York State in particular.

And give us an adequate window of time to plan alternatives and to recover from the potential shortfalls. I can tell you that today's view is that less than 10 percent of the people donate and/or eligible to donate.

If every current donor will be able to donate just one more time, I can assure you that the shortfall would be much more minimized, but we in New York can tell you that we will dedicate all our efforts to increase the donor recruitment and the donor retention.

We will do everything in our might to do that, but because the blood shortage is national, and it is not only in the State of New York, we strongly urge the Department of Health and Human Services to

make sure that they do a massive campaign to all the States, telling them and raising their public awareness of the increased need for blood in particular areas of the country, and New York in particular, because it is the hardest hit.

I can tell you that we will be with you in all of this, and I thank you from the bottom of New York State to have been able to hear us today. Thank you for the opportunity.

DR. FREAS: Thank you. Our next speaker is Ms. Jacquelyn Fredrick, Senior Vice President of the American Red Cross. And before you begin, I would like to just list the next five speakers. They are Dr. Bob Jones, Ms. Line Robillard, Ms. Doris Varlee, Dr. Geoffrey Douglin, and Ms. Mirian O'Day.

MS. FREDRICK: Thank you, Mr. Chairman, and Members of the Advisory Committee. Discussions about the deferral of donors at risk of transmitting variant CJD has once again elevated the critical public health issue of blood availability.

Historically, improvements in blood safety have been balanced against concerns regarding availability. In fact, some have suggested that safety is availability.

The American Red Cross believes that safety

does not have to be compromised to achieve availability. For over a decade the blood banking community has accepted mediocre performance as the approach to availability, while facing steadily increasing national need for blood.

Only 5 percent of the eligible donate. Just as we have made and continue to make the necessary investments in blood safety, we must now invest aggressively to ensure availability.

The American Red Cross has learned time and time again that when called on the American public always respond. We are pleased to share with you our efforts to stabilize and expand blood collections to ensure a consistent and adequate blood supply whenever and wherever needed.

By taking steps to develop a consistent supply the Red Cross will not only be able to address the theoretical risk of variant CJD, but also risks posed by future unknown pathogens and other threats to availability.

During last years unprecedented blood shortages the Red Cross recognized that new donor recruitment and more effective blood collection strategies were needed to achieve a sustainable and an expanding blood supply.

After a successful investment of more than $2 million in pilot advertising programs, valuable lessons were learned which are now being used. Since the need for blood is always growing, any successful effort to increase blood collection and do so on a sustainable basis will help ensure a safe blood supply for every patient needed.

As requested by the FDA, I will first outline the Red Cross's plans for an expanded donor deferral related to the risk of variant CJD. Given the scientific uncertainties surrounding variant CJD and the need to do everything possible to protect the blood supply, in mid-September of this year, the Red Cross will implement a new donor deferral policy to reduce the theoretical risk of the transmission of variant CJD through blood products.

This policy was developed with serious consideration and deliberation involving leading scientists and epidemiologists from the United States and around the world.

The Red Cross will defer donors who have spent time in the United Kingdom for a cumulative total of 3 months or more since 1980; or donors who have spent time in any other European country for six months or more since 1980; or donors who have received

a blood transfusion in the United Kingdom.

Based upon modeling available to us by our scientists in January of 2001, and subsequently used by the FDA in this communication with the Red Cross on March 30, 20001.

This policy will result in an estimated 85 percent reduction in risk. The FDA has recently incorporated other assumptions into this model. The calculations in the original model used by the FDA and Red Cross in FDA's revised model with regard to risk reduction and donor loss are based on the recognized incidents of disease in cattle as measured by reported levels of infectivity in cattle.

It is recognized that the testing of cattle has been spotty and the slaughtering of cattle less than 30 months of age may be obscuring of BSE during the incubation period.

Further, the models do not take into account the porous borders between European countries and therefore may underestimate the number of people at potential risk of exposure.

As a result the Red Cross and the FDA recognize that donor exclusion must include a European exposure. The differences between FDA's current proposal and the Red Cross planned deferral is about

a loss of about 3 percent of donors.

Based on the magnitude of the threat, we believe that our deferral is cautious and prudent. I would also comment that reports of donor loss that you have heard today, and therefore the impact on patient need, assumes that all the blood providers will not do anything to meet the need for availability.

It is our role to ensure availability, and let me describe what we are doing today to ensure that. The Red Cross has accelerated its plans to increase blood availability starting with the goal to make up whatever donors we lose to expanded deferral.

Even prior to implementation of this new policy, we launched substantial efforts to more aggressively recruit, retain, and recognize our blood donors. We are cultivating and expanding the next generation of volunteer donors.

We are developing long term strategies to meet patient needs through the latest technology, maximizing our existing donor base, bringing in new donors, and leveraging our unique network of more than 1,000 Red Cross Chapters in communities nationwide.

We are confident that with dedicated resources that we will effectively address availability. First and foremost the Red Cross has

established a plan and made a commitment to grow from our current 6.5 million to 9 million donations annually in areas served by the Red Cross over the next 5 years.

I will also say that we heard a comment about plasma, and our intent is over the next year to increase 200,000 liters of plasma for fractionation to ensure availability of those products.

We will leverage technology by using automated collection technology anticipated to add 300,000 units to the blood supply, and we will maximize our existing donor base.

Currently, we are in a 12 week campaign, spending almost $5 million. We will contact over 2 million group "O" blood donors. We will send a letter asking people to donate, and telling them about the TSE deferral to over 6 million donors, and we are advertising right now in 55 different markets.

By increasing the donations from 1.7 times per year to two, which is our goal in 3 years, we will make an additional 1.2 million units available. As I said before, we will mobilize our chapter base in every community.

And in addition we will establish what we call a national strategic blood reserve, strategically