Discussion and Finalization of Task Force Charge

DR. BILLINGS: One simple suggestion is that, in looking at the older recommendations, you have a specific one that says you are going to look at the old report and which ones need more work and which ones have been implemented. Do you also want to include some evaluation of their impact or the effect of them? You talk about evaluations later on. Maybe you want to start by evaluating the ones that were actually called upon that were provided before.

DR. McGRATH: And evaluate their impact specifically.

DR. BILLINGS: Right. To recommend education can be a kind of banal recommendation unless education leads to some better outcome.

The other thing I was going to suggest was, you are dealing with, potentially, physicians, non-physician health providers, patients, and consumers. They seem to be potentially targets of this educational assessment activity.

DR. McGRATH: And policy-makers.

DR. BILLINGS: And policy-makers, right. That is a pretty broad swathe.

DR. McGRATH: Yes, it is.

DR. BILLINGS: I wonder whether narrowing that somewhat might be to the best interest of being effective.

DR. McGRATH: Let's list that again. We have healthcare providers or practitioners, patients, consumers --

DR. BILLINGS: I see them as different. I see each one of those as individual groups.

DR. McGRATH: Yes, just as a list. That, that, lay health educators, policy-makers, and then we have some language about credentialing bodies, which could be five or six. So, what do we think about that?

DR. FOMOUS: Can I just say something to Paul's first point? I will call on the taskforce members to either tell me I'm remembering this completely incorrectly or fill in the details. It seems like we did have a discussion at one point about evaluating the impact of the 2004 recommendations. I think there was concern that this might actually bog us down because it would be difficult to make that evaluation because the recommendations were rather broad, it would be hard to determine whether things had been carried out or what impact they had.

I know this was a point of discussion. Maybe others can fill in where we want to go with that.

DR. WILLIAMS: I'm wondering if maybe a compromise to that would be, since our report was advisory to the Secretary, would it be possible to engage with the Secretary's staff to say this report came out in 2004. Did it lead to any tangible activities from the Secretary or secretariat agencies that you could point us towards. Is that a fair question to ask back to staff?

MS. AU: I thought that was what we had decided on one of our calls, that was a question that we were going to ask. Because we weren't sure whether it was a report or some other thing that caused the education to happen.

DR. TELFAIR: I would agree. That was considered one of the first steps that we were going to take, actually. So, do the background work to start with.

DR. McGRATH: That is great. That is the first goal, to request that office to give us a report and from there we take the next step. Great.

DR. GEOLOT: I was not on the conference call, but I agree with Paul. It just seems like the charge is so broad when you include lay health educators as well as patients. Is the intent of this report to look at the capacity of health professionals and others in the genetics field to provide the information that is needed by patients? I'm trying to figure out how lay health educators and patients are part of a charge in terms of looking at educational and training needs.

DR. McGRATH: Joe?

DR. TELFAIR: Just as a point of clarification, as I think you maybe implied through your question, lay health educators do come from the consumer population. The point there is that there are a number of organizations and groups that use lay health educators as their primary educators to the public and to consumers.

So one of the concerns always is that they themselves are as up-to-date as possible and receive the best training as possible such that when they engage in that work that is there. That is the thrust of that because of the nature of that.

That is at least my understanding. The rest of the committee can correct me, but that is one of the main reasons why they are in there. The whole idea here is to begin to look at the means by which the public and others receive, digest, utilize, and assess information for the public's good.

DR. EVANS: I wasn't able to be at the fall meeting. I'm certainly sensitive to the idea that, gosh, you are taking on a lot by naming these different stakeholders. I guess what I would argue, though, is that it is very hard to separate provider education and public education. They go so hand in glove. Anybody who takes care of patients will tell you that a well educated patient population is extremely important to getting done what you need to get done. I think that genetics is new enough and a fast enough moving target so that it presents big challenges for both.

Although it would be nice to parcel it out and say, okay, we will just focus on the providers or we will focus on the population, ultimately I'm not sure if that makes a lot of sense. I kind of feel like they have to be attacked together.

DR. FITZGERALD: To build on that a little bit, taking a cue from our discussion earlier today of the role that HHS can play as a coordinator or an agency that has the resources to be a focal agency in this area, there have already been a wide variety of efforts addressing education of a particular group with genetic information

I am aware of [several] with religious groups, for instance, because a lot of people end up having to deal with people in their tradition with their genetic questions. So there has been quite an effort to educate clergy along these lines. Obviously, the genetic counselors have been deeply involved for a long time with genetic education.

So one of the ways you could look at this would be, in a sense, to help coordinate that in a way that it has not been done before. You have a variety of individual efforts out there, some of which have been relatively successful but narrow. Try to see how one then can maybe come up with something that isn't necessarily a "one size fits all," but at least you are aware of what everybody else is doing and what seems to work in their particular venue.

MS. ASPINALL: I very much agree with what Kevin said, and I thought that at our last meeting what was so impressive in our brief conversation was that 12 people came with public comment, or actually formally as part of the agenda at the last meeting. At least I felt, one after another, wow, that looks like a great program; wow, that looks like a great program; oh, they are implementing it here.

One of the questions I asked is, do you guys ever talk to each other? The answer was no, or "We know each other but we don't really do it."

I have to think about how it would change the draft, the goals of the draft charge, but the sense I have is that we are not recreating the wheel, we are working as an organizing body to ensure the best demonstrated practices. Given the amount of time and resources that we have to do it, creating the best document and connecting the folks who are doing it to say these are the best practices, may be in point the highest leverage we could have.

From my bias from that perspective, it would focus on working with the organizations that are already doing it as opposed to focusing, for instance, specifically on a consumer body, which is just a huge task. It goes back to what Paul said earlier. I think we narrow it by working with the organizations who are already working at it and leveraging their work as opposed to creating new work.

DR. KHOURY: Just to echo some of the stuff I heard, there is a lot of genetics education going on, so much of it, actually, that just to assemble that data might take a couple of years. So I'm all for not reinventing the wheel and doing something a little bit more creative, and I was thinking about this as part of the earlier deliberations between November and now as well as on an ongoing basis with the public health community.

It seems to me there are two things to keep in mind. One, the report is going to the HHS Secretary. So this group is going to ask, like we did in the morning, HHS to do something. So just keep that in mind.

All the agencies in HHS do a huge amount of training or funding for training. CDC does, HRSA does, NIH does, AHRQ. All of us are involved with that. Keep that in mind if you are asking the Secretary to do something that is a little bit different than what we are doing now.

The second thing is the various stakeholders and the need for a more literate public in genetics and genomics, whether the providers or the consumers. A case in point is selling the GWAS platforms on the street right now, the million SNPs or 500,000 SNPs. It is a great educational opportunity. You can focus on that as a way to say what does the public need to know about 1 million genetic variants. Some of them are already rushing to the Internet to order these tests, whether for recreational purposes or health-related purposes. The providers are not necessarily in tune with how to interpret that rapidly emerging knowledge.

One thing I want to say [is] the geneticists themselves, and I am one of them, have been trying to force others to learn our stuff. They keep telling us, we don't want to learn your stuff. It is not relevant in my day-to-day life.

So the geneticists need some education as well as to what other forms of adaptation they need to look at to take their tools and adapt them to a public or provider situation that is not very receptive until the time comes for decision-making or general education purposes.

So I'm all for creation. I think this group can really sink their teeth in. Before we go on a big data collection exercise that could take us two years collecting what HRSA is doing and what the public health schools are doing, [we need to] think about these draft goals and say, at the end of it, what do we actually want to say to HHS.

If we end up saying to them what we said in 2004, sorry, that is not good enough because it sounds like a U.N. pronouncement. Whereas, whereas, whereas, do more, do more, do more. That is not good enough for me. I need more guidance from this group. Thank you.

DR. RANDHAWA: I just want to raise a different point.

DR. WILLIAMS: I think that Muin is on the right track, although I might frame it a bit differently. I think we need to be cognizant that in some sense our scope is defined by what the Secretary has ability to control, which means we really have to look at the activities that occur under the Secretary's aegis that are involved in education. That may be HRSA, it may be CDC.

That is still a big thing, but at least it gives us an idea of the targets. In other words, I don't think we should be necessarily looking beyond that to create something new. I think there is plenty to do within what the Secretary has control over.

The second thing relating to Muin's point is that we have in the past, as a genetics community, taken a top-down approach. I think it has been very well exemplified by family history, where we say everyone has to take a three-generation pedigree. No, they don't. In fact, they will tell us very clearly what they really need to do. We have done very little in the way of actually developing a research, if you will, agenda to learn what is really needed so that we can match the needs with our expectations. I think that would be a highly valuable exercise to pursue.

The third point I wanted to make is again related to things that the Secretary does have control over and for which there is a great deal of enthusiasm. In fact, the only reason I agreed to sign on to this taskforce was the huge opportunity that we have right now to deal with point-of-care, just in time education, to deal with the point that Muin just made.

They don't need to be educated until they need to make a decision, and that is where clinical decision support and point-of-care education can really provide that knowledge just in time to support the decision or provide the information that is needed. The efforts that are being done with a lot of energy and resources from the Secretary now relating to the AHIC, or now AHIC 2, plus what we have already discussed in the context of the Oversight Report, provide a huge opportunity to really leverage that new learning methodology and apply that that really wasn't, I think, envisioned much in 2004.

DR. FROSST: In response to Muin's comments about things that are ongoing and issues [about] direct to consumer, the 23 and Me Model. Here is your genome, here is something you have never thought about before.

Following to the idea that there are things that the Secretary can do, and perhaps this is a framework in which we can be thinking, I thought the taskforce and the Committee should be aware, and possibly are already aware, that NIH has formed a trans-NIH communication group surrounding complex genetics and diseases and the 23 and Me and Navigenics, and is moving forward with an agenda of their own and a charter and things like that. Alan Guttmacher is the head of that. It would certainly be useful to coordinate those efforts.

DR. RANDHAWA: I have a slightly related but different point. I was looking at the different goals of this group and [specifically] Goal No. 6, which is on the effective educational tools that can be incorporated into electronic health records. I think this is a good goal to have, but what we miss here is, apart from identifying the different populations and groups that we need to educate, to also have a list of the different kinds of educational mechanisms of modalities.

This is just listing one, which is, I'm presuming, more electronic and decision support at the point of care. I think [that] is essential, but there are other kinds, whether it is Web-based, whether it is paper-based, whether it is person-to-person education. There are different kinds of modalities. It might be useful to have not only a list of the different populations but a list of the different modalities and which ones would work better to educate which populations in which settings. That aspect really hasn't come out here.

DR. McGRATH: That is a great idea. Paul.

MR. MILLER: Two things. I want to associate myself with your comments about the deliverables and suggest maybe two ways of thinking about that. I think that is critical, particularly for an issue that, as others have said, has already been so much on the table and a lot of work has been done.

One is, in addition to going to the Secretary's office and asking them where they are with the '04 recommendations, I think it would be really helpful and useful to go to the stakeholder community and say, hey, there were these recommendations out there. What do you think the value of that was. What do you think was the value added. Get that piece, in a sense, from the community to say this was what we really needed, this wasn't. But, to get some feedback on that.

Then I would say to almost double back and think about, well, what is your end product. What do you want to come out of this, in a sense. Almost begin to draft, given the amount of information that is already out there about the issue, what is it that you want to ultimately accomplish. Think backwards before you think forward. In that way you can begin to really tie in what your deliverables are with how you establish your goals and the path there from the very get-go. Begin to go backwards and then forwards.

DR. McGRATH: Just to make sure I got your idea, are you suggesting, once we identify the stakeholders, that we go to each one and do a needs assessment with each group?

MR. MILLER: Do it, I would say, in a more informal way. Say we are looking at these again, we had these things, what was it about the last process that you thought was really useful and really delivered something of value to your community or to what you do. What, maybe, sounded good but was a frustration ultimately, not because it wasn't implemented but just [because] there was no "there" there. Have that kind of conversation so, in a sense, you can leave that one paradigm and begin to fashion something new. Does that make sense?

DR. McGRATH: Yes, it does. Before we leave this -- I don't know if we are leaving it or not -- we have this list now about five or six stakeholder groups. I first raised the question is this too many. I will raise it now. Is this enough. Are we covering the right people.

It starts with healthcare providers or professionals. I think we all know what that is. Then we have patients and consumers, and we have lay health educators; policy administrators, people who are involved in making those sorts of reimbursement decisions; and then governing bodies, for things like credentialing.

Is there any group that we are leaving off? Other than healthcare providers. So far that is how we have been thinking about.

DR. BILLINGS: As others probably know here, there have been specific educational programs, for instance for judges. There might be some lessons to be learned from those programs. For instance, taking on the issue of education for consumers is a huge bite and gets into public school education and a lot of things which we may or may not want to take on.

MS. AU: I think, though, for education of consumers I would really just focus on the things that have been funded through HHS. One of the problems I have is they have this scatter philosophy where the different agencies fund different types of education all over the place and nothing is ever really sustained after the funding. This scatter education, from my experience, hasn't really helped that much.

I think that one of the things that would probably help the Secretary is the recommendation that there is more coordination because this is not going to get sustained if you are only going to fund small projects for a small amount of time.

DR. KHOURY: To continue this discussion, we are focusing on the "who." I think Gurvaneet mentioned the "how" a little bit. Electronic health records is a mechanism of a "how." I think the "what" is important, too. Phyllis mentioned that there is this NIH Communication Workgroup that is focusing on essentially the 1 million SNP chip, GWAS on the street. I think [we need to go] through the "what," "who," and "why." We are doing the "why."

Then there is this issue of "when" do you do that kind of training in the life cycle from research to practice. Think about all the other activities that SACGHS has taken on: oversight, reimbursement, pharmacogenomics, large-scale population studies. In all of these things there is always an educational component that we say "See the Education Taskforce." We just said this this morning. That may be under the rubric of "what."

I think this Committee, based on the input of so many stakeholders, can come back at the end and distill those nuggets into actionable things. For example, if there is a need for the Secretary to create a taskforce around educating the public and the providers around 23 and Me, because it is a teachable moment and the public has the right to know, then it could be a focused recommendation at the end.

I'm very sensitive to what you just said about the scattering and non-sustainability of efforts within HHS. I'm one of them, so I can relate to that.

[Laughter.]

DR. KHOURY: You fund something for three or four years and then you either lose your funding or you give up on the fundees and then you do something else.

This group has the opportunity over a period of a few months to take a look at the field, where we are and where we are moving, and give a coherent recommendation to the Secretary. We all look at these recommendations, even if we don't sometimes coordinate with each other, and we are no fools. We are saying what the action is. It is in GWAS now. It will be in proteomics next year, or pharmacogenomics.

But having, at the end, complete recommendations that can help us direct our funding no matter how small and then maybe push it in a certain direction that we may be missing right now.

Last but not least, one more point. Training and educating everyone is a big thing. Nobody can do it. The educators themselves don't know enough about genetics to educate others, although geneticists and others can benefit from principles of education and training. If there is a train-the-trainer type model somehow integrated into this, we can integrate those ideas.

Just a smattering of my thoughts here. Thank you.

DR. TELFAIR: It goes back to a little bit earlier in terms of the need to look at the goals and be sort of discrete. I just want to bring to everyone's attention that Goal 7. This is actually a big area. I think we have had a lot of discussion around it. Everything that we have said on Goal 7 is very relevant to what was just said.

Going back to [the comment of] my colleague here about looking from basically what would be a public health end approach, which is looking at your outcomes and working your way backwards, but also looking at what is there and what is used, looking at the populations, [learning] from them.

I would just say that as we are looking at the goals, this is a key one to keep in mind as we begin to make decisions about what we can recommend and what is very doable in looking at the work itself. So I would say that is one of the issues as well as we are thinking about this. It does cover the "who," "what," "when," "where," and "how" sort of thing.

DR. McGRATH: I find that way of thinking, the "who," "what," and "how," really useful. The "who" is the stakeholders, that I think we have kind of a list on. The "what" I think goes to Gurvaneet's comment on No. 6. If we enlarge that, that will tell us the "what." I'm not sure what the "how" is. Evaluation, to me, is kind of floating out there. I guess it covers everything, but that one is a little broad for me.

But it also seems like maybe we could start thinking about can we get a little more focused. We have a good list of stakeholders. We have been looking at tools. Maybe thinking about who the ad hoc members should be, or maybe talking more about this evaluation issue. That is the one I'm most vague on myself. Evaluate what? Are we assessing evaluation of educational tools, or for each one of the stakeholders are we going to evaluate the pros and cons of their methods?

Joe, do you want to talk about that one?

DR. TELFAIR: Yes. I think originally the recommendation on evaluation was pretty prescriptive. I think the discussion was that we can't be that prescriptive with it. Out of necessity

the methodology itself requires a certain degree of prescription. But since we can't do that, then that is what the compromise goal was, was to look at evaluative methods that would be used.

So the idea is that you do have, for example, different tools and different approaches to providing education to different groups. Taking Ms. Au's statement about the scatter approach, you have these things where things are funded and then they go away but you don't have evidence as to did they even work in the first place or not.

There are a lot of things that you can incorporate: how are they used or not, if it is or not used, how do you know or don't know. Those are key questions that drive a lot of this work. That is why there are so many different groups and subgroups and other efforts looking at this whole question of building the evidence, building some idea of what works best with different groups. There is just not enough of it there. We can make some pretty clear recommendations.

Evaluation will tell you it should be there from the very beginning, but this may be one of those efforts where you may have to wait and make some early decisions about what exactly it is you want to do. Then you can start talking about what evaluative methods you might want to use.

So I would say it is vague now because there are still some decisions to be made, but I would suggest that it is going to be clearer once some of these other decisions that are being discussed are worked through.

DR. McGRATH: Gurvaneet and then Mara.

DR. RANDHAWA: Just to add to that point, I think apart from the methods of evaluation it would be useful to have a sense of the outcomes you are thinking about. Is it primarily increased knowledge, which may be very short term and then, after the intervention is done, a few months later, it is all back to baseline. Is it decreasing the variety of some psychological measures, which again may be short term or long term. Is it actually an improved decision-making at some level. Or is it actually health outcomes over the long term. What happened with the intervention subsequent to the original education.

This is probably going to vary depending upon what context, what genetic test, and what scenario is being considered. But that would be a useful framework for everyone to focus at first on.

DR. McGRATH: I agree. Mara.

MS. ASPINALL: Two comments. First, in a context without comment on the specific comments previously, what time frame do we have to get this done?

DR. McGRATH: February 29th. No.

[Laughter.]

MS. ASPINALL: That makes it very easy. We can just sit down and be done.

I just think that it is relevant to the amount of time that we have to be able to even come close to the 10 goals. So I think, as I listen to this conversation, my head goes to, wow, they are all really important things and lots of [people] internal to HHS and broader would say these are great goals. If we have six months or a year or five years would change my estimate of how we would have to do that.

I just want to finish after you are done.

DR. TEUTSCH: I think that this is not on a crash project like we have just been through. This will be on a more standard timeline for us, which probably means over the next year and a half or slightly more to have a completed report. I was going to ask Barbara to make sure of that.

The next meeting in July we actually get back having had the benefit of this conversation to finalize the charges, get the workgroups, get the ad hoc members that we need -- and if there are any that we need to add to the list we should hear them now -- and then tell us about the plans at the meeting in July. Then they will be able to talk to us about what next steps they are going to be taking to gather the information that we have just been discussing and the timeline for the report.

I think we are probably looking at 2010, or 2009, rather.

MS. ASPINALL: I had a year in the back of my mind. But if I say a year to two years, which amidst other priorities of the Committee is a long time but is not a huge amount of time given the reasonable resources we have, I'm going to go out for maybe some criticism here. I think it is very tough, if not impossible, to achieve all these goals in a substantive way. So I'm going to suggest we look at those and really narrow them down to a smaller number without a value judgment that the others aren't good but to get to a more specific, achievable list.

DR. TEUTSCH: We would love to hear that. Do you all have some specific suggestions? What can be pruned or focused here? I heard some suggestions regarding those that are going to be germane to HHS that are actionable. I have heard a framing here that is going to be about who this is targeted to, who we are educating, some of the specific mechanisms, and then what we are educating about as ways to frame this. I would be interested in how we scope it down some more and then, of course, who else we need to have involved.

Paul and then Marc.

MR. MILLER: I don't have this information, but go back to say what has been useful and not useful in the past in terms of not doing the same thing but what kinds of deliverables are going to be relevant to the community to achieve certain goals. I think taking a look at that is also going to help winnow down not only what is possible but what is really going to be value added.

DR. WILLIAMS: This is a tool, not a prune. Not being involved in the previous taskforce, I think even within the last three years there have been some very good studies that have been done that address the issue that Gurvaneet talked about. It is not just getting them to learn it but to retain it. I think there has been some very good literature showing what really works in terms of retention. That is the tool that we should use to prune away some things to say this is just not possible.

DR. TEUTSCH: Any final thoughts? Scott.

LT COL McLEAN: I understand the desire not to get too detailed about exactly what you want to prepare, but I think there are a lot of people looking at very detailed aspects of education. I think we can serve them by giving more of a strategic plan for how to approach that and coordinate that.

The other thing that I would like to mention is that the other word in the basic charge is "training," which implies action, behavior as opposed to just knowledge. If we focus on education as just a knowledge status, I think we are going to be missing really what we want to do, which is to change healthcare behavior.

So how you use that in outcomes, as Gurvaneet mentioned, to see exactly where you take that knowledge and what difference it really makes I think is really important for us.

DR. TEUTSCH: Last comment. Muin.

DR. KHOURY: This is all good, but I want to challenge the group here. I'm not the chair of this, but if everybody thinks very quickly about what is the first thing that comes to your mind -- this is sort of a psychological game here -- [as to] the most important priority in this field of education in genetics and genomics for the provider community and the general public. Take away all the other stakeholders. What first comes to your mind?

Given all the background noise of who is doing what, we can work through, of course with the help of other stakeholders, the "what" and then go see if the "what" is being delivered and what the success is.

I could say, for example, one of the "what"s is knowledge of family history in a decision support environment both for the public and the providers. I could say your knowledge about interpreting GWAS data.

See, Marc, has a different list. What comes first to your mind?

LT COL McLEAN: From my practice where I do this every day, living longer, living better. People that don't die because they know what to do for their health and who can inform their relatives that they are at risk and prevent disease and prevent death.

DR. KHOURY: If we assemble that, we have a starting point that could focus our energy over the next year rather than just saying educate, train, everything is good.

This group has been working for three or four years now already. Think about your other reports and the priorities for genetics, health, and society: reimbursement, pharmacogenomics, research, all of these. We are not missing the big holes in this area.

DR. BILLINGS: I would just ask this task group to frame, as you look at your task of access, public awareness, and exceptionalism again, is there something specific about genetics education and health related to this which we ought to highlight, as opposed to things that are true about risk education across the board or health education across the board. Similarly, about access to genetics education, which is specific about this, and the public awareness issues.

DR. McGRATH: That makes sense.

DR. BILLINGS: I would think you would want to use that as a potential frame to think about.

DR. McGRATH: I want to just respond to Muin. If we do that, that means realistically we are eliminating the policy administrator group, the governing bodies, and the judges and clergy, which I don't have a strong opinion about. I could see that group being handled in a different

arena. Of course they are important. It doesn't mean we are eliminating them because they are not important, but that is the implication of what you are suggesting.

I would like to hear the rest of the taskforce. Let me know what you think about that. Or by Email. Joe.

DR. TELFAIR: I just have a comment. In the public health education arena itself, there is this whole concept of functional knowledge and what that really is. What is the information that is really needed for you to be able to do these things, and in what context or contexts is that, which is more an ecological context, which means you engage those around you. The core of that, of course, is going to be the population or the group of people around that.

If you take the idea of what are the priority areas and set the priorities of what it is you can do, you still have to keep in mind, even in that context, what realistically can be recommended outside of this. What if we did that. What if we just focused. Can we come up at the end of the day with a set of recommendations that are doable, functional, and that can really be carried forth given the existing arena that you have.

If you look, there are commonalities across pretty much all these areas of what CDC is doing, NIH is a doing, to a lesser extent to what AHRQ is doing, and those sorts of things. There are commonalities across those things, but there is a context to put it in. So if we consider this, we have to say what is our priority focus. Then we can work our way out.

I would suggest that if we did this that we take it as a step-wise approach to do this, which is what are the two populations you really want to focus initially and, as we spread out ecologically, there are going to be those that we have to deal with. So if our focus is going to be on providers and clients, then we also say, okay, what is next related to them, which is going to be these other folk, the non-health person, the administrators of policy, or whatever.

What that would allow us to do is to take a more systematic, functional approach where these outcomes are related to that, but it still allows us to get where we are going. So that is just another way of thinking about it, but to me it is a little more doable and functional and you can really wrap your hands around that a little bit better than trying to take on the bigger picture.

DR. TEUTSCH: Absolute last comment from Jim and then we are going to move on.

DR. EVANS: I want to say I like the way that Muin phrased it. I think it is worth polling by Email, et cetera, the group. My response [is], I think we need to take into account what Paul has brought up. Where is genetics and the need for educational aspects. Where does it differ from all the other educational aspects in diabetes.

What I come up with when I think about that is the understanding of probabilistic risk. That is such a paramount issue that, while not absent in other areas, has risen to the fore in genetics. It cuts across the various "who"s of stakeholders.

So we might want to think about identifying certain aspects that are highly germane to genetics and then let the "who"s fall out from there and focusing. Like Mara says, getting all of this done in a year and a half seems unlikely.

DR. TEUTSCH: I think we are going to task all of you to come back with a timeline and a plan for July. What I'm hearing is we are not talking about education broadly, we are talking about

specific aspects that relate to the genetic field for these specific groups that we are talking about and that are actionable by HHS, hopefully well informed by what is actually out there that makes a difference. So thank you very much, Barbara, for that.

I'm going to suggest that we not take a break. We had a late lunch, and I know you are all energized. I would like to move forward to the --

[Laughter.]