Discussion of Draft Report
Full Committee

DR. McCABE: Let's begin again, please. I'd like to remind everyone that our goals for the next roughly two hours are to discuss the draft and develop recommendations to be included in this report to the Secretary. Again, I doubt that we will finalize this over the next two hours.

We have written public comments and have heard public testimony regarding the report. Cindy has identified some areas where we might want to focus our attention, so I will turn it over to you now, Cindy, to lead our discussion for the next two hours. Our plan is to finish up here at 5:30 tonight.

In case I forget, let me remind everyone that we are starting earlier tomorrow. We will start at 8:00 tomorrow morning. Thank you.

Cindy?

MS. BERRY: Based on the amount of time that it took us to go over the education and training resolution, it seems like, and here is just a suggestion, but let me know if anyone disagrees. That for specific edits, because the report is so extensive, perhaps we should give a deadline to ourselves to hand write, or email specific wording changes and things like that, and get them to staff, to Suzanne. I don't know what deadline you want to put on there, and focus our discussion today more on the bigger picture.

Well, the structure of this is wrong, or we need to add a section on such or such, or here are what our recommendations should be, that kind of a thing. I don't want to unilaterally impose that, so tell me if you disagree. But it seems like that might be a more efficient way to deal with this today.

DR. McCABE: Our next meeting is October 18th and 19th. We'd want to have time to get those well incorporated. When would be a reasonable time, Cindy and Suzanne? A month, six weeks before that? Six weeks?

MS. BERRY: Where does that take us?

DR. McCABE: If it was six weeks, that would be the beginning of September.

MS. GOODWIN: What does this relate to?

DR. McCABE: To get in feedback on the document even sooner than that. Mid-August? Do I hear mid-August? Even earlier. Staff is much more reasonable about time than I am. So early August? Mid-July?

MS. GOODWIN: Mid-July, or even early July, depending on how extensive the editing process needs to be. Part of that relates to when, if we plan to go out for public comments, but in time for the October meeting. So there will have to be significant time to prepare for the Federal Register notice for public comment, and also to give the public sufficient time to respond. Also in the Federal Register notice to make sure that we publish, or have available, a revised draft, based on your edits and today's discussion.

MR. MILLER: How about Thursday?

(Laughter.)

DR. McCABE: Well, if we give people a month, that would be roughly the 16th of July. If we want to do it even earlier than that, we could go for the 1st of July, which is a Thursday, as per Paul Miller. Okay. So July 1. So two weeks would be July 1. Would that work for staff?

MS. GOODWIN: That's good. Thank you.

DR. McCABE: Okay. So July 1 it is.

DR. PHURROUGH: For those of us who are representing other people, for those people that we're representing, do they get an electronic version of this?

MS. GOODWIN: There is a copy available, a PDF copy on our website.

DR. PHURROUGH: Okay.

MS. GOODWIN: There is also one that was sent electronically to you before the meeting, but we can certainly send it out again after the meeting to make sure that you have a copy.

MS. BERRY: Emily?

DR. WINN-DEEN: I was going to suggest that perhaps what we should do is rather than focusing, as you mention, on edits on sort of the background information where I think we've gotten some comments in that some of the background information needs updating, but I think it is very important for us to discuss the policy recommendations. I certainly would like to see, because this is going to be a topic that I think already has evoked a lot of public comment and is likely to evoke more public comment, that we try and discuss those policy recommendations in this committee.

But also I would like to make a suggestion that it be circulated one more time for review to the committee before it gets posted on any site anywhere, so that if we have additional comments on each others' comments, we can sort of get that all worked out ahead of time, if it is possible to do that.

I know I got a whole bunch of calls the day it went up on the website. What are you guys thinking about? How did you get to this, that, and the other thing? I'm like, gee, I haven't even read it yet, I don't know what we're thinking about. I think when we have subcommittees, we need to somehow share the subcommittee work with the whole committee, at least a little bit of time frame before it is shared with the --

MS. BERRY: Well, in this case, we didn't have a subcommittee at all, this was a staff prepared document. Now, is there a requirement that it be posted? That's the question I have, is are we able to circulate it amongst ourselves and comment on it without it being posted until it is in final form? Or is there some sort of requirement for our committee that it needs to be posted?

MS. GOODWIN: The reason why this draft was posted before the meeting is, well, first of all, staff was working on it up until right when the briefing books were sent out. Part of the reason we opted to post it before the meeting was part of the FACA requirement, the Federal Advisory Committee Act, requires us to make documents that will be discussed in detail during the meeting, available to the public, so that they can participate in the discussion.

DR. WINN-DEEN: Yes. So I didn't have any problem with it being publicly posted. I just felt like we were caught a little bit flat without having something that went out, representing this was a work product of the committee, and the committee hadn't even seen it. That was all that my comment was directed at, that I'd just like to have a little bit of a time window for the committee to actually have read it and thoughtfully gone through it before we start getting a lot of feedback.

DR. McCABE: Yes, it does have to do with FACA, and our practice with respect to FACA. That was actually my decision, that we would do that, because we wanted the public to be aware of this before we came here, so that was my decision, and I'll take responsibility for that.

DR. REEDE: I think part of it is if you look at the top, on each one of them it says it is a staff draft, however, and that it didn't represent the views of this committee, or of the government. I don't think anybody reads the fine print, but the fine print did say that.

MS. GOODWIN: But certainly before the next meeting, there will be an opportunity to go back and forth as a committee by email to revise the next draft.

DR. WINN-DEEN: Thank you.

MS. BERRY: Does anyone have any suggestions for kicking off the discussion on policy recommendations? Are there issue areas that you want to prioritize for us? Steve?

DR. PHURROUGH: I'll make a few comments from the CMS viewpoint, since we are seeing it for part of the discussion. First of all, on the draft in general, a big concern in your first principle is we need to collect data, and yet that was very minimally discussed throughout the report, the importance of a coverage decision being evidence-based.

We sort of tied coverage and reimbursement together, and you really need to separate that concept. Certainly speaking for CMS, and I suspect for most private insurers, at least in reading Allan Korn's comments, and Reed's also, when we as payers make decisions about the kinds of things we're going to cover, we want to make sure that there is a good evidentiary base for it.

That evidentiary base, at least in the Medicare world, is there are good quality controlled trials that demonstrate that the application of this technology improves the outcomes of beneficiaries that we have responsibilities for.

It brings up a whole host of questions in genetic testing that we, as a society, and we at CMS, need society to have this answer. One is in some cases, genetic testing will alter treatment, but in many cases, it won't, it will just be information. I think that something perhaps even broader than us is a question of whether health care dollars should be expended for information when it will not alter outcomes. We've had that discussion internally, and that is certainly a topic for further discussion.

More specific, policy issues, specifically around the screening exclusion. The draft is correct that it has been a longstanding Medicare policy that Congress prohibits us in its language from paying for tests that are screening in nature, or in most cases, paying for preventive services.

We have had a lot of discussion in the last several months as to whether in fact it was Congress' intention. There are some viewpoints that say that CMS could change its mind without congressional input. Even those who think that it could only done through rulemaking, but even those who think that may be possible strongly suggest that we should let Congress tell us to do that.

Since Congress has been very involved in adding screening and preventive benefits over the last decade, and they seem to enjoy that, and they have yet to give us a broad mandate to do screening and prevention, preferring to, how shall I say, receive the accolades of adding a new benefit that they may get from their constituents, which is in fact their job.

The agency could, based on our legal authority, perhaps change our screening exclusion, but we're not sure that that would be well received in Congress, and believe that the congressional direction is probably the preferable solution. And in fact, there is legislation in front of Congress now sponsored by a whole host of members on both sides of the aisle that I believe has been encouraged by the Partnership for Prevention, that would allow us to do coverage determinations on screening and preventive services, if they were in fact recognized as beneficial by a national organization.

So there is some legislation there. We are not a lobbying organization, but as we discussed on the education and training earlier, that may be a role for this committee to encourage.

On the other policy of who can and can't be paid, that is very clearly a congressional action. We can only pay people that Congress says we can pay. Congress has been very hesitant over the almost 40 years of Medicare to expand that list, having only expanded it a couple of times in that 40 years from physicians to one other occasion, nurse practitioners, CNSs and PAs and in very narrow instances, physical therapists, and most recently, a very narrow indication for dieticians.

That is going to be an extremely difficult barrier, I suspect. Congress is not very receptive to adding new providers. So that is the only way we could pay genetic counselors, and that is going to require some significant support from others outside this committee to encourage them to do that.

MS. BERRY: Steve, do you happen to know the bill, the legislation that you referred to? The sponsor of the bill number?

DR. PHURROUGH: I don't have that with me. I can see if I can locate that, and provide that to the staff.

MS. BERRY: Terrific. Does anyone else have any comments? Emily?

DR. WINN-DEEN: Well, so, in the great minds think alike kind of thing, one of my comments back was why can't we encourage Congress to enable groups like the preventive task force when those recommendations come by a "deemed body" that any recommendation that is coming from certain institute medicine or USPSTF, that those would be automatically then covered prevention services.

I guess what I'd like to ask is so which way do you think the wind is blowing? And is this something, because CMS and CDC that is sort of running the prevention side of things, both report to our guy, who we are supposed to make recommendations to, Tommy Thompson, is it possible for us to send something up to Secretary Thompson that basically says, we think this would be a good thing? Or are there other political things that you should make us aware of?

DR. PHURROUGH: I'm not an expert in how the legislative process works. But as I understand it, Secretary Thompson provides to Congress every year what is called the legislative budget, which has nothing to do with money. It has to do with these are things that we recommend that you consider for enactment.

Someone will have to check and see if I'm correct, but I think that is the way the system works. We could encourage the Secretary to add that to that particular recommendation to Congress, which is not then us as government employees lobbying Congress directly, but using the vehicle that Congress has established, this legislative budget. I think that's the terminology.

DR. McCABE: Yes, I think that's an important point. The process is that we advise the Secretary. We can be specific as we have with genetic nondiscrimination with respect to influence on the legislative branch, but that's the mechanism. It is through Secretary Thompson.

DR. WINN-DEEN: Yes, I think my point was that since sort of both parts of this equation report to him, that it is definitely sort of 100 percent under his umbrella to be able to do something like that.

DR. TUCKSON: This is Reed. Can you all hear me?

MS. BERRY: Yes.

DR. TUCKSON: (Inaudible.)

DR. FELIX-AARON: That's right. AHRQ does do prevention as it applies to clinical practice, and what goes on between doctors and patients as distinct from sort of the community preventive services, which is under the purview of CDC.

Reed, are you finished? Because if you aren't, I'd like to make a point here, but I'll wait.

DR. TUCKSON: Go right ahead.

DR. FELIX-AARON: Right. I mean, in listening to both Steve and the conversation which went earlier, somebody mentioned the partnerships for prevention. The question, I hear us going around, is sort of what are the levers for prevention?

I think one we can do is sort of say, this is genetics, how do we push this forward in terms of looking at coverage for these specific services? What I hear is that genetic services are part of a larger category of preventive services. And so the question I think we're faced with is what are the levers for prevention, and who are the major stakeholders?

So I was very struck by your point, Cynthia, where you said that some of the innovators in this area is not necessarily the Medicare program, but actually private insurance

companies, in that they are much more advanced in terms of prevention than Medicare. And so those groups are ahead of the pack, so to speak.

So the question for, or not the question, but a question for us is really trying to understand what is going on in prevention, and who is pushing prevention in this country, and what can we as a group do to sort of piggyback our efforts either to supplement what they are doing, or to augment what is going on in those circles, and what advice for the Secretary, how can we provide the Secretary with guidance which strengthens what is going on in that arena?

MS. BERRY: Reed, you're probably the best person to address it. Just to put in context, my comment wasn't at all that CMS doesn't want to go down the road of prevention, but simply their hands are tied by the structure of the Medicare program, legislation in Congress, and all of that.

The private sector doesn't have as many of those constraints, and so they're a little bit more at liberty to be innovative, and to respond more quickly to innovations. But Reed, I'd defer to you. Do you care to address that point?

DR. TUCKSON: (Inaudible) how do we give the Secretary a reasonable body of work to get around? I think that the implicit guidelines are that we do want to see appropriate genetic prevention diagnostic services to be incorporated into the Medicaid/Medicare rules.

The issue is what does that mean? I think that (inaudible) automatically anytime there is a partnership or prevention (inaudible) there are some other issues here. I think what our challenge is, without having to (inaudible) that is the issue.

MS. BERRY: Reed, you cut out a little bit at the end where you were making the big point.

DR. TUCKSON: Well, (inaudible) responsible way, and those issues and those questions are no different for the public sector than they are for the private sector.

DR. WINN-DEEN: Reed, can I ask you a question from the private insurance point of view? How far do recommendations from things like the U.S. Preventive Services Task Force go in the private sector to encouraging coverage for services, just sort of in general?

DR. TUCKSON: They are exceedingly important. Because again, they provide the kind of very rigorous evidence-based analysis for (inaudible).

DR. PHURROUGH: I'm Steve Phurrough from CMS. One of the difficulties in waiting for the USPSTF is that their process is a very detailed, slow, arduous process, as it should be. I think based upon the amounts of evidences that are out there today, the benefits of genetic testing, that they're a long way from coming up with recommendations that if we were to be told to follow them, and aside, our preference would be we're given permission to use their recommendations versus told to follow them, but that's a different subject. I think they are a long way from coming up with those particular recommendations.

I think the real emphasis that we need to be encouraging is there are some policy changes that need to occur, but we need an evidentiary basis that's just not there, or is there to a very small extent, particularly in the populations that we are concerned with in the Medicare population.

There is a whole host of evidentiary basis for the younger populations, but I'm not sure that I need to worry about ordering a PKU for my population I'm concerned with. We need an evidentiary basis if Medicare is going to cover genetic testing, for that particular population, and the benefits of that testing in that population.

So I strongly agree with Reed's comments and his written comments, that that is the key factor that needs to be encouraged, and that's the development of an evidentiary base for these various technologies.

MS. BERRY: Muin?

DR. KHOURY: I think this is where the rubber hits the road. We have been talking about these issues now for about five to 10 years, dating back to Tony Holtzman's sort of

NIH/DOE task force on genetic testing. I guess as a public health agency, and I'll present some of this more tomorrow morning, we have been looking for ways to supplement the oversight mechanisms that FDA and CLIA have in terms of assuring the quality of services and using evidentiary-based models like U.S. Preventive Services Task Force.

We have played around with different kind of model processes that I'll present tomorrow morning, but I think there may be another option for developing the sort of evidence-based approach as we move forward. Let me give you an example. We have been working very closely recently with the U.S. Preventive Services Task Force and AHRQ using the experiment of BRCA1 testing as an example, using one of their evidence-based centers, and looking at the evidence.

We have been meeting with various folks about this. It is very obvious that for most of genetics testing and technologies, what the U.S. Preventive Services Task Force would do is return insufficient evidence as their criteria. So this is a problem, because in the meantime, these tests are widely used. There are obviously
direct-to-consumer campaigns about them, and so what we need to do is develop a process that can guide and help bodies like the U.S. Preventive Services Task Force, and other technology assessment processes, to do a first look at genetic technologies when they come out of the research oven, identify the gaps, and then use the processes of data collection that are a bit more targeted using public/private partnerships as models. Some of you may have heard me sing this tune now for five years --

DR. McCABE: Yes, we've been listening to this for 10 years, Muin.

DR. KHOURY: No, actually you're absolutely right. You've been listening to me for 10 years, so bear with me. I think there will be another process that I will present to you tomorrow, another experiment, a three-year experiment to see how we can do this.

But to me, that's the most important missing link between research and practice, is the sort of how do we implement an orderly process of transition that uses both the regulatory oversight mechanisms that already exist, along with processes of public and private partners coming together to weigh in on what is ready for prime time, and what is not ready for prime time. I think I'll just end here.

MS. BERRY: I have a suggestion. I don't know if this lends itself to it or not, but I sort of like the process we went through in terms of prioritizing our larger issues. I wanted to throw this out there for the group, because there are so many on this list here of possible topics for a recommendation, whether we should undertake a similar effort here where we determine what should be the focus of our efforts, and kind of prioritize amongst ourselves and see what that comes up.

It is really a daunting list. Now, others may say you know what? There is no reason why we can't look at each and every one of those issues and develop recommendations for each. But I suspect that that wouldn't be quite as helpful to the Secretary or anyone else if we were to cast that broad a net, and perhaps we should be a little bit more focused on some of the recommendations that have the greatest likelihood of producing an impact.

I throw that out for discussion, but I'm trying to figure out how do we move from kind of the theoretical, we kind of know what our goal is, but to get to the nitty gritty of where should we focus our deliberations.

DR. McCABE: I think that is probably a very good idea, because I think with this list, nobody can keep in mind a list this long, let alone the Secretary and his office, with all the things that he has to deal with. So I think that would be a very good idea.

MS. BERRY: Yes, Sherrie?

DR. HANS: I also think that is a terrific idea. I just wondered whether we wanted to sort of finish with any general comments first before moving onto that. I had just a couple of ones I wanted to get on the floor, and I don't know if there were others.

Just really quickly, and the reason I wanted to sort of make them publicly is just so people could think about them, particularly during the recommendations. I have more detailed written comments that I can give to the staff. One is to just pick up on an earlier theme.

I think that Toby Citrin in particular framed well, staff did a fabulous job of putting this document together and covering a very broad area. The one area where I would encourage them to work a little bit more on is making a stronger statement of need. In particular, framing out some of the cost issues.

Why is this something important to consider now? What kinds of dollars are we talking about? How quickly is this an emerging issue? If I'm the Secretary, why should I care about this today? I thought that there needed to be more of that in the front material in the report.

The other piece, which may come up in the specific recommendations, and I apologize that I wasn't at the previous meeting, and perhaps this was covered at that time. I was a little bit concerned about some of the statements about the sizable portion of costs going toward royalty fees. I wasn't sure whether there was actual documentation such as a survey that documented that as a statement, and I don't know whether that was simply through testimony. I just wanted to sort of put that marker in there that if it is supported by really good evidence, that should be included in the report and be considered for folks making recommendations. If it is, then it needs to be noted in more couched language, that it was brought up in testimony and through comment, but I'm not sure that we have a handle on exactly how big that problem is.

MS. BERRY: Did staff want to comment?

MS. GOODWIN: The evidence provided in the report was primarily given by Andrea Ferreira-Gonzalez at our last meeting. And actually Debra might be able to comment. Mildred Cho has published a few papers, and I think it goes into this topic a little bit. Is that right?

DR. LEONARD: Well, Mildred Cho, John Mertz, and I have worked mostly on the availability of testing, and the impact on gene patents. I don't know that the question has directly been addressed as to the cost. But it certainly has had a significant impact on availability of testing, because 25 to 50 percent of laboratory directors report that they have not done, or have had to stop doing testing, because of gene patent enforcement.

That is shutting down laboratories, but then when you can license patented technologies, the costs of those are exorbitant, relative to what we get paid for doing the testing. That is data that is hard to collect, because usually there is a confidentiality, or like a keep your mouth shut about what the conditions of the license are, so that most people who have a license can't talk about how much it costs them, and what the royalty fees are, because part of the agreement is that you can't say.

So that would be information that is very hard to collect. But the up-front licensing fees are anywhere from $10,000 to over $100,000, and then a per test fee of anywhere from I think I've heard up to $60 per test, for a range of different genetic patents.

DR. HANS: And I would just encourage the staff to put in more nuance statements that capture some of what we just heard here, that isn't sort of a definitive statement of you can point to a particular study or collection of information.

DR. LEONARD: But hopefully part of this data could be collected through the NAS study that is being done on gene patent's impact on research and health care services. But I don't know if they're going to collect that information.

MS. BERRY: Debra, did you have anything additional beyond responding to that? I had written down that you had --

DR. LEONARD: Well, I was going to suggest that staff has come up with various policy options, and maybe one way to do this is to go through the policy options, and then go back and see if there are other areas where policy options have not been recommended where we may be able to address some of the issues. But that may be a way of working through the various issues that we have to address.

MS. BERRY: Joan?

DR. REEDE: I just had a question in terms of this issue around the royalties and reimbursement. Is there anything, or would it be useful to have something that required transparency in terms of that information for reimbursement to occur?

DR. LEONARD: It would be great if there was a CPT code that could capture that, but the problem is that then a reimbursement level would be set for that CPT code that probably would not reflect the actual cost of the royalties, because they would vary.

A number of discussions have looked at ways of having like mass bargaining for different gene patents so that it wasn't laboratory by laboratory, but there was more standard policy on how much is a reasonable amount to charge per test for royalty payments. I'm not aware of anything moving forward on that front, but it would be great if there could be transparency.

The problem is that all of the licenses that I have seen, and contracts, specify that you cannot discuss any of the terms of the license agreement once you sign. So I don't know how you would achieve that transparency. Maybe a lawyer in the group could say whether those two things are contradictory, I don't know, but it would seem to me that they are. But for health care coverage, it would be very nice to have those out in the open, so more people were aware of what they were paying for, and what the cost of gene patenting and enforcement is on health care costs.

MS. BERRY: Emily?

DR. WINN-DEEN: So I had a couple of things that I thought were important for us to talk about that aren't on the topics list. They were actually addressed in the body of the text, but somehow didn't make it onto the pullout list. One is time dilemma in terms of real preventive medicine where the cost of the test would be borne probably by younger people on private insurance, and many of the benefits would be reaped by older people on Medicare.

So you have different parts of the payer organization bearing the costs and getting the benefits. So this deals with sort of common complex disease, so when you get into cardiovascular preventive medicine, diabetes preventive medicine, and those kind of diseases, we get away from monogenic kind of disease.

I think that is something that in the U.S. system, we are going to have to grapple with. The systems that have nationalized health care don't have to worry about that, because they very clearly see the benefit.

The other thing is we have evidence-based coverage decisions, but we haven't really talked about the health economics of that. So in terms of making a case for preventive medicine, do we need to just make a medical case? Do we need to make a health economic case? And are we only going to get coverage if we make a health economic case, and not just a medical case?

So I think that is all part of that whole preventive medicine shift from thinking about genetics just in terms of pediatric, neonatal screening, monogenic disease, and getting into sort of the next wave of the genetic component of most major diseases. And somehow we have to deal with that, or at least highlight it as an issue that needs to be dealt with in the future, if not immediately.

MS. BERRY: How about the threshold issue? It is a threshold issue to me, but maybe it is clear to everybody else. Do we need, or want, to be specific as to what types of technologies we're talking about?

We use these terms very loosely, genetic technologies, genetic tests and screenings, and I guess this gets to the evidence-based discussion. Are we at the point where we can establish guidelines or guidance, or help the Secretary come up with, and this gets to things that Reed was talking about and others, ways to assess whether something has value and should be incorporated in the whole health care diagnosis and treatment system? I don't know. Do we need to go down that path, or do we purposely leave it vague? We just keep talking in very

general terms, but we all know from previous discussions that some tests are better than others, and some have validity, and some don't. Or has that bridge already been crossed, and we don't need to worry about that?

DR. TUCKSON: This is Reed. I would hope that we would be able to start, at least for our discussion of these issues, to be specific about examples. For example, if you take the DNA tool assay exams, those are very professionally checked. They have a meaning for what it will or will not be in terms of diagnostic colonoscopies going forward.

It has something to do with whether or not we will (inaudible) regular fecal occult blood. So that is a very concrete example of a kind of test. As we have alluded to, there are things that have to do with is your kid going to have blue eyes sort of thing, which is a different kind of category.

I think that it would be useful for us to have some specific categories of these things as we try to dig a little deeper into (inaudible) as finding examples that highlight and illustrate the real policy interventions that we're trying to concern ourselves with.

MS. BERRY: Debra?

DR. LEONARD: Well, in reading this, I went back to SACGT's definition of genetic test. In reading this, particularly in Policy Option 1, a lot of it is based on family history, and focuses on truly inheritable germline variations or mutations that cause disease risk.

The SACGT definition was much broader, and went beyond true germline genetic tests, and included somatic mutations, and potentially even infectious disease applications. And so how those are treated is very different than those genetic tests and services that are related to inheritable germline variations and mutations that correlate with disease risk.

I don't know if we need to go back and revisit the SACGT definition of what genetic testing or genetic services were, but it still remains. That was one point that was very controversial at the time that SACGT developed that definition.

MS. GOODWIN: Can I actually draw your attention, Debra, to page 13 and 14, where we propose the definition for genetic technologies and genetic services to kind of frame the discussion in this report, and certainly taken from that SACGT definition, it is altered a bit to better reflect the different discussions. So rather than taking the definition from a more oversight perspective, we are trying to broaden it for the purposes of this topic.

DR. LEONARD: But then when you put such an emphasis on family history, somatic mutations are not included in family history, unless they are genetic cancer syndromes. And so I'm concerned about putting somatic mutations into the same category as germline mutations and variations, since you will not pick up somatic changes by family history.

DR. WINN-DEEN: Yes, I just want to concur with Debra, that I think we have to be really clear when we're talking about cancer genetics, about whether we're talking about cancer syndromes, or tumor profiling. If we're going to expand genetic testing to include tumor profiling, which has been suggested, and a lot of the --

DR. LEONARD: Well, it is part of the definition.

DR. WINN-DEEN: Right, right.

DR. LEONARD: The existing SACGT one.

DR. WINN-DEEN: Right. But we just need to be very clear about when we're talking about these things, which scenario we're talking about, either somatic genetics, or germline genetics.

MS. BERRY: Muin?

DR. KHOURY: Actually, if we take colorectal cancer as an example, you can have the whole spectrum or continuum of genetic applications, from the rare to the common. We need to be very careful, because at the end of the day, what we're trying to do here is figure out the value added of either a genetic test on the blood to determine germ mutations, or a genetic test on the stool to figure out whether there are DNA signs of the cancer, or a simple family

history, too, that you administer and you find out that the person has a first-degree relative with early onset colorectal cancer.

We need to be able to use whatever SACGT has done, because they spent a long, long time figuring out the definition of genetic and genomic tests. And second, the process of validation of genetic tests. I mean, they use analytic validity, clinical validity, clinical utility, and the ELSI issues in a very detailed fashion, and they kind of laid it out like cold supper for us to implement.

So here we are talking about reimbursement of services, so you have to come back to what is it we are being reimbursed for? Is it a somatics test on this tool, or a genetic test combined with a family history, pedigree taken to find the people with HNPCC, or the APC syndromes for colorectal cancer, or somebody who has just a
first-degree relative with colorectal cancer at the age of 65, and therefore, may need a colonoscopy earlier than the general recommendation, which is after age 50.

So the bottom line in all of this is what is the value added? I think the health economics discussion is very apropos here, because in a time of limited resources where you are comparing options A and B, you have to kind of compare a genetic-based practice of medicine with a general practice of medicine that doesn't use genetics, and do a decision analysis, like they did with the TMP example in 6MP with treatment of acute leukemia that David Veenstra represented to you last time. So what are the pros and cons? And then at the end of the day, how much money are we going to spend if we use a family history/genetic test tool on some people, and a DNA-based assay on other people?

So the main recommendation here from me is take this high level document, and then begin to apply it to very specific case studies, perhaps guided by what SACGT has done for us over the last three years, because they lay out very clearly the types of genetic tests for diagnosis, prevention, prediction, and then the process of validation on how to do this.

DR. TUCKSON: Could I ask Muin to take it one step further? I wonder that after we've got all this analysis, what do you see as the level of detail coming out of our committee after we have done that? I think that is what I was trying to get at.

The question is, obviously we're not going to see ourselves then recommending a specific test for the Secretary to get access to, but this is leading to some sort of an algorithm for the next step of policy or process development in the Secretary's office. What do you see?

DR. KHOURY: I think, Reed, you should be able to determine this as a committee, because I don't see you getting into the real specific test by test discussion, but more of a high level guiding principle for HHS on how to go about doing this. You could be guided by the case examples as you go through the deliberations, but I see kind of an intermediate menu or cookbook in a way, but not very detailed, because that has to be worked out by the agencies themselves, CMS, and what they cover for.

But moreover, general guidelines, perhaps of the kinds that SACGT started doing during the tenure, and then leave it for implementation. But you can monitor the progress of HHS agencies.

DR. McCABE: I wanted to go back to the point of definition, and bring people back to page 13, where I think the implication, with a sidebar from staff, is that it was their intent that these be germline mutations here. It certainly says somatic genotypes, but if you look at all the examples, they are all germline.

DR. LEONARD: So can that somatic be taken out?

DR. McCABE: That's the purpose of this discussion, would be to get the feeling of the committee. We need to move forward on this, as Muin says. We have been debating this issue of definition also for 10 years.
If you look at the examples, they are all clearly germline.

DR. LEONARD: In a way, this is kind of like the genetic exceptionalism issue. Sometimes it is good to lump it in, and sometimes it is good to exclude it. It is the same sort of thing with somatic mutations. When you are talking about genomics, medical advances, and improving health care, it is probably good to include the somatic mutations.

But when you are talking about the kind of regulatory issues of appropriate counseling, appropriate ordering of the tests, and getting the testing through family history, those only apply to germline mutations. So I guess there are times when you would want the definition to include all types of genomics beyond just inheritable, and there are other times when you really need to distinguish between somatic and germline, because the implications are very different.

Somatic mutations have no implications for the rest of the family members, whereas germline mutations, you are dealing with an entire family.

DR. McCABE: And so that if we took it out of the definition in the sidebar here, since in fact all of the rest of that sidebar relates to inherited, then you could put some sort of a thing at the end. The title here is "What are Genetic Technologies?" as opposed to genomic technologies. Either in the text or somewhere else, you could put that similar approaches may be used for looking for somatic mutations using genomic technologies.

DR. LEONARD: And even infectious disease, because part of our charge is bioterrorism, although we don't look at that that much, but infectious disease and emerging infectious organisms, that type of thing also benefits from genomics, but they don't have the same familial component.

DR. McCABE: I guess it is a judgment that you all have to make, what to include or not include. I'm just reacting to what Ed said about similar approaches can be developed for genomic tests.

I think what comes to my mind immediately is that those approaches are not similar. I mean, what applies to germ cell is different from what applies to somatic cells. I think we are going to be faced increasingly with the mixing and matching of both technologies. So if you have a first-degree relative with colorectal cancer, you may use a somatic cell to find a somatic diagnostic test on the stool to find early evidence of cancer, rather than colonoscopies on the proband.

So we are going to be mixing and matching somatic and germ cell mutations, so that's number one. Number two, even among germ cell allelic variation, we do have to clearly separate the high penetrance rare alleles, the PKU, the Huntingtons of the world type diseases from the day to day SNP variation that is associated with low disease risks and complex gene/gene and gene/environment interaction. Because those kinds of genes do not lead to significant familial aggregation, and their use as a technology is likely to be bundled up together in genomic profiles that have very different kind of a more sturdy, I guess, validation process, if you will, than the simple single-gene genetic disorders.

So as we go through this process for reimbursement and coverage of different tests, I guess you start by asking the high level questions. Are the tests analytically valid? Do they predict any clinical outcomes? More importantly, can they change the outcome in reducing morbidity and mortality? And what are the ethical implications?

And then as you go through this armed with the processes of different groups like the U.S. Preventive Services Task Force, each one of these types of tests may have a different threshold for crossing between what is ready for prime time, and what is not ready for prime time. We spent quite a bit of discussion in SACGT about rare diseases, because those rare diseases, and I guess this committee has taken it on too, may have a different kind of a threshold, because of the difficulty in collecting data because diseases are rare, and the validation process therefore may be either delayed, or non-existent to begin with.

So we have the whole gamut here of tests from somatic to germ cell, and within the germ cell you have the highly penetrant single-gene diseases to a bunch of SNPs, polymorphisms, and gene expression profiles that you use in future bundling, either for

pharmacogenomics, or just genomic profiles of the kinds that some companies are sending us right now prematurely for preventive medicine.

MS. BERRY: Ed, and then Agnes?

DR. McCABE: My point was purely practical. Having heard these discussions for the past decade and been a party to them for the previous three years, recognizing that the division between somatic and germline can get a little bit fuzzy where sometimes somatic is superimposed upon germline, as opposed to as far as we understand, purely somatic at this time, though there may be some predisposition. It was just a way of moving on, getting beyond that, and at least getting somewhere by limiting the definition to germline, and taking it out of the debate that has to do with these definitions that are used in the clinical laboratories.

So that was my purpose. I think we could say let's focus on germline for this document, let's recognize that the lessons we learned here may be applicable to somatic, but let's at least move forward at this point. That was the purpose of my comments.

MS. MASNY: I was thinking more along what you were saying, Dr. McCabe, that if you divide it that way, then I think we may be defeating the purpose of what we were trying to even do earlier looking at the education of the general health force. If you are only looking then at the germline mutations, then the focus on the genomics and where most of the actual practice in genomics is going to be done in the primary care, if we don't focus on that and address some of the reimbursement issues, we know that reimbursement very often drives practice, as well as what people implement.

So I think that we should continue, if we do that, we're looking specifically at the genetic technologies, and focus on the germline mutations. I think maybe if we had not just at the end of the document, but somewhere right after this, another sidebar looking at what are genomic technologies, so that they sort of are dealt hand in hand the way we did in our previous documents where we were putting the slash between genetics and then genomics.

I think it has to be addressed. I do think even from the level of somatic mutations, it will involve family history. Because, for example, in the ovarian cancer testing that they are proposing, the use of proteomics, they are already talking about looking at guidelines for who would be best to use this test based on family history. So although the proteomic may be picking up as certain somatic patterns or tumor profiles of those protein patterns in an ovarian cancer, they still would be using family history to determine who would make use of that test.

DR. McCABE: Yes, I was just talking to Suzanne, and certainly we could add a sidebar that would deal with the somatic and other genomic technologies, even getting into some of the issues about genomic technologies applied to microbiological organisms. I understand that a lot of what we do are really the applicability to the general population, that are going to go beyond this. I think that it is important that we move forward after a decade, and not get hung up again here.

MS. BERRY: Debra?

DR. LEONARD: Well, in the context of coverage and reimbursement, the genetic counseling only applies really to the germline mutations. When you talk about the testing services, laboratory tests are all coded with the same CPT codes, regardless of whether you are talking about germline, looking for germline mutations, or looking for somatic mutations.

So in the context of coverage and reimbursement, it is all the same codes anyway, regardless of whether you're doing somatic or germline, or whatever, and they are all inadequate.

DR. McCABE: So by including them as sidebars within here, but separating them out, perhaps we could try to make those distinctions, and not have them continue to be blurred.

MS. BERRY: It seems to me that that is really a threshold question. What are we talking about when we're talking about coverage and reimbursements? Coverage and reimbursement of what? And then we seem to go and we take a leap, and we all do in our

discussions, the report, and public comments. Genetic technologies need to be covered and reimbursed.

We have to back up a little bit, and this gets to Reed's point and Muin's point, and others, we are not really saying that. We are not saying that all technologies need to be covered. So perhaps there is something that we need to do in the way of recommendations pertaining to what scientific evidence is necessary, where are the gaps that would help decisionmakers, be they federal government programs, be they private insurers, make the right decision in terms of coverage, and subsequently, reimbursement.

DR. WINN-DEEN: So I think one of the things that is important to think about when you come to predisposition or risk assessment testing, is in much the way that family history has been used in the past, this testing is quite likely to be used as some kind of a gatekeeper for more intensive monitoring.

So either you start earlier, you do it more frequently, and to Agnes' point, you identify people who would benefit from expensive testing, or you never would recommend it for general population screening, but for a subset of people who are "at risk."

And so I think we need to think about also the trickle down effect of a risk assessment test as a gatekeeper for other more traditional monitoring tests, you know, BRCA1-positive individuals start mammograms earlier, or start mammograms a whole lot earlier than general population screening.

There are good monitoring things. Not only do we need to worry about whether the primary gatekeeper test is covered, but also once people are put into a risk category based on that gatekeeper test, is their monitoring also covered? Because that then would be they are not symptomatic, so it is still presymptomatic testing, but it is absolutely medically indicated, or we all believe it is, anyway. So I think that is another wrinkle that we somehow have to consider at sort of the risk assessment test as a gatekeeper for more standard monitoring analysis.

DR. LEONARD: And not only the more expensive monitoring, but also the follow up things that may be done, like prophylactic mastectomies. Will they be covered? The real sort of treatment choices that people who are identified then as being at high risk may choose to have done.

DR. WINN-DEEN: Yes. So the whole preventive medicine strategy, whether it is a colostomy, a mastectomy, an oophorectomy, whatever.

DR. TUCKSON: This is Reed. I tried to write a lot of my comments down, and I think you all have copies of it, so I won't waste your time rehearsing any of that. But what I think I like about what just got stated is it is that level of detail that I think we need to, and I think this may be what Muin was getting at a little earlier, is that as we start to work some of those out, we then by delving in that kind of depth of the downstream consequences of some of these things, that we start then to think about what our policy recommendations might need to look like.

What I'm sort of getting at here is that things have consequences. One of the things I hope is that we don't wind up putting ourselves in a position wherein advocating for a good thing, that it means that automatically a new test, because it is available and exciting and good, becomes the subject of something that is automatically reimbursable, when it may result in five other things needing to occur that are associated with it.

Maybe those things are appropriate, maybe not. But then that one new thing causes maybe four other diagnostic restudies to confirm or whatever, and then the economics of that get to the point where it becomes crazy. At some point in this, I just want to make sure that we don't position ourselves as being irresponsible to the notion that things occur in context to other things, and how do you think about that in a world of real constraints is, I think, something that we could add. How do you approach those kinds of issues, or do you simply say let whatever happens, happen, and that is not our responsibility to think about.

MS. BERRY: Ed?

DR. McCABE: You know, I think it would be worthwhile to look at the recommendations now to give staff some assistance with how to couch those. And Cindy before said maybe we should prioritize those. I went through and began to categorize them, but I should have looked over my shoulder and seen that staff had done a much better job than I did on the fly here.

So that if you look at the PowerPoint slide there, it really falls into four categories. Even if we take the broader issues and separate those out, we're down to five categories. So that it is a way to organize by Medicare, and what the issues are there for Medicaid/SCHIP, then what the issues are for all insurers, and then the broader issue.

So what we might do is look at how we could prioritize within each of those categories perhaps if we feel the need to do that, but at least it is an organizing principle that allows us to go from whatever the number was before, down to four or five categories. So perhaps there could be some discussion within each of these categories now.

MS. BERRY: Emily?

DR. WINN-DEEN: So can I just ask sort of a point of order? Because if I had to look at those and say, should we talk about all insurers, or just Medicare, because all insurers encompasses Medicare and includes a whole lot more people, I would say, do that. But in terms of what HHS is directly responsible for, it is only Medicare.

So could you just give us a little committee guidance? Should we focus on issues that HHS can control, rather than the whole global insurance industry? Or how do we do that?

DR. McCABE: I certainly think we could comment on all, but in terms of what the Secretary has control over, I would think it would be those things that the Secretary has control over, so that we could perhaps have some guidance from the ex officios with respect to what they think, where they think this committee could have the greatest impact. It is Medicare and Medicaid, and also then the other agencies sitting around this table. So could we have some help from the ex officios, perhaps, with respect to where you see the biggest bang for this committee's efforts?

MS. BERRY: And if I can just sort of add to that. Are there studies, either going on right now, or possibly being contemplated or studied, that perhaps we could suggest that the Secretary commission either through one of the agencies, or from the outside, I don't know the most appropriate way to do it, that would get to this issue of evidence-based decisionmaking that could be while not directly influencing private health plans, certainly if there were a government-sponsored study, that could influence private health plans indirectly, in addition to informing Medicare program. I don't know the answer to that.

DR. KHOURY: Is Reed still here?

DR. TUCKSON: Yes, I'm here.

DR. KHOURY: I guess this committee can make an influence in a number of areas. Obviously HHS direct jurisdiction is Medicare/Medicaid. But HHS presides over NIH, CDC, FDA, and AHRQ. As you said, Reed, earlier, that recommendations from the U.S. Preventive Services Task Force count a lot with respect to the private world, isn't that correct?

DR. TUCKSON: Yes, very much.

DR. KHOURY: So basically what you are recommending to the Secretary is not only something that would influence Medicare and Medicaid, but sort of this convening role that hopefully by doing other things, like evidence-based coverage decision, will influence the whole practice of health, health care, and preventive medicine in this country for the private sector as well.

So I don't feel like you need to be constrained necessarily by this hierarchy of Medicare/Medicaid, nor do I think that a recommendation should be different for different groups, because what you want to do is lay down the basic principles and guidelines for what

should be covered and not covered, and reimbursed or not reimbursed, and then it will play out through the various processes of the public and private sector.

I mean, you are tackling here issues that are relevant to the practice of medicine and health in this country that are way beyond genetics. I don't think we're trying to fix medicine here through the lens of genetics, but to try to see how those new technologies fit in the underlying scheme of the practice of health care in this country. But that is my opinion.

MS. BERRY: Yes, Kaytura?

DR. FELIX-AARON: I agree with you. I mean, I am struggling, because I'm not sure that I understood the question that you posed, but I just wanted to respond to Muin's point. The U.S. Preventive Services Task Force addresses really basic questions. Is there enough evidence to recommend a particular service? You get a number of letters.

The challenge here is that the evidence, and I go back to Steve's point about the evidence base for making those types of evaluations is that chances are that evidence base is really often non-existent, and so the recommendation that comes out is I, insufficient evidence. Not that it is discouraging those services, but that there is not sufficient evidence.

So I think that the U.S. Preventive Services Task Force does a lot of good work, but I haven't heard around the table sort of questions that we have that would be appropriate for that particular body. However, AHRQ also has the evidence-based practice centers, which addresses more policy, sort of like higher level questions. If this committee had a particular question that it wanted to address, our EPC programs could address a particular question.

The EPC program is such that it not only relies on the published literature, but is increasingly looking at the gray literature, literature in reports, and increasingly pooling reports and experiences, sort of practical experiences to draw conclusions, and to provide guidance.

So provided that this group came up with a clear question and wanted guidance on how it ought to tackle a particular question that had policy relevance as well as clinical relevance, the EPC program and AHRQ could address that.

DR. McCABE: I've asked Cindy's permission to come to the mike at the podium, just to save my neck, trying to crane 180 degrees. I think if you look here, let's look at the recommendations, the possible topics for recommendations.

As I look through the all insurers category, I don't really see any topics there that don't apply to Medicare and Medicaid, and I see some that actually collapse into some of the other topics. So that if we look, for example, for coverage decisions, under that, there are issues like the screening exclusion under coverage decisions. Also, if we go under all insurers, we see evidence-based coverage decision, we see a need for a, rather than a lack of uniformity, we could say a need for uniformity to make it more positive in coverage decisionmaking. Also reimbursement determinations come to some extent, under that.

Basically all of these issues apply to Medicare and Medicaid, as well as to all insurers. I mean, that's by definition, Medicare and Medicaid are all insurers. The issue is is there anything there that we should exclude as being too numerous in terms of the menu to the Secretary? Or should we look at collapsing them into fewer categories as a way of organizing this.

MS. BERRY: Steve?

DR. PHURROUGH: Well, I'll try and give you some concrete recommendations. I think the issues as you were, I think, trying to elaborate, Ed, are not around the kind of payer. The issues are around what is the evidence base, what are the barriers to applying the technology using that evidence base, and then perhaps there are some specific Medicare or alt payer issues.

So I would say that the first priority is developing an evidence base, and it is a recommendation that the Secretary task his appropriate agencies, which I think are AHRQ, NIH, CDC, and perhaps even HRSA, with systems research to commission a technology assessment

that defines the current genetic technologies, the evidence base for those, and identifies the gaps and knowledge it needs further trials to determine. I think that's number one.

I think number two is define the Secretary's task CMS, and in fact we've already made our recommendation that the Secretary provide in its recommendations to Congress, whatever that is, that the screening evaluations become a routine part of the Medicare portfolio, and that CMS be allowed to make those decisions based upon the best data that is at hand.

Three are other barriers, such as CPT codes and reimbursement determinations, and we could ask the Secretary to task the appropriate agencies to define, well, I'm running out of concrete ideas. I think rather than saying what should Medicare do, and what should all insurers do, I think there are things across the realm, and I think the first is the evidence base, and I think the other is incorporating screening into the entire insurer population, and not just private.

DR. McCABE: But using evidence base in the grandeur, not U.S. Preventive Services Task Force's slow, methodical, perhaps too slow and too methodical sometimes approach, but look at where utilizing best practices and literature could define an evidence base for this, the way we use it more typically in medical practice.

DR. PHURROUGH: Exactly.

DR. TUCKSON: I've got to sign off. Can I just make one quick comment?

DR. McCABE: Of course.

DR. TUCKSON: Thanks, Ed.

I like what we just heard from AHRQ, I think it sounds good, and I think we ought to fall for those kinds of larger institute studies that AHRQ can do outside of the U.S. Preventive Services Task Force.

The only other comment that I would want to emphasize though, is that there ought to be very clear criteria for when recommendations about going forward for extensive things ought to be done when there is no evidence basis. I can clearly understand there are times when you have to go forward, but I think we've got to be very clear about what may precipitate that recommendation.

Secondly, in my analysis, I did call for a little attention on looking at the actual quality of performances as based upon professional guidelines for the delivery in this area. The guidelines need the big step from the evidence, and then evaluation of what you actually paid for from the taxpayer's point of view, and private purchasers based on those guidelines. That is something that we didn't get into, and I just want to put it on the list for consideration maybe sometime going forward. Thank you very much.

DR. McCABE: Thank you for being with us this afternoon, Reed.

DR. TUCKSON: Thanks.

MS. BERRY: Emily?

DR. WINN-DEEN: I guess I just want to second that comment that maybe the broad categories are one, coverage. What is needed to establish that a test should be covered? This goes back to SACGT's long discussion about clinical utility, when is clinical utility established, and then what are the other things that follow from that?

Then the second thing is once you have determined that something should be covered, how do you assure adequate reimbursement, and that gets into this whole is the CPT code system working, is the reimbursement associated with method codes the right way to do it? That's another whole set of discussion items.

Then I like the sort of final everything else broader issues category of things that if coverage was there and reimbursement was there, what are the other things that we would need to be concerned about in bringing this to the practice of medicine? So what are the remaining barriers to entry? Because I think a lot of people think that they are all coverage and reimbursement, and I think we clearly in our morning session on education and training,

identified that if a doc doesn't know how to use something, or a system doesn't know how to provide the right context for it and make people aware that they even should be tested, that it won't be utilized either.

I think if we divide things into those set of bins, it would help our discussion, and help make very focused recommendations. How do we improve coverage? How do we improve reimbursement? What are the things within HHS that can be activated in each of those areas? It just might simplify our job.

DR. McCABE: May I just ask one very specific question? So would people agree that one of the things that the Secretary might do would be to request input by whatever mechanism, specific mechanisms, have been recommended, but request input on how to improve those coverage decisions? Because that is the kind of thing that we can recommend, that a study be chartered, or whatever.

DR. WINN-DEEN: Right, and I think just one little sidebar, there is an NCCLS group working on setting a guidance document on determining clinical utility. For example, I think it would be worthwhile for us to look at that draft document at the point when NCCLS is ready to share it, to see if that kind of a consensus process, which is what NCCLS goes through, would also serve us, separate from some government processes that might also be in the works to set out what is evidence-based medicine, and how do we know when we've gotten there?

MS. BERRY: Kay?

DR. FELIX-AARON: I wanted to draw the committee's attention to the fact that groups in the private sector, our federal partners, often request that the agency conduct studies. For example, the AMA could come to us and say, I want you to conduct a study on health literacy, and we do those studies.

So I wanted to raise again, it could go through the Secretary, and Sarah, I think you would have to guide us in terms of what types of interactions this committee can have with the agency. But in addition to going through the Secretary, it may be possible for this committee to actually request the agency conduct such a study, and that this committee may be able to go directly to the agency and work with the agency to create, implement, and conduct a study that addresses the specific questions we have laid out this afternoon.

MS. BERRY: Debra?

DR. LEONARD: I guess I have kind of a generic question. We talk about developing an evidence base, but really that is done one disease, one test at a time. I don't see how you develop a process to do that, because those who would need to be at the table would differ, depending upon what disease or what test you're talking about as to whether there is clinical utility for doing that. So can you create a generic process that would work for everything, for making coverage decisions?

DR. McCABE: After the experience with the SACGT, I would argue you probably could not make a generic decision that would cover everything, but that should not prevent us from getting started somewhere. So you can focus on what it is that you can begin to make decisions about, and identify a process for that, at least.

DR. PHURROUGH: Well, there are fairly standard processes that most payers go through in making coverage decisions. They vary somewhat in process, but the concepts are fairly similar. What we would like to see, those of us who are making these decisions, are to begin with, is sort of what is the state of the science now?

The state of the science isn't gathering experts together. The state of the science is let's pool through our normal processes, every piece of literature that has been published, and determine based upon that, what the state of the art is today. And then there will be gaps, and you'll list all the tests that are there, and you'll see where the gaps are. You'll list particular tests that have been proposed, perhaps they may have utility, and there will be complete gaps, because there is no published literature there. But evidence-based medicine by most

carriers, by most payers, is an expert opinion. It is what has been published in the literature, based upon clinical trials.

DR. LEONARD: Can I follow up? So then the question is if you go through this process and identify the gaps, it seems that there are tests out there that are being used, but they are not covered, and there may be clinical utility, but it is not in the published literature. Could then a request be made to NIH to put out an RFA for this series of diseases or tests for there to be funding to develop the evidence base, so that there could be coverage?

DR. PHURROUGH: I think the Secretary would be very hesitant to make a recommendation like that until we did have that evidence base.

DR. LEONARD: No, this is funding to develop, to see whether it should or shouldn't be covered. That requires research, and generally research that is not very well funded at this point.

DR. PHURROUGH: Correct. He would first want to know what is the state of evidence today, and then look forward, yes.

DR. LEONARD: Exactly. So there would be a body that would say okay, we've looked at these various tests and diseases that are out there being used, and for these three, we find plenty of evidence, and we're going to cover them. For these ten, we don't find enough evidence. Could that then be reflected in an NIH-type/NHGRI-type of RFA to ask for studies to address this?

But then you would also have to have guidelines out there about what kind of studies, what kind of scientific evidence you would need, how the studies should be done prospective, whatever, in order to provide appropriate evidence, but those types of studies are not well funded.

DR. PHURROUGH: That's correct.

DR. LEONARD: And so you never get there.

DR. PHURROUGH: A good technology assessment will tell you what trials need to be done, and be fairly specific, these particular tasks need these kinds of trials. And then I would assume this committee would make the recommendation to the Secretary that he task his appropriate agencies to look at those particular trials. It may not be NIH, it might well be AHRQ, and in fact, it could be CMS who may in some instances, provide reimbursement for technologies that aren't proven in the context of trials. We do pay for clinical trials. I'm not sure health systems research would fall into that category, but the Secretary can task his agencies to do whatever.

But I don't think he would do that until we first had what is the state of the art today, and what are the gaps, and then let me go out and fill those gaps. I think we need to study technology assessment first.

DR. McCABE: And I think what Debra is arguing is that there are quite a few gaps, if we have really started to look there. Certainly it fits with what CDC is doing, and what many of the agencies around here are doing, because it is recognized that there are huge gaps here. It clearly fits into the roadmap. You can't do translation if there is nothing to translate from, or to, which are some of these gaps that you would have.

I just wanted to go back over this organization, and be sure, because what I want to leave here this afternoon with is some guidance to staff about how to move from the document we have. We've had a lot of written input and a lot of oral input this afternoon. But the key is the recommendations, and we need to organize those.

So Steve, you had given us sort of an overview of an organization. Emily has, I think, taken that another step, and I want to be sure that everybody is in agreement about these categories, and then I want to talk about the broader issues and be sure that everybody agrees that they even need to be there.

So the coverage issues. The coverage issues, that would come under your first heading, would it not, Steve? Because part of the coverage issues are that evidence base.

How to assure adequate reimbursement? I don't remember what your second issue was, but would that be acceptable as a major category?

DR. PHURROUGH: I'm not real thrilled with a lot of discussion around reimbursement, but then that's because we argue reimbursement very commonly in CMS. But I think there are issues around what prevents coverage, and reimbursement is one of those. It may have a better title than reimbursement that I'm not thinking of at the moment, but reimbursement is an issue around why things aren't covered, and evidence is one of them. CPT codes is another.

DR. McCABE: I think for the practitioner community, one of the things we've heard over and over is that reimbursement is a huge issue, because people aren't doing these things if they're not getting reimbursed for them.

DR. PHURROUGH: We hear that for every single thing that we pay for. No one is yet to say we pay too much for something, we have yet to hear that complaint.

DR. McCABE: The real problem in genetics is, as Debra pointed out before, all genetic testing is covered under one code.

DR. LEONARD: Fourteen codes, to be exact.

DR. McCABE: Well, a very limited number of codes end up having to be creatively bundled and rebundled and everything to get anything to move forward.

What was your second category, Steve?

DR. PHURROUGH: My second category were Medicare-specific issues that all insurers don't have, and that's the screening exclusion issue. That's a specific Medicare barrier that others don't have.

DR. LEONARD: However, other insurers I have heard, speak and say that they don't cover preventive strategies. And so there are other insurers that do that. Not all, but some.

DR. PHURROUGH: By choice, not by law.

DR. LEONARD: Right.

DR. PHURROUGH: That's the difficulty we have, is the specific law that permits that.

DR. McCABE: Well, I need some guidance from the committee, then, so that we can leave here and have some instructions to staff.

DR. LEONARD: Can I comment? I don't care whether CMS likes the reimbursement issue or not. I think that this is a major issue, that the reimbursement is so inadequate, it doesn't even cover the cost. I'm not talking about the charge, I'm talking about the cost of doing the testing, so that it is a barrier to wide availability of the testing competition for pricing, and all sorts of other things.

If we are moving to genetic/genomic medicine in the future, that is going to be based on genetic/genomic testing that is not going to be paid for adequately to cover the costs. So I don't know, I mean, it is a very complex system of how reimbursement levels for CPT codes is set. I don't understand it completely, but it is not simple.

It is also constrained by the new Medicare Act that says that the laboratory fee schedule is frozen until 2009, and there are a lot of constraints on even addressing the reimbursement issues. But I'm not sure that we're having a lot of recommendations or discussions here about how to change the reimbursement for genetic testing and genetic services. Not only the testing, but the genetic counseling, and other types of services which are also inadequate.

DR. McCABE: So Debra has taken a strong position in support of reimbursement. Is there any member of the committee that would wish us to take reimbursement off of the table?

MS. BERRY: I think it needs to be on the table, but it is sort of a linear thing, because it doesn't become an issue if there is no coverage. I mean, they aren't going to pay for something that's not covered. So the coverage part is the first threshold question, so reimbursement is by itself, it covers all of the insurers, Medicare, Medicaid, private sector, and it

is critical. It is something that we are tasked with looking at, because it is a significant barrier to access. So we need to sort of think of them, and I don't know if it is linear, horizontal or vertical.

DR. LEONARD: Well, the problem is that there are CPT codes out there, and they are generic codes, so you can use those codes for any kind of testing, covered or not covered. It is not clear to me how insurance companies know what they are paying for, whether to cover it or not, since the CPT codes are generic.

That is going to be remedied somewhat by the CPT code modifier system that is supposedly coming this fall. But it is not clear until that happens and laboratories start using those modifier codes as to how much that will decrease denials because of coverage decisions. They will now know what they are covering or not covering and can say yes or no, because instead of just saying no because they don't have a clue what the test is, and why it was done.

But that still doesn't address once they decide to cover it, that it is a covered test, that what you get paid is inadequate for what it costs you to do it. So you're right, it is a linear process, but I don't think that we cannot go to the next step of at least figuring out what to do about the inadequate reimbursement, supposing that something is covered, and address those.

You don't really have to address the coverage issues before you look at the reimbursement issues, because it either is or isn't covered. The reimbursement is inadequate, even if it is covered. So the reimbursement is a separate issue, and you don't necessarily have to decide the coverage before you look at the reimbursement concerns.

MS. BERRY: Agnes?

MS. MASNY: The only place we would need to look at coverage then would be just the screening issue, because that is where if Medicare doesn't cover screening, or see screening tests as covered, and I think that was your point earlier about looking to the commission and agency to define, or commission HHS to allow CMS to incorporate screening, so that would be a coverage issue.

DR HANS: It is actually in my written comments, but I would just remind the committee that HHS actually does have a health delivery system that it is also responsible for, and that is through the Indian Health Service. So you actually have within the purview of this committee, a delivery system.

While I don't have any specific recommendations, because I'm not quite sure where this is going, I would just sort of put a mental placeholder in that as you move toward more concrete recommendations, that you then think, does there need to be a footnote for IHS? Just to think through what are the implications for the health delivery system that controls pretty much all the elements that you're talking about here directly.

I'm not sure that there would be any special circumstances, but I would just want to put that on the table for folks to remember. Of course it is rather self-serving, because if there are things for IHS, there is likely to be also for VA, and we would therefore find that recommendation is more helpful for us.

DR. McCABE: The cultural sensitivity issue is certainly one for IHS and some of the Indian nations, and genetics does not fit into their belief system, and so they really have decided as a nation, not to go down this road.

MS. BERRY: Debra?

DR. LEONARD: One of the areas of coverage that may be able to be more specifically addressed, which Muin had brought up, is when the use of a genetic counselor is appropriate. We talk about moving to more generic services being delivered as part of all health care professional services, but maybe if criteria for coverage of genetic counseling services could be developed, then it would be clear when those could be covered, and when not necessarily covered. I don't know if those already exist, maybe someone can comment.

That would be a separate issue from reimbursement for those services. But I think defining when as we move toward the 90 fevers that are dealt with by generalists, and the

ten fevers that are dealt with by specialists, maybe we need to distinguish when you would pay for the special genetic counseling services.

DR. McCABE: I would like to move us on, then to the two topics under broad issues, and discuss inclusion or exclusion of those, and if they are to be included, then the rationale for including them under coverage and reimbursement of genetic technologies and services.

Neither of them are dealt with in the policy implications, and that is why I think it is important that we assist staff with this at this point in time. Health disparities, the way I see that included, is that if there are populations that are not covered, and/or not reimbursed, then that will lead to a health disparity. But could we have some additional help from the committee for staff in terms of the rationale for that one being included in a coverage and reimbursement manual?

MS. BERRY: Just to play devil's advocate, I actually regard both of those issues as being so important as needing to stand on their own. I don't see them in the context of coverage and reimbursement, but I see them as broader than that. They could lend themselves to their own reports, each one. So I'm not clear as to how we would fit them into a coverage and reimbursement report, or if we should.

DR. HANS: Let me ask a question and see if you think that it is an issue. If you set down some criteria for making coverage decisions based on some evidence, what if that evidence does not adequately cover certain ethnic populations? What then coverage recommendations do you make for those populations? And is that a health disparities issue there?

DR. LEONARD: I think what you're getting at is the broader issue of the science disparities by ethnic group that will influence the evidence base that will be use to make coverage decisions, that will then influence the health disparities. So you have to go all the way back to the science.

DR. HANS: Absolutely, that's the train. But if you are making a policy decision, and for Caucasians, the test has been validated, what do you then do as a policy entity? Do you say you cover it for anybody, but the evidence doesn't exist for the other ethnic populations?

I don't know how you begin to help policymakers figure out how to make those decisions. Or do you wait until you have evidence that covers all ethnic populations before you make a coverage decision?

DR. McCABE: How about provider education and training, then? I think the argument has been made that we do need the evidence base for populations if we are to have recommendations. What about provider education and training?

Again, and I understand Cindy's point that these are huge topics. But if we focus them, I think we can focus the topic and take one little piece of it for coverage and reimbursement, not try and deal with all of health disparities, but just as they apply to this topic. Would that be then more reasonable, Cindy?

MS. BERRY: Then how does provider education relate to coverage, for example? We know all the issues about the inadequacy of the education for our providers and the gaps and public awareness and all of that, but how does that relate to coverage? Emily?

DR. WINN-DEEN: I want to make a comment on health disparities, and then I'll answer your question. I think the other thing that we have to do, besides setting up evidence-based studies that take into account at least the three major branches of the human tree, and make some kind of statement about whether a test is or isn't appropriate for each of those branches, let alone all the twigs and leaves that are off of those branches.

We also have to recognize the economic disparities that exist, and whether there is a group of people who are willing to self-pay, and thus gain access to things earlier, while coverage decisions and evidence-based medicine are churning along, and whether that creates some additional health disparities or access issues, however you want to put it.

I think there is a sort of genetic group disparity where we have to deal with that, and we set up evidence studies. But there is also the economic disparities that people who have the means will pay for almost anything. To what extent do we feel as a policy group we need to address that? And at what point are people spending money on things for which there isn't evidence? Is that just their own buyer beware, people pay for a lot of snake oil, and only a little bit of it works?

So that's one thing. The other, in terms of provider education and training, I think that again, comes down to potentially an issue of disparities, where if you are seeing somebody at a highly acclaimed university medical center, you might get a different level of provider education than if you are seeing someone in a rural outpatient clinic. It just depends on where you live, and the kind of training that the people who you are seeing may have received.

So again, you have the issue of getting equal access, equal treatment availability to everyone, without having equal provider ability to deliver that.

MS. BERRY: My point is that I agree with everything you're saying, and I think of these issues as being at the core of the overall access umbrella that we've been struggling with, and I think they do merit further attention, and maybe their own report. But I'm still not clear on how they directly relate to coverage and reimbursement.

Not that I think that they aren't important, but I want to focus the report on those two issues, since that is what it is supposed to do, and then address these others, which we have to get our arms around in a broader context, because it cuts beyond those two issues of coverage and reimbursement, I think.

Debra, and then Martin.

DR. LEONARD: Well, the health disparities, I think directly is related to coverage and reimbursements since they are different systems, and they are uninsured and underinsured. If Medicaid is decided state by state, it may be harder to influence that coverage, and so that may be less adequate coverage than something that can be influenced nationally.

So the way coverage and reimbursement is done does create health disparities, and maybe we should look at those issues. The provider education and training, aren't we doing that in the other resolution? I don't really see how that affects coverage and reimbursement, since coverage and reimbursement is decided on an evidence base that is not related to whether physicians know how to use tests appropriately.

So in my mind, that broader issue is really more addressed in the other resolution that we discussed this morning, and not so much a piece of the coverage and reimbursement.

MS. BERRY: Martin?

MR. DANNENFELSER: Yes. It would seem right now that if people have the economic means to pay for things out-of-pocket, they are going to pay for them. So the idea that we wouldn't provide coverage because somebody else might get it, I don't see the issue there. I think that people of lesser means are not going to have the capability now. So if you make it available, make the coverage available, then you are providing them the means, and you are increasing their access.

So I think we can get to the point of trying to micromanage or letting, as was said before, let the perfect become the enemy of the good, if we're going to say that people don't have access now, then we're going to provide them access, we're enhancing, we want to do what we can to make sure that the level of training and services are equitable, or as close to equal as possible. But I think if we wait until everything is perfect, we'll never be able to act.

MS. BERRY: Barbara, did you have a comment?

MS. HARRISON: I basically wanted to echo exactly what Debra said. I can definitely see the link between health disparities and how that needs to be addressed in our report, because what comes out of our recommendations about coverage is going to directly affect the access that people have to genetic services, and I think this point has been brought up before, not

just talking about disparities among ethnic groups, but also economically. If we're talking about things like Medicare, Medicaid, and what it is covering, then to me, it is just very plain about how that affects health disparities. So we can have that be a continual theme throughout the report as to why this is so important.

But again, agreeing with previous comments on the provider education piece, I don't necessarily see it being directly affected by our report on coverage and reimbursement. Definitely to access to services, but not in this report.

MS. BERRY: Emily?

DR. WINN-DEEN: Yes, so I guess I think the only place it belongs in the report is at the end where we say just having coverage and reimbursement does not assure that this becomes practice of medicine, that there are still other barriers that we have to deal with.

So that is where I'd just like to see sort of a sentence at the end that says, this is a huge barrier. If we overcome coverage and reimbursement, we are 90 percent of the way there in delivering this promise of genetics to the practice of medicine. But there still are some other things that have to be in place for that to really be totally efficient. That's the only role that I see in it in this report.

DR. LEONARD: And can't we reference the other resolution?

DR. McCABE: Yes. I think it is always good to cross-reference ourselves, and I think it is also important to, and I think perhaps in that paragraph we could use some of the data that Reed provided us with that shows that even where there are U.S. Preventive Services Task Force guidelines, they are still not fully utilized. He has some excellent data in his comments that he sent to us.