And prior to the establishment of the Chief Scientist position, NCTR was one of three entities within the Office of Scientific and Medical Programs. This is an acronym, OSMP, that I had no idea about. And I never knew it existed before.

And OSMP reported directly to the Commissioner. This was headed by Dr. Janet Woodcock who is now the new Director for the Center for Drug Evaluation and Research.

As you have -- I wrote these before I knew Dr. Torti was going to be here, that is how fluid things are, so Commissioner von Eschenbach announced his appointment April 9th. And this was alluded to, this position was alluded to in the Science Board's recommendation in FDA Science and Mission at Risk.

Oh, and also as Dr. Torti said, his position and his duties are described in the legislative language of the Food and Drug Administration Amendments Act.

Here we are going to go through and take a look at the findings of the December 2007 review of NCTR and what we found. So the December 2007 review will be -- this is the Science Board Report that had previously been presented.

The first finding had to do with the location of NCTR. And in 2007, the working group or the subcommittee mentioned that geography or distance was an issue that might have a detrimental effect on communication between the agency, between the FDA and NCTR.

We didn't find it to be an issue. We found that communications could be accomplished by improved IT, increased travel budget, which looks like this is coming to fruition, and including agency-wide meetings.

Second finding in 2000 dealt with the prioritization of FDA-nominated compounds for the National Toxicology Review Program. And in 2000, NCTR had suggested or submitted

suggestions to the subcommittee for prioritization.

This issue of prioritization is a recurring theme throughout our report. And I think a recurring theme through FDA Science and Mission at Risk. It is a complex process. And the short period of time that we have to interact with scientists at both FDA and NCTR, we realized how extremely complex that it is.

As in any organization, there are both formal and informal systems of prioritization or for accomplishing any task for that matter. Overall, what can we say, it appears to be working. We don't understand how but it appears to be working.

And the overall impression, this is our impression as a subcommittee and I think from people from NCTR and FDA, that a more centralized process would be more efficient. And certainly something that we have to consider in an era of tight budgets.

Finding No. 3 were safety

pharmacology studies at NCTR. The 2007 subcommittee commented that this needs to be expanded and there needs to be a priority-setting process. We concur.

Finding Four, priority setting with NCTR must be coordinated with product centers. The 2007 report included NCTR's 2007/2011 strategic plan which addressed this issue.

We found that FDA product centers are very supportive of the role that NCTR has played in their regulatory missions. So both sides of the organization, from what we could gather, were very complimentary of each other.

Finding Five from 2007, NCTR needs to be more supportive of product centers. We found that, I suppose to the level that they are able to support one another budgetarily, that this actually takes place. And there certainly is room for improvement. And hopefully with appropriation adjustments, this, in fact, will happen.

These are the 2007 recommendations.

In your briefing documents, if you take a look at Appendix G, you will find a much more detailed description of these recommendations.

But the overall recommendations were to enhance the incorporation of safety pharmacology in NCTR's mission, priority setting process to the National Institutes for Environmental Health Sciences/National Toxicology Program should be applied across the FDA.

There is greater detail of this process in our written comments and also in the report. And a lot of the way that this works, we found through our face-to-face interviews with staff from both FDA and NCTR.

This is something that we heartily agree with. NCTR is to be applauded for collaborative research to support FDA needs. And, as I said before, there is mutual agreement between both organizations. I don't know if I should be saying both organizations. They are really the same organization but

both parts of the organization, that it has been a very good relationship.

Because NCTR has the expertise and is able to focus on science and research, it can focus on areas that are needed as far as regulatory science goes in this day and age. And one example that comes to mind are biomarkers for toxicity. There are certainly a lot of others but this is the one that came to mind.

These are our recommendations from our Advisory Committee. And I guess -- I don't know if we should call it an Advisory Committee or a Working Group or a Subcommittee. The language gets a little confusing, particularly to me who has only been on the Science Board a relatively short period of time.

But, again, these recommendations are given in much greater detail in our written report.

These are a couple of other

observations. And there is positive evidence that NCTR provides a valuable and integrated resource for projects directly related to the regulatory functions at the FDA product centers.

Physical distance is not a barrier to collaborations between NCTR and FDA product centers. Our recommendations largely build on and mirror FDA Science and Mission at Risk recommendations. Among these are the creation of a modern IT and communication system. This has been discussed both by Dr. Torti and Dr. von Eschenbach.

I think everybody agrees on this. And so we are rapidly approaching the time that we need to move forward.

Communication systems, we mentioned the Science Forum, again we are extremely pleased to see that that is back on the table. We hope also or we do recommend that travel budgets be increased for collaboration between Jefferson, Arkansas and Rockville, Maryland,

and all of the other widely scattered laboratories, field offices of the agency all across the country. And I suppose now we have to include the entire world in those travel budgets.

Large worldwide corporations are using IT to identify experts within their organizations and identify colleagues with special shared interests. We listed the name of commercially-available software here. It is called SourceCentral.

And, Jack, if I'm incorrect, this is software that General Electric uses and they seem to be a leader in this kind of communication technology within the organization. And I think 350,000 employees all over the world and 50,000 collaborative centers or special interest centers communicate using this software.

This next item, some product centers are developing databases of scientific projects, this is not surprising. People who

are responsible day to day for getting the job done will find solutions on their own without top-down direction from the upper levels of management.

And there is an FDA-wide database that is under development. And we are told that the official title of this database is the FDA Research Database. We think that these efforts should be encouraged and adequately funded.

We think this is the only reasonable direction to go that allows people within an organization to find out what other people in the organization are doing and whether or not that they can share and collaborate.

Science at the FDA needs an effective, central structure. Again, I'd like to say this has been a very fluid time with what is going on. Some of these things are already underway. If I am redundant, I apologize for that. But I think overall that

the direction is positive that the agency is taking.

And, again, these are from the 2007, largely 2007 recommendations. And this is the creation -- one of our suggestions was creation of an Executive Committee that reports directly to the Commissioner. And this would include product center leadership and include individuals that are responsible for food safety and drug safety.

We would like to see this group or this Executive Committee have budgetary authority over their Congressionally-appropriated funds to be able to make those kinds of allocation decisions that help organizations move along and help projects move forward.

And the Committee would also provide overall direction for science within the agency. Again, here we are trying to, since Dr. Torti's job is so new, we are trying to understand what the reporting structure is

like. But we would like to see the Chief Scientist reporting directly to the Commissioner.

And we would like to see the Chief Scientist be Chair or Co-chair of this Executive Committee with overall accountability for prioritization within the agency.

As mentioned earlier, politicalization has contributed to a loss of public confidence in that agency and I suppose in other areas of Government. And I think this is something that we need to be cognizant of.

I think in the future what I would like to see is the position of Chief Scientist be filled from within the ranks of Senior Scientists at the agency.

And at least one reason that I can think of is it would be so helpful to have experience at FDA and to know how the organization actually works. It is enormously

complex trying to look from the outside in to see how things are accomplished within the agency.

Let's see. We also had a recommendation in FDA Science and Mission at Risk for Deputy Directors for Science created within each product center. And these individuals -- these would be experienced individuals and these would be individuals with a proven track record of being able to lead scientific projects.

They would have the responsibility for organizing and managing science within product centers. And people in these positions would represent the individual product centers on the Executive Committee.

Just to try and kind of wrap up overall, I think these are things that we all know. We have been talking about them for some time. I think we largely understand the solutions and what are needed.

Again from the 2007 report, the

need for a centralized process for prioritization and allocation of resources. And most importantly -- or not most importantly because the FDA and NCTR have certainly been fulfilling their missions to the best of their ability with limited funding.

But adequate funding from Congress and I think, to a certain extent, that there are at least a few people on Capitol Hill who are waking up to this situation. And hopefully the momentum will carry.

And I think this may be one of the Science Board's responsibilities if not somebody with the FDA is to help ensure that this momentum does continue until we get the budgetary status of the FDA back at a level where it can actually fulfill its mission as originally intended by Congress over I suppose the last 100 years is the way it has evolved.

Much more detail in our written report. It is complex and there is some

detail in it. But I would like to end at this point and field any questions that I can. And I'm sure that Jack would be willing to help me out in some of these areas, particularly using IT to communicate within large scientific-based organizations.

And I thank you for your attention.

DR. McNEIL: Well, thank you very much, Larry and Jack. I wonder if I could just make one suggestion in terms of structuring the discussion here.

It seems to me that there are two lines of thought in your very nice presentation. One relates to recommendations that are quite specific to the NCTR, which fits in nicely with your charge. And the others are recommendations that go much beyond the NCTR and effect the agency more generally.

So I would like to divide the discussion into two parts. Let's do the first part first. And have very specific questions related to the recommendations with regard

only to the NCTR per se.

DR. SASICH: Could I just make a brief comment? It is hard for me to kind of envision them as being separate. And that whatever is done to NCTR effects the rest of the organization and vice versa.

DR. McNEIL: No, I understand that. But within the NCTR, you have got a couple of very specific things --

DR. SASICH: Okay.

DR. McNEIL: -- that didn't apply to any other center.

DR. SASICH: Okay.

DR. McNEIL: That's what I'd like to comment on.

DR. PHILBERT: As a rookie, I feel free to ask the naive question. On your slide of observations, the possible negative effect on prioritization process, which prioritization process are you referring to? And do you have examples of --

DR. SASICH: Oh, yes, I mean we can

go back a long way. And at the risk of starting a mild firestorm, I would cite the National Center for Complementary and Alternative Medicine, which was really a piece of special interest legislation that diverted resources and funds away from the National Institutes of Health. That is one.

The Medication Guide for Accutane, for example, this involved the unfortunate death by suicide of a Congressman. I am a strong supporter of medication guides or required written information that be distributed with drugs with each new and refilled prescriptions.

It was basically a good idea -- I'm sorry, go ahead.

DR. PHILBERT: So these aren't specific to NCTR?

DR. SASICH: Well, we did have -- and there is a bit more detail in the written report, there appears to be a program that is underway right now at NCTR that doesn't appear

to us that it actually went through the prioritization process. And it is a program that may require significant economic resources.

DR. McNEIL: Could I just expand on that a little bit? So I was intrigued by that particular comment in the report as well.

So are you saying that there are a number of priorities that the NCTR itself would like to develop but then they get kind of side -- put on the side because of a Congressional request that they do something else? Or that somebody requests that they do something else? Was that the bottom line there?

DR. SASICH: Well, in a sense, I think they probably have done the prioritization process. Then they get a legislative mandate to do something. And you can do one of two things. You can ignore it or you can do it.

The time that I can remember that

something that was ignored, not within NCTR but with --

DR. McNEIL: Stick with NCTR if we can because I think we're going to lose our thread.

DR. SASICH: Oh, okay. I mean the politics impinges upon the whole scientific process across all federal agencies. And, you know, I wish I had more NCTR examples or more FDA examples. It is something that I think is worthwhile exploring.

But if something happens in CDC where a political decisions impacts the prioritization process, then it is also possible that this could happen within FDA or within NCTR.

DR. McNEIL: And you have data to show that it has happened?

DR. SASICH: Well, what we have is we have news reports and people writing about it. Nobody has systematically looked at this. I think it would be great to do. And I don't

know how you would actually do it for a lot of these smaller projects.

What was a Congressman's purpose in pushing for a specific piece of legislation? Was it in the public interest? Or was it in the interest of a small number of constituents in his or her Congressional district?

DR. WOTEKI: My question has to do with reflecting on the Commissioner's opening comments where he talked about the modernization of the FDA laboratories plural as being a priority. And then he specifically made reference to NCTR as being the developmental science incubator complementing the applied science that would be done within the centers.

And reading through this committee report, I guess my question to you and to Jack is did the committee actually wrestle with the NCTR role? It is specific about priority setting. It is specific about mechanisms of reporting and that type of thing.

But more generally, did you reflect on that role? And with respect to the Commissioner's comments this morning with the vision, how do you see your recommendations essentially fitting with that vision or not?

DR. SASICH: Jack, did you want to comment?

DR. LINEHAN: Thank you. But I have limited comments to make about that aspect of it because I missed the site visit. I was on medical leave at the time so I didn't visit NCTR. So I wasn't privy to the conversations at the moment.

DR. SASICH: Well, what I would say, I guess what we were trying to communicate within the recommendations is that NCTR is focused on science in its broadest sense. Each of the FDA product centers has its own unique set of responsibilities.

And what we were trying to recommend that a method or a process where the uniqueness of each product center could

utilize the resources at NCTR, both physical resources and intellectual resources.

DR. CASSELL: Again, I apologize that I missed the opening but Cathy referred to the fact that the Commissioner called NCTR perhaps an incubator.

DR. WOTEKI: Actually that was my interpretation of what he said. But that was the concept.

DR. CASSELL: Well, it triggered my question and that is that in the report that we issued in December, we recommended the establishment of an incubator for emerging sciences. This seems to be an idea that a number of people on The Hill are very supportive of.

And I wondered if maybe Frank you could comment on whether or not that is the concept for NCTR? And I wonder about the science power that is currently there in terms of monitoring the emerging sciences, you know, whether or not one would really be able to

envision, with its other responsibilities, that NCTR could take on this role.

So could we -- Barbara, is that something we could ask now? Or would you rather table it?

DR. TORTI: I'm glad to reflect on it. So there are a number of things that we wanted to get started sort of Day One to sort of engage the idea that we need to be looking ahead preemptively to where the science is coming from.

Those include the putting together of a team of people whose specific job it would be to do so, to look at cross-center issues, to look at new science, to connect science within the centers, and also their job description would be to connect to the science on the outside.

I have also given the Board the job of helping us do that as well. So I think that's part of the issue.

But that is looking out toward

where the science is coming from. Then there is the broader issue of what science, and again, and we can talk more about it, but I began to address it, that we need to do in house ourselves, where we need to have the machines, the tools, the operations to execute. And there are some that we do.

And there are many reasons why there should be some that we do. And then there are some where we have to say we don't need to be able to do it in house. We want to contract it out to academia, to whomever, to approach these kind of issues.

And in that overall scheme, and Bill may want to comment on it some more, the NCTR is going to play a vital role. It uniquely, I think, among the centers, does not have this regulatory role. So it has the opportunity to actually drill down on scientific issues but drill down on those from the overall vision and implementation plan for the entire FDA.

So, I mean that is our vision. And that's what we want to do. And the details of accomplishing that we are going to be working on. And we are going to start over the next three months into how to execute that.

DR. SLIKKER: Thank you, Frank. I think that one of the roles here is to bring the necessary individuals to the table, whether they be from industry, academics, small biotech, or other government agencies to deal with these particular kinds of issues. That is one area where FDA in conjunction with NCTR, I think, have been leaders.

And to go along with that, tackling those kind of cross-cutting issues that deal with all the different product line centers, I think is a very important issue. One of those that has been brought up is the idea of nanotechnology and how in conjunction with other government agencies and other academic forces, NCTR can help the whole agency move forward in the nanotechnology area, especially

when it comes to safety assessment.

And so those are areas where we need the help from the Board to be able to move that process forward in a very systematic way to understand which partners would be good to contact and interact with to move that forward so that we enhance the safety of products that FDA regulates.

DR. CASSELL: I actually must admit I hadn't really kind of thought about this but you have made a very important point. And that is because NCTR doesn't have the regulatory role, is it possible then that that could be where you could house a lot of interactions with the best in industry and the best in academia to have this exchange?

I noticed that in the bio organization's response to the Science Board Report, they raised the question about IRIIS that we had recommended. And said that there were other initiatives. I think they were thinking Reagan-Udall but I don't see this at

all interfering with Reagan-Udall but rather complementing it because you need something internally to be able to respond to what they come up with and vice versa.

So I don't know kind of if this is what you are thinking about, Bill, but I really think -- I hadn't really thought about it but this is pretty exciting if that is true. And then you would not necessarily have the conflicts of interest concerns that you have with the other centers that do serve this regulatory function.

So, in fact, would it be possible that in NCTR that you could have this visiting scientist program that we talked about, again even having people from industry come to NCTR and vice versa, again because you don't have that regulatory mission? Do you know? I mean is it allowable then to think this way?

DR. SLIKKER: Well, we have the opportunity now to bring in scientists and reviewers from other parts of FDA. And we

also travel there.

But we have developed a program, an exchange program, just to do that very thing. And that is to provide additional training and experience for reviewers and other scientists within the other centers of FDA to visit NCTR. And we also go there to learn and to present information.

So that exchange is already set up. We also exchange with other agencies across the U.S. and do have a tremendous number of individuals that come in for sabbaticals and short periods of time to interact with us.

So, yes, those programs have been set up and are moving forward. But they could be expanded. And I think that is what we are talking about now, what Frank was mentioning in terms of expanding these opportunities.

DR. CASSELL: And what about industry also? Visiting scientists from industry, this would also be a reasonable thing?

DR. SLIKKER: Well, the opportunity for guest workers to come in is certainly very possible. And we have done guest working relationships with various groups over the years. And it is fairly straightforward to set that up and have that occur.

DR. CASSELL: So I think this also emphasizes another point and that is that one of the concerns about the visiting scientist program or even the fellowship programs is the expense of having to live in Washington, especially when you are talking about mid-career scientists. I don't now how attractive Pine Bluff would be but it seems that that would also help to alleviate some of the otherwise expenses that one would have to have this kind of visiting program.

So I'm excited about this. This sounds like it is something that we could really act on.

DR. SLIKKER: One advantage that we have is that we do have a small number of

onsite housing for those individuals in transition who are going to come in for just a week or two. And that also allows those who stay longer to transition into other properties.

There is plenty of space for people in Arkansas so it is not any problem in having that happen.

DR. CASSELL: Well, but so you might also then think about leveraging it with the University of Arkansas in terms of graduate program or more formal postdoctoral training programs where they could perhaps even get NIH moneys or CDC monies in this regard.

DR. LINEHAN: Thank you. Again, I didn't visit the NCTR so I really can't comment on the details of what is happening there scientifically speaking. But I don't want to ignore OSEL. Now that is a very substantial organization with the FDA that has a tremendous amount of capabilities in the

physics and material science areas.

And when you hear words like nano floating around, it is not exactly sure what everybody is thinking of except that they are very small things. And so I think that one wouldn't want to ignore the physical sciences along with the biological sciences in that type of a collaboration.

As a matter of fact, when I was thinking, as I was hearing the talks, and I was going through my mind the list of people that I know that are in universities that are very solidly in this field and making big contributions, most of them are either engineers or chemists.

DR. McNEIL: Other comments on the first set of recommendations?

If not, then I'd like us to chat a bit about the second set of recommendations, which start on page seven of the handout here, that go beyond, in many ways, the specific charge of the review. And ask if you have any

comments about those.

And then I have an operational question after that. So comments?

DR. LINEHAN: I just might add about -- and Larry has already mentioned this but Allen, from his industry perspective, has had experience with large organizations for which one needed to prioritize various activities related to the processes, the scientific investigations and so forth.

So I think he had a particular interest in seeing that type of a recommendation made that would help prioritize science within the context of the agency.

DR. McNEIL: Actually, the things I was referring to in particular, Jack, related to the creation of an Executive Committee, the Deputy Director for Science within each product center.

Those specific activities seem fairly broad for this particular committee. And I wonder how the rest of the committee --

they were discussed on the slide.

And I'm just asking operationally how we want to proceed on them because they actually seem to me to be issues that relate to the whole Science Board and its review of all of the centers rather than a couple of Science Board members looking at one particular center.

So I think it is really one of how do we deal with these operationally.

DR. CASSELL: I promise I won't bring this up again. I would just reemphasize -- I realize that there are a lot of changes to be made and constant pressure on the agency.

But I think NCTR may be a perfect example where if there were a standing Board and a person from that reporting, you know, or serving as a liaison back to, you know, this body, which is normal for most of the other agencies in terms of the link back, I just think that there would be just enormous

advantages on an ongoing basis to have that kind of opportunity to educate an external body but also to get I guess -- I don't want to -- this sounds really self-serving and I don't mean it to be -- but people can help in terms of leveraging the resources and people and ideas. And you just don't get that in a one off situation or a very periodic exchange.

So I just am making a plea, Barbara --

DR. McNEIL: But that doesn't relate to their recommendations does it? You know it goes back to your comments earlier?

DR. CASSELL: Well, okay maybe I'm confused but I thought that was what the recommendations on seven really were about. Maybe I have misinterpreted it.

DR. McNEIL: I thought they talked about an Executive Committee. Well, Larry, help us. I thought creation of an Executive Committee with Deputy Directors for Science within each product center cut across the

whole agency.

DR. CASSELL: That is what I thought as well. So are you thinking it was just for NCTR that there would be an Executive Committee?

DR. McNEIL: No, I was thinking it was definitely across the whole agency.

DR. CASSELL: Same here.

DR. McNEIL: And, therefore, my question was is it reasonable for a committee that is looking at only one center to make a recommendation that cuts across the whole agency.

DR. CASSELL: Oh, okay.

DR. McNEIL: That is my question.

DR. SASICH: Well, I suppose we couldn't separate NCTR from the rest of the agency. So how would you have any kind of meaningful communication or prioritization process if you created a whole structure only for NCTR since NCTR has to interface with all product centers and other areas within the

agency?

These are kind of methodologic or organization kind of recommendations that we put down. And certainly it is only a recommendation. But I think that is the basis -- that was the basis for the recommendation.

If one of the goals, and I think it is a goal, is integration of the needs of the agency, then I think that any solutions that involve NCTR have to involve the entire agency.

DR. KING: So this one, Barbara, since you opened it up a little broader --

DR. McNEIL: Well, I'm just reading the slide.

DR. KING: Yes. And so I think this pertains probably to Chief of Science and probably to Bill's responsibilities. We have talked a lot about, you know, the inculcation of science and the importance of it. And we all agree with that.

My question is, you know, have you

thought about building innovation? And how do you drive innovation, which is not just science? So we can have good science, which we need and all believe in, but innovation is more about doing things differently, maybe being more creative. And it is a part of, you know, change in organizations.

And so I just wondered if you had thought about that? It wasn't mentioned but it really goes along with science and driving innovation. So I didn't know if you or Bill had thought about that or, as you move ahead beyond 100 days, if that might be something you would think about.

DR. TORTI: So innovation is on our plate. And we have thought about it some. And the discussion, and there is a science to innovation as well and how one engenders innovation, particularly in a large organization.

And what is disruptive innovation and what is evolutional innovation? And how

those events sort of impact. And, you know, the Christensen model may not be entirely applicable to the FDA but some of the unfortunate events in the FDA actually generate the potential for this kind of disruptive innovation and change.

So we would like very much to bring in people who can guide us as to how to do that and how to think about that. And there are people whose expertise in those areas would be welcome. And is something that we didn't enumerate but we have talked about and would like to generate.

Because in some ways, that is part of the issue -- it is not the same but it is another facet of the issue of looking ahead to where the science is. And there are sort of innovations in structure and organization. Then there are innovations in science. And both of those are important.

So thanks for sort of highlighting that. And we will address that and come back

to you. And think about that some more as well.

DR. SASICH: Just a brief comment on Lonnie's question. When Frank was giving his presentation and his four freedoms, innovation, the fourth freedom struck me as where innovation is developed. And that is the freedom to think.

And I think, you know, in the broadest scientific sense that, to me, that is where there is freedom to think. And freedom to say what you want to say. And hopefully to have the budget to pursue your interests. And I think that is the way that science is always innovated.

DR. McNEIL: Along these lines, when the Science Board expands, it seems to me that there should be definitely somebody with a lot of cutting edge knowledge in information technology and knowledge management.

I mean it is not necessarily somebody you would normally think of

appointing but, in fact, we have a couple of excellent ones on our review committee, Drs. Nordenberg and Kim. And actually they bring two completely different perspectives of information technology and knowledge management.

So maybe even two people given that this is one of the top priorities across the agency might not be unreasonable for a term on the Science Board.

Comments? Yes, Larry?

DR. KESSLER: There is a slide here that suggests that the new Chief Scientist would be accountable for prioritization of science at the Commissioner's level. So from the center's perspective, I have to say we disagree a little bit.

Coordination at the agency level is something that should be aspired to and the Scientific Directors of the various centers recognize that we probably could do a better job of coordinating. There is no question

about it. And to be called to task for that would be appropriate.

But to suggest the agency could prioritize within my center when we have trouble distinguishing sometimes between the day-to-day science we need to do and things that we do in an anticipatory fashion for which we could use help and assistance.

But prioritization might suggest that the agency says well, we will do this project for the Center for Drugs this year. And the guys for that medicine and CDRH can take a backseat, that kind of prioritization could be destructive.

So we really hope that you could change that to coordination.

DR. SASICH: Okay. Your point is well taken. And we see the need for each individual center to be able to prioritize its own projects.

But the problem, and I guess what we were thinking of and maybe this is because

of our lack of in-depth understanding about the way that the agency operates, but there would become a point in time when you wanted to do something that required money and can somebody say to you well, no, we don't have the money. We're going to give that to CDER because they have to do something.

Or CDER is going to contract with NCTR and at this point in time, Devices can't. And I guess this was what was in the back of our mind.

DR. McNEIL: Gail, I need to ask you a question here because I am getting increasingly concerned in part -- increased by Larry's recent comment -- about the recommendations on the slides on page seven.

Now it is my understanding that the Science Board's large report that we did in December did not recommend an Executive Committee with Co-Chairs with the Executive Committee and Deputy Directors of Science within each center. And having them all roll

up to an Executive Committee. Is that correct?

DR. SASICH: No, it didn't.

DR. McNEIL: Turn on your mic, Gail, please.

DR. CASSELL: The idea was that there would be a Board of Advisors, external advisors to each center. There would be a Scientific Chief within each center that would work with this Board, along with the center Director that would, you know, be involved in responding, if you will, to the prioritization and proposals.

And then that there would be a committee, whether it be that there would be a liaison -- or that the Chair of each of those Board of External Advisors would become an ex officio member of the Science Board or whether or not there would be an actual committee composed of the Chairs would be another idea. It is another, I guess, layer.

But functionally, it might even be

more functional and productive than just, you know, coming here to this bigger group. So I certainly wouldn't envision -- or didn't think that we ever talked about there being an Executive Committee within each center if that is the question.

DR. McNEIL: Well, I think this is an Executive Committee within the FDA as a whole --

DR. CASSELL: Right.

DR. McNEIL: -- which includes product leadership from each of the centers. I think here is the operational question on the table right now.

It is clear that there was a very clear recommendation regarding better prioritization that related to the NCTR itself. That is crystal clear.

And it is also clear in the report and in the slides that this new subcommittee when it reviewed the NCTR decided differently from our original report that distance was not

an important factor. And that we should take that off the table. So were two very clear cut conclusions that related to this review committee's work.

Then there is -- and we can make our mind -- actually what we have to do is at the end of this particular discussion, which is going to be soon, we have to accept, revise, or reject the report. Those are our three options. And we have to so put that notice in the official record.

So we have those very clear recommendations relating to the NCTR itself.

Then we have these others that go, as Larry said, that he feels are -- or his group felt are integral to the success of the NCTR but go beyond the NCTR in terms of establishing a new organizational structure within the FDA which is, in essence, what this is doing.

The question in my mind is are we prepared -- is this group prepared to vote on

a new organizational structure within the FDA?

DR. PARKINSON: I'm not.

DR. McNEIL: Okay.

DR. PEÑA: Well, the vote that would take place would be whether to accept, to revise, or to --

DR. McNEIL: I understand.

DR. PEÑA: And then any recommendations coming from the report would be submitted to the agency for further deliberation. The vote on changing the structure is advisory. And the agency would recognize that as such.

DR. CASSELL: And I think is what happened on December 3rd with the other report, the Science Board, as a whole, unanimously agreed to accept those recommendations. And it is only advisory. I mean right? But that part is done.

And I really haven't heard anything differently from Larry in terms of what you are saying deviating from what our larger

recommendations were.

The only thing we requested, I believe, in the report was that there be a more in-depth look at NCTR because of this issue or potential concern about distance being a problem, prioritization being a problem, and how well integrated NCTR was into the rest of the agency.

I think -- Bill, refresh my memory -- but you appointed a person early last fall that would come and be here whose job it would be to be sure that there was this liaison and better integration, you know, with the centers.

And so some things have already changed, I believe.

DR. McNEIL: But this is different.

DR. CASSELL: Okay. Well, then I'm totally confused.

DR. McNEIL: Well, maybe I'm wrong. It is different.

DR. PARKINSON: I move we accept

the recommendations that are specific to NCTR.

DR. McNEIL: And which -- I think you need to define.

DR. PARKINSON: The first two. You were the one who enumerated them eloquently.

DR. McNEIL: Okay. Is there a second?

DR. KING: Second.

DR. McNEIL: Second, Lonnie.

Is there further discussion? It is getting a little confusing here but when I started the discussion, I said I thought that this report had two components. One was NCTR specific and one went beyond NCTR in terms of suggesting organization changes within the FDA.

DR. PARKINSON: And my motion relates to the NCTR specific.

DR. McNEIL: Yes?

DR. PHILBERT: Again, naive question.

DR. McNEIL: That's good. Naive

today is good because this is confusing.

DR. PHILBERT: What do we do with the report? It was my impression that we were voting on the report as a whole.

And that we either recommend we accept the report or revise it to focus on NCTR-specific recommendations. Or reject it out of hand, which I don't think is very useful.

DR. McNEIL: Okay, Carlos and Norris, you are on.

DR. PEÑA: Well, one possibility is to acknowledge in the record that you agree and unanimously support the recommendations regarding the NCTR-specific advice.

The greater recommendations about the organization as a whole can be addressed to the agency. And the agency can respond at the next Science Board meeting regarding those greater changes since it also relates to the December meeting we had previously.

So with that understanding, we

could move forward with the report with that clarification for the agency to review more in detail and discussion at the next meeting.

DR. McNEIL: So I could repeat that? I'm sorry. Jack first.

DR. LINEHAN: I'm sorry. Just a point of clarification. Instead of going with what is on the slide, maybe we ought to look a little bit at the report. And if you look at -- this is Tab C and if you look at page nine, their recommendations are elaborated there, I think, and so we know what we are really actually talking about.

And I think what you are saying is that Recommendations One and Two seem -- page nine -- the page numbers, I believe, are at the bottom -- and I think what we are talking about are Recommendations One and Two which talks about NCTR specific. And that is in relationship to the budgets and distance and so forth.

And then Recommendation No. 3 goes

on to talk about the prioritization of products and the collaborative sharing of technical expertise among a large number of customers or clients in large organizations being accomplished in many ways in the private sector. And then it goes on to say that the subcommittee recommends the creation of an executive team.

So I think it is Recommendations Three and on are separated from One and Two, just to be clear.

DR. McNEIL: That is exactly right. That is exactly right.

DR. LINEHAN: Okay.

DR. McNEIL: Well, may I make a suggestion then and you see if you buy it, that we accept this report with comments that go as follows. That we endorse Recommendations One and Two as seen on pages whatever they are in the text because they specifically relate to the NCTR.

And that we would like further

discussion on Recommendations and whatever they are because they are not then numbered. But there is further discussion that starts on page ten. So we would want further discussion about the pros and cons of the comments from ten on.

Yes, Rhona?

DR. LINEHAN: Three is the whole rest of the report.

DR. McNEIL: Oh, is that -- well, okay. So it is Recommendation -- yes, the numbering is a little confusing. Okay.

Yes, Rhona and then Gail.

DR. APPLEBAUM: I just have a real quick question then. If the charge to the subcommittee could be raised and delineated for everyone and if three and higher fall outside of that charge, that is very easy for me in terms of that becomes supplementary information and we will consider it at our convenience. And it is for FDA's, you know --

DR. McNEIL: Well, in essence, I

think that is probably what you would be doing.

Gail?

DR. CASSELL: I guess that is okay. But again it seems like now we are reversing the decision that was made on December 3rd.

DR. McNEIL: But this is -- no, no.

DR. PARKINSON: We're not doing that. We are not -- we are just taking under advisement the comments which are outside the charge to that specific subcommittee because I think it all goes into further discussion.

But I haven't seen anything that I want to change related to the December report at all.

DR. McNEIL: I think what we were saying is that Recommendation No. 3 seems to go beyond the charge to this particular subcommittee. That is the issue.

It is not that we don't like what we wrote in December or that we don't think that there should be some organizational

discussion. The changes that derive from extensive discussions but rather that this particular recommendation is beyond the charge. And since it is beyond the charge, it probably needs a lot more discussion by the Board as a whole and by the staff at the FDA.

So what then -- I think we said we were going to do, if we all agree, or you have to vote on this, is accept the report with Recommendations One and Two. And send to the staff the comment that we believe that Recommendation Three is beyond the charge for this particular committee and, therefore, is not being --

DR. SASICH: Do we say it is for just for informational purposes?

DR. McNEIL: -- accepted, it is not being accepted.

DR. SASICH: Do we say it is for informational purposes of the FDA?

DR. McNEIL: It is for informational purposes, yes, that would be --

we can say that. It is for informational purposes and will not be accepted as part of this report. Is that okay? If that language, if you've got that, can we have -- does everybody agree with that? Can we have a vote?

All in favor?

I don't vote actually.

DR. PEÑA: If it is -- everyone should probably vote. If it is not unanimous, we'll have to go down the line and read the votes of each individual.

DR. McNEIL: Okay.

So the question is do we accept the report and Recommendations One and Two with the note that Recommendation Three is for informational purposes only and is not be taken as a recommendation from the subcommittee to the Science Board.

DR. PEÑA: No from the Science Board to the agency.

DR. McNEIL: I'm sorry. From the

Science Board to the agency. Sorry. Sorry. I'll get this lingo eventually.

So, yes?

DR. KING: So I would support that. I think the only caveat to put in that recommendation is that because we now have a Chief of Science, that Number Three for informational purposes needs to be rethought because we have a Chief of Science now and for further discussion.

DR. McNEIL: Good point. Good point.

Cathy, you look perplexed.

DR. WOTEKI: Just a procedural questions. I don't whether we are really observing rules of order or not. But you have a motion that was seconded that is on the table. And this --

DR. McNEIL: Oh, we did. Right.

DR. WOTEKI: -- this is similar but not identical. So I think you need to request that the previous one be withdrawn.

DR. PARKINSON: I withdraw my motion in favor of the superior motion.

DR. McNEIL: I'm so happy. You just made my day.

Okay, so we had -- so do we need to second my superior motion? Okay, so we can we have a vote?

All in favor of the motion that is on the table? Oh, I'm sorry. Rhona?

DR. APPLEBAUM: Just to make sure because reports have a tendency to be brought to life at the most interesting times. I think the report needs to reflect what we are stating as such. And that it does not appear to be a recommendation of the subcommittee.

DR. McNEIL: Yes, how do we do that?

DR. PEÑA: Well, that's, I think, is summarized here in this discussion. We can put an addendum to the report on the web with your approval of the language --

DR. McNEIL: Okay.

DR. PEÑA: -- that we should be using that reflects this vote.

DR. McNEIL: Okay.

DR. PEÑA: Okay.

DR. McNEIL: So are we ready to vote? Any more -- Cathy, you look like --

DR. WOTEKI: Well, again, in reflecting Rhona's point that she just made, when Carlos originally laid out the options that we have, one is to accept the report entirely. The second is to revise the report. And the third is to reject.

So for the purposes of clarity, I think a better route to follow would be to ask for the report to be revised along the lines that you have outlined. So direct the subcommittee to revise the report to reflect Recommendations One and Two.

DR. McNEIL: All right. So I will withdraw my superior motion in favor of your more superior motion. Will that --

DR. SASICH: Just a question. Does

that mean that the information material that is included under present three would be lost from the report. Or would it remain there as informational?

DR. McNEIL: Different title.

DR. SASICH: Okay.

DR. McNEIL: Okay.

DR. CASSELL: What happens to number three because the way --

DR. McNEIL: It is a new heading.

DR. CASSELL: -- it is probably because I lost a little sleep but it still seems to me what we are saying to the world, getting back to what was just said about reports coming back to life, is that, again, we are not supportive of this reorganization or the structural changes that have been discussed now by two different groups.

DR. PARKINSON: No, these are different.

DR. McNEIL: These are different.

DR. PARKINSON: These are different

from what was discussed, all right?

DR. CASSELL: I don't think substantially, no.

DR. PARKINSON: But it wasn't part of this subcommittee. We haven't had any discussion on it today. That is what I mean. We had the discussion on a specific set of proposals. Back in December we accepted those.

I think we just leave it at that. This gets too complicated because this is outside of what we have even dealt with today.

DR. McNEIL: It is.

DR. PARKINSON: That is what I mean. So we refer back to our previous statements back in December. And I think that is just the simpler way, Gail.

DR. CASSELL: Okay. I'm sorry I'm being dense. I mean I really am being dense, I know.

DR. PARKINSON: No, no. I think clarity is very important.

DR. McNEIL: Well, I guess the question that you have raised and that Larry just raised, is this material that is Recommendation Three removed in the interests of clarity? Or is it left there as background information that the subcommittee thought important?

DR. CASSELL: I respect all the work and effort that the subcommittee put into putting the thoughts down for us in great detail. And so I would hate to lose that.

DR. McNEIL: Okay. So now operationally, if the recommendation that is on the table, the vote that is potentially going to be taken momentarily is to revise the report, this report will not be put up on the web. Instead, it will be revised and put up on the web. Is that correct?

DR. PEÑA: Well, the initial report is already on the web as, you know, part of our committee's --

DR. McNEIL: Oh, of course.

DR. PEÑA: -- we post everything that we send to you all. So a second report -- we could title it revised based upon Science Board discussions could be posted to reflect these discussions here.

And there will be just a post-meeting report available with the changes that are specified by you all. And we would accept that report from the Chair following the meeting.

DR. McNEIL: Okay.

DR. PEÑA: Is that acceptable to the Board?

DR. McNEIL: Everybody on Board with this? All right. Let's just have a vote with regard to this particular motion that we request that this report be revised to reflect our acceptance of Recommendations One and Two.

And that Recommendation Three be now included in the report as background informational material that the subcommittee discussed at great length but was beyond their

specific charge.

All in favor?

Unanimous, okay. Whew.

PARTICIPANT: Do you have the strength to go on?

(Laughter.)

DR. McNEIL: David, are you strong?

DR. PARKINSON: We'll find out, won't we?

DR. McNEIL: We'll find out. The moment of truth.

DR. PARKINSON: Well, good morning.

This is the second subcommittee that was charged in December. And our specific charge was to look at the Office of Regulatory Affairs, ORA.

First of all background to this particular charge, it comes, of course, out of the exercise that we have been talking about so much this morning related to the report that was accepted by this committee in December. And since ORA had not really been

examined in the original report, this subcommittee was formed.

There are two members to the subcommittee, myself and Lonnie King, who is here today. And then we had two ad hoc special experts, both of whom are former members of the Science Board, Cato Laurencin, currently at the University of Virginia but in transit, apparently, to the University of Connecticut. And then John Thomas. And I would like to thank my subcommittee and the special experts for their help with this exercise.

Now, again, to go over the particular process which we used, this was somewhat daunting given the time, the number of us, and the enormous mandate which will become clearer as I go through the presentation, that ORA faces.

But the focus of this was to take the general findings and recommendations of the Science Board and examine how much they

really related to ORA and to determine whether there were specific aspects of ORA which might relate to the Science Board recommendations.

And so in terms of approaching trying to answer this charge, we had a face-to-face meeting in February with Associate Commissioner Glavin, who is here this morning, and her staff, Carl Sciacchitano is here also this morning. And that was extremely information, I can tell you from my own perspective. And the participation of the ORA staff was much appreciated.

Secondly, we had a series of teleconferences and I'd like to thank right now Carlos and Norris for their help in supporting those.

Additionally, we visited the -- I think the correct wording here would be ORA district offices and regional laboratories -- my fault in creating these slides -- but we visited both the Cincinnati Forensic Laboratory and the Irvine Regional Laboratory,

which is focused on Food.

Very interesting and worthwhile exercise to actually go and sit down with ORA staff, both on the inspection side and on the laboratory side. It was a very, very interesting and important exercise.

Additionally, we were provided with a serious amount of material to review reflecting the scope of the ORA mandate and reflecting the fact that ORA sits in a rather unique position which is to interact with all of the centers and to interact with a lot of external other federal and state agencies as well as with other regulatory agencies worldwide.

It is a rather complicated world that they exist in. And furthermore, there are a series of recent federal mandates or activities which relate directly to ORA's activities of daily living.

I have listed a few of those there. The Action Plan for Import Safety, the FDA

Strategic Plan, the Food Production Plan, FDAMA would certainly be in there. It is very complex and extremely interesting and important to the public health world.

Now just a few comments on the general findings and recommendations of the Science Board, we've talked a lot about them here this morning. I will not go over them. But I've put these down just in the context of the further discussions.

So it was acknowledged by the Science Board that despite the many excellent aspects of the agency, there were deficiencies, which is why this exercise has been going on related to qualitative and quantitative aspects of the ability of the agency scientifically to meet its emerging regulatory responsibilities.

A lot of these relate to the failure over the last couple of decades of resourcing increases to reflect the increasing scope and complexity of the mission.

And, in fact, one of the difficulties in these kinds of assessments is that in the setting of such resource limitations, it actually becomes difficult to look at what the impact of organizational management actually is. So I'll get back to that later.

But it is also clear in the Science Board Report that there were issues beyond resources that related to scientific organizational structure, size and capability, and anticipated changes in the needs of skill sets in the future as well as what we have talked about a lot, which is the informational technology infrastructure.

So the management of all of this was termed critical in the Science Board Report. And I actually put down a phrase from that report because I will get back to that in the context of ORA, which is the call for a phased approach based on a well thought out plan for change.

So ORA is a unique beast. It is the inspection and enforcement arm of the FDA. And it has an extraordinarily broad mandate. With that broad mandate come remarkable challenges of technology, of management challenges, and of communication challenges.

And additionally, that sort of underlying complexity by the very nature of what ORA is expected to do has been made profoundly more difficult by the globalization that Commissioner von Eschenbach referred to this morning.

And the just enormous increase in quantity and complexity of the workload faced by ORA accompanied by what was well documented in the Science Board Report of this increase in legislative mandated responsibilities. And I think, as we all share, an increase in public expectation related to the public good.

Yet is it quite clear from the material that we reviewed that both human and budgetary resources in both relative and real

terms have been either static or actually, in the case of human resources, decreasing over the years despite this remarkable increase in workload.

Our recommendations and our findings and the process we went through were greatly aided by the fact that ORA itself had gone through a process of looking at itself in what appears to have been a very transparent and self critical way. And what also appears to have been a process involving both internal people and the external shareholders, particularly FDA shareholders -- stakeholders I guess is a better word than shareholders in the context of the FDA, although who knows in the future, and this process was quite an intensive process that involved more than 100 staff working together over a period of three months.

There was at least one major facilitated meeting and a lot of smaller meetings. And the examination of the current

state of affairs of ORA, as described to us and as we reviewed in the documents we were given, really attempted to link ORA's sort of self diagnosis, both current and predicted for the future, with all of these important mandates that I referred to previously.

And this report, which I highly recommend to you, I don't know whether it is available in your local bookstore but it is probably available online -- it is called Revitalizing ORA. It is extremely interesting and informative. It was a report delivered to the Commissioner in January of this year.

And characterized the need for change at ORA in three different areas. One, the working environment, which reflected the effects of increasing globalization.

The second, particular workforce issues which related to new technologies which represented challenges for regulation and enforcement. And then new technologies which represented opportunities for more regulatory

efficiency and accuracy.

And then finally, tool-related issues, particularly IT and communications infrastructures.

So this process that was used last fall, October, November, or December, I think, resulted in a series of close to 30 different proposals. These were then prioritized. Thirteen were chosen as being most critical to the mission of ORA. And were chosen for initial analysis, development, and implementation.

And we have reviewed each of these proposals. And what I've attempted to do a little bit later in this talk and in the report, which you have, is begin to link the ORA self diagnosis with the Science Board findings and the ORA business proposals for change with the calls for action from the Science Board because, in fact, these ORA business proposals were developed in the context of these new statutory mandates and

ORA's examination of what it needed to be and how it needed to improve to better fulfill its mission.

So we've attempted in this report to make those linkages to determine whether the pursuit of these business proposals that are listed in the ORA Revitalization Report would, in fact, go towards the kinds of actions and change called for in the Science Board Report of last December.

So as I mentioned, we also visited a couple representative offices and laboratories and had really very open and, I believe, very transparent discussions with very cooperative staff who took significant time to meet with us.

And just a few findings because I think they give you a sense of the relationship to the general findings of the Science Board Report.

On the human resource side, they have been feeling the lack of necessary

resources for some time. But additionally, it's more than just the number of people. It relates to levels of possible career advancement in the science career path. This is something for you, Dr. Torti. And it relates to relative levels in the regional versus the central management of ORA.

There were issues in the conversation that -- this is another example to Gail's previous point of where probably some focused or designated scientific leadership within ORA that could, in fact, coordinate with your developing office and with the scientific offices or personnel in the other centers, would be extremely useful. And would, I think, be wonderful for the morale of the individuals working in these regional labs.

There were little things but I mention them because I think it shows what kinds of things this scientific coordination could actually contribute to. And one is the

simple fact that the lab equipment is not actually able to be linked to the underlying enterprise software which is being developed for the FDA.

And for those of us who have worked in industry, the productivity gains and the communication gains that can occur with this kind of thing are enormous. So that is just one example.

Difficulty in new equipment procurement, incorporation of new technology, you know a lot of these, again, it is hard to relate in the context of such severe budgetary resources and external demands. But should these be, which we all are fighting for, should these be alleviated, the resource demands, then it is very important, I think, that there be a concerted strategic plan to incorporate new technology into ORA.

And that gets to the next point. And really relates back to a discussion, I think, in the context of Dr. Torti's

presentation and some of the other discussions we had this morning which relate to regulatory science and what is it.

And I will tell you from my perspective, the more I look at this, the more respect I have that there is something which is a distinct field called regulatory science. And amongst the characteristics of that field is the use of analytical and endpoint tools.

And what seems to be absent, at least in the context of the ORA discussions but I know has been a major focus of critical path discussions on the CDER and CBER sides that I am actually more familiar with historically, is the need to have processes to validate and develop new tools, to validate endpoints, to validate methodologies.

In the discussions, for example, in the laboratories, you know, one looks at the kinds of assays which are used to analyze some of the foods, they are extremely old techniques. And don't incorporate.

And so the issue is well, even if you were able to get the new machinery, would you be able to use it? And lots of times the answer is no because, in fact, the nature of ORA is that a lot of the work that is done has to stand up to legal challenge because it actually goes into the courts as part of their enforcement activities.

So my questions back was well, you know, what kind of concerted resource or organization could be created to actually begin to validate these kinds of methodologies so that they would stand up in court? So that newer technologies could be incorporated more quickly, more efficiently, so that the organization could then become more efficient and more productive and more effective in defending the public health.

So I put that down because I think it is actually a really important issue that is worth devoting resource to.

Additionally, because of budgetary

constraints, it has been difficult, apparently in recent years, to bring in external consultancy and as much interaction.

This fits right off the kinds of things you were talking about and I am sure would be done if the resources were available. So I put it down here because it is very important. And it was a major focus of the Science Board Report. And we would like to reemphasize it in the context of ORA.

But let me say, you know, I have been addressing issues that I think could contribute to ORA improvement on the scientific side but it was a pleasure, both in Rockville and in my case, in Irvine, California, to deal with ORA staff.

These people believe in what they are doing. They are proud of the mission. What came up time after time after time in all the different kinds of people we talked to -- we talked to inspectors, we talked to lab people, we talked to senior management people,

is the importance of extensive collaboration.

ORA could not do their business if they only worked with their own facilities and with their own people. So a lot of their resource is actually dedicated to interacting with state labs and other federal labs. It was actually very impressive. And very, very motivating actually.

The desire to innovate is clearly there. I will get back to that. And there was great enthusiasm even out in the regional lab. Maybe not even, especially out in the regional labs for the ORA revitalization activity.

But it was also clear, as we heard in our discussions, there had been an attempt last year to do some organizational restructuring within ORA and for reasons that I have no insight into, that did not happen. And that is exactly the kind of thing that you don't want to see happen when an organization attempts to change itself and when that, for

whatever reason, doesn't occur.

So training, by the way, was mentioned by people in the district office and regional labs as being the panoply of available training programs in the FDA was thought to be excellent. The difficulty was actually getting time to take the programs because of the resource constraints.

So findings, the ORA mission is a big mission, important mission, a lot of expectations of that mission. We talked about resources and it is quite clear that even if new resources come in, there needs to be a concerted attempt at business process improvement.

And nobody recognizes that better than does ORA itself. Hence the business process activity I talked about. And frankly those of us on the subcommittee and the advisors feel that that Revitalization Report represents an excellent beginning to the kinds of change processes that were described in the

Science Board Report.

They are not fully realized. That is acknowledged in the report. It was done relatively quickly.

That was a three-month activity that was completed before the Science Board Report. So it was not reactive. It was proactive relative to the Science Board Report. So you get full marks for that, Dr. Glavin.

We felt it represented a valid outline for business process improvement and we'll talk a little bit about recommendations for how to actually help make those things happen.

So recommendations, first of all, we support the revitalization activity in broad stroke, realizing it is not completely formed. But it does represent a level of prioritization from the organization.

There needs to be unambiguous FDA leadership support for that kind of change.

We are expressing our general support for what we believe is a real discipline, which is regulatory science. Hold you head high kind of thing.

Recognition that capacity is important. It is necessary. But it is not everything.

And then what this following recommends, and I will not go into it in detail, but we specifically went through each of the Science Board recommendations and then attempted to link them back to the revitalization prioritized business process activities. And essentially they are all covered in one place or another in that ORA Revitalization Report.

So if, in fact, the process did go forward, if, in fact, it did result in positive change, it would go a long way towards meeting the Science Board recommendations. And this, of course, as I reflect back to you, is an ORA generated,

together with their other centers, activity.

So conclusions, important activity that ORA does, the Science Board recommendations are relevant to ORA. There are additionally unique characteristics and challenges to ORA from its broad mission.

The Revitalization Report, we believe, is a good blueprint for change. And we recommend to the Science Board that FDA leadership be encouraged by the Science Board to resource and to support the implementation of these prioritized revitalization activities.

And we would very much be interested in hearing back at regular activities, which appear to be even more regular in the future with four meetings a year, on the progress of this in case we can actually help or advise on that.

So with that, I'll close. And I'm certainly open to questions.

DR. McNEIL: Thank you very much,

David. Are there questions? Gail?

DR. CASSELL: Larry, thank you for a great job, number one, and your committee. But also the clarity and the intensity of which you have reported the outcome.

I have a couple of questions, and I guess the one that is gnawing at me the most, is really what you have said about the need and what the Revitalization Plan says about the need for new tools and the appropriate tools and the scientific expertise.

And I just can't, you know, emphasize that enough, myself, and I worry a heck of a lot about it especially after having seen and heard a lot about the heparin contamination because it plays right to the point, I believe, of what you are saying.

Well, I won't name the institution. I was there to give a presentation about mentoring, of all things.

But one of the young post docs had actually seen that I was associated with the

Science Board and mentioned that they didn't understand why, in fact, using the most rudimentary NMR technology that one wouldn't have known there was a contaminant in the heparin.

Not which specific contaminant but that it was not pure. And then went on to send me a number of publications that kind of documented that someone should be able to pick that up.

And so it gets back to, you know, I think having the cutting edge technology in ORA. And it seems to me that out of all of the areas that we have looked at, this is where it is needed the most. And maybe where you have the biggest gaps.

And I guess in thinking through all of this, it is not clear to me how ORA relates back to the center. And so if you have research going on in the center, let's say CFSAN, that comes out with new methods that they feel would be important to be implemented

by ORA in their role, does that happen? How does it happen? Who decides whether or not it will be adopted by ORA?

And I'm sure it is just because I don't understand, you know, and know a lot about ORA but along those lines, one of the most impressive things that I heard during our review was from Jesse Goodman's staff that said that they actually have someone, if I understood correctly, Jesse, for example, someone from the research side go along with the inspection teams in many cases to bring the science right there to the site of the review.

And maybe I misunderstood but that was the image that I came away with. And when I look at the Revitalization Plan on page 33, one of the goals is to increase risk-based compliance and enforcement activities, inspecting the highest risk registered blood banks, source plasma operations, and biologics manufacturing establishments that are

conducting -- and by conducting human tissue inspections to enforce the new regulations.

Also one of the things we heard from CBER staff was that the number of products that they are being asked to review that deal with human tissue has been increasing inordinately but yet not the staff to kind of do the types of reviews that they felt that they should be doing.

So I guess I'm saying way too much but I'd like to know maybe if it is possible that Jesse you could say how does your group, your center and the work being done there relate to the work of ORA and back and forth.

DR. GOODMAN: Well, and I would welcome Maggie adding to this, too. But we have had a very close and I think positive relationship with ORA.

And the concept that we have for many, not all, of our products -- time doesn't allow complete explanation of all of this -- is that actually in the pre-licensure

inspections, actually the center does those inspection itself. And that includes our own manufacturing experts and laboratory scientists, et cetera.

In the post-licensure --

DR. CASSELL: And is that true for other centers?

DR. GOODMAN: No, no. So this is recognizing the criticality of biologics manufacturing, the scientific demands and some of the unusual aspects for the --

DR. CASSELL: But do you think that it should be true for other centers as well, like CDER?

DR. GOODMAN: Yes.

DR. CASSELL: I realize the uniqueness of the biologics but still --

DR. GOODMAN: Well, I think there are two issues there. Let me finish and then I'll get to that.

But what I was going to say, for our post-licensure, we have an organization

called Team Biologics which consists of both ORA inspectors, who are specialized in this area and have had specialized training and expertise, along with our people, who may include laboratory-based people who go on these inspections or else they are available 24 hours a day by telephone to answer questions.

So that is sort of the team model between the center and, in fact, for the more complex pharmaceutical inspections, and Doug or Maggie can comment on this, that model is actually being looked at and considered now. One of the challenges is very much resources, the large number of facilities. And as ORA has said, targeting those in risk-based manner.

That has been extremely helpful because, for example, it has helped in doing risk assessment. So if an inspector observes something, they have the ability to either have a manufacturing -- let's say it is about

vaccine against Virus X, there may be a person there who knows the virology, knows the cell culture, who are available on the phone who can actually relate an observation and say whether that is consistent with the intent of the product and the safety of the product.

So I think it speaks to the need to integrate science into the entire cycle of the regulatory process. I think it has been a good model although we are constantly working to upgrade and improve that model as well.

On the tissues, et cetera, your observations are correct. Again, we work closely together. But that is not an area where our folks actually go with the ORA inspectors. But we work closely with them. We do joint training.

And as I said, it has been a very positive relationship, certainly limited by resource limitations. But it does build science into the process.

I don't know if, Maggie, you want

to add anything.

DR. CASSELL: And, Maggie, could you comment on the ORA and CFSAN, say for example, the types of relationships by comparison.

DR. GLAVIN: Yes, first of all, I think it is important for the Board to understand that ORA's funding is by product. We get funded for food work. We get funded for -- so, right -- and the overwhelming majority of our funding comes for food work. So that is number one.

My second comment is that --

DR. CASSELL: Wait, could you just explain that a little bit more? When you say the funding is by product --

DR. GLAVIN: That is how it is appropriated.

DR. CASSELL: How it is appropriated but you are saying you have more for food than you do for -- is that because of -- why is that? Sorry.

DR. GLAVIN: I know, I'm just trying to understand rationale here, if there is any.

DR. GLAVIN: Well, I'm not really sure other than, you know, that has been the way the funding has come over the years. And traditionally, most of the funding comes through the food programs. So, you know, I don't know what the rationale behind it is. I'm sorry.

DR. WOTEKI: The number of facilities perhaps?

DR. GLAVIN: Well, certainly the number of facilities is much larger in the foods area. So that, you know, I can come up with but I don't know what the actual -- where that started.

But my second point that I think is important to put on the table, and it is very much within the report that has just been given, ORA's model has been that our inspection employees are generalists. And so

they are able to do a wide range of things.

And that has recently -- well, not even recently, but over the past ten years begun to shift for obvious reasons. And so Team Biologics is a really good example of where we have got people who are able to do biologics inspections. And we don't use them on other things.

And we have the same thing, we have a pharmaceutical inspector, which is an effort that was put together between us and the center a number of years ago.

It is not completely in place in terms of numbers but it, again, is an attempt to address the fact that the kinds of inspections we are doing are much more complex, the products are more complex, and the processes are more complex. So that is going on.

And that is very important in looking at what areas of expertise -- and it is something I am going to bring up this

afternoon when I have an opportunity -- what areas of expertise do you see, as a Board, are the first ones we ought to start trying to get that we don't have, both in our laboratories and in our inspectorates because we know things are changing and, you know, we can make some good guesses but I would really like some input there.

DR. CASSELL: So, Larry, is that something that the -- I'm sorry, David, is that something -- oh, sorry.

I was only going to ask David, I'm sorry.

DR. PARKINSON: That's okay. I've been called many things.

(Laughter.)

DR. CASSELL: I really probably already used Larry to begin with. I'm sorry.

But based on what Maggie said about gaps in expertise, I actually had written that in my margin, too. Did you identify these? And if not, is that something that maybe yet

another group with even different areas of expertise might try to help with?

DR. PARKINSON: Well, I think ORA has gone a long way to identify some of those gaps in expertise. In the business proposals, for example, is a long description of the more specialty inspectors. There are many, many -- I mean this was a graduate -- I ought to get some sort of degree for reading all this stuff.

And, Lonnie, I don't know how you feel because the risk management program is extremely interesting. If you go back -- there is no possible way they could actually assay everything that enters the United States. That is beyond any possible conception when you see the volumes that are related.

So what you see in the business proposals are the attempt to begin to develop a foreign presence to begin to start certification programs for foreign producers

for doing risk management profiles so that you can prioritize what exactly it is you look at. And then selectively examining stuff that actually does reach the United States.

And then, you know, as I mentioned earlier, there are huge opportunities for improved productivity and efficiency using new technologies should those be validated to stand up in court, which is Carl's issue, I think, that he has to deal with. He can't stop something that is not going to stand up to legal support.

So there is a much greater level of detail in many, many other areas that are in these business processes which, you know, really are well thought out. They are not complete, as you acknowledge, because it represents a first phase of all of this.

And I guess the conclusion we came to is that we couldn't possibly deal with all the areas of complexity that ORA has to deal with. What we could do is, with our

conversations, with our own reviews, attempt to match the Science Board general recommendations with the ORA specific, much more specific recommendations.

And I didn't find any huge gaps in my own analysis. The topics are pretty much all covered with at least a broad outline.

DR. KING: So I was really impressed as well for what ORA had done in terms of planning, and thinking, and being futuristic. And so my compliments along with David in terms of our finding.

And so there are a couple of things that are implicit, I think, in David's report, in our report and in the conclusions. One of them, Maggie, you just talked about in this idea of changing capacity in the organization.

And it has been brought to my attention that there actually is a process in place now in public health, you know, it is called capacity indexing where you actually look at the ability then for every person you

replace as a way of revitalizing the organization. It is just not replacing a job or having somebody do what they have done in the past.

But it is a whole opportunity on revitalization. So it really does look into the future. And your hiring is based on that. You might look at that.

The second point is the idea of execution and implementation, that getting with an organization that is transforming in its fourth year and not getting far. You know I don't know, we didn't talk about this in the review.

But the idea of having organizational development people, that it is very hard on people, you know, to do this change and managing change that is uneven and without having kind of embedded in the organization some organizational development to make sure that you really think about people as you lead them through this and then

just the skill of implementation.

And I think it used to be this this thought that this was something that you just passed down the line for field managers to do. It is really a leadership function. And these major transformation kinds of activities aren't going to get done unless it is a skill of leadership itself.

There is a great book by a guy named Larry Bossidy now that talks about execution and why 80 percent of transformations fail. And it is basically not because of good ideas, it is how you put those in place.

So I think that would help in what I think is a very well thought out plan and my compliments.

DR. PARKINSON: Yes, I would also emphasize Lonnie's comment because in the industry where we are changing all the time, whether we need to or not sometimes, it is very common to bring in internal change

experts not because the people internally are not completely competent but because you want some external experts who are used to the sociological, the cultural issues with change. But also who are neutral third party people you can blame when the whole process is over.

It is extremely useful and it is routinely done. And probably is a very good investment. It is much more likely to make the change actually succeed.

But I think you have begun to recognize that because that external meeting that you set up seems to have been set up by an external body of people who are used to doing this kind of thing. So I would just absolutely agree with Lonnie on that.

DR. TORTI: Lest anyone walk away with the idea that Gail's post-docs' comments were in any way comparable to truth, I can tell you that before I came to the FDA and I spoke to some senior scientists about the difficulties of identifying heparin contaminants, that that can

be an extraordinarily difficult issue and not one that -- I have many post-docs who think they can do something in a day. And then you ask